ROCKLAND COUNTY
SOLID WASTE MANAGEMENT AUTHORITY
d/b/a
"ROCKLAND GREEN"
172 Main Street
Nanuet, NY 10954

REQUEST FOR PROPOSALS

RFP 2021-14

CONTRACT NO. 4
FACILITY IMPROVEMENTS –
PLUMBING
AT THE
MATERIALS RECOVERY FACILITY IN HILLBURN, NY

July 30, 2021

RECEIPT CONFIRMATION

(This form must be completed by each member of the Proposer team and returned to Rockland Green within 5 days of Proposer's receipt of this RFP)

PLEASE COMPLETE AND RETURN THIS CONFIRMATION FORM BY EMAIL WITHIN 5 WORKING DAYS OF RECEIVING THE RFP PACKAGE TO:

Dee Louis, Engineer II
Rockland County Solid Waste Management Authority d/b/a Rockland Green
Email: dlouis@rocklandgreen.com

Failure to return this form may result in no further communication or addenda regarding this RFP.

Contractor Name:_____

Address:_____

City:_____ State_____ Zip Code_____

Contact Person:_____

Phone Number: _____ Ext._____ Fax: _____

Email:_____

I have received a copy of the above noted RFP.

_____ We will be submitting a Proposal for RFP 2021-14

_____ We will NOT be submitting a Proposal – **(please indicate reason)**

_____ We are evaluating the RFP and will make a decision after the Pre-Proposal Meeting

I authorize Rockland Green to send further correspondence that Rockland Green deems to be of an urgent nature by the following methods:

Courier Collect: _____ Mail: _____

Email: _____

Signature: _____

Title: _____

NOTICE TO PROPOSERS

NOTICE IS HEREBY GIVEN that the Rockland County Solid Waste Management Authority d/b/a Rockland Green (hereinafter "Rockland Green") is issuing a Request for Proposals (RFP-2021-14) (the "RFP") for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility located at 420 Torne Valley Road, Hillburn, New York 10931 (the "Work").

The Work includes plumbing work associated with all areas at the Materials Recovery Facility, as part of an overall project to accommodate a new state of the art dual stream recyclables processing system that Rockland Green recently procured. The Work will be in accordance with the Contract, including the Drawings and Specifications attached thereto, all as further defined and discussed in the RFP.

Related improvements to the Materials Recovery Facility will be procured through additional RFPs and will include the following: (a) Contract 2-Facility Improvements, General Construction work, (b) Contract 3-Facility Improvements, Mechanical/HVAC work, (c) Contract 5-Facility Improvements, Electrical work, and (d) Contract 6-Facility Improvements, a fire protection system.

The RFP may be obtained from the offices of Rockland Green at 172 Main Street, Nanuet, New York between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays or downloaded from Rockland Green's website at rocklandgreen.com in the Businesses - Contracting Opportunities section of the website, on or after July 30, 2021. Please contact Dee Louis, Engineer II, at (845) 753-2200 ext. 613 with any questions concerning the distribution of the RFP..

Attendance at one of the two pre-proposal meetings is mandatory. The pre-proposal meetings are scheduled for August 9, 2021 and August 11, 2021, each at 10 a.m. at the MRF. Contact Dee Louis, Engineer II, at (845) 753-2200 ext. 613 for details.

One (1) original Proposal with five (5) copies must be submitted to Rockland Green in a sealed envelope and must be plainly marked on the outside with the statement "RFP-2021-14 Enclosed" with the Proposer's name and title of the RFP. No electronic copies will be accepted.

Sealed Proposals will be received by Rockland Green until September 13, 2021 until 2:00 p.m. local time, in the offices of Rockland Green, located at 172 Main Street, Nanuet, NY 10954. Any Proposals not delivered in person should be mailed to: Dee Louis, Engineer II, Rockland County Solid Waste Management Authority d/b/a Rockland Green, 172 Main Street, Nanuet, NY 10954.

The attention of the Proposers is directed to the applicable federal, state and local law requirements and to the "Affidavit of Non-Collusion" in the proposal forms. Rockland Green encourages the fullest possible utilization of M/WBE's.

By order of the Rockland Green, Rockland County, New York.
Dated: July 30, 2021
Rockland County Solid Waste Management Authority d/b/a Rockland Green
172 Main Street,
Nanuet, New York 10954

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APPENDICES:

I. INTRODUCTION

a. Facility Improvements Overview

The Rockland County Solid Waste Management Authority d/b/a Rockland Green (hereinafter "Rockland Green") owns the Materials Recovery Facility, located at 420 Torne Valley Road, Hillburn, New York (the "MRF"), and is soliciting proposals for improvements to the MRF to prepare the building to accommodate a new state of the art dual stream recyclables processing system that Rockland Green recently procured under Contract No. 1 (the "Facility Improvements").

The Facility Improvements are being solicited under separate procurements and will be performed under separate contracts with Rockland Green (collectively, the "Facility Improvement Contracts").

The Facility Improvements consist of:

(i) Contract 2 - General Construction work (including a building addition, site work, interior demolition work, and interior build-out work);
(ii) Contract 3 - Mechanical/HVAC Work;
(iii) Contract 4 - Plumbing work;
(iv) Contract 5 - Electrical work; and
(v) Contract 6 - a Fire Protection System.

Proposers are advised that this RFP relates to Contract No. 4 for Plumbing Work.

Please note that Rockland Green is aware of and intends to consider, the current shortage of materials and delivery schedule issues, during the course of this procurement.

All Work procured under this RFP will be in accordance with the Contract, including the Drawings and Specifications set forth therein, all as further defined and discussed in this RFP.

Rockland Green's goal for these Facility Improvements is to prepare the building to accommodate the new state of the art dual stream recyclables processing system that will be provided by a separate equipment contractor (the "Equipment Contractor")(Contract No.1).

Rockland Green intends for all Facility Improvements Contractors (for Contracts 2-6) performing the Facility Improvements to cooperate with one another, with Rockland Green and with the Equipment Contractor, in order to ensure the success of the overall project.

The Facility Improvements Contractors will also enter into a Project Labor Agreement with Rockland Green, the labor unions representing the various trades performing the Facility Improvements, and the subcontractors hired by the Facility Improvements Contractors to complete the Project. The Equipment Contractor and its subcontractors will not be parties to the Project Labor Agreement.

For the purposes of this RFP, and for eventual use in the Contract, a list of defined terms has been developed. Unless otherwise specified in this RFP, all capitalized terms used in this RFP refer to the words and phrases listed in Appendix A ("Defined Terms") hereto. The Defined Terms may be revised and expanded before incorporation into the Contract(s).

Rockland Green performs an essential service for the residents and businesses of Rockland County, and as such, the Work being sought hereunder constitutes essential service, as well.

Proposers should carefully review this document, including the Appendices, which constitutes the formal RFP for the Project, to ensure a clear understanding of Rockland Green's needs, objectives, and scope of services requested herein. Proposals must be prepared according to the requirements set forth in this RFP, including the format and content guidelines. The Proposals will be reviewed and evaluated using the process further described herein.

b. Business Structure

i. Contract and other Facility Improvement Contracts

The Contractor selected through this procurement will enter into the Contract with Rockland Green for the Work. The Contract will be the definitive statement of the mutual responsibilities and liabilities of Rockland Green and the Contractor for the Work procured hereunder and will be distributed to Proposers as an addendum to this RFP for inclusion in Appendix N hereto. The Contract will include appendices that will be modified to include the details of the selected Proposer's Proposal. Proposers are required to submit a mark-up of the Contract with their Proposal. (See Proposal Form 7).

All Facility Improvement Contractors selected to perform each of the Contracts 2-6, will enter into a separate contract with Rockland Green (the, "Facility Improvement Contracts"). Each Facility Improvement Contract will be the definitive statement of the mutual responsibilities and liabilities of Rockland Green and the applicable Facility Improvements Contractor.

ii. Proposal Bond and Security Instruments for the Contract

Each Proposal must be accompanied by a Proposal Bond or certified check payable to the order of Rockland Green, in the amount of 5% of the proposed Contract Price. The Proposal Bond must provide that prior to the expiration or termination of the Proposal Bond, the Contractor shall (1) if so requested by Rockland Green, negotiate an agreement with Rockland Green, and (2) if Rockland Green selects the Contractor's Proposal, enter into the Contract. If the Contractor fails to comply with the above, the surety will pay to Rockland Green, as liquidated damages, the full amount of the Proposal Bond or, as applicable; the certified check shall become the property of Rockland Green and be deposited in Rockland Green's accounts.

Any Proposal Bond must be valid for at least 180 days from the proposal submission date. If the Contract has not been executed prior to the expiration of the Proposal Bond, Rockland Green may require the renewal of the Proposal Bond for an additional 180 days. No proposal will be

considered, unless it is accompanied by the required certified check or Proposal Bond. The form of the Proposal Bond which must be submitted is set forth in Appendix G.

The certified check or Proposal Bond submitted by a Proposer will be returned within ten (10) business days after the earliest to occur of (1) the rejection of the Proposal of such Proposer by Rockland Green, and (2) the execution of the Contract by and between Rockland Green and the selected Proposer.

Proposers shall also provide with their Proposals, evidence of ability and intention to provide the following instruments, which are further described herein: (1) a Performance Bond and a Labor and Materials Payment Bond in an amount equal to One Hundred Percent (100%) of the total Contract Price; and (2) the Required Insurance.

The Proposers must submit with their proposal a Consent of Surety and an Insurance Company Letter of Intent to indicate their ability to obtain the Performance Bond and Labor and Materials Payment Bond and Required Insurance, respectively, all of which are included in the Proposal Forms. The final Performance Bond and Labor and Materials Payment Bond must be provided in the form attached hereto in Appendix G at the time the Contract is executed. The cost of providing any and all security shall be borne by the Proposer.

iii. Pricing Structure Overview

The Contractor shall be paid a lump-sum fixed Contract Price based on the pricing that is included in the Contract Price Proposal Form at Proposal Form 16 hereto and in accordance with the Contract. The Contractor will be required to submit Payment Requests to Rockland Green representing that the quantity of Work has reached the level for which payment is requested, that the Work has been properly performed in strict compliance with the Contract Documents, and that the Contractor knows of no reason why payment should not be made as requested. Ten percent (10%) of each payment will be retained until Final Completion. Rockland Green shall be responsible for securing the availability of all funds necessary to pay the Contract Price in a timely manner. The Contract Price shall be the Contractor's entire compensation and reimbursement for the Work. Any cost overruns will be the responsibility of the Contractor. All as further explained in the Contract.

iv. Warranty

The Contractor will be required to provide all manufacturer' warranties and a one-year warranty on workmanship commencing from the date of Final Completion and subject the terms and conditions of the Contract.

II. SCOPE OF SERVICES

a. The Work

The Scope of the Work is set forth in the Specification and Drawings attached hereto as Appendices B and C, and Appendix O. The scope of work included therein is not intended to be all inclusive, but instead defines Rockland Green's minimum expectations and requirements. The Contractor will be required to perform all duties supplementary to the preparation of a construction cost estimate and construction of the Work. Rockland Green reserves the right to modify the scope of services at any time before execution of a Contract to add, delete, or otherwise amend any item(s), as it deems necessary, in its sole judgment, and in the best interest of Rockland Green.

b. Project Schedule

The Work must be performed in accordance with the schedule set forth in Appendix M, which will be included in the Contract, along with a representation by the Contractor that the schedule is a reasonable period for performing the Work. As further set forth in the Contract, the Contractor will be responsible for Liquidated Damages if it fails to meet the dates agreed upon for Substantial Completion and Final Completion.

c. Project Submittals

The Contractor will be required to comply with the submittals and the process for submission and review/approval thereof, that is set forth in the Contract, including, but not limited to technical submittals, general submittals, monthly progress reports, weekly status reports and other documents that must be submitted to Rockland Green by the Contractor during the course of the Project (the "Submittals"). The Contractor will be required to prepare a Submittal schedule for Rockland Green's approval and update as necessary to maintain a current Submittal schedule. The Contractor must not perform any Work for which the Contract Documents require a Submittal unless the respective Submittal has been approved by Rockland Green. The Work will be in accordance with approved Submittals, however, the Contractor will not be relieved of responsibility for errors or omissions in Submittals by Rockland Green's approval thereof.

d. Facility Improvements Contractors, Subcontractors and Project Labor Agreement

All Facility Improvements Contractors and their Subcontractors (excluding the Equipment Contractor or its subcontractors) must be signatories to a Project Labor Agreement before commencing any work on the Project. Subcontractors are not required to employ Union labor in order to be a signatory to the Project Labor Agreement. Subcontractors without Union labor may be signatories to the Project Labor Agreement. Subcontractors may be used to perform any part of the Work, subject to Rockland Green's right of approval and subject to their being a signatory to the Project Labor Agreement. Proposers are required to include with their Proposals a list of Subcontractors proposed for the performance of any part of the Contract Services. In addition, the

Proposers must provide a description of responsibilities, relevant experience, qualifications, and certificates and licenses of proposed Subcontractors relevant to the work each Subcontractor would be hired to perform.

Rockland Green shall have the right to approve any and all Subcontractors. The approval or withholding thereof by Rockland Green of any proposed Subcontractor shall not create any liability on Rockland Green to the Contractor, to third parties or otherwise. In no event will any Subcontract be awarded to any person debarred, suspended or disqualified from Rockland Green or State contracting.

e. Hours of Work and Overtime

Hours of work will be set forth in the Project Labor Agreement. Overtime work by the Contractor may be necessary to conform to the requirements of the Contract, and will be addressed in the Project Labor Agreement.

f. Coordination of the Work on the Site

All Facility Improvements Contractors, including the Contractor, must cooperate in coordinating their work with the work of Rockland Green, its operators, other contractors (including other Facility Improvements Contractors), and any other forces permitted by Rockland Green to perform work at the Site, or enter the Site, including the Equipment Contractor and its subcontractors, without an increase in the Contract Time or the Contract Price.

Additionally, the Contractor will be responsible for coordinating the work performed on the Site among the Facility Improvements Contractors and the Equipment Contractor as further provided in Appendix E and the Contract Documents.

g. New York State Prevailing Wage Rates

Proposers are advised that the State of New York requires minimum wage standards for municipal projects for the full duration of construction as prepared by the New York Department of Labor and set forth in the Prevailing Wage Law. A copy of the New York State Prevailing Wage Rates listing for Rockland County is presented in Appendix K and will be included in the Project Labor Agreement.

III. PROCUREMENT PROTOCOL

By submitting a Proposal in response to this RFP, the Proposer is acknowledging that the requirements, scope of work, and the evaluation process, outlined in this RFP are fair, equitable, not unduly restrictive, understood and agreed to. The submission of a Proposal in response to this RFP shall be considered a representation that the Proposer has carefully inspected all conditions which affect or may, at some future date, affect the performance covered by the Proposal, and that the Proposer is fully informed concerning Rockland Green's operations and the conditions to be encountered, and the character, quality, and quantity of Contract Services to be performed. In

addition, a submission shall indicate that the Proposer is familiar with all federal, state, and local laws which in any way affect the performance of the Contract Services. Any exceptions to the content of the RFP must be presented to Rockland Green prior to the Proposal Submission Date by submission of Proposal Form 7.

Proposals must be received by the Proposal Submission Date. Proposals received after the Proposal Submission Date will be late and ineligible for consideration.

a. Procurement Schedule.

The Procurement Schedule for this Project can be found in Appendix L. The Procurement Schedule identifies the date of the Mandatory Site Visit and Meeting, the deadline for the receipt of questions regarding this RFP from potential Proposers, the Proposal Submission Date, the period during which the Proposals will be evaluated by Rockland Green, the date the Contract will be awarded and the execution date of the Contract.

b. Mandatory Site Visit and Meeting

Attendance at the Site Visit and Meeting is mandatory for any entity wishing to submit a Proposal. A failure to attend may preclude a company from proposing on the Work. Any and all are welcome to attend the Mandatory Site Visit and Meeting at the MRF located at 420 Torne Valley Road, Hillburn, New York.

In the event a qualified representative of the Proposer is unable to attend the mandatory Site Visit and Meeting, it may submit to Rockland Green for its consideration documentation supporting the reason for missing the Site Visit and Meeting.

For planning purposes, each potential Proposer must notify Dee Louis, Engineer II at dlouis@rocklandgreen.com in writing three (3) days prior to the mandatory pre-proposal meeting and Site visit it plans to attend to indicate the total number of individuals representing such potential Proposer that will be in attendance at the pre-proposal meeting and Site visit. Any individuals representing the Proposer at the pre-proposal meeting and Site visit must be employees or principals of the Proposer. (A Proposer may not use a surrogate as its representative at the mandatory pre-proposal meeting and Site visit.)

Proposers must familiarize themselves with all field conditions at the MRF and the Site. Failure of the Proposers to familiarize themselves with all conditions existing at the Site will not relieve them of their obligation to furnish all materials, labor and overtime necessary to carry out the provisions of the Contract Documents and to complete the contemplated Work if they are selected.

c. Questions Concerning this RFP

Following issuance of this RFP, the Proposers may submit written questions to Rockland Green to assist the Proposers in the preparation of their Proposals. Rockland Green may, but shall not be obligated to, respond to such questions. All responses to any questions and requests for additional information which Rockland Green determines to be deserving of response will be issued to all potential Proposers of record in the form of addenda to this RFP. The last day for submission of written questions will be on the date set forth in schedule above. Any questions submitted after the deadline for questions may be answered by Rockland Green at its discretion.

No oral interpretation, instruction, or information concerning this RFP given by any agent, employee, advisor, or consultant of Rockland Green shall be binding on Rockland Green. Proposers relying on such oral information risk having their response to this RFP deemed unresponsive by Rockland Green. Rockland Green will not be responsible for any explanation or interpretation of this RFP, unless such explanation or interpretation of this RFP is given in accordance with this written procedure.

Should a Proposer find discrepancies in, or omissions from, this RFP, the Proposer shall immediately notify Rockland Green, in writing, and a written addendum, if necessary, will be mailed or delivered to each Proposer.

All inquiries, correspondence, questions or clarifications shall be directed to:

Dee Louis, Engineer II
Rockland County Solid Waste Management Authority d/b/a Rockland Green
172 Main Street
Nanuet, NY 10954
Email: dlouis@rocklandgreen.com

With a copy to:

Gerard M. Damiani, Jr., Executive Director
Rockland County Solid Waste Management Authority d/b/a Rockland Green
172 Main Street
Nanuet, NY 10954
Email: gdamiani@rocklandgreen.com

and a copy to:

Nathiel Egosi, P.E.
RRT Engineering LLC
1 Huntington Quadrangle, 3S01
Melville, NY 11747
Email: NEgosi@rrtenviro.com

and a copy to:

Stephanie Kosmos, Esq.
West Group Law PLLC
81 Main Street, Suite 510
White Plains, NY 10601
Email: SKosmos@westgrouplaw.com

Except as set forth in this section with regard to procedures for inquiries, correspondence, questions or clarifications, in order to ensure fairness during the procurement process as of the date this RFP is released to the public and throughout the procurement process and negotiations of a Contract, Proposers or their employees, representatives or agents shall not contact any Rockland Green Board member, any Rockland Green employee (other than Dee Louis or Gerard M. Damiani, Jr. or such other individual as instructed by Rockland Green), or any of Rockland Green's technical or legal consultants.

If a Proposer or its employee, representative or agent contacts a Rockland Green Board member, any Rockland Green employee (other than Dee Louis or Gerard M. Damiani, Jr. or such other individual as instructed by Rockland Green), or any of Rockland Green's technical or legal consultant in relation to this RFP, such Proposer risks either being disqualified to submit a Proposal in response to this RFP or having its Proposal rejected by Rockland Green.

d. Addenda or Amendments to this RFP

During the period provided for preparation of Proposals, Rockland Green may issue addenda to this RFP. These addenda will be numbered consecutively and will be distributed to all who are registered with Rockland Green as having received a copy of this RFP. These addenda will be issued by, or on behalf of, Rockland Green and will constitute a part of this RFP. Each Proposer is required to acknowledge receipt of all addenda at the time of submission of its Proposal by submitting an executed Addendum Acknowledgment Form included as Proposal Form 2. All responses to this RFP shall be prepared with full consideration of the addenda issued prior to the Proposal Submission Date.

e. Site Access and Investigation

Rockland Green recognizes that Proposers may need access to the Site during the Proposal preparation period. Proposers may schedule an individual visit to the Site by contacting Rockland Green. All Proposers that visit the Site shall comply with the Site Visit Protocol set forth in Appendix H. No such individual Site visit shall be scheduled prior to the date of the Pre-Proposal Meeting and Site Visit.

Proposers are solely responsible for conducting their own independent research and due diligence for their preparation of the Proposals and subsequent delivery of services under the Contract. Proposers should satisfy themselves by personal investigation and any other means they deem necessary, as to the conditions affecting the proposed services and the cost thereof. No information derived from any part of this RFP, or from Rockland Green or its agents, employees,

advisors or consultants, shall relieve the Contractor from any risk or from fulfilling all terms and conditions of the Contract. Rockland Green is not responsible for the completeness or accuracy of any information presented in this RFP or otherwise distributed as made available during this procurement process. Proposers are, therefore, strongly encouraged to make all inspections and review all available and relevant information, prior to the submittal of the Proposal, which are necessary in their judgment in order to undertake this responsibility.

f. Clarification Requests

Rockland Green may, at its sole discretion, conduct discussions with Proposers to clarify any information submitted in the Proposal or assure that the Proposers fully understood and responded to the requirements of the RFP.

Once Proposals have been reviewed, Rockland Green may request that the Proposer submit additional information or clarify certain aspects of the Proposal. Such requests from Rockland Green will be made via written request for clarifications. Timely responses to such requests will be required before Rockland Green can continue to evaluate the Proposal.

g. Proposer Interviews

After the Proposal Submission Date, Rockland Green may require Proposers to make oral presentations or to attend interviews with representatives of Rockland Green.

IV. SUBMISSION REQUIREMENTS

a. This section contains instructions regarding the required content and organization of the Proposals. All Proposers must provide all required information in the order set forth below. Late Proposals will be considered non-responsive and shall be returned to the Proposer unopened. No Proposal will be accepted unless filed on or before the Proposal Submission Date and at the place designated herein. Proposals received prior to the time of opening will be securely kept unopened.

b. Proposals shall be submitted with the Proposal Forms set forth in this RFP. All blank spaces for Proposal prices shall be properly filled in, in ink, or typed, in both words and figures. In case of any price shown in words and its equivalent shown in figures do not agree, the written words shall be binding on the Proposer. All Proposal Forms included in this RFP must be completed and submitted with the Proposal in order to be considered a responsive Proposal.

c. The Proposal documents shall be typed or printed (1-1/2 spacing) on 8-1/2 inch by 11 inch paper, except for figures or drawings which may be prepared at a larger size in order to be legible.

d. Proposals shall be enclosed in a sealed opaque envelope plainly marked on the outside with the statement "RFP-2021-14 Proposal Enclosed," with the Proposer's name and title of the RFP. When sent by mail, the sealed Proposal, marked as above, shall be enclosed in an additional envelope.

e. One (1) original with original signatures and five (5) copies of the Proposal shall be submitted. No electronic copies will be accepted. One copy must be clearly marked "original" and must contain all original executed documents.

f. Proposals shall be delivered to:

Rockland County Solid Waste Management Authority d/b/a Rockland Green
172 Main Street
Nanuet, NY 10954
ATTN: Dee Louis, Engineer II

V. PROPOSAL CONTENT

All Proposals must include the following in order to permit a fair and equitable evaluation by Rockland Green of each Proposal:

Section I:	Cover Letter and Executive Summary
Section II:	Proposal
	A. Project Approach B. Qualifications and Experience C. Proposal Security
Section III:	Proposal Forms

Section I: Cover Letter and Executive Summary

The cover letter is the Proposer's official letter transmitting the complete Proposal to Rockland Green. The cover letter will designate the individuals who will be the key technical and business negotiators. This letter is to be typed on the Proposer's letterhead and is to be signed by an officer of the Proposer who is empowered to sign such material and to commit the Proposer to the obligations contained in the Proposal. If the Proposer is a joint venture, an authorized representative of each of the Participating Firms is required to sign the letter. The Proposer shall provide binding letters from each party in the joint venture stating its role and its willingness to meet the requirements of this RFP and any Contract that will be executed. The partners shall be jointly and severally liable to meet the Proposer's obligations.

The executive summary must be presented as a separate document summarizing in clear and concise language, the information contained in all other parts of the Proposal (except for pricing information) and shall include an introduction and overview section and a conclusion. The executive summary shall also summarize the information contained in the Proposal Forms. This shall include, for each Participating Firm, the form of business organization, ownership description; proposed role in the Project; any information as to criminal indictments or convictions, regulatory violations, bankruptcies, lawsuits and contract disputes resulting in either mediation or arbitration.

The executive summary should be drafted so that it may be easily understood by persons not having a technical background. In addition, the executive summary shall be limited to five (5) pages, including tables and graphs. Rockland Green may distribute the executive summary to public officials, representatives of public interest groups, and other major project participants; therefore, the Proposer should not include any data in the executive summary that the Proposer judges to be confidential. The executive summary should not contain any price, cost, or economic data. Rockland Green assumes no liability for disclosure or use of any data presented in the executive summary.

Proposers shall include in the executive summary details on how the Work will be performed and how the goals of Rockland Green as set forth in this RFP will be achieved, as well as a representation of Proposers' ability to provide the assurance required in this RFP.

Section II: Proposal

Project Approach

a. Proposals must contain at least the information included in this section, as well as the information required by the Specifications in Appendix B hereto and by Appendix F, Contract 4 – Additional Proposal Submission Requirements.

b. Proposals must include a complete narrative of the Proposer's assessment of the work to be performed, the Proposer's ability and approach, a detailed schedule and narrative of any assumptions, and the resources necessary to fulfill the requirements. This should demonstrate the Proposer's understanding of the desired overall Project expectations and requirements. Proposers must clearly indicate the key issues, constraints, challenges and any options or alternatives proposed. Rockland Green is aware of the current shortage of materials and the delivery schedule issues presented by the current market. As such, also provide a detailed schedule and methodology of how you intend to overcome potential delays or extended durations.

c. The Proposal shall identify portions of the Work that will be undertaken directly by the Proposer and what portions of the Work will be subcontracted and to which firms. The Proposal must clearly identify the members of the Proposal team that will serve in the following roles: (1) prime contractor and (2) Subcontractors. Other individuals who the Proposer believes are critical to the Work should also be included. Subcontractors are subject to Rockland Green's approval, and, therefore, Proposers must also describe the history of the relationship it has with each Subcontractor, and the work the Subcontractor has previously performed for the Proposer, if any. Proposers must also include: (1) any conflicts of interest; (2) any record of felony criminal convictions or pending felony criminal investigations; (3) any final judicial or administrative finding or adjudication of illegal employment discrimination; (4) any unpaid federal, State, or local taxes; (5) work or services provided directly or indirectly to Rockland Green or for a Rockland Green project in the past five (5) years; and, (6) any final judicial or administrative findings or adjudication of non-performance in contracts with any entity in the State.

Qualifications and Experience

General Qualifications and Experience **-** To enable Rockland Green to evaluate a Proposer's ability and resources to carry out the Work, the Proposer must submit with its Proposal the following information:

1. A description of the Proposer's organization, its history, its ownership and its organizational structure, a description of Proposer's divisions by functional area, and the location of Proposer's offices in the Northeast region. Proposers must submit this information for each of the Participating Firms that will perform any of the Work.

2. Project descriptions for at least three (3) projects, completed within the past five (5) years, which are substantially similar in scope, size, use, and function completed by each Participating Firm and by the Proposer. The goal of this section is for the Proposers to provide information relating to their experience the basis of which said Proposer purports to be qualified to carry out all Work required for this Project. The project description must contain the following information:

    a. Project name;
    b. Project owner;
    c. Project location;
    d. Project description; and
    e. Project dates.

3. Project descriptions for at least three (3) public projects performed in the past three (3) years where the Proposer was one of multiple contractors.

4. Proposers shall provide no less than five (5) references for projects performed in the last five (5) years. Complete Proposal Form 3 with regard to references.

5. Proposers shall have demonstrated experience with projects for governmentally-owned facilities.

6. Audited financial statements, prepared on an accrual basis in accordance with Generally Accepted Accounting Principles, and all relevant notes, for a) the Proposer, b) each Participating Firm, and c) any significant Subcontractors, in a form which clearly indicates assets, liabilities and net worth over the most recent three (3) year period or as many years as the firm has been in business if less than three (3) years. Proposers who do not demonstrate financial solvency or who are in bankruptcy proceedings will not be considered. This information also allows Rockland Green to assess the Proposers' ability to secure adequate financing, if any is necessary for the Work.

7. The Proposer's commitment to the compliance with Applicable Law, including but not limited to employment and labor laws, as well as environmental laws.

8. Evidence of the Proposer's authorization to do business in the State.

9. Relevant, related experience for each key team member, including general trade industry credentials, educational programs completed, institutional credentials and certifications, and training for each of the key personnel. Include resumes for all key team members.

Regulatory Experience and Compliance **-** To enable Rockland Green to evaluate a Proposer's regulatory experience and compliance, the Proposal shall describe the Proposer's, each Participating Firm's, and each key team member's, experience and effectiveness in dealing with governmental agencies regulating construction and their experience and record of compliance with permits, licenses, approvals, and other regulatory actions. The Proposal shall identify any major incidents of non-compliance, a description of corrective action taken for such incidents, the present status of compliance, and whether regulatory agency sanctions were imposed. The Proposer and each Participating Firm shall disclose any litigation, pending or complete, that relates to or could impact its provision of the Work.

Record of Contract Performance **-** To enable Rockland Green to evaluate a Proposer's record of contract performance, the Proposer shall identify any cases where the Proposer or any Participating Firm failed to complete any work which it was contracted to perform or had a contract terminated by a government agency due to the quality of its work. If this has occurred, indicate when, where, and the reasons for such termination. If the Proposer or any other Participating Firm has paid any liquidated damages, fines or penalties in connection with the design or construction of any project, the Proposer shall indicate when, where, and under what circumstances such payment was made.

Labor Relations **–** As noted in this RFP, a Project Labor Agreement will be utilized. As such, the Proposer shall describe its experience with and approach to Project Labor Agreement, citing specific examples of projects completed under a Project Labor Agreement.

The Proposer shall describe its and each Participating Firm's compliance history with the New York Department of Labor (as well as other jurisdictions) regarding the payment of prevailing wages. To the extent the Proposer, or any member of the proposer team, has been investigated or cited within the past five (5) years for failure to pay prevailing wages or otherwise comply with Applicable Law pertaining to the payment of wages and benefits, including the Prevailing Wage Law or any similar laws in other jurisdictions, the Proposer must so indicate in its Proposal.

Safety Record **-** The Proposer shall provide OSHA logs and discuss its overall safety program including any violations cited by governmental safety agencies or Occupational Safety and Health Administration (OSHA), recognized safety awards, and the Proposer's lost-time accident record compared with industry standards, all within the past three (3) years.

Price Proposal

The Proposers must complete the Price Proposal Form and include all costs to fully execute, deliver and complete all of the Work. The costs include, but are not limited to the following: materials, labor, tools, equipment, utilities, transportation, supervision and other items to complete the Work. Proposers must also include costs associated with, but not limited to:

submittals, coordination, shipping, receiving, unloading, storing, protecting, assembly, erecting, rigging, aligning, wiring, painting, sealing, inspecting, and quality control, in full compliance and adherence to the Contract Documents, all applicable codes and standards and good construction practices and standards applied in the construction industry. Price Proposals shall remain firm for one hundred and eighty (180) days.

VI. INSURANCE

The Contractor, and its Subcontractors, shall maintain insurance issued by an insurance carrier satisfactory to Rockland Green to protect the parties from and against any and all claims, demands, actions, judgments, costs, expenses and liabilities of every kind and nature which may arise or result, directly or indirectly, from or by reason of the Contractor's performance (or the performance of its Subcontractors) of its responsibilities under the Contract. Such insurance shall be maintained at the Contractor's and the Subcontractor's sole expense. The Contractor must meet the requirements set forth in Appendix J and must obtain and maintain the types and minimum coverages, not including deductible, of insurance set forth therein. Rockland Green shall be listed as a Certificate Holder and additional insured.

The Proposers shall provide a Letter of Intent from an insurance company indicating that the insurer is highly confident that when full application is made by the Proposer, it will furnish the Required Insurance. (See Proposal Form 14).

VII. SECURITY FOR PERFORMANCE

As of the effective date of the Contract and throughout the term of the Contract, the Contractor shall furnish to Rockland Green, with Rockland Green as beneficiary, (i) a Performance Bond and (ii) a Labor and Materials Payment Bond, effective for the full duration of the Contract, each in an amount equal to 100% of the Contract Price, and each in a form acceptable to Rockland Green (included in Appendix G hereto).

The Performance Bond and Labor and Materials Payment bond shall be in the form attached hereto as Appendix G, and shall be issued by a surety company or companies rated 'A' or better per current A.M. Best Company ratings and listed in the United States Treasury Department's Circular 570. Such surety shall be properly registered and licensed to conduct business in New York. Agents of bonding companies which write the bond shall furnish the necessary power of attorney, bearing the seal of the company, and evidencing such agent's authority to execute the particular type of bond to be furnished, as well as the right of the surety company to do business in the State of New York. The bond must provide that in the event of a default by the Contractor in payment of compensation due to its subcontractors, Rockland Green may draw down such sums immediately upon presentation of the instrument without notice to the Contractor.

The Proposer shall provide a Consent of Surety from a surety company indicating that the surety is highly confident that when full application is made by the Proposer, the surety will furnish the Performance Bond and the Labor and Materials Payment Bond. (See Proposal Form 9).

The failure by the Proposer to provide such bonds by the date required in the Contract shall constitute an immediate event of default under the Contract. The expenses of meeting and maintaining this security requirement are the sole responsibility of the Proposer.

a. Warranties

The Contractor will be required to provide all manufacturer' warranties and a one-year warranty on workmanship commencing from the date of Final Completion and subject the terms and conditions of the Contract.

The Contractor must also obtain from all Subcontractors, vendors, suppliers and other persons from which the Contractor procures structures, improvements, fixtures, machinery, equipment and materials to be incorporated in the Work such warranties and guarantees as are normally provided with respect thereto and as are specifically required in the Contract, each of which shall be assigned to Rockland Green to the full extent of the terms thereof.

The Contractor acknowledges that the Contract Price contains the entire compensation due the Contractor for any and all warranty work to be performed by the Contractor or its Subcontractors or agents.

VIII. GOVERNMENTAL APPROVALS

The Contractor will be responsible for preparing applications and obtaining and paying the cost for any necessary and required governmental permits, approvals, licenses, and authorizations to complete the Work. The Contractor will obtain, in a timely manner, any and all Governmental Approvals which might be required for the Work. The Contractor only will submit such applications as it deems in good faith to be complete, including all necessary studies and documentation. Rockland Green will cooperate with the Contractor in the submittal of all applications for Governmental Approvals which the Contractor is obligated to submit.

IX. SPECIFICATIONS AND CONTRACT DRAWINGS

Proposers must acknowledge an understanding of and ability to comply with, at a minimum, the Specifications set forth in Appendix B and the Drawings set forth in Appendix C. Proposals must include a plan for the Work, explaining how Proposers will meet or exceed the Specifications. The final Specifications will be agreed to by the Parties and included in the Contract.

X. TERMS AND CONDITIONS OF PROCUREMENT

a. Rockland Green Reservation of Rights

This RFP constitutes an invitation to Proposers to submit Proposals to Rockland Green. This section describes Rockland Green's responsibilities, rights, and options as they relate to various business, legal, and financial aspects of the procurement effort. By responding to this RFP, Proposers acknowledge and consent to the following conditions relative to the procurement process and the selection of a Proposer to negotiate an agreement with Rockland Green. Without limitation, Rockland Green reserve, holds, and may exercise, at its sole discretion, the following rights and conditions:

1. This RFP does not obligate Rockland Green to procure or contract for any services whatsoever, nor does it obligate Rockland Green to procure the Contract Services.
2. All costs incurred by Proposers in connection with responding to this RFP, the evaluation and selection process undertaken in connection with this procurement, and any negotiations entered into in connection with developing the Contract will be borne by the Proposers.
3. All Proposals become the property of Rockland Green and will not be returned.
4. Rockland Green may reject and return unopened any responses not received by the deadline for receipt of Proposals or may extend the deadline date for submission of Proposals and modify schedule dates.
5. Rockland Green reserves the right, at any time, to determine that any or all Proposers will not be selected for further consideration and to notify such Proposers of Rockland Green's determination.
6. Rockland Green has the right to reject, for any reason, any and all Proposals and components thereof and to eliminate any and all Proposers responding to the RFP from further consideration for this procurement.
7. Rockland Green may conduct clarification discussions, at any time, with one (1) or more Proposers and request additional information relating thereto.
8. Rockland Green may receive questions from Proposers and provide such answers, as it deems appropriate.
9. Rockland Green reserves the right to designate, at any time, one (1) or more Proposers with whom it may select to have a full evaluation of their Proposal(s).
10. Rockland Green has the right to select the Proposer(s) who best satisfies the interests of Rockland Green and is most responsive to the RFP, and not necessarily on the basis of price or any other single factor.
11. Rockland Green reserves the right to amend, supplement, or otherwise modify this RFP, including the scope of services, or otherwise request additional information without prior notice.

12. Rockland Green reserves the right to request Proposers to send a representative to attend Rockland Green interviews.
13. Rockland Green reserves the right to require additional information from one or more Proposers to supplement or clarify the Proposals submitted.
14. Rockland Green reserves the right to conduct investigations of the Proposers, and their responses to this RFP and to request additional evidence to support the information included in any such response.
15. Rockland Green reserves the right to conduct investigations of the Proposer's proposed Subcontractors, and to request additional evidence to regarding any proposed Subcontractor.
16. Rockland Green reserves the right to visit and examine any of the facilities referenced in the Proposal and others owned, operated, and/or built by the Proposer to observe and inspect such facilities.
17. Rockland Green reserves the right to waive any technicalities or immaterial irregularities in any Proposal received, in accordance with Applicable Law.
18. Rockland Green has the right to eliminate any Proposer who submits an incomplete and inadequate response or is not responsive to the requirements of this RFP.
19. Rockland Green has the right to cancel this RFP without issuing another RFP or to amend, supplement, or otherwise modify this RFP, including the scope of services, or otherwise request additional information without prior notice.
20. Rockland Green reserves the right to issue additional or subsequent solicitations for Proposals.
21. Rockland Green reserves the right to designate, at any time, one (1) or more Proposers with whom it may select to have a full evaluation of their Proposal(s).
22. To the extent deemed appropriate by Rockland Green, Rockland Green may select and enter into discussions and to conduct simultaneous negotiations with one or more of the Proposer(s) submitting Proposals.
23. Rockland Green, in its sole discretion, has the right to discontinue negotiations with any selected Proposer at any time prior to the execution of the Contract.
24. Rockland Green reserves the right to enter into agreements for only portions (or not to enter into agreements for any) of the services solicited in this RFP with one or more of the Proposers based upon Rockland Green's judgment of the best single Proposal or combination of Proposals to address Rockland Green's objectives.
25. All activities related to this RFP and the performance under the Contract shall be subject to Applicable Law.
26. Neither Rockland Green, its staff, its representatives, nor any of its consultants will be liable for any claims or damages resulting from the solicitation, collection, review, or evaluation of responses to this RFP.

27. Rockland Green reserves the right to eliminate any Proposer that has a record of material non-compliance with any Applicable Law,
28. Rockland Green reserves the right to waive any mandatory pre-proposal conference, Site visit or meeting on a case-by-case basis.
29. Rockland Green reserves the right to award one single contract for all services described herein or multiple contracts for such services.
30. Notwithstanding any other provision set forth herein, no contract, agreement, bid or proposal awarded by Rockland Green shall be binding and valid until fully executed by the parties.

b. Confidential/Trade Secret Information

Rockland Green is subject to New York State's Freedom of Information law (NY CLS Pub O §§ 84-90) ("FOIL"). Should your submission to this RFP contain "trade secrets," or other information that the disclosure of which could reasonably be expected to be harmful to business interests, you must ensure that such information is clearly identified and marked as such. Identification must be specific by item or paragraph and the following notice should be inserted in the front of the Proposal:

NOTICE

The data on pages _____ of this proposal identified by an asterisk (*) contain technical or financial information, which are trade secrets and/or whose disclosure would cause substantial injury to the Proposer's competitive position. The Proposer requests that such data be used only for the evaluation of the proposal, but understands that the disclosure will be limited to the extent that Rockland Green considers proper under the law. If an agreement is entered into with this Proposer, Rockland Green shall have the right to use or disclose the data as provided in the Agreement, unless otherwise obligated by law.

Rockland Green does not assume any responsibility for disclosure or use of marked data for any purpose. Marked information will be treated as Confidential Third Party Information. Should marked information be the subject of a request under FOIL, you may be requested either to consent to the request, or make representation explaining why the information should not be disclosed.

By submitting a Proposal, any Proposer not selected relinquishes any claim or right to be compensated for or to object to the use of ideas, approaches, concepts, designs or other elements of its Proposal which may be included in the Contract executed with the selected Proposer.

Unpublished information pertaining to Rockland Green obtained by the Proposer as a result of participation in this RFP is Confidential Information and must not be disclosed without written authorization from Rockland Green.

Also, the term "Confidential Information" as used herein includes all material and information, whether written or oral, received by Proposers from or through Rockland Green or any other person connected with Rockland Green, or developed, produced, or obtained by Proposers in connection with this RFP. Confidential Information shall include, but not be limited to, samples, substances and other materials, conversations, correspondence, records, notes, reports, plans, drawings, specifications and other documents in draft or final form, including any documentation or data relating to the results of any investigation, testing, sampling in laboratory or other analysis, and all conclusions, interpretations, recommendations and/or comments relating thereto. For purposes of this section, the term "Proposer" includes all officers, directors, employees, agents, subcontractors, successors, assignees or representatives of Proposer.

Proposers shall keep all Confidential Information in a secure location within Proposer's offices. Rockland Green shall have the right, with advance notice during reasonable business hours, to enter Proposer's offices to ensure that Confidential Information is maintained in a secure location. No inspection or failure to inspect by Rockland Green shall relieve Proposers of the responsibility for the performance of its obligations hereunder.

Proposers shall hold Confidential Information in trust and confidence, shall not disclose Confidential Information or any portion thereof to anyone other than Rockland Green without the prior written consent of Rockland Green and shall not use Confidential Information or any portion thereof for any purpose whatsoever except in connection with the submission of a Proposal and the performance of the Contract Services under the Contract.

All Confidential Information, including all copies thereof, is the exclusive property of Rockland Green. Proposers shall deliver Confidential Information and all copies thereof to Rockland Green upon request. To the extent that copies of Confidential Information are authorized by Rockland Green to be retained by Proposers, they shall be retained in a secure location in Proposer's office for a period of six (6) years after completion of the RFP, and thereafter disposed of at Rockland Green's direction.

c. Expense of Proposal Preparation

Each Proposal and preparation of all information required pursuant to this RFP shall be prepared at the sole cost and expense (including engineering and legal costs) of the Proposer. In addition, the Proposer shall be solely responsible for all costs (including engineering and legal costs) incurred in connection with the evaluation and selection process undertaken in connection with this procurement and any negotiations entered into in connection with developing a Contract. There shall be no claims whatsoever against Rockland Green, its staff, or its consultants or agents for reimbursement of the costs or expenses (including engineering and legal costs) incurred during the preparation of the Proposal or other information required by this RFP or the procurement process or in connection with the selection process or contract negotiations. Each Proposer that enters into the procurement process shall prepare the required materials and submittals at its own

expense and with the express understanding that they cannot make any claims whatsoever for reimbursement from Rockland Green for the costs and expenses associated with the process.

d. Acceptance of Proposals

This RFP should not be construed as a contract to purchase goods or services. Rockland Green is not bound to accept the lowest price or any proposal of those submitted.

e. Modifications to Proposals

Before opening the Proposals, a Proposer may correct or modify the Proposal by written notice received by Rockland Green prior to the time and date specified in the schedule above. After opening of the Proposals, Rockland Green may waive minor informalities or allow the Proposer to correct such informalities. If a mistake is clearly evident on the face of the Proposal, Rockland Green shall correct the mistake and so notify the Proposer in writing, and the Proposer may not withdraw the Proposal. A Proposer may withdraw a Proposal if a mistake is clearly evident on the face of the Proposal but the intended correction is not similarly evident.

f. Termination of Negotiations

Rockland Green in its sole discretion may, at any time, exclude a Proposer from further participation in the negotiation process if it determines that such Proposer is failing to progress in the negotiations or if the terms of its Proposal provide less value than those of the other Proposers. Rockland Green will give written notice of its decision to the Proposer which shall be sent in writing signed by an authorized representative of Rockland Green, and delivered to the Proposer by certified mail.

g. Withdrawal from Procurement Process

A Proposer may withdraw a Proposal prior to the date and time set for the opening of Proposals provided that a written request to withdraw the Proposal is hand delivered to the Executive Director of Rockland Green, by or on behalf of an authorized representative of the Proposer, or the request is delivered by certified mail.

h. No Rockland Green Liability

Neither Rockland Green, its staff, its representatives, nor any of its consultants will be liable for any claims or damages resulting from the solicitation, collection, review or evaluation of responses to this RFP. Rockland Green assumes no responsibility for the completeness or the accuracy of any information presented in this RFP, or other information distributed or made available during this procurement process. Without limiting the generality of the foregoing, Rockland Green will not be bound by or be responsible for any explanation or interpretation of the proposed documents other than those prepared in writing. In no event may a Proposer to this RFP rely on any oral statement made by Rockland Green or any of Rockland Green's agents, employees, advisors or consultants.

i. Continuing Obligation of Proposers

Any Proposer(s) selected to negotiate with Rockland Green have a continuing obligation during such negotiation period to provide Rockland Green with any information requested in this RFP which requires updating due to circumstances that have changed or occurred since the submission of its Proposal. Such obligation shall remain in place until Rockland Green has awarded the Contract.

j. Minority and Women's Business Enterprises

The Authority encourages the fullest possible utilization of Minority and Women Owned Business Enterprises (M/WBW).

k. No Discrimination and Affirmative Action Plan

The Contractor shall not discriminate or permit discrimination by any of its officers, employees, agents and representatives against any person because of age, race, color, religion, national origin, sex, sexual orientation or physical or mental disability, or any other protected category. The Contractor must take all actions reasonably necessary to ensure that applicants are employed, and that employees are treated during employment, without regard to their age, race, color, religion, national origin, sex, sexual orientation or physical or mental disability or any other protected category. Such action shall include, without limitation, recruitment and recruitment advertising; layoff or termination; upgrading, demotion, transfer, rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor shall impose the non-discrimination provisions of this section by contract on all Subcontractors hired with Rockland Green's consent to perform work related to performance of its obligations under the Contract and shall take all reasonable actions necessary to enforce such provisions. The Contractor will post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause. The Contractor shall comply with Rockland Green's Affirmative Action Program and demonstrate compliance with Rockland Green's Affirmative Action Program by submitting Proposal Form 6.

Proposers must have in place sexual harassment policies that are compliant with the New York Human Rights Law ("NYHRL"), and shall provide annual training to all of their employees in accordance with the NYHRL.

XI. PROPOSAL FORMS

Each Proposer must fill out all of the Proposal forms completely. Proposers must use "N/A" to specify any items set forth in the Proposal Forms that are not applicable to a Proposer. To provide additional information, the Proposer should use separate sheets of paper following the Proposal Form format.

XII. PROPOSAL EVALUATION

a. General

All Proposals will be evaluated by the procedures and criteria described in this section for the ultimate purpose of determining to whom Rockland Green will award the Contract.

Rockland Green's evaluation team will initially determine if the Proposals are complete and meet the submission requirements of this RFP. All Proposal Forms must be fully and properly completed and all requested information must be provided.

The evaluation team will then evaluate each of the complete Proposals to determine if the Minimum Qualification Criteria set forth in section (c) below are met. Only those Proposers whose Proposals meet the Minimum Qualification Criteria will be considered responsible Proposers and be further evaluated.

If the Proposal meets the Minimum Qualification Criteria, then the evaluation team will evaluate the Proposals using the Comparative Evaluation Criteria set forth in section (d) below in order to make a determination of which Proposal is most responsive to this RFP. Each section of the technical Proposal will be evaluated in terms of the reasonableness of the claims and/or commitments made, the completeness of the data provided, the reliability of the approach taken and conformance with the requirements and instructions provided in this RFP.

The selection of a Proposer will not be determined solely on the basis of lowest net cost, although cost will be a factor in the evaluation process. If the award is made to any Proposer whose Proposal does not provide the lowest net cost to Rockland Green of any Proposal received, Rockland Green must adopt a resolution after public hearing which includes particularized findings relevant to the factors evaluated by Rockland Green indicating that Rockland Green's requirements are met by such award and that such action is in the public interest.

b. Evaluation Team

The Proposal evaluation and selection process described in this section of the RFP will be conducted by an evaluation team led by Rockland Green. The evaluation team will be composed of personnel from Rockland Green and assisted by its consultants. The evaluation team will review and evaluate Proposals and select one (1) or more Proposers with whom Rockland Green will conduct contract negotiations.

c. Minimum Qualification Criteria

The Minimum Qualification Criteria that each Proposer is required to meet are set forth below. Proposals that do not meet the Minimum Qualification Criteria will not be further evaluated by the evaluation team. Each Proposer or Proposal, as applicable, must satisfy the following Minimum Qualification Criteria:

1. The Proposer and all Participating Firms must commit to be registered or authorized to do business in the State of New York and fully qualified under the Business Corporation Law, Article 13, Section 1304, prior to commencement of any Work should they be selected.

2. The Proposer and all Participating Firms, each must have successfully constructed no less than three (3) projects similar in scope, size, use, and function.

3. The Proposer and all Participating Firms must have at least five (5) years of successful experience in the completion of projects similar in scope, size, use and function.

4. The Proposer must provide at least five (5) references for at least five (5) successfully completed projects.

5. Proposers must have demonstrated experience with projects for governmentally-owned facilities.

6. The Proposer must have demonstrated, in the form of the Consent of Surety, its ability to provide and maintain the following: (i) a Performance Bond and (ii) Labor and Materials Payment Bond in the amount equal to the Contract Price. (See Proposal Form 9).

7. The Proposer must have demonstrated, in the form of a Letter of Intent from an insurance company, its ability to satisfy the Required Insurance. (See Proposal Form 14).

8. The Proposer must be financially solvent and must not be in bankruptcy.

9. The Proposer and all Participating Firms must have a demonstrated track record of compliance with Applicable Law. The Proposer, or members of the Proposer team, may be disqualified if credible evidence indicates a lack of commitment to compliance with law, including environmental laws and permit requirements or business integrity. The types of occurrences that will result in disqualification include, but are not limited to:

    - Filing of misleading or false declarations or failing to disclose material information in connection with any governmental filing, including a response to this RFP;

    - Bribery, corrupt business practices, paying consideration for the purpose of improperly influencing a public procurement process;

    - Conduct that would constitute discrimination under the laws of the State of New York and the United States; and

    - The debarment of the Proposer (including any member of the Proposer team) and their officers, principals, stockholders, affiliates and subsidiaries by the State of New York, thereby prohibiting them from entering into contracts with Rockland Green, or the debarment of the Proposer (including any member of the Proposer team) and their officers, principals, stockholders, affiliates and subsidiaries by any state in the United States or its political subdivisions from entry into contracts with such government entity. Further, the Proposer must state that it will not use any contractors or

Subcontractors who are so debarred, without the expressed written approval of Rockland Green.

Any Proposer who fails to prepare a Disclosure Affidavit (Proposal Form 5) shall not be considered by Rockland Green. Any person who willfully fails to disclose the required information or who knowingly discloses false information will not be considered and can be punished by civil or criminal penalties, or both, and will not be awarded the Contract.

d. Comparative Evaluation Criteria

Proposals meeting the Minimum Evaluation Criteria will then be further evaluated by the evaluation team in order to make a determination of which Proposal is most responsive to this RFP, with the overall net cost of the Proposal being a major criterion in the selection, but not the only determining factor. The criteria set forth below are not necessarily listed in the order of importance and are not necessarily of equal weight. Proposers must provide all information, documents or data necessary to address each of the Comparative Evaluation Criteria.

The evaluation of the Proposer's "technical" portion of the its Proposal will focus on, the proposed project approach, as well as the experience, capability, qualifications and resources of the Proposer and each Participating Firm, based on the role proposed for the Participating Firm in the Proposal and the nature of the commitment that the Participating Firm is expected to make in ultimately performing the Contract Services. The Proposal must clearly distinguish among Participating Firms, where appropriate, in order to make clear to Rockland Green whose qualifications are being offered and how the Contract Services will be divided among the Participating Firms.

Rockland Green will evaluate proposals by applying the following criteria:

1. *Qualifications and Relevant Experience* – The Proposer and all Participating Firms must have the requisite capabilities, licensing and certification, and experience to perform the Work. Proposers must have qualifications and previous experience in similar projects and in performing services similar to the Work. Rockland Green will evaluate the experience of key personnel and the adequacy of staffing and the training/experience of key management and technical personnel based on its review of the resumes submitted by the Proposer.

    a. Rockland Green will consider the number of completed projects of similar size, purpose, and use.

    b. Rockland Green will consider the experience of key team members (including Subcontractors) in satisfactorily completing similar projects based upon number, size and scope of projects.

2. *Viability of Proposal* – The preliminary construction concept and schedule required to be submitted pursuant to this RFP will be evaluated to determine their reliability, operability, and flexibility in the context of Rockland Green's goals and objectives for the Project.

a. Rockland Green will consider:

i. Proposer's understanding of Rockland Green's Project objectives and scope of services, as exhibited in its Proposal.

ii. Practicality and suitability contained in the Proposer's approach to the Project.

iii. The Proposer's proposed schedule for Project completion.

3. *Project Organization* – Rockland Green will evaluate the appropriateness, adequacy, and flexibility of the Proposer's organizational structure for managing the Work and will also determine whether the Proposal demonstrates the Proposer's ability to procure necessary equipment and provide services by the dates shown in the Proposer's proposed schedule.

4. *References* – Rockland Green will evaluate the strength and character from each of the Proposer's project references provided. Such evaluation will consider the Proposer's history of compliance with project schedules, as well as the quality of its completed work. It should be noted, Rockland Green has the right to conduct independent reference checks, and as such, may contact other entities for which the Proposer has completed a project but who have not been listed as references.

a. Rockland Green will consider:

i. Proposer's record for regulatory compliance, including permitting, in prior projects.

ii. Proposer's record of contractual compliance on prior projects based upon recorded contract disputes, record of payment of actual or liquidated damages and record of litigation.

iii. Proposer's history of schedule compliance, completion within the required contract time for prior projects and whether the Proposer has paid actual or liquidated damages for untimely completion.

5. *Financial Capacity* – Rockland Green will evaluate the financial strengths of the Proposer. The financial capacity assessment will consider the adequacy of the Proposer to assure full and timely performance of the Contractor's obligations under the Contract and the overall financial stability of the Contractor.

6. Rockland Green will evaluate the Proposer's overall risk posture, including but not limited to any exceptions the Proposer may take to the Contract or to provisions related to any of the Security Instruments.

7. Rockland Green will evaluate the Proposer's pricing set forth on Proposal Form16. The evaluation team will consider the Proposer's price for the Work and identify any questions

or concerns regarding the information presented from any of the Proposers, including for example, any mathematical errors.

8. Rockland Green will evaluate Proposer's experience in completing projects with a Project Labor Agreement.

e. Ranking of Proposals

The ranking of the non-price Proposals will be based on the application of the criteria set forth in this RFP and the evaluation of the Proposals by the evaluation team. Each member of the evaluation team will identify, based on his or her own experience and understanding, the positive and negative features (advantages and disadvantages) of each Proposal.

f. Award/Rejection of Proposal

An award will be made to the responsible Proposer whose Proposal is most responsive to this RFP and is considered most advantageous to Rockland Green, with the overall net cost of the Proposal being a major criterion in the selection. The overall net cost of the Proposal shall be a criterion in the selection of a Proposal, although price alone will not be determinative of the Proposal that is in the best interest of Rockland Green. The successful Proposer will be notified by a written notice, signed by a duly authorized representative of Rockland Green. No other act of Rockland Green shall constitute the award of the Proposal.

APPENDIX A

DEFINED TERMS

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DEFINED TERMS

Act: Means the Rockland County Solid Waste Management Authority Act, codified as Title 13-M, Section 2053-a, et seq., of the Public Authorities Law of the State of New York.

Affiliate: Any person, corporation or other entity directly or indirectly controlling or controlled by another person, corporation or other entity or under direct or indirect common control with such person, corporation or other entity.

Applicable Law: Any law, rule, codes, standards, regulation, requirement, policy, consent decree, consent order, consent agreement, permit, guideline, action, determination or order of, or Legal Entitlement issued by, any Governmental Body having jurisdiction, applicable from time to time to any activities associated with the subject matter of this RFP, or any other transaction or matter contemplated hereby including any of the foregoing which concern health, safety, fire, environmental protection, labor relations, mitigation monitoring plans, building codes, non-discrimination and the payment of prevailing wages, including the Prevailing Wage Law.

Contract: Means the agreement to be entered into between Rockland Green and the Contractor pursuant to this RFP.

Contract 1: Means the contract between Rockland Green and the Equipment Contractor.

Contract 2: Means the contract for Facility Improvements, General Construction.

Contract 3:	Means the contract for Facility Improvements, Mechanical/HVAC Work.
Contract 4:	Means the contract for Facility Improvements, Plumbing Work.
Contract 5:	Means the contract for Facility Improvements, Electrical Work.
Contract 6:	Means the contract for Facility Improvements, Fire Protection System.
Contract Documents:	Means the Contract, including the Specifications and Contract Drawings thereto.
Contract Drawings:	Means those drawings attached as an appendix to this RFP and any drawings that are included in the Contract.
Contract Price:	Means the price to be paid by Rockland Green to the selected Contractor for the performance of the Work.
Contract Services or Work:	Means everything required to be furnished and completed under the Contract for and relating to the services being procured pursuant to this RFP.
Contract Standards:	Means the standards, terms, conditions, methods, techniques and practices imposed or required by: (i) Applicable Law, (ii) the Contract Drawings, (iii) the Specifications, (iv) Prudent Engineering and Construction Practice, (v) Good Industry Practice, (vi) applicable equipment manufacturers' specifications, (vii) applicable Insurance Requirements, and (viii) any other standard, term, condition or requirement specifically provided in the Contract to be observed by the Contractor.

Contract Time: Means the time period within which the Contractor must achieve Final Completion of the Work.

Contractor: Means the person, partnership, or corporation providing Contract Services who enters into the Contract with Rockland Green.

Contractor Equipment: Means any equipment supplied by the Contractor, as required, including, but not limited to, excavators, loaders, cranes, trucks, machinery, trailers, spare parts, tools and any other equipment that is necessary to perform the Work.

County: The County of Rockland, New York.

Dual Stream Recyclables Processing System: Means the state of the art dual stream recyclables processing system supplied and installed at the MRF by the Equipment Contractor under Contract No. 1, also referred to as the "DSR Processing System".

Electrical Work: Means that portion of the Facility Improvements to be performed by a Facility Improvement Contractor and subject to Contract No. 5.

Engineer: Means the engineering firm RRT Engineering, LLC, its employees, officers, members and its affiliate RRT Design & Construction and its subcontractors including Jason T. Anderson Architect, P.C. dba Anderson Design Group, Martin Rodgers Associates, PC and Sterling Environmental Engineering, PC, contracted with and acting on behalf of Rockland Green in connection with the Project.

Equipment Contractor: Means Van Dyk Baler Corporation and its subcontractors providing and installing the DSR Processing System under Contract No. 1.

Facility Improvements: Means those improvements to the MRF procured by Rockland Green in order to accommodate the Dual Stream Recyclables Processing System. Facility Improvements include (i) Contract No. 2 - General Construction (covered by this Contract), (ii) Contract No. 3 - Mechanical/HVAC Work, (iii) Contract No. 4 - Plumbing Work, (iv) Contract No. 5 - Electrical Work, and (v) Contract No. 6 - a Fire Protection System.

Facility Improvements Contractors: Means those contractors selected by Rockland Green to perform the Facility Improvements, also referred to as the Prime Contractors.

Facility Improvements Contracts: Means those contracts between Rockland Green and the contractors selected through various procurements to perform the Facility Improvements as identified in Section (1)(a) of this RFP.

Final Completion: Means the date on which the Work is complete in accordance with the Contract Documents, including but not limited to any punch list items, and the submission of all documentation required by the Contract Documents.

Fire Protection System: Means the fire protection system at the MRF.

Fire Protection System

Improvements: Means that portion of the Facility Improvements to be performed by a Facility Improvement Contractor and subject to Contract No. 6.

General Construction: Means that portion of the Facility Improvements to be performed by the Lead Contractor and subject to Contract No. 2.

Good Industry Practice: Means those methods, techniques, standards and practices which, at the time they are to be employed and in light of the circumstances known or reasonably believed to exist at such time, are generally accepted as good in the industry.

Governmental Body: Any federal, state, regional or local legislative, executive, judicial or other governmental board, agency, authority, commission, administration, court or other body, or any official thereof having jurisdiction.

Hazardous Waste: (a) Any waste which is defined or regulated as a hazardous waste, toxic substance, hazardous chemical substance or mixture, or asbestos under Applicable Law, as amended from time to time, including, but not limited to: (1) the Resource Conservation and Recovery Act and the regulations contained in 40 CFR Parts 260-281; (2) the Toxic Substance Control Act (15 U.S.C. Section 2601 et seq.) and the regulations contained in 40 CFR Parts 761-766; (3) 6 NYCRR Part 379-373; and (4) future additional or substitute federal, state or local laws pertaining to the identification, treatment, storage or disposal of toxic substances or hazardous wastes; and (b) Radioactive materials which are source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954 (42

U.S.C. Section 2011 et seq.) and the regulations contained in 10 CFR Part 40, except that Hazardous Waste does not include Qualified Household Hazardous Waste.

Insurance Requirement: Any rule, regulation, code, or requirement issued by any fire insurance rating bureau or any body having similar functions or by any insurance company that has issued an insurance policy as required under this RFP, as in effect during the Term of the Contract, compliance with which is a condition to the effectiveness of such policy.

Labor and Materials Payment Bond: Means the bond that guarantees the timely payment by the Contractor for all labor, materials, supplies, implements, machinery and equipment to be furnished with respect to the Work throughout the term of the Contract.

Lead Contractor: Means the Prime Contractor for Contract No. 2, who is the entity responsible for coordination of the Project as further set forth in the Contract.

Legal Entitlement: All permits, licenses, registrations, approvals, authorizations, consents and entitlements of whatever kind and however described that are required under Applicable Law to be obtained or maintained by any person with respect to the Work.

Liquidated Damages: Means those damages payable by the Contractor for a failure to achieve Substantial Completion and/or Final Completion as set forth in the Contract.

Materials Recovery Facility: Means the Materials Recovery Facility owned by Rockland Green, located at 420 Torne Valley Road, Hillburn, New York.

Mechanical/HVAC Work: Means that portion of the Facility Improvements to be performed by a Facility Improvement Contractor and subject to a Contract. No. 3.

Owner: Means the Rockland County Solid Waste Management Authority, d/b/a Rockland Green.

Participating Firm: Means as applicable, the Proposer and any other significant participant in the transaction.

Performance Bond: Means the bond that guarantees the Contractor's timely performance of its obligations under the Contract for the benefit of Rockland Green throughout the term of the Contract.

Plumbing Work: Means that portion of the Facility Improvements as further detailed and described in this RFP to be performed by the Contractor and subject to Contract No. 4.

Prevailing Wage Law: Articles 8 and 9 of the New York Labor Law, as amended.

Prime Contractor: Means any contractor holding a contract with Rockland Green for the completion of the Project. The Contractor is also a Prime Contractor.

Project: Means all of the collective work covered under Contract Nos. 1-6, performed by the Prime Contractors, at the Materials Recovery Facility, to complete the Facility Improvements and install the Dual Stream Recyclables Processing System..

Project Labor Agreement: Means the agreement with Rockland Green, the labor unions representing the various trades performing the Facility Improvements, and the subcontractors hired by the Facility Improvements Contractors to complete the Project,

including the Contractor's Subcontractors under this Contract.

Proposal: A Proposer's submission in response to this RFP.

Proposal Bond: Has the meaning set forth in Section I(b)(ii) of the RFP.

Proposal Forms: The forms attached to this RFP, which are to be completed and submitted by the Proposer as part of its Proposal.

Proposer: The entity(ies) submitting a Proposal for the performance of the Work.

Prudent Engineering and Construction Industry Practice: Means those methods, techniques, standards and practices which, at the time they are to be employed and in light of the circumstances known or reasonably believed to exist at such time, are generally accepted as good engineering and construction practices for the engineering and construction industries as followed in the Northeast regions of the United States.

Rating Service: Means Moody's Investors Service, Inc., Fitch, Inc. or Standard & Poor's Rating Services, a division of the McGraw-Hill Companies, Inc., or any of their respective successors and assigns and, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, "Rating Service" shall be deemed to refer to any other nationally recognized securities rating agency designated by Rockland Green.

Request for Proposals or RFP: Means this request for proposals document(s) issued by Rockland Green for improvements to the Materials Recovery Facility, as amended and supplemented.

Required Insurance:	Means the insurance to be provided and maintained by the Contractor in accordance with Appendix G of this RFP.
Rockland Green:	Means the Rockland County Solid Waste Management Authority d/b/a Rockland Green.
Security Instruments:	Means the Proposal Bond, Performance Bond, and Labor and Materials Payment Bond.
Site:	Means the real property owned by Rockland Green, as more specifically described in Appendix 2.
Specifications:	Means those Specifications for the Work as set forth in Appendix B.
State:	The State of New York.
Subcontract:	An agreement between the Contractor and a Subcontractor or multiple Subcontractors, as applicable.
Subcontractor:	Every person (other than employees of the Contractor) employed or engaged by the Contractor or any person directly or indirectly in privity with the Contractor (including every subcontractor of whatever tier) for any portion of the Contract Services, whether for the furnishing of labor, materials, equipment, supplies, services, or otherwise in connection with the Contract Services.
Substantial Completion:	The date upon which the Project meets all of the conditions set forth in the Contract for Substantial Completion of the Work.
Warranty:	Means any original equipment manufacturer's warranty, any express or implied warranty provided by Applicable Law or common application and usage in the construction industry,

and the one-year warranty on workmanship provided by the Contractor for the Work.

Warranty Period: Means the period commencing on the date of Final Completion and continuing through the first anniversary of the date of Final Completion, unless otherwise extended as provided in the Contract.

Work: Means the work required to be performed by the Contractor under the Contract, all in accordance with the Contract Documents.

APPENDIX B

SPECIFICATIONS

[*to be available by flash drive or by download from Rockland Green's website*]

APPENDIX C

CONTRACT DRAWINGS

[*to be available by flash drive or by download from Rockland Green's website*]

APPENDIX D

CONTRACT 4 – ADDITIONAL INFORMATION

APPENDIX D

ADDITIONAL INFORMATION

Number	Description	Rev	Date
D1	Division of Responsibility (3 pages)	6	6/15/2021
D2	Butler Drawings for Existing Areas 1 & 2 (33 sheets)	2	12/20/1996
D3	Butler Drawings for Existing Area 3 (14 sheets)	1	12/20/1996
D4	Butler Drawings for Existing Canopy (7 sheets)	-	-
D5	Geotechnical Report (23 pages)	1	2/3/2021
D6	Roof Inspection Report (16 pages)	-	4/7/2021
D7	Existing Sprinkler Drawings and Hydraulic Calculations (5 sheets and 82 pages)	1	5/4/2021
D8	Hydrant Flow Test and Locations (24 pages)	1	03/23/2021
D9	Topographic and Utility Survey	1	07/14/2021
D10	Area 3 Lead, Mold and Asbestos Survey and Specifications	-	-
D11	Contract No. 1 Processing Equipment Preliminary Drawings	1	05/08/2021

APPENDIX D1

Division of Responsibility

(3 pages)

This Division of Responsibility is a project management tool provided to guide the Project Team in the planning of the Work and the general allocation of responsibilities between the parties. The Contractor is responsible to advise the Engineer of any irregularities or inconsistencies with the Contract Drawings and Specifications. The Contractor acknowledges the Contract Documents define the all inclusive scope of Work for each contract.

DIVISION OF RESPONSIBILITY

Rockland Green MRF Equipment & Facility Improvements
6/15/2021
Rev 7

ID	ITEMS OF WORK	Contract No. 1 Processing Equipment	Contract No. 2 General Construction	Contract No. 3 Mechanical/HVAC	Contract No. 4 Plumbing	Contract No. 5 Electrical	Contract No. 6 Fire Protection Systems	Contract No. 7 Fire Rover	Rockland Green	Operator	Remarks
1	**Process Equipment System**										
2	Processing Equipment Supply & Installation	X									
3	Compressors & Piping w/ Accessories	X									Ventilation & power drops by Contract No. 4
4	Maintenance & Access Platforms & Stairs w/ Guardrails	X									
5	Control Panels for Equipment	X									Power drops by Contract No. 3
6	Interconnect Wirings from Control Panels to Motors & Devices	X									
7	Sort Room Enclosures	X									HVAC and power drops by Contract No. 4
8	Coordination with Equipment Fire Sprinkler Contractor	X									
9	Start-up, Commissioning & Training	X								X	
10											
11	**Sitework/Civil**										
12	Clear, Strip, Soil Erosion Control		X								
13	Rough Grade		X								
14	Site Demolition		X								
15	Excavation		X								
16	Grading & Drainage		X								
17	Paving		X								
18	Fencing		X								
19	Exterior Bollards		X								
20	Stormwater Improvements		X								
21	Water Line Relocation & Branch Pipe Connection to Area 5		X								
22	Gas Service Line & Connection before the Meter								X		With utility company
23	Traffic Signage		X								
24	Removal of Existing Oil Tank								X		
25	Removal of Existing Fabric Shed & Propane Tank on South Side								X		
26	Rework of Existing Landscaped Area		X								
27											
28	**Structural**										
29	Building Interior Demolition (concrete pushwall, guardrails, etc.)		X								
30	Filling Existing Pits		X								
31	Building Panels and/or Steel Demolition		X								
32	PEMB Column Frame footings - Area 4, 5 & 6		X								
33	PEMB Grade Beams - Area 4, 5 & 6		X								
34	Concrete Push Wall footings including Glass Bunkers - Area 4 & 5		X								
35	Concrete Push Walls including Glass Bunkers - Area 4 & 5		X								
36	Pits - Area 1 & 2		X								
37	Dock Levelor Pits - Area 6		X								
38	Demolition of Existing Docks and Retaining Wall - Area 6		X								
39	Demolition of Existing Wall Separating Areas 2 & 6		X								
40	Opening for Drum Feeder - Area 1 & 4		X								
41	Concrete Pad for Baler - Area 2		X								
42	O.H Doors Framing		X								
43	Column & Building Reinforcement and Brace Relocations - Areas 1 & 2		X								
44	Structural Modifications - Area 3		X								
45	Fire Riser Room - Area 5		X								
46	Concrete Pad for Proposed Switchboard - Exterior to Area 3		X								
47	Concrete Pads for Fire Rover - Exterior		X								
48											
49	**Pre-Engineered Metal Building (PEMB)**										
50	PEMB Structure - Area 4, 5 & 6		X								
51	Anchor Bolts - Area 4, 5 & 6		X								
52	Roof/Building Penetrations - Area 4, 5 & 6		X								Framing
53	Gutters and Leaders - Area 4, 5 & 6		X								
54	Overhead Door Framing - Area 4, 5 & 6		X								
55	Personnel Exterior doors - Area 4, 5 & 6		X								
56	Rooftop HVAC Units Framing - Area 4 & 5		X								

DIVISION OF RESPONSIBILITY

Rockland Green MRF Equipment & Facility Improvements
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ID	ITEMS OF WORK	Contract No. 1 Processing Equipment	Contract No. 2 General Construction	Contract No. 3 Mechanical/HVAC	Contract No. 4 Plumbing	Contract No. 5 Electrical	Contract No. 6 Fire Protection Systems	Contract No. 7 Fire Rover	Rockland Green	Operator	Remarks
57	**Misc. Construction**										
58	Floor Damage Repair		X								
59	Dock Levelors w/ Accessories Supply & Install - Area 6		X								
60	O.H. Doors Supply & Install - All Areas		X								
61	Demolition of Existing Enviro. Wall & Concrete Pushwall - Area 1 & 2		X								
62	Enviro. Wall & Concrete Pushwall - Area 1 & 2		X								
63	Enviro. Wall & Concrete Pushwall - Area 4 & 5		X								
64	Interior Bollards - All Areas		X								
65	Exterior Retaining Wall		X								
66	Blowdown and Clean - Areas 1 & 2		X								
67											
68	**Architectural**										
69	Roof & Building Penetrations - All Areas		X								
70	Furniture - Area 3								X	X	
71	Office and Vending Equipment - Area 3									X	
72	Office Structure and Layout Modifications - Area 3		X								
73	Mill Work - Area 3		X								
74	Doors & Hardware - Area 3		X								Remove & Replace existing doors where applicable
75	Finishes - Area 3		X								
76	IT/Communications & CCTV - Area 3		X								
77	Overhead Doors - All Areas		X								
78	Windows - Area 3		X								
79	Solarium Windows Modifications As Required next to Compressor Room - Area 3		X								
80	Doors & Hardware - Areas 1, 2, 4, 5 & 6		X								Remove & Replace existing doors where applicable
81	Facility Safety & Exit Paths (Painting on the Floor)		X								
82											
83	**Mechanical**										
84	Replace Existing Fans & Reuse Existing Openings - Area 1 & 2			X							
85	MUA & Duct Work to Two Sort Rooms - Area 1 & 2			X							
86	Unit Heaters - Area 1 & 2			X							Dependent of equpment layout
87	Infrared Heaters - Area 1 & 2			X							Dependent of equpment layout
88	Rooftop Unit w/ VAV and Ductwork - Area 3			X							
89	Exhaust Fans - Area 3			X							
90	Supplement Heaters - Area 3			X							
91	Exhaust Fans - Area 4 & 5			X							
92											
93	**Plumbing**										
94	Floor Drain for Baler - Area 2				X						
95	Modificiations to Existing Water - Area 3				X						
96	Modifications to Existing Sanitary and Vent Piping - Area 3				X						
97	Gas Piping & Distribution - Area 2				X						
98	Gas Piping & Distribution - Area 3				X						
99	Water Heater - Area 3				X						
100											
101	**Electrical**										
102	Interconnect Assessment								X		With utility company
103	Electric Service Extension					X					
104	Transformer - Area 3					X					
105	Proposed Switchboard - Exterior to Area 3					X					
106	Distribution Switchboards					X					
107	Metering								X		
108	Power Drops to Processing Equipment					X					Could be by County Electrician; TBD
109	Power Drops to Fire Rover Systems					X					30 Amp dedicated single pahse circuit
110	Interconnect Wiring for Processing Equipment	X									
111	Interconnect Wiring for Mechanical Equipment					X					
112	General Building Lighting - Areas					X					
113	Lightning Arrestors/Grounding System - Areas 4, 5 & 6		X								
114	Lightning Arrestors/Grounding System - Balance					X					
115	Exit Lights					X					
116	Emergency Lights					X					
117	Office Electrical (Receptacles, etc)					X					
118	IT/Communications & CCTV					X					

DIVISION OF RESPONSIBILITY

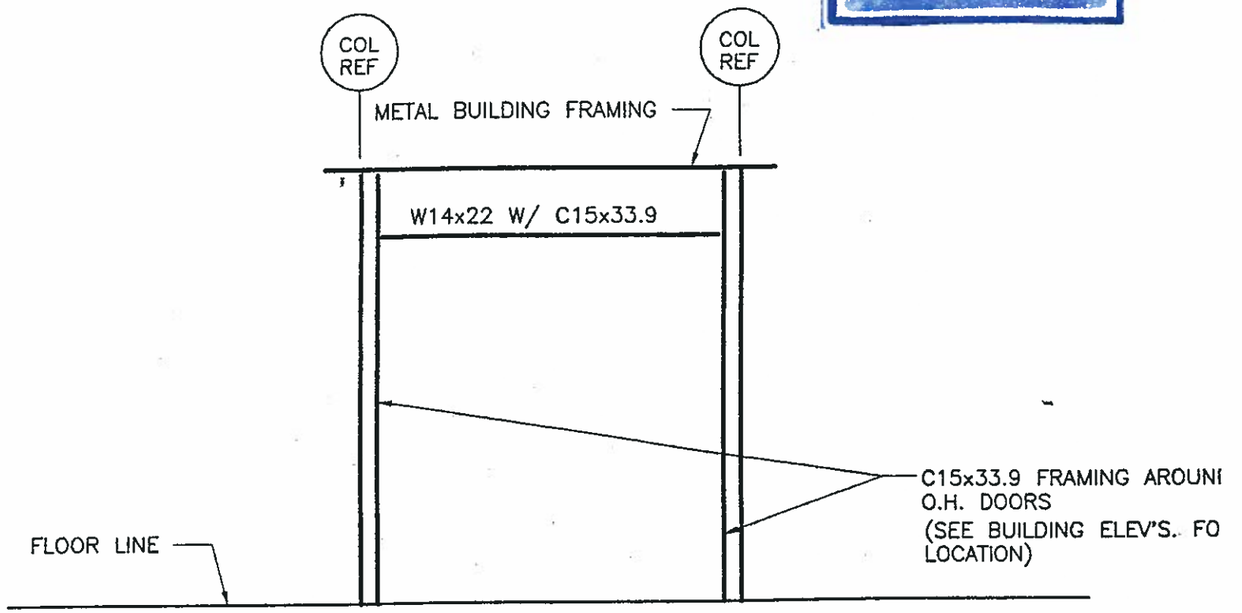
Rockland Green MRF Equipment & Facility Improvements
6/15/2021
Rev 7

ID	ITEMS OF WORK	Contract No. 1 Processing Equipment	Contract No. 2 General Construction	Contract No. 3 Mechanical/HVAC	Contract No. 4 Plumbing	Contract No. 5 Electrical	Contract No. 6 Fire Protection Systems	Contract No. 7 Fire Rover	Rockland Green	Operator	Remarks
119	Electrical Connections for Diesel/Oil Tank					X					
120	Fire Rover IT Requirements					X					Static IP address and 4G backup router w. fail over
121	**Fire Protection**										
122	Relocation of Existing Fire Riser Pipes						X				
123	Installation of Fire Alarm system						X				Subject to code review
124	Installation of Dry Pipe System under Processing Equipment - Area 1 & 2						X				
125	Replacement of Existing Piping Sprinkler Heads under Roof as Required - Area 1 & 2						X				
126	Modifications to Existing Wet Pipe System - Area 3						X				
127	Instllation of Dry Pipe System - Area 4, 5, & 6						X				
128	Backflow Prevention						X				
129	Fire Extinguishers						X				Subject to code review
130	Fire Riser Room Equipment & Accessories - Area 5						X				
131											
132	**Fire Rover**										
133	Supply and Installation of FireRover Systems							X			
134	Anchorage of FireRover Systems							X			
135	Electrical Connections of FireRover Systems							X			
136											
137	**Miscellaneous General Construction**										
138	Safety Program & Procedures (Construction Period)	X	X	X	X	X	X	X			
139	Project Sign								X		Existing signage on-site
140	Building Sign										
141	Job Site Trailers	X	X	X	X	X	X	X			
142	Mirrors									X	
143	Spare Parts Storage Shelving									X	
144	Lubricants (Oils/Gases)									X	
145	Diesel/Oil Tank									X	
146											
147	**General**										
148	System Operations & Maintenance Manuals	X								X	
149	Facility Environmental Compliance									X	
150	Facility Operations Manuals & Procedures								X		
151	Temporary Services Use (Utility, Bathrooms, etc.)								X		
152	Temporary Fencing During Construction		X								
153	Site Cleanup During Construction	X	X	X	X	X	X	X			
154	Supply Roll-off Boxes for Construction Waste								X		
155	Hauling & Disposal of Construction Waste								X		
156	Safety Program (Operations)									X	

APPENDIX D2

Butler Drawings for Existing Areas 1 & 2

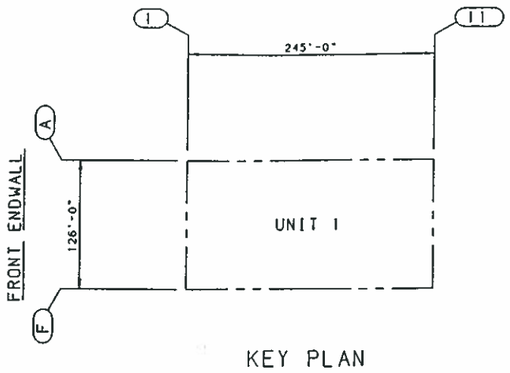
(33 sheets)



TYPICAL FRAMING AT OVERHEAD DOORS 16 FT. OR WIDER

(PRE-ENGINEERED BUILDING MFR SHALL DESIGN AND PROVIDE FRAMING AROUND SMALLER DOORS.)

PROVIDE STEEL FRAMING AROUND LARGE DOORS AS SHOWN ON DRAWING RS-1.



KEY PLAN

SPECIFIC ERECTION DRAWING LIST

THE DRAWINGS LISTED BELOW HAVE BEEN CREATED BY COMPUTER SPECIFICALLY FOR YOUR ORDER TO ASSIST YOU IN PUTTING UP YOUR BUILDING. THESE SPECIFIC ERECTION DRAWINGS ARE THE SAME SIZE AS THIS SHEET AND CAN BE IDENTIFIED INDIVIDUALLY FROM THE TITLES AND DRAWING SEQUENCE NUMBERS THAT APPEAR IN THE LOWER RIGHT HAND CORNER OF EACH DRAWING.

DRAWING TITLE:		AC FILE NO.:
ROOF SECONDARY STRUCTURAL FRAMING PLAN		DATE: 02/16/83
	DRAWING NUMBER: D 83-123456-05L	REVISION 02

TITLE — THE YEAR DURING WHICH YOUR ORDER WAS ENTERED

THE BUTLER ORDER NUMBER OF YOUR ORDER

DRAWING SEQUENCE NUMBER

REVISION LEVEL OF THE DRAWING. IF THE DRAWING HAS NEVER BEEN REVISED, 00 APPEARS HERE.

D96-087989-00 COVER DRAWING - SHEET 1
D96-087989-01 SPECIFIC ANCHOR BOLT DRAWING - SHEET 1
D96-087989-01A SPECIFIC ANCHOR BOLT DRAWING - SHEET 2
D96-087989-01B SPECIFIC REACTION DRAWING - SHEET 3
D96-087989-01C ANCHOR BOLT DETAIL SHEET - SHEET 4
D96-087989-02 CROSS SECTION ERECTION DRAWING - SHEET 1
D96-087989-02A CROSS SECTION ERECTION DRAWING - SHEET 2
D96-087989-02B CROSS SECTION ERECTION DRAWING - SHEET 3
D96-087989-02C CROSS SECTION ERECTION DRAWING - SHEET 4
D96-087989-02D CROSS SECTION ERECTION DRAWING - SHEET 5
D96-087989-02E CROSS SECTION ERECTION DRAWING DETAIL SHEET - SHEET 6
D96-087989-03 WIND BRACING DRAWING - SHEET 1
D96-087989-03A WIND BRACING DRAWING - SHEET 2
D96-087989-03B WIND BRACING DETAIL SHEET - SHEET 3
D96-087989-04 ROOF SECONDARY STRUCTURAL FRAMING PLAN - SHEET 1
D96-087989-04A ROOF SECONDARY STRUCTURAL FRAMING PLAN - SHEET 2
D96-087989-04B ROOF SECONDARY STRUCTURAL DETAIL SHEET - SHEET 3
D96-087989-05 WALL SECONDARY STRUCTURAL ELEVATION - SHEET 1
D96-087989-05A WALL SECONDARY STRUCTURAL ELEVATION - SHEET 2
D96-087989-05B WALL SECONDARY STRUCTURAL ELEVATION - SHEET 3
D96-087989-05C DOOR DETAIL DRAWING - SHEET 4
D96-087989-05D DOOR DETAIL DRAWING - SHEET 5
D96-087989-05E DOOR DETAIL DRAWING - SHEET 6
D96-087989-05F WALL SECONDARY STRUCTURAL ELEVATION DETAIL SHEET - SHEET 7
D96-087989-05G WALL SECONDARY STRUCTURAL ELEVATION DETAIL SHEET - SHEET 8
D96-087989-06 WALL PANEL DRAWING - SHEET 1
D96-087989-06A WALL PANEL DRAWING - SHEET 2
D96-087989-06B WALL PANEL DRAWING - SHEET 3
D96-087989-07 ROOF PANEL DRAWING - SHEET 1
D96-087989-07A ROOF PANEL DRAWING - SHEET 2

SUPPLEMENTING THE SPECIFIC ERECTION DRAWINGS LISTED ARE SEVERAL GENERAL ERECTION DRAWINGS CALLED "PLANOGRAPHS". SEE THE DRAWING MANIFEST FOR A COMPLETE LIST OF THESE DRAWINGS.

FIELD WORK SUMMARY

WIND BRACING

FW0001 FIELD WORK MAY BE REQUIRED AT LOWER ROOF BEAM KNEE AREA FOR BRACING CLIP CONNECTION.

WALL SECONDARY

FW0008 FIELD LOCATE HOLES IN DOUBLE "C" HEADER FOR DOOR POST CONNECTION.

FW0010 FIELD LOCATE HOLES IN COLUMN OR POST FOR DOUBLE "C" HEADER CONNECTION IF REQUIRED.

FW0030 FIELD LOCATE SLOTS IN SIDEWALL GIRT FOR SIDEWALL ROD BRACING CONDITION.

FW0040 FIELD CUT AND LOCATE HOLES IN DOOR POST.

FW0042 FIELD CUT AND LOCATE HOLES IN DOOR HEADER.

FW0043 FIELD CUT AND LOCATE HOLES IN DOUBLE "C" HEADER.

FW0056 FIELD WORK GIRT CHANNEL AT INTERMEDIATE SIDEWALL COLUMN WITH ADJACENT DOOR POST(S).

FW0072 FIELD WORK GIRT CHANNEL AT DOOR POST.

COVER DRAWING NOTES

STANDARD NOTES:

CD0001 ATTACH PATENT PLATE 007849 TO THE WEB OF AN INTERMEDIATE FRAME COLUMN AT EYE LEVEL.

CD0002 PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING MANIFEST FOR POSSIBLE SUBSTITUTIONS.

CD0011 HIGH STRENGTH BOLTING:

ALL HIGH STRENGTH BOLTS ARE A-325-T WITH HEAVY HEX NUTS AND ARE TO BE INSTALLED USING THE "TURN-OF-THE-NUT" METHOD SPECIFIED IN THE NINTH EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" PER SECTION 8 D (1). A-325 BOLTS MAY BE INSTALLED WITHOUT WASHERS WHEN TIGHTENED BY THE "TURN-OF-THE-NUT" METHOD. IT IS THE RESPONSIBILITY OF THE ERECTOR TO ASSURE PROPER TIGHTNESS. SEE INSTALLATION OF A-325T BOLT DRAWING D-1080268 (GROUP 52-38).

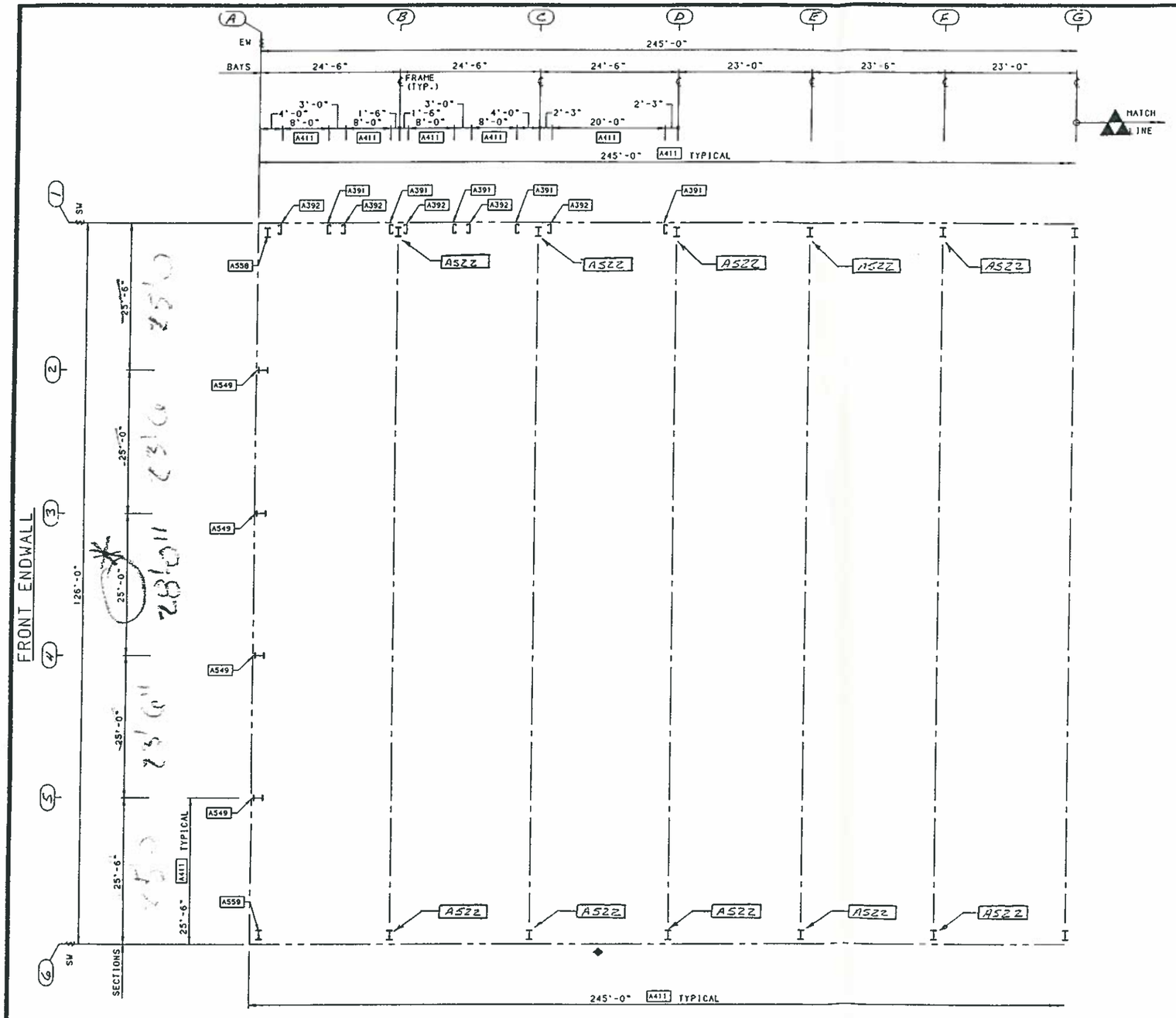
CD0013 IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO THE MATERIALS SUPPLIED BY BUTLER MFG. CO. AND IS NOT INTENDED AS THE SEAL OF THE ENGINEER OF RECORD FOR THE ENTIRE PROJECT.

CD0017 MATERIALS

	ASTM DESIGNATION	
STRUCT PLATE 1" & LESS	A-529	FY= 55KSI (GRADE 55)
STRUCT PLATE OVER 1"	A-529	FY= 50KSI (GRADE 50)
LIGHT GAGE/COLD FORMED	A-570	FY= 55KSI (GRADE 55)
BRACE RODS 3/4" & LESS	A-108	GRADE 1018
BRACE RODS OVER 3/4"	A-572	GRADE 50 OR GREATER
HOT ROLLED MILL SHAPES	A-36; A-572	FY= 36KSI; FY=50KSI
ROOF AND WALL PANELS	A-446	GRADE 45 OR GREATER
BOLTS	A-307 AND A-325	

For Customer's Approval Only.
Building will not be fabricated until one signed copy is returned.
Approved as drawn _____
Approved as corrected _____

REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: COVER DRAWING	AC FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W / DATE: 12/19/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-00 / REV. 02



UNIT 1 ANCHOR BOLT PLAN

STANDARD NOTES:

AB0007 GIVE TOP OF FOUNDATION A TROWEL FINISH. THE FOUNDATION MUST BE SQUARE, LEVEL, AND SMOOTH.

AB0009 ANCHOR BOLTS MUST BE LOCATED BY MEANS OF A TEMPLATE. DO NOT HAND SET ANCHOR BOLTS.

AB0010 ANCHOR BOLTS, NUTS AND WASHERS MUST BE ASTM TYPE A307.

AB0013 USE REINFORCING STEEL AS REQUIRED. PROVIDE FOR HORIZONTAL LOAD ON ANCHOR BOLTS.

AB0014 C A U T I O N
RIGID FRAMES HAVE BOTH HORIZONTAL AND VERTICAL REACTIONS ACTING AT THE BASE OF THE COLUMN. IN SOME CASES THE HORIZONTAL FORCE IS GREATER THAN THE VERTICAL. A FOUNDATION DESIGNED FOR A CONVENTIONAL STRUCTURE WILL NOT BE SATISFACTORY. FAILURE TO MAKE ADEQUATE PROVISION FOR THE HORIZONTAL THRUST CAN RESULT IN FOUNDATION FAILURE.

AB0015 FOUNDATION DESIGN AND ANCHOR BOLTS, NUTS AND WASHERS ARE NOT FURNISHED BY BUTLER. PROPER EMBEDMENT LENGTH MUST BE DESIGNED BY FOUNDATION DESIGN ENGINEER.

AB0016 REFER TO DRAWING C-104161 FOR BUTLERIB OR SHADOWRIB WALL BASE ANGLE INSTALLATION.

AB0017 THE SOLID BLACK <> SYMBOL DESIGNATES A BRACED BAY OR SECTION.

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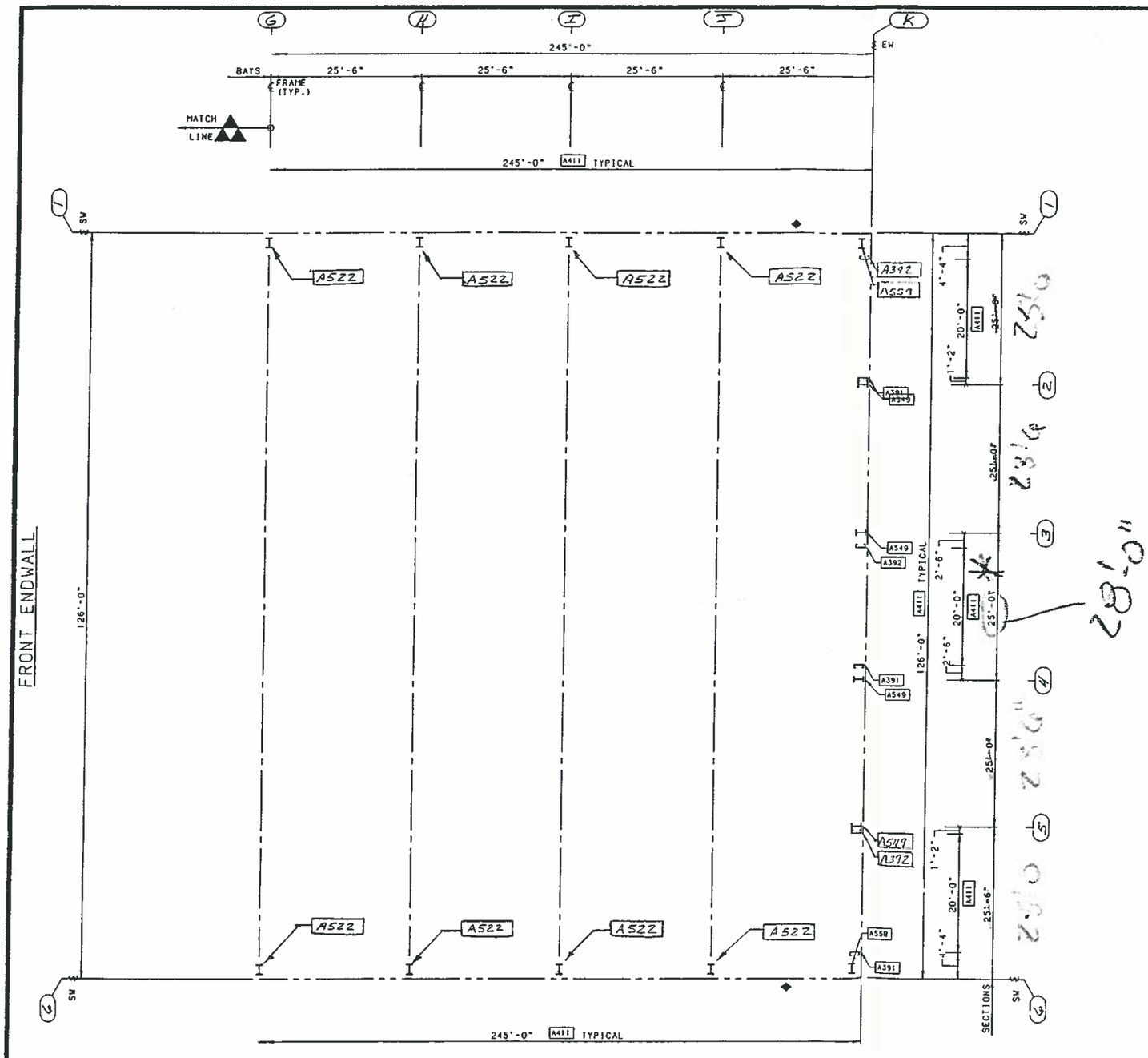
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PROVID® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: SPECIFIC ANCHOR BOLT DRAWING	AG FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W / DATE: 12/20/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-01 / REV. 02



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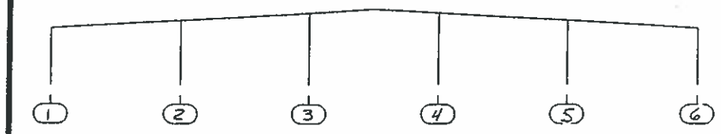
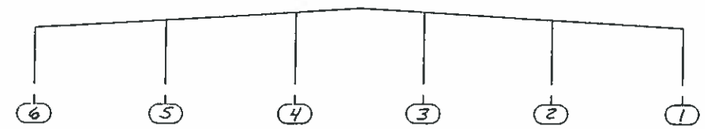
UNIT 1 ANCHOR BOLT PLAN

REVISION NO. 1	REVISION NO. 2			BUILDER:	PROJECT:	BUILDING ORDER DESCRIPTION:	DRAWING TITLE:		AG FILE NO:
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	SPECIFIC ANCHOR BOLT DRAWING	GROUP: W	DATE: 12/20/96
DRAWN BY:	DRAWN BY:							DRAWING NUMBER: D96-087989-01A	REV. 02
CHECKED BY:	CHECKED BY:								



UNIT 1 - ENDWALL FRAME AT SIDEWALL GRID 1

		A		B		C		D		E		F	
		H	V	V	Z	V	Z	V	Z	V	Z	H	V
DL	DEAD LOAD	0.06	1.08	1.77	0.00	1.74	0.00	1.74	0.00	1.77	0.00	-0.06	1.08
SL	SNOW LOAD	0.59	6.51	13.37	0.00	12.88	0.00	12.88	0.00	13.37	0.00	-0.59	6.51
WLL	WIND LOAD LEFT	-4.04	-5.55	-2.72	0.00	-6.55	0.00	-2.07	0.00	-6.37	0.00	-3.09	1.33
WLR	WIND LOAD RIGHT	3.09	1.33	-6.37	0.00	-2.07	0.00	-6.55	0.00	-2.72	0.00	4.04	-5.55
IP	WIND INT PRESSURE	0.40	-0.49	-0.71	-0.99	-0.75	-1.01	-0.75	-1.01	-0.71	-0.99	-0.40	-0.49
IS	WIND INT SUCTION	-0.40	0.49	0.71	0.99	0.75	1.01	0.75	1.01	0.71	0.99	0.40	0.49
EQ	SEISMIC LOAD	-0.66	-1.05	1.29	0.00	-0.37	0.00	0.37	0.00	-1.29	0.00	-0.66	1.05
SLL	MIN SNOW LOAD LEFT	0.30	6.00	14.16	0.00	11.73	0.00	1.14	0.00	-0.79	0.00	-0.30	0.52
SLR	MIN SNOW LOAD RIGHT	0.30	0.52	-0.79	0.00	1.14	0.00	11.73	0.00	14.16	0.00	-0.30	6.00
EWP	EW WIND PRESSURE	1.19	-3.27	-5.71	4.19	-5.71	4.28	-5.71	4.28	-5.71	4.19	-1.19	-3.27
EWS	EW WIND SUCTION	1.32	-1.79	-2.66	-2.95	-2.79	-3.02	-2.79	-3.02	-2.66	-2.95	-1.32	-1.79
	MAX. POS. REACTION	3.99	9.15	15.53	5.18	14.61	5.28	14.61	5.28	15.53	5.18	4.39	9.15
	MAX. NEG. REACTION	-4.39	-4.97	-5.31	-3.94	-5.56	-4.03	-5.56	-4.03	-5.31	-3.94	-3.98	-4.97



UNIT 1 - ENDWALL FRAME AT SIDEWALL GRID 11

		F		E		D		C		B		A	
		H	V	V	Z	V	Z	V	Z	V	Z	H	V
DL	DEAD LOAD	0.06	1.08	1.77	0.00	1.74	0.00	1.74	0.00	1.77	0.00	-0.06	1.08
SL	SNOW LOAD	0.59	6.51	13.37	0.00	12.88	0.00	12.88	0.00	13.37	0.00	-0.59	6.51
WLR	WIND LOAD RIGHT	3.09	1.33	-6.37	0.00	-2.07	0.00	-6.55	0.00	-2.72	0.00	4.04	-5.55
WLL	WIND LOAD LEFT	-4.04	-5.55	-2.72	0.00	-6.55	0.00	-2.07	0.00	-6.37	0.00	-3.09	1.33
IP	WIND INT PRESSURE	0.40	-0.49	-0.71	-0.99	-0.75	-1.01	-0.75	-1.01	-0.71	-0.99	-0.40	-0.49
IS	WIND INT SUCTION	-0.40	0.49	0.71	0.99	0.75	1.01	0.75	1.01	0.71	0.99	0.40	0.49
EQ	SEISMIC LOAD	0.66	1.05	-1.29	0.00	0.37	0.00	-0.37	0.00	1.29	0.00	0.66	-1.05
SLR	MIN SNOW LOAD RIGHT	0.30	0.52	-0.79	0.00	1.14	0.00	11.73	0.00	14.16	0.00	-0.30	6.00
SLL	MIN SNOW LOAD LEFT	0.30	6.00	14.16	0.00	11.73	0.00	1.14	0.00	-0.79	0.00	-0.30	0.52
EWP	EW WIND PRESSURE	1.19	-3.27	-5.71	4.19	-5.71	4.28	-5.71	4.28	-5.71	4.19	-1.19	-3.27
EWS	EW WIND SUCTION	1.32	-1.79	-2.66	-2.95	-2.79	-3.02	-2.79	-3.02	-2.66	-2.95	-1.32	-1.79
	MAX. POS. REACTION	3.98	9.15	15.53	5.18	14.61	5.28	14.61	5.28	15.53	5.18	4.39	9.15
	MAX. NEG. REACTION	-4.39	-4.97	-5.31	-3.94	-5.56	-4.03	-5.56	-4.03	-5.31	-3.94	-3.99	-4.97

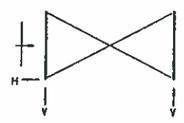
UNIT 1 - FRAME AT SIDEWALL GRIDS 2, 3, 8, 9 & 10

		A		F	
		H	V	H	V
DL	DEAD LOAD	6.03	11.59	-6.03	11.59
SL	SNOW LOAD	43.38	64.26	-43.38	64.26
WLL	WIND LOAD LEFT	-14.66	-17.61	5.31	-10.87
WLR	WIND LOAD RIGHT	-5.31	-10.87	14.66	-17.61
IP	WIND INT PRESSURE	-1.65	-3.84	1.65	-3.84
IS	WIND INT SUCTION	1.65	3.84	-1.65	3.84
EQ	SEISMIC LOAD	-1.27	-0.65	-1.27	0.65
SLL	MIN SNOW LOAD LEFT	21.69	48.45	-21.69	15.81
SLR	MIN SNOW LOAD RIGHT	21.69	15.81	-21.69	48.45
EWP	EW WIND PRESSURE	-9.55	-18.52	9.55	-18.52
EWS	EW WIND SUCTION	-9.55	-18.52	9.55	-18.52
	MAX. POS. REACTION	49.42	75.85	10.28	75.85
	MAX. NEG. REACTION	-10.28	-10.77	-49.42	-10.77

UNIT 1 - FRAME AT SIDEWALL GRIDS 4, 5, 6 & 7

		A		F	
		H	V	H	V
DL	DEAD LOAD	6.96	14.03	-6.96	12.65
SL	SNOW LOAD	37.79	99.38	-37.79	67.04
WLL	WIND LOAD LEFT	-12.85	-27.11	3.97	-10.15
WLR	WIND LOAD RIGHT	-4.89	-12.86	13.77	-18.23
IP	WIND INT PRESSURE	-1.63	-3.65	1.63	-3.65
IS	WIND INT SUCTION	1.63	3.65	-1.63	3.65
EQ	SEISMIC LOAD	-1.41	-0.68	-1.36	0.68
SLL	MIN SNOW LOAD LEFT	17.03	84.58	-17.03	12.73
SLR	MIN SNOW LOAD RIGHT	20.76	14.80	-20.76	54.31
EWP	EW WIND PRESSURE	-8.78	-22.42	8.78	-18.14
EWS	EW WIND SUCTION	-8.78	-22.42	8.78	-18.14
	MAX. POS. REACTION	44.75	113.41	8.44	79.69
	MAX. NEG. REACTION	-7.52	-16.73	-44.75	-9.23

BRACED BAY REACTION - UNIT 1



SIDEWALL GRID	BETWEEN GRIDS	H	V
1	J-K	14	18
6	C-D	7	9
6	J-K	7	9

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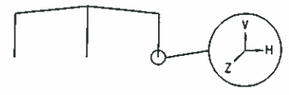
REACTION NOTES:

1. THE VERTICAL (V) AND HORIZONTAL (H AND Z) REACTION ARE STATED IN KIPS. (1 KIP = 1000 POUNDS) POSITIVE DIRECTION IS AS SHOWN IN THE FOLLOWING DIAGRAM.
2. MOMENT REACTIONS ARE STATED IN INCH-KIPS AND ARE POSITIVE IN A CLOCKWISE DIRECTION.
3. THE FORCE ON THE ANCHOR BOLTS OR FOUNDATION WILL BE IN THE OPPOSITE DIRECTION TO THAT SHOWN.
4. MAXIMUM REACTION SUMMARY IS THE MAXIMUM POSITIVE AND NEGATIVE REACTIONS BASED ON THE REQUIRED LOAD COMBINATIONS.



REVISION NO. 1	REVISION NO. 2
DATE:	DATE:
DRAWN BY:	DRAWN BY:
CHECKED BY:	CHECKED BY:

BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM

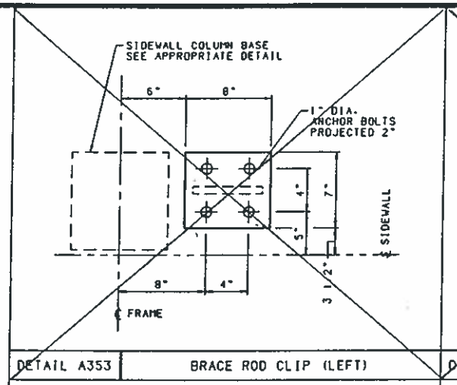
BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC

PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY

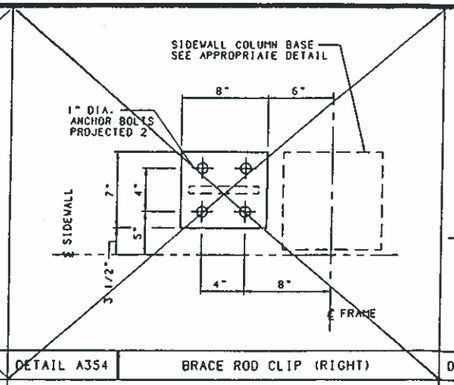
BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95

DRAWING TITLE: SPECIFIC REACTION DRAWING

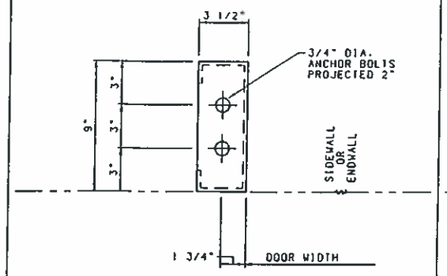
AC FILE NO:
GROUP: W
DATE: 12/20/96
DRAWING NUMBER: D96-087989-01B
REV. 02



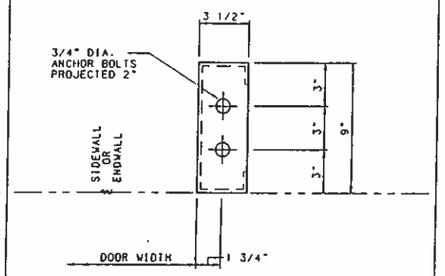
DETAIL A353 | BRACE ROD CLIP (LEFT)



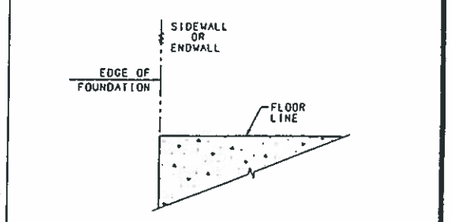
DETAIL A354 | BRACE ROD CLIP (RIGHT)



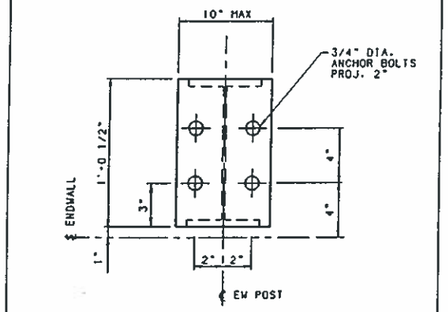
DETAIL A391 | 9" DOOR POST (LEFT)



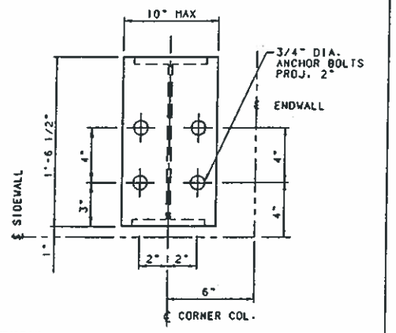
DETAIL A392 | 9" DOOR POST (RIGHT)



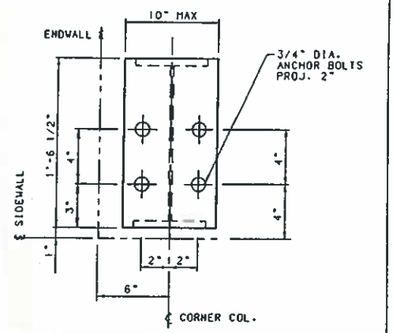
SECTION A411 | TYP. SECTION AT EDGE OF FOUNDATION
UN-NOTCHED BASE



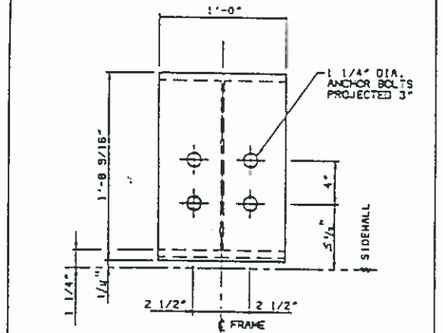
DETAIL A549 | ENDWALL POST



DETAIL A558 | CORNER COLUMN



DETAIL A559 | CORNER COLUMN



DETAIL A522 | SIDEWALL COLUMN

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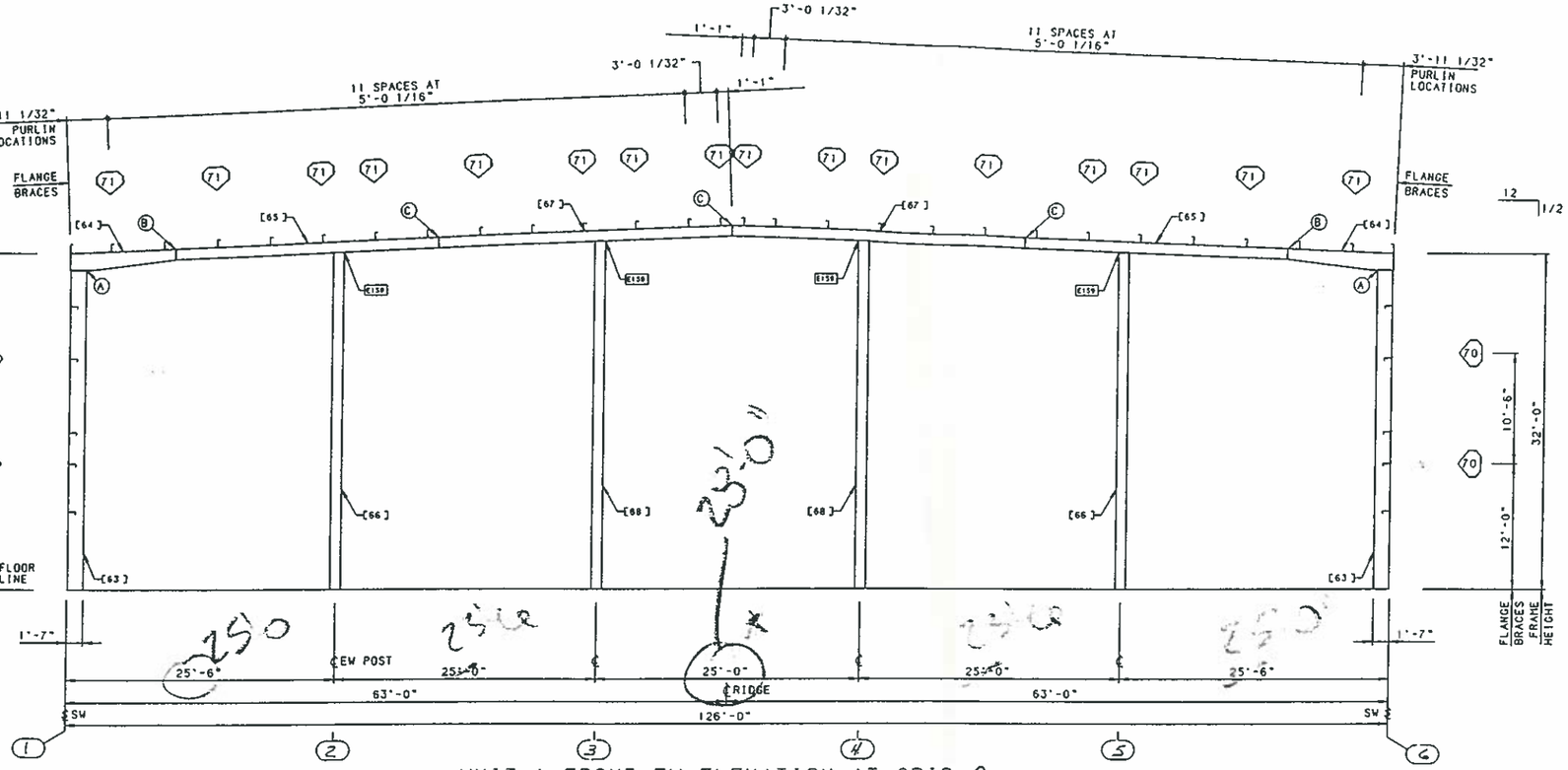
DRAWN BY:	DRAWN BY:							AC FILE NO: DATE: 12/20/96
CHECKED BY:	CHECKED BY:							



UNIT 1 FRONT EW ELEVATION AT GRID A

PART SCHEDULE

[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
63	EW CORNER POST	R36055	30'-4 25/32"	
64	EW ROOF BEAM	R36060	9'-11 15/16"	
65	EW ROOF BEAM	R36065	25'-0 1/32"	
66	EW INTERM POST	R36070	32'-0 13/16"	
67	EW ROOF BEAM	R36075	28'-0 9/16"	
68	EW INTERM POST	R36080	33'-1 3/8"	

BOLTED CONNECTION SCHEDULE

○	QUANTITY	BOLT NO.	DESCRIPTION	NUT NO.	DETAIL
A	08	097282	5/8X2-1/4 BOLT A325T	095233	
B	08	097284	3/4X2-1/2 BOLT A325T	095235	
C	04	097282	5/8X2-1/4 BOLT A325T	095233	

FLANGE BRACE SCHEDULE

⬭	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
70	SINGLE	SINGLE			
71	SINGLE	SINGLE			

STANDARD NOTES:

[F000] ALL HIGH STRENGTH BOLTS ARE A-325-T WITH HEAVY HEX NUTS AND ARE TO BE INSTALLED USING THE "TURN-OF-THE-NUT" METHOD SPECIFIED IN THE NINTH EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" PER SECTION 8 D (1). A-325 BOLTS MAY BE INSTALLED WITHOUT WASHERS WHEN TIGHTENED BY THE "TURN-OF-THE-NUT" METHOD. IT IS THE RESPONSIBILITY OF THE ERECTOR TO ASSURE PROPER TIGHTNESS. SEE INSTALLATION OF A-325T BOLT DRAWING D-1080268 (GROUP 52-30).

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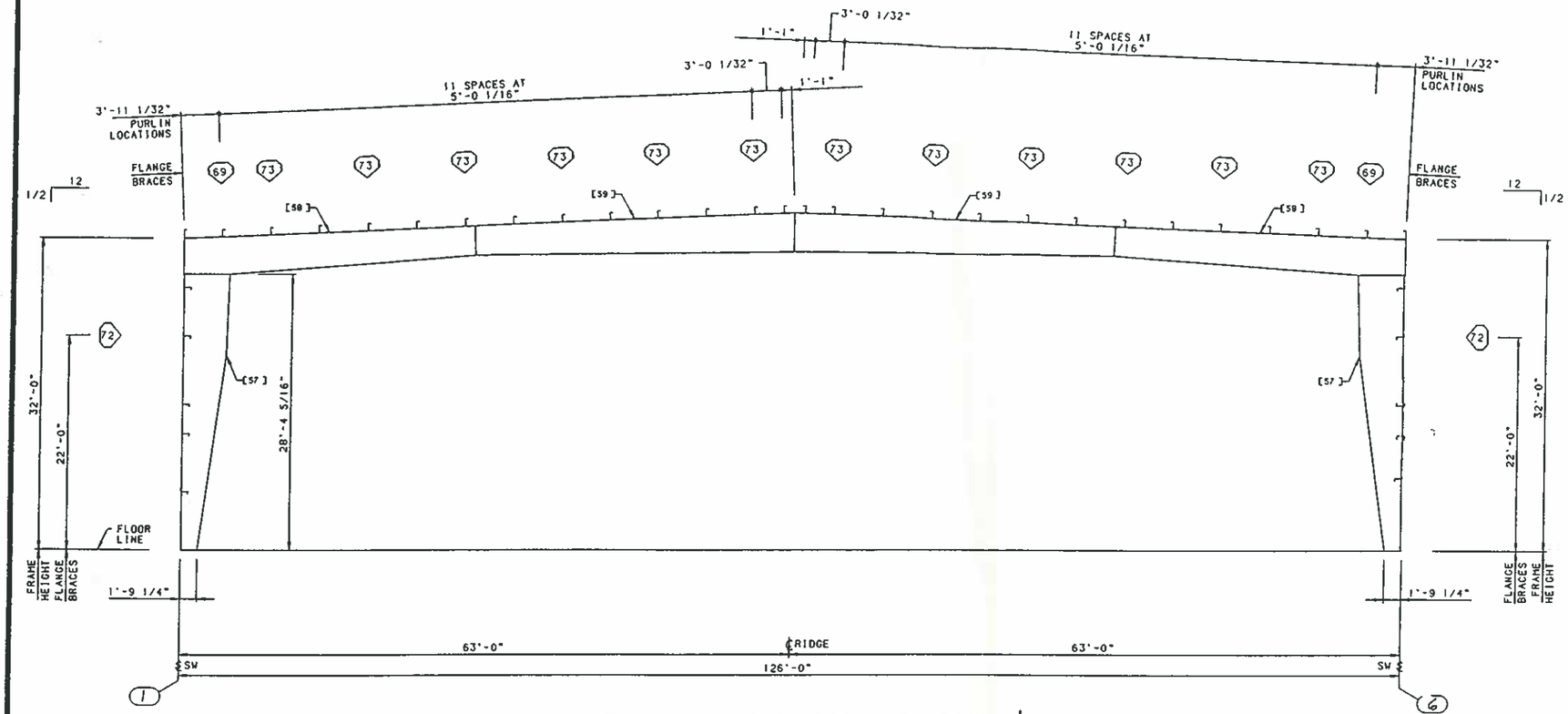
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	CROSS SECTION ERECTION DRAWING	GROUP: W	DATE: 12/27/96
DRAWN BY:	DRAWN BY:							DRAWING NUMBER: D96-087989-02	REV. 01
CHECKED BY:	CHECKED BY:								



UNIT 1 FRAME ELEVATION AT GRID℄ B ℄C

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
57	EXTERIOR COLUMN	R34740	28'-4 5/16"	
58	ROOF BEAM	R36000	29'-11 3/16"	
59	ROOF BEAM	R36005	33'-1 11/32"	

FLANGE BRACE SCHEDULE					
⬡	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
69	DOUBLE	DOUBLE			
72	SINGLE	SINGLE			
73	SINGLE	SINGLE			

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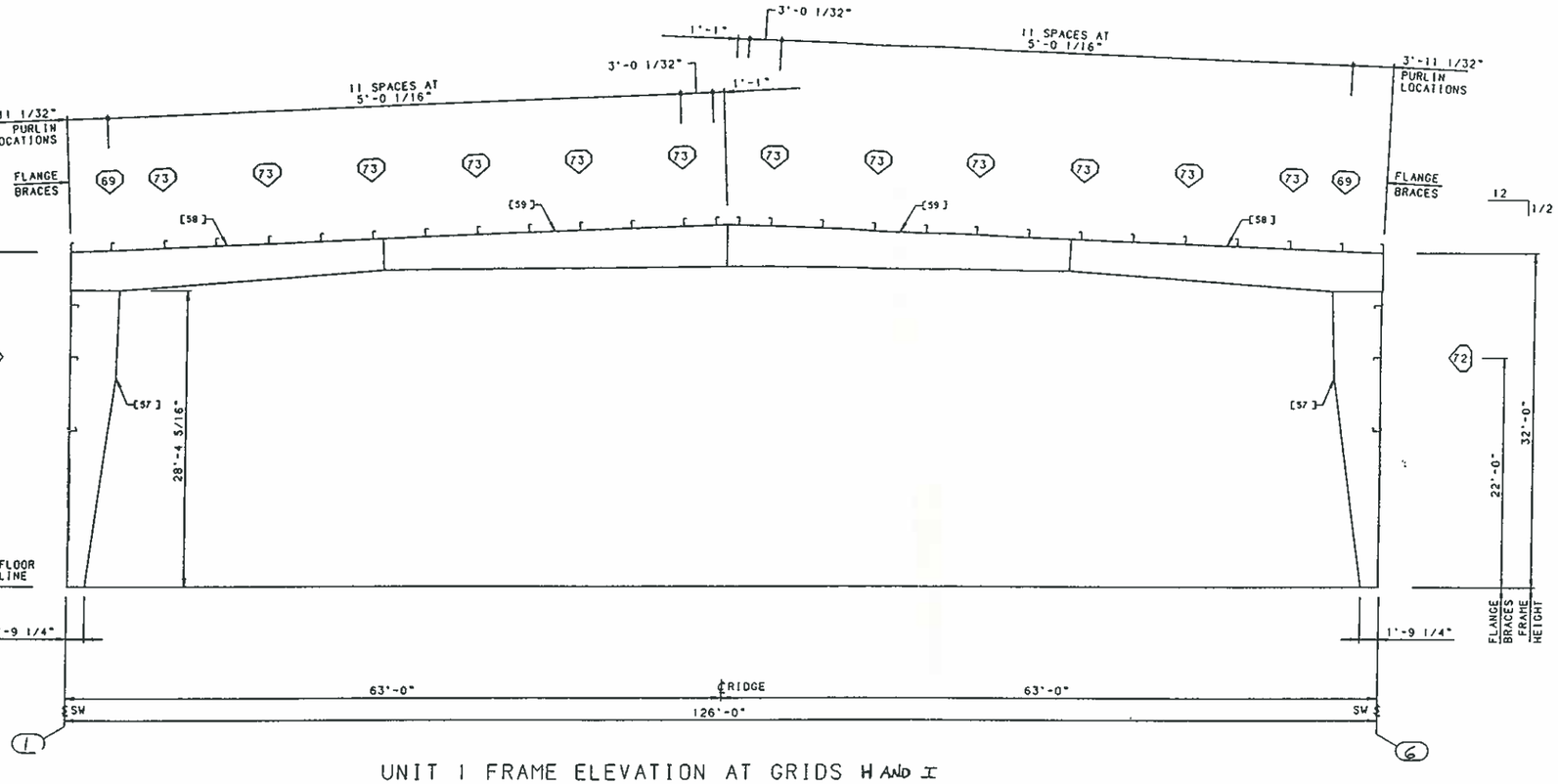
DRAWN BY:	DRAWN BY:							GROUP: M DATE: 12/27/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-02A REV. 01



UNIT 1 FRAME ELEVATION AT GRIDS H AND I

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
57	EXTERIOR COLUMN	R34740	28'-4 5/16"	
58	ROOF BEAM	R36000	29'-11 3/16"	
59	ROOF BEAM	R36005	33'-1 11/32"	

FLANGE BRACE SCHEDULE					
⬭	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
69	DOUBLE	DOUBLE			
72	SINGLE	SINGLE			
73	SINGLE	SINGLE			

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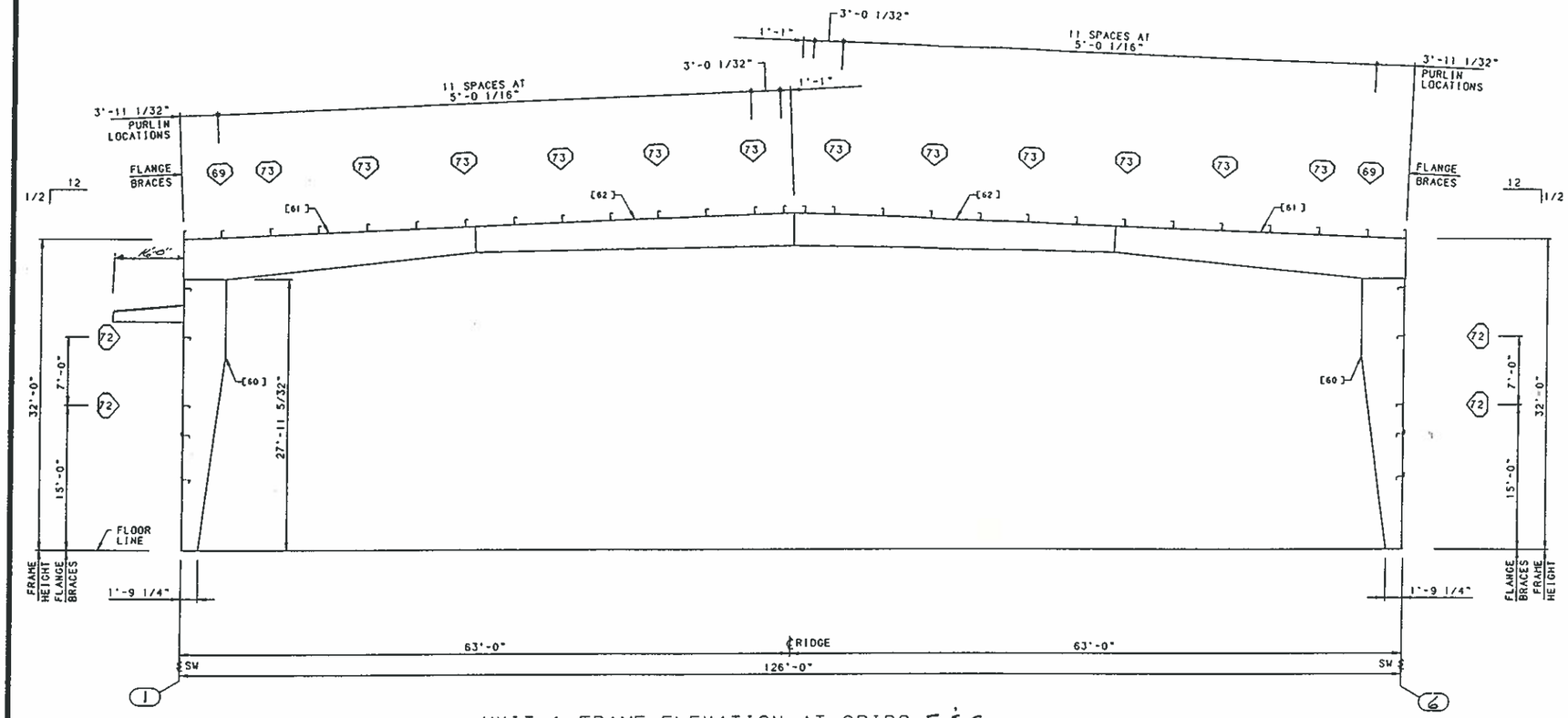
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: CROSS SECTION ERECTION DRAWING	AG FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W
CHECKED BY:	CHECKED BY:							DATE: 12/27/96
								DRAWING NUMBER: D96-087989-02B REV. 01

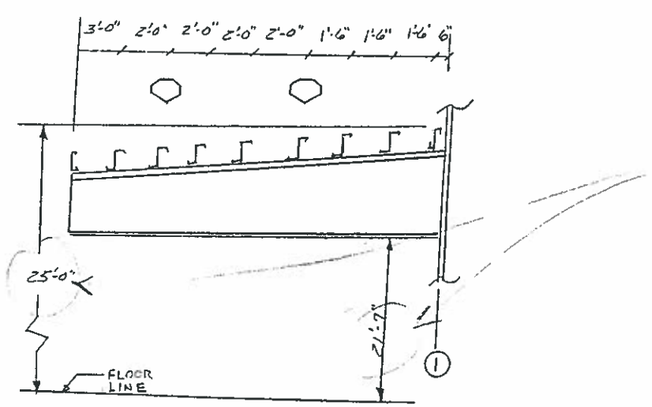


UNIT 1 FRAME ELEVATION AT GRIDS F & G

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
60	EXTERIOR COLUMN	R36010	27'-11 5/32"	
61	ROOF BEAM	R36045	29'-10 23/32"	
62	ROOF BEAM	R36050	33'-1 13/16"	

FLANGE BRACE SCHEDULE					
⬭	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
69	DOUBLE	DOUBLE			
72	SINGLE	SINGLE			
73	SINGLE	SINGLE			

CANOPY DETAIL:



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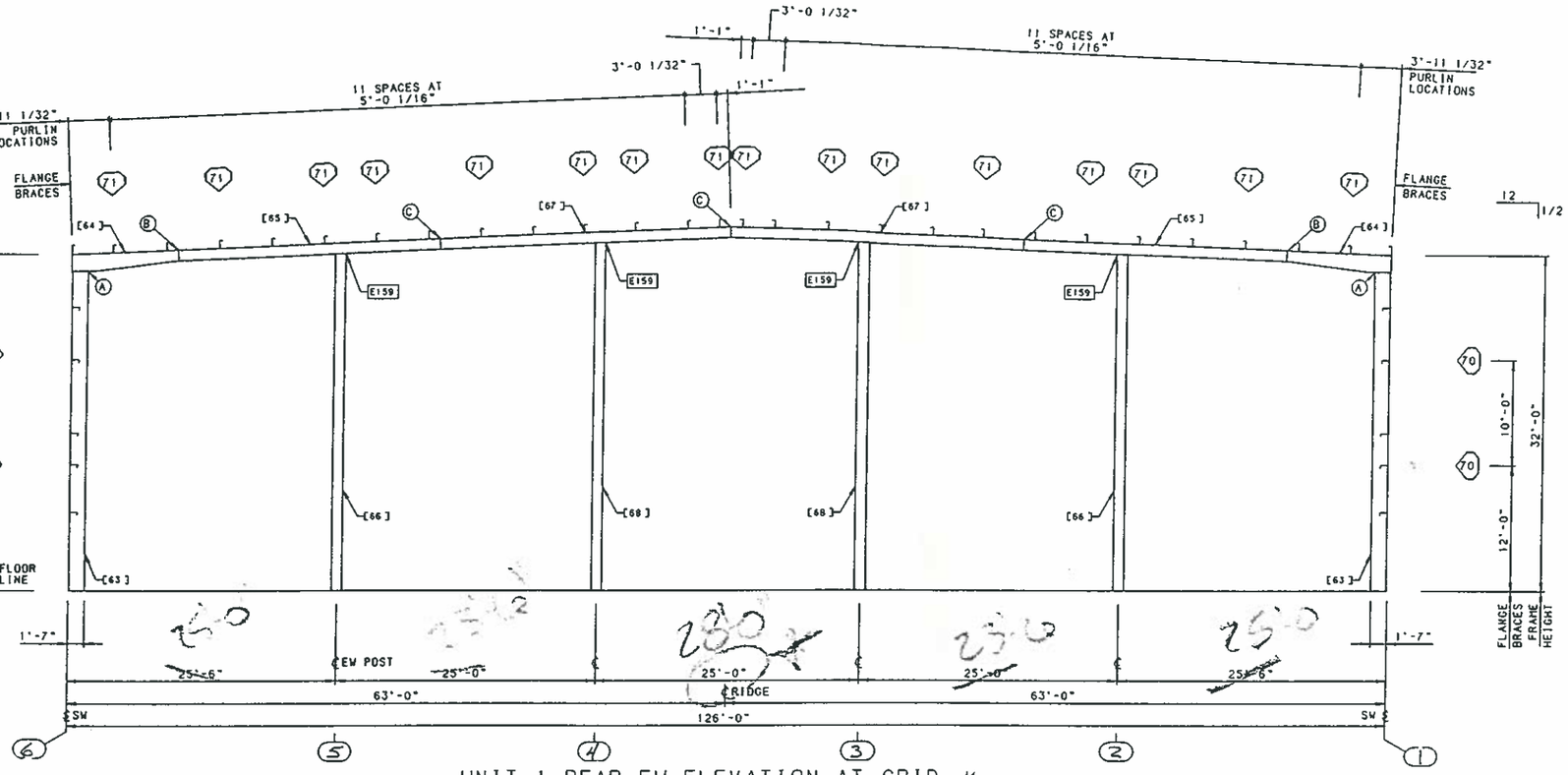
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE FRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE 7S	DRAWING TITLE: CROSS SECTION ERECTION DRAWING	AG FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W DATE: 12/27/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-02C REV. 01



UNIT 1 REAR EW ELEVATION AT GRID K

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
63	EW CORNER POST	RJ6055	30'-4 25/32"	
64	EW ROOF BEAM	RJ6060	9'-11 15/16"	
65	EW ROOF BEAM	RJ6065	25'-0 1/32"	
66	EW INTERM POST	RJ6070	32'-0 13/16"	
67	EW ROOF BEAM	RJ6075	28'-0 9/16"	
68	EW INTERM POST	RJ6080	33'-1 3/8"	

BOLTED CONNECTION SCHEDULE					
○	QUANTITY	BOLT NO.	DESCRIPTION	NUT NO.	DETAIL
A	08	097282	5/8X2-1/4 BOLT A325T	095233	
B	08	097284	3/4X2-1/2 BOLT A325T	095235	
C	04	097282	5/8X2-1/4 BOLT A325T	095233	

FLANGE BRACE SCHEDULE					
♡	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
70	SINGLE	SINGLE			
71	SINGLE	SINGLE			

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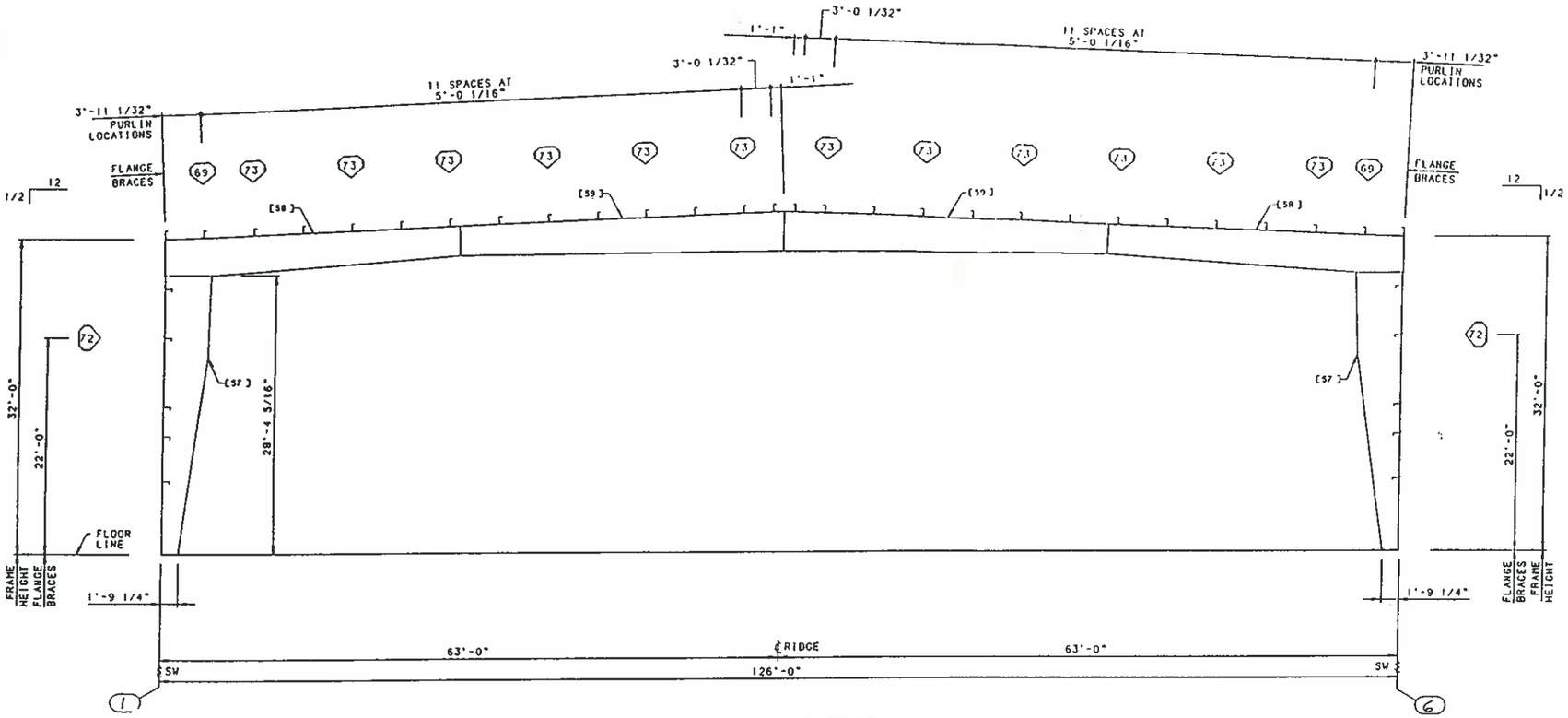
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PROND® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: CROSS SECTION ERECTION DRAWING	AC FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W
CHECKED BY:	CHECKED BY:							DATE: 12/27/96
								DRAWING NUMBER: D96-087989-02D
								REV. 01



UNIT 1 FRAME ELEVATION AT GRID F

PART SCHEDULE

[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
57	EXTERIOR COLUMN	R34740	28'-4 5/16"	
58	ROOF BEAM	R36000	29'-11 3/16"	
59	ROOF BEAM	R36005	33'-1 11/32"	

FLANGE BRACE SCHEDULE

⬡	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
69	DOUBLE	DOUBLE			
72	SINGLE	SINGLE			
73	SINGLE	SINGLE			

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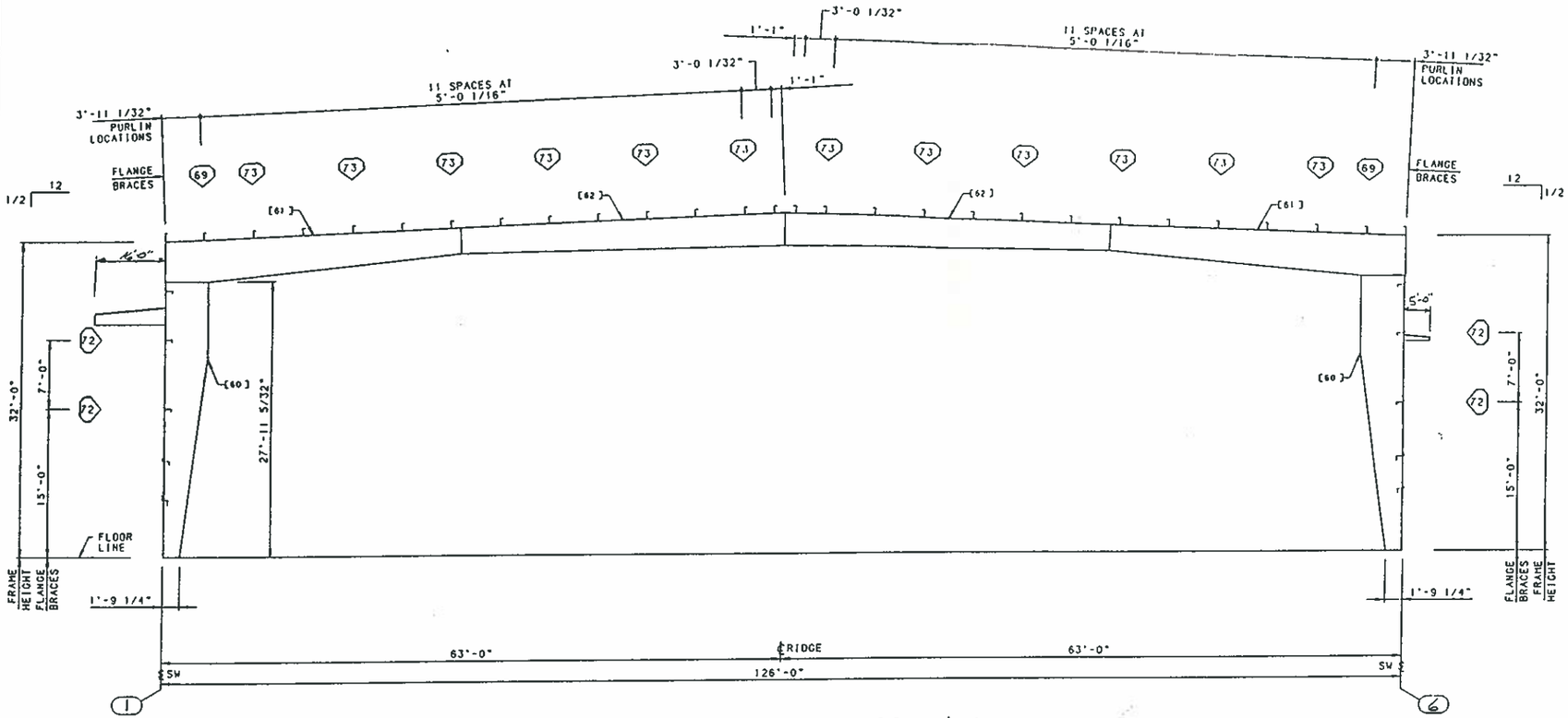
REVISION NO. 1	REVISION NO. 2		BUILDER:	PROJECT:	BUILDING ORDER DESCRIPTION:	DRAWING TITLE:		AC FILE NO:
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BORCHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE9S	CROSS SECTION ERECTION DRAWING	GROUP: W	DATE: 12/2?/96
DRAWN BY:	DRAWN BY:	PRODUCT OF THE PROMD® ORDER ENGINEERING SYSTEM					DRAWING NUMBER: D96-087989-02E	REV. 01
CHECKED BY:	CHECKED BY:							

PART SCHEDULE				
( )	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
60	EXTERIOR COLUMN	R36010	27'-11 5/32"	
61	ROOF BEAM	R36045	29'-10 23/32"	
62	ROOF BEAM	R36050	33'-1 13/16"	

FLANGE BRACE SCHEDULE					
⬭	PART NO. FRONT/LEFT	PART NO. REAR/RIGHT	DIM. "Y"	DETAIL	FIELD WORK ▲
69	DOUBLE	DOUBLE			
72	SINGLE	SINGLE			
73	SINGLE	SINGLE			



UNIT 1 FRAME ELEVATION AT GRIDS D & E

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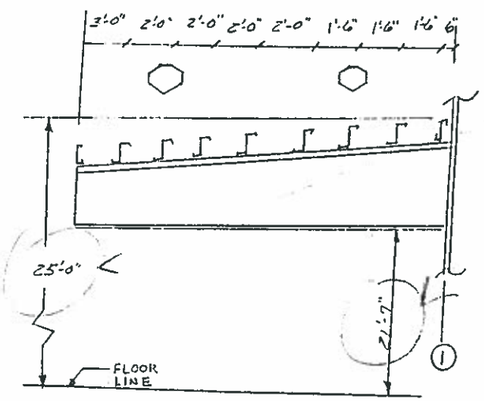
CANOPY DETAIL:



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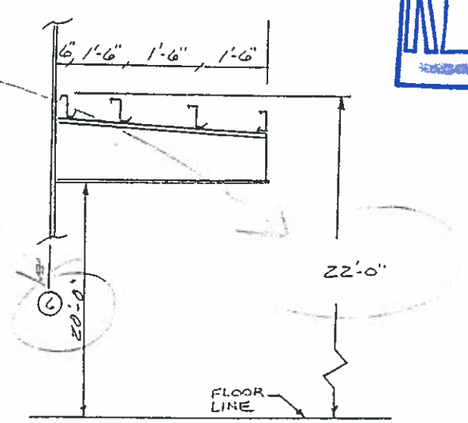

REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: CROSS SECTION ERECTION DRAWING	AG FILE NO: GROUP: W DATE: 12/2?/96 DRAWING NUMBER: D96-087989-02F REV. 01
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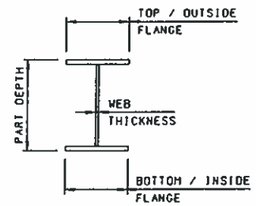
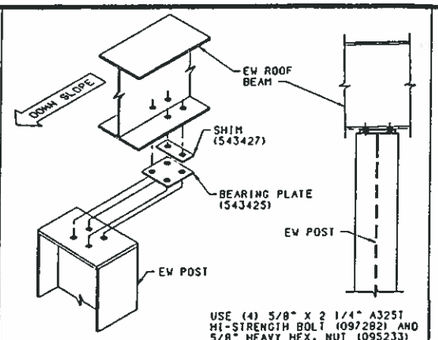
CHECKED BY:	CHECKED BY:							



FRAME DESIGN INFORMATION

PART	DESCRIPTION
ROOF BEAM R36000	TOP FLANGE = 1'-0" X .500" - LOW END TO 9'-10 23/32" FROM LOW E
	10" X .625" - 9'-10 23/32" FROM LOW END TO HIGH END
	BOTTOM FLANGE = 1'-0" X .750" - LOW END TO 9'-10 23/32" FROM LO
	10" X .625" - 9'-10 23/32" FROM LOW END TO HIGH END
	WEB THICKNESS = .375" - LOW END TO 9'-10 23/32" FROM LOW END
	.313" - 9'-10 23/32" FROM LOW END TO HIGH END
	PART DEPTH = VARIES 46" TO 36"
ROOF BEAM R36005	TOP FLANGE = 8" X .625"
	BOTTOM FLANGE = 8" X .375"
	WEB THICKNESS = .250" - LOW END TO 15'-0 15/32" FROM LOW END
	.219" - 15'-0 15/32" FROM LOW END TO HIGH END
	PART DEPTH = VARIES 36" TO 48"
ROOF BEAM R36045	TOP FLANGE = 1'-0" X .500" - LOW END TO 14'-10 5/16" FROM LOW E
	10" X .375" - 14'-10 5/16" FROM LOW END TO HIGH END
	BOTTOM FLANGE = 1'-0" X .750" - LOW END TO 14'-10 5/16" FROM LO
	10" X .500" - 14'-10 5/16" FROM LOW END TO HIGH END
	WEB THICKNESS = .375"
	PART DEPTH = VARIES 51" TO 32"
ROOF BEAM R36050	TOP FLANGE = 8" X .625"
	BOTTOM FLANGE = 8" X .500"
	WEB THICKNESS = .250" - LOW END TO 15'-0 15/32" FROM LOW END
	.219" - 15'-0 15/32" FROM LOW END TO HIGH END
	PART DEPTH = VARIES 32" TO 40"
EXTERIOR COLUMN R34740	TOP FLANGE = 1'-0" X .500"
	BOTTOM FLANGE = 1'-0" X .625"
	WEB THICKNESS = .313" - LOW END TO 20'-0" FROM LOW END
	.375" - 20'-0" FROM LOW END TO HIGH END
	PART DEPTH = VARIES 20" TO 53" TO 56"
EXTERIOR COLUMN R36010	TOP FLANGE = 10" X .375"
	BOTTOM FLANGE = 10" X .625"
	WEB THICKNESS = .313" - LOW END TO 20'-0" FROM LOW END
	.375" - 20'-0" FROM LOW END TO HIGH END
	PART DEPTH = VARIES 20" TO 52" TO 52"
EW CORNER POST R36055	TOP FLANGE = 6" X .250"
	BOTTOM FLANGE = 6" X .250"
	WEB THICKNESS = .100"
	PART DEPTH = 18"
EW ROOF BEAM R36060	TOP FLANGE = 5" X .188"
	BOTTOM FLANGE = 5" X .188"
	WEB THICKNESS = .140"
	PART DEPTH = VARIES 20" TO 12"
EW ROOF BEAM R36065	TOP FLANGE = 5" X .188"
	BOTTOM FLANGE = 5" X .250"
	WEB THICKNESS = .120" - LOW END TO 15'-0 9/32" FROM LOW END
	.100" - 15'-0 9/32" FROM LOW END TO HIGH END
	PART DEPTH = 11 15/16"
EW NTERM POST R36070	TOP FLANGE = 8" X .250"
	BOTTOM FLANGE = 8" X .250"
	WEB THICKNESS = .100"
	PART DEPTH = 12"
EW ROOF BEAM R36075	TOP FLANGE = 5" X .188"
	BOTTOM FLANGE = 5" X .188"
	WEB THICKNESS = .120" - LOW END TO 10'-0 11/32" FROM LOW END
	.100" - 10'-0 11/32" FROM LOW END TO HIGH END
	PART DEPTH = 11 7/8"
EW NTERM POST R36080	TOP FLANGE = 8" X .250"
	BOTTOM FLANGE = 8" X .250"
	WEB THICKNESS = .100"
	PART DEPTH = 12"



USE (4) 5/8" X 2 1/4" A325T HI-STRENGTH BOLT (0972821) AND 5/8" HEAVY HEX. NUT (095233)

DETAIL E159	ENDWALL POST TOP CONNECTION 1/2:12 SLOPE (.375 THRU .625)
PART	DESCRIPTION
16' CANOPY RAFTER	FLANGES 8"X.375"
	WEB THICKNESS = .25"
	PART DEPTH VARIES 30" TO 28.75"
5' CANOPY RAFTER	FLANGES 5"X.25"
	WEB THICKNESS = .140"
	PART DEPTH VARIES 12" TO 11.583"

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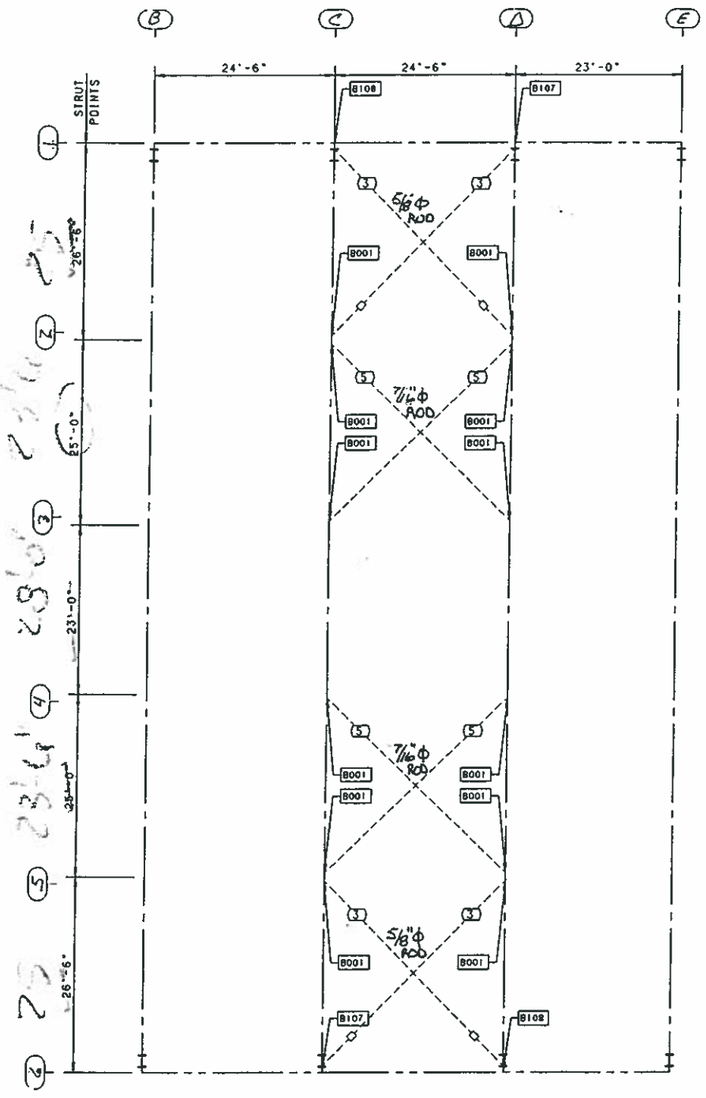
CHECKED BY:	CHECKED BY:

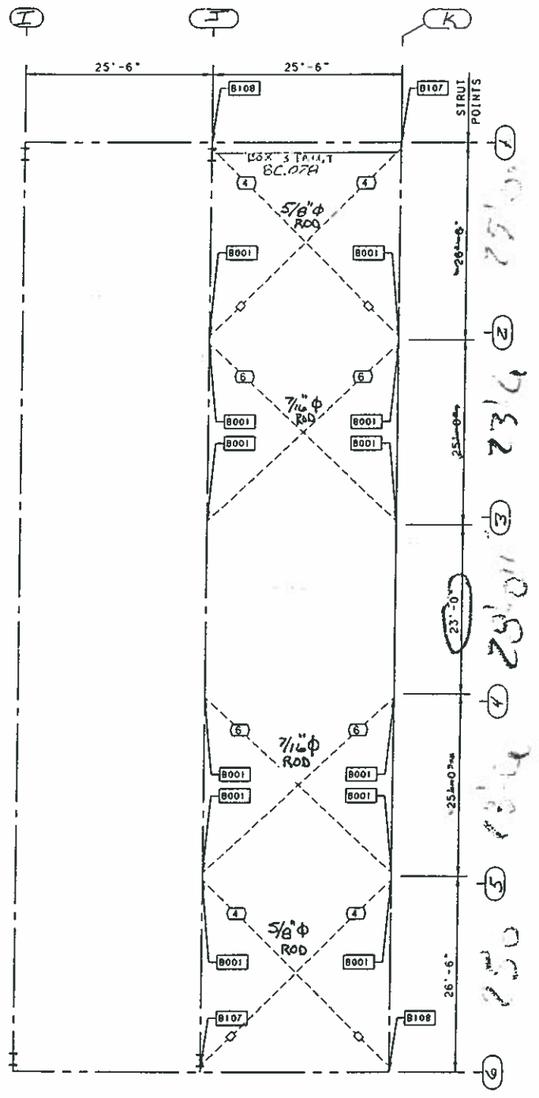
BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM

BUILDER:	PROJECT:	BUILDING ORDER DESCRIPTION:	DRAWING TITLE:		AG FILE NO:
BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	CROSS SECTION ERECTION DRAWING DETAIL SHEET	GROUP: W	DATE: 12/27/96
				DRAWING NUMBER: D96-087989-026	REV. 01



UNIT 1 ROOF BRACING



UNIT 1 ROOF BRACING

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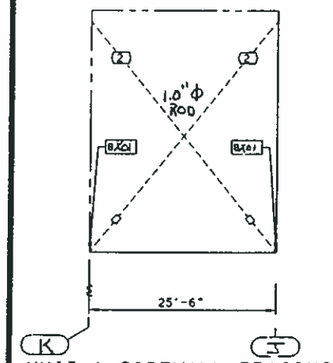
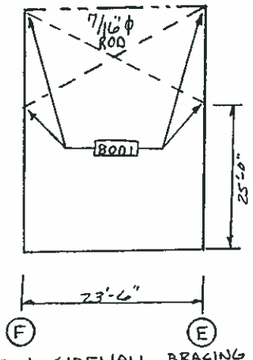
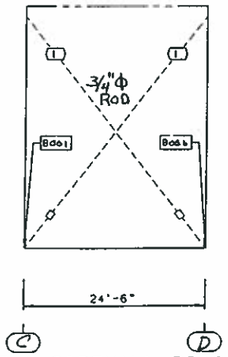
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							



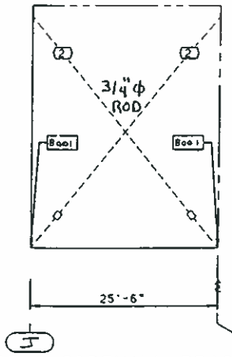
UNIT 1 SIDEWALL BRACING AT GRID 1



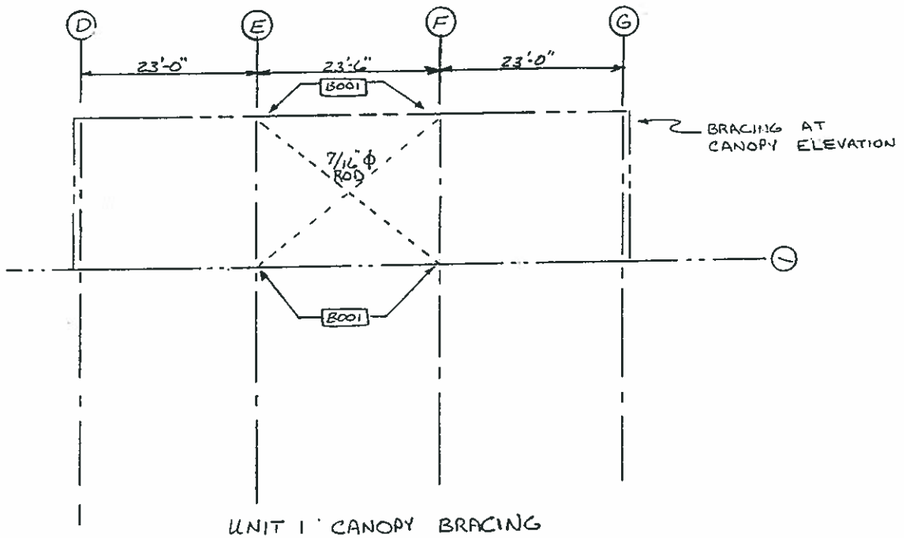
UNIT 1 SIDEWALL BRACING AT GRID 1 ABOVE THE CANOPY



UNIT 1 SIDEWALL BRACING AT GRID 6



UNIT 1 SIDEWALL BRACING AT GRID 6



UNIT 1 CANOPY BRACING IN THE ROOF PLANE

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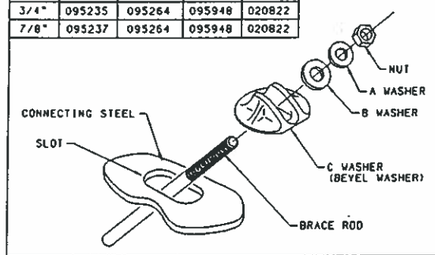
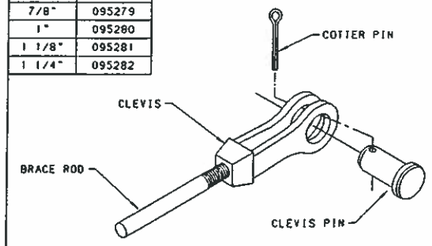
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							

ROD DIA.	NUT	WASHERS		
		A	B	C
7/16"	095083	095133	095165	020821
1/2"	095032	095133	095165	020821
5/8"	095231	095298	095165	020821
3/4"	095235	095264	095948	020822
7/8"	095237	095264	095948	020822

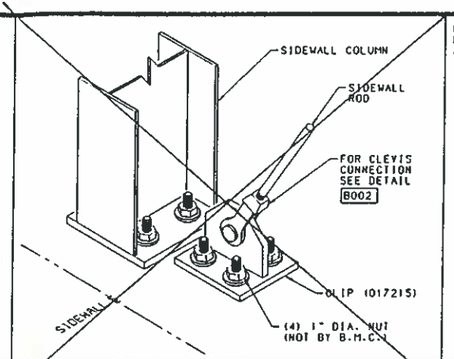


DETAIL B001 — TYPICAL BEVEL WASHER CONNECTION

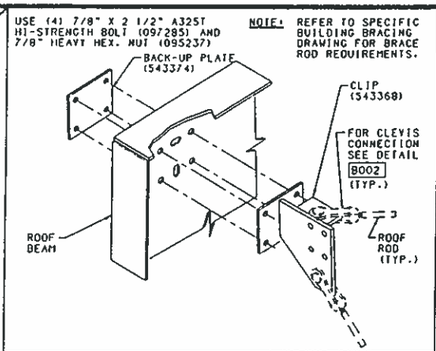
ROD DIA.	CLEVIS ASSY.
5/8"	095277
3/4"	095278
7/8"	095279
1"	095280
1 1/8"	095281
1 1/4"	095282



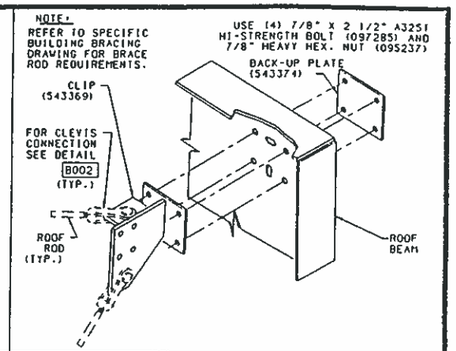
DETAIL B002 — TYPICAL CLEVIS CONNECTION



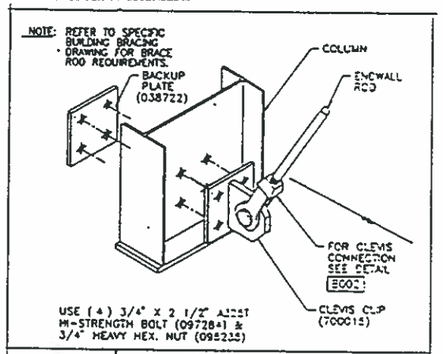
DETAIL B016 — CLEVIS CONNECTION AT FLOOR INTERMEDIATE BAY BRACING



DETAIL B107 — BRACING CLIP CONNECTION AT LOW EAVE LOCATION-LOW SLOPE RANGE



DETAIL B108 — BRACING CLIP CONNECTION AT LOW EAVE LOCATION-LOW SLOPE RANGE



DETAIL BX01 — LOWER CLEVIS CONNECTION AT BRACED SIDEWALL COLUMN

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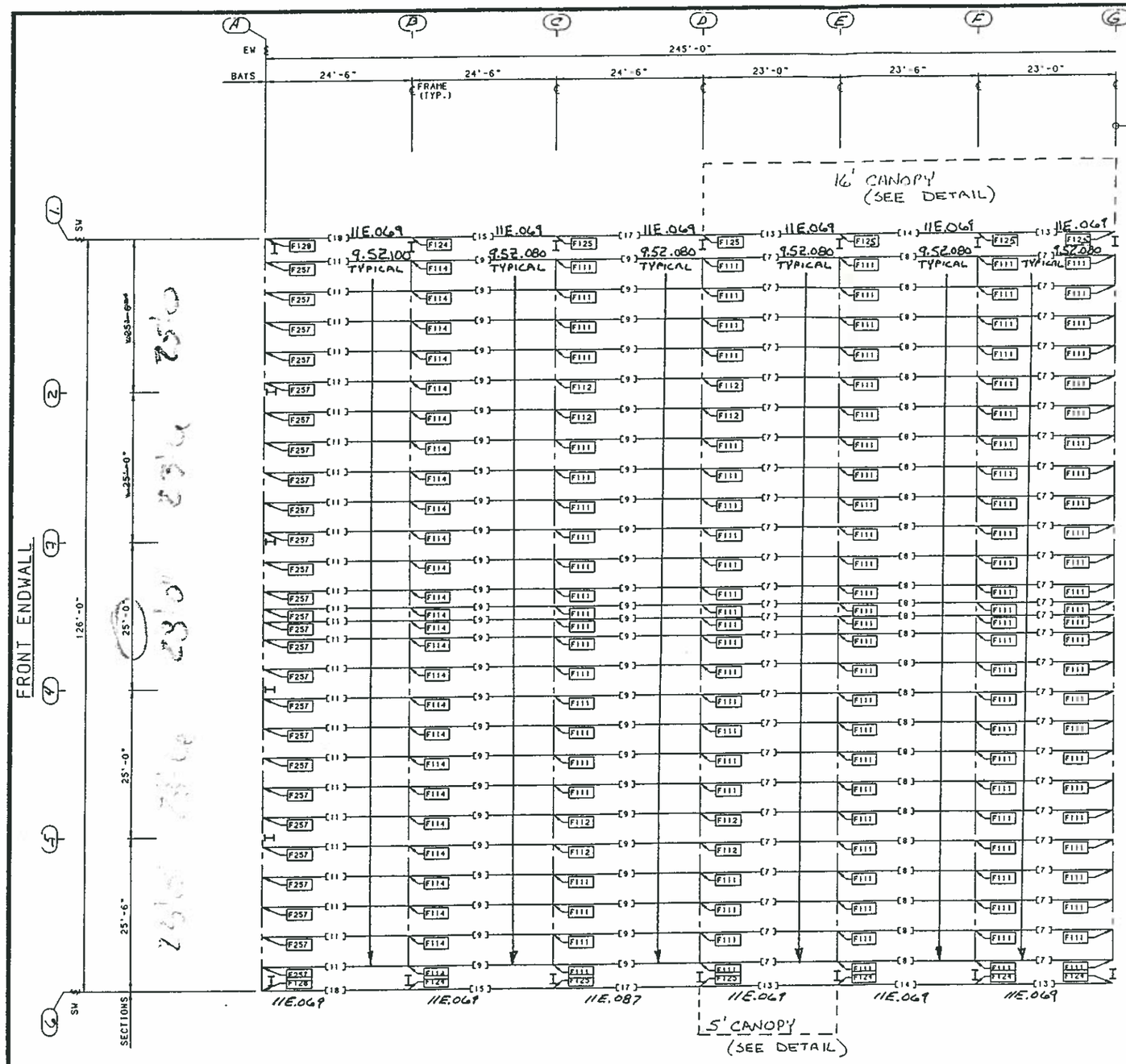
REVISION NO. 1	REVISION NO. 2				
DATE:		DATE:		BUILDER:	PROJECT:
DRAWN BY:		DRAWN BY:		BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY
CHECKED BY:		CHECKED BY:			

BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM

BUILDING ORDER DESCRIPTION:	DRAWING TITLE:		AG FILE NO:
126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	WIND BRACING DETAIL SHEET	GROUP: W	DATE: 12/27/96
		DRAWING NUMBER: D96-087989-03B	REV: 01

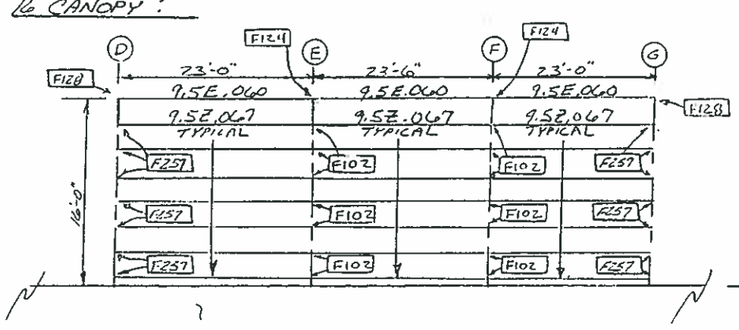


STANDARD NOTES:

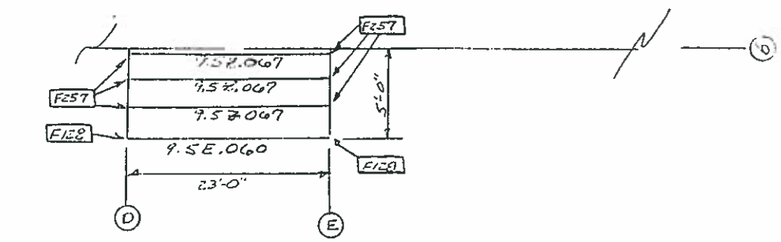
RS0002 REFER TO DRAWING B-1080945 FOR PURLIN BRACE PART NUMBERS AND TYPICAL INSTALLATION FOR SLOPE LESS THAN OR EQUAL TO 0.75:12.

RS0008 REFER TO DETAIL F262 FOR RIDGE PURLIN BRACE CONNECTION.

16' CANOPY :

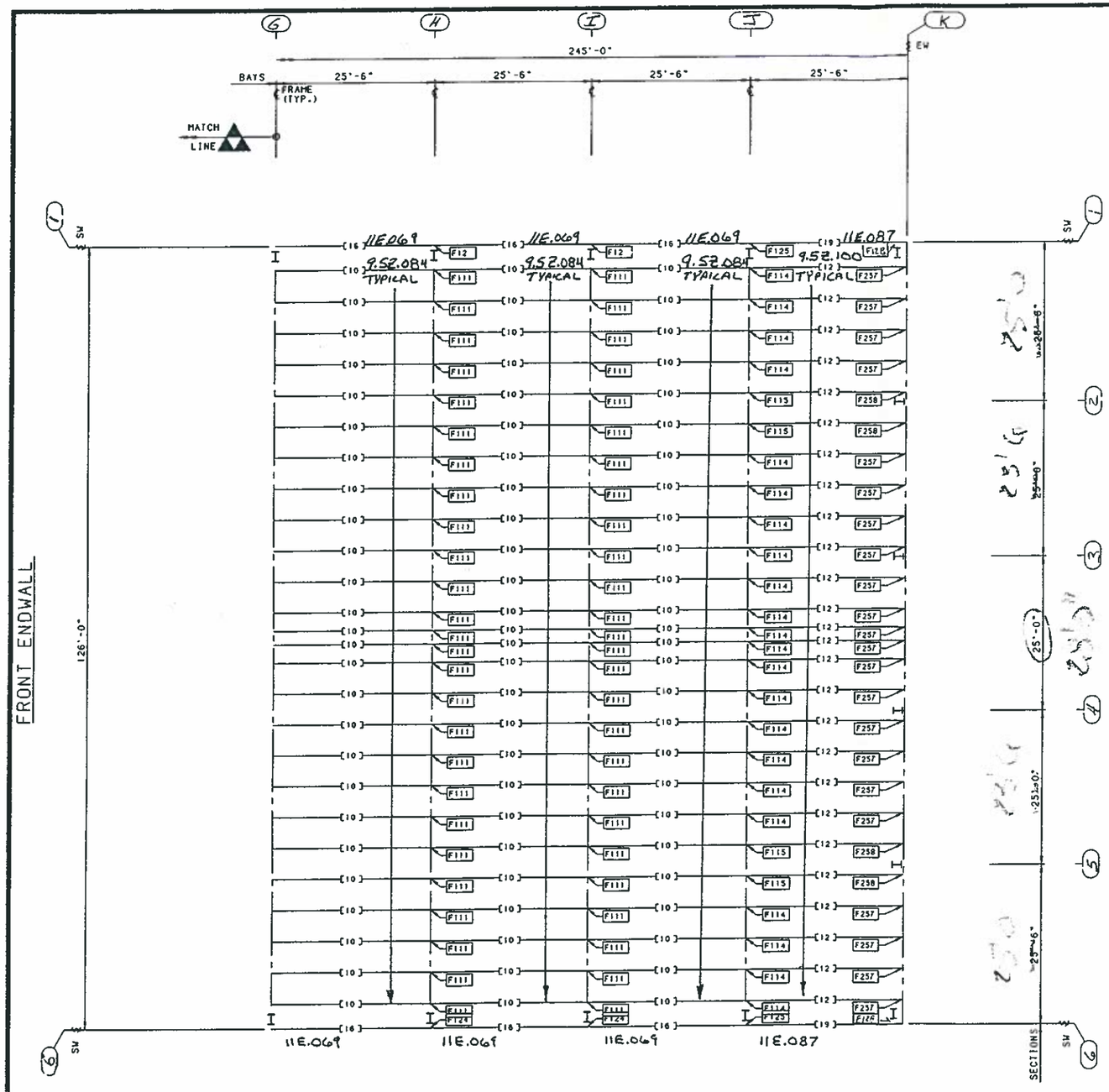


5' CANOPY :



UNIT 1 ROOF SECONDARY STRUCTURAL FRAMING PLAN

REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRO/ENGINEER® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING HILLBURN, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: ROOF SECONDARY STRUCTURAL FRAMING PLAN	AG FILE NO: GROUP: W DATE: 12/27/96 DRAWING NUMBER: D96-087989-04 REV. 01
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							



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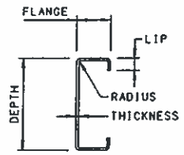
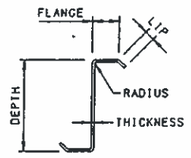
UNIT 1 ROOF SECONDARY STRUCTURAL FRAMING PLAN

REVISION NO. 1	REVISION NO. 2		BUILDER:	PROJECT:	BUILDING ORDER DESCRIPTION:	DRAWING TITLE:	AC FILE NO:
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING HILLBURN, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE 95	ROOF SECONDARY STRUCTURAL FRAMING PLAN	GROUP: W DATE: 12/27/96
DRAWN BY:	DRAWN BY:	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM					DRAWING NUMBER: D96-087989-04A REV. 01
CHECKED BY:	CHECKED BY:						



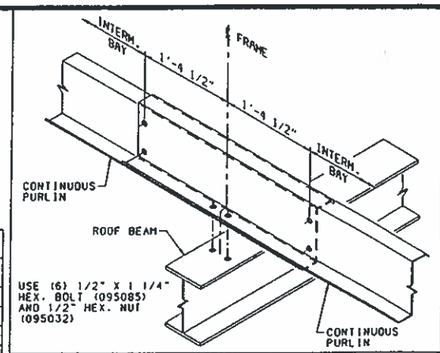
C - SECTION DESIGN INFORMATION

PART	DEPTH	FLANGE	LIP	THICKNESS	RADIUS
EAVE STRUT 540207 275-4	11"	3 1/2"	1"	.069"	5/16"
EAVE STRUT 540207 281-4	11"	3 1/2"	1"	.069"	5/16"
EAVE STRUT 540207 293-4	11"	3 1/2"	1"	.069"	5/16"
EAVE STRUT 540207 305-4	11"	3 1/2"	1"	.069"	5/16"
EAVE STRUT 540209 293-4	11"	3 1/2"	1 1/8"	.087"	5/16"
EAVE STRUT 540242 293-4	11"	3 1/2"	1"	.069"	5/16"
EAVE STRUT 540244 305-4	11"	3 1/2"	1 1/8"	.087"	5/16"

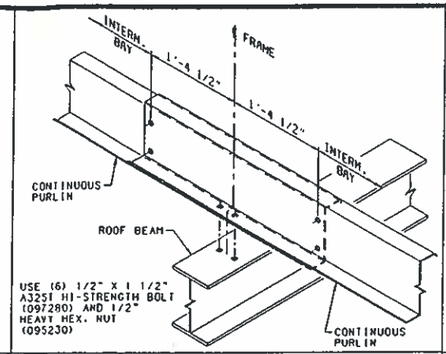


Z - SECTION DESIGN INFORMATION

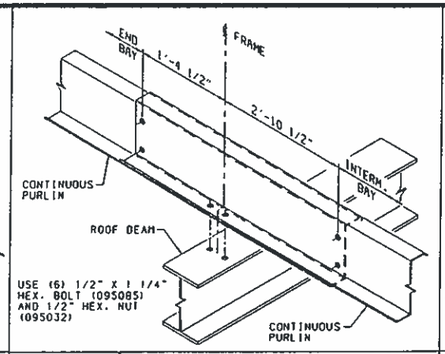
PART	DEPTH	FLANGE	LIP	THICKNESS	RADIUS
PURLIN 530644 341-4	9 1/2"	2 3/4"	1/16"	.080"	1/4"
PURLIN 530645 329-4	9 1/2"	2 3/4"	3/16"	.084"	1/4"
PURLIN 530646 341-4	9 1/2"	2 3/4"	3/16"	.100"	1/4"



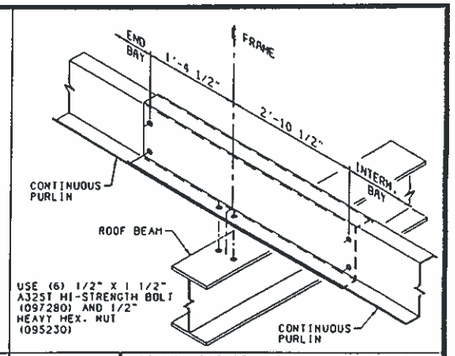
DETAIL F111 — CONTINUOUS SPAN PURLIN CONNECTION
INTERM. LOCATION - 9 1/2" PURLIN



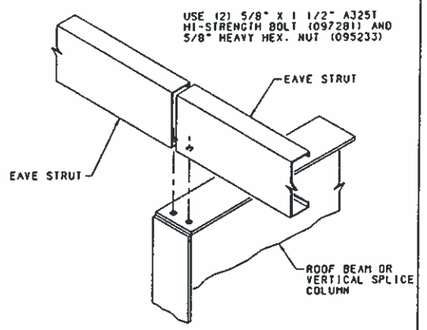
DETAIL F112 — CONTINUOUS SPAN PURLIN CONNECTION
INTERM. LOC. STRUT CONN. - 9 1/2" PURLIN



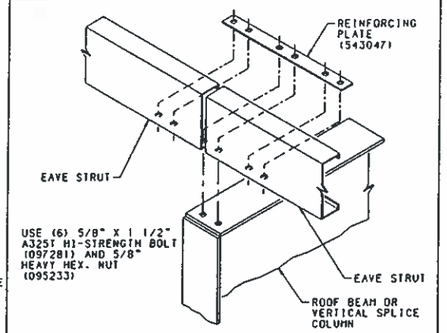
DETAIL F114 — CONTINUOUS SPAN PURLIN CONNECTION
END BAY LOCATION - 9 1/2" PURLIN



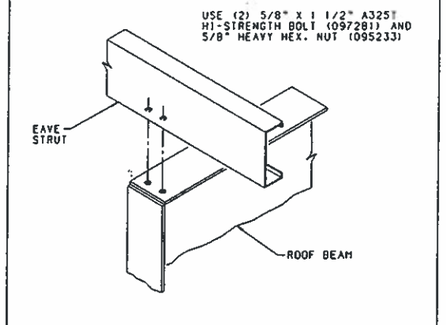
DETAIL F115 — CONTINUOUS SPAN PURLIN CONNECTION
END BAY LOC. STRUT CONN. - 9 1/2" PURLIN



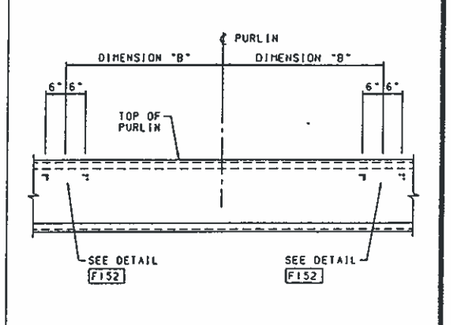
DETAIL F124 — EAVE STRUT CONN. TO INTERM. FRAME



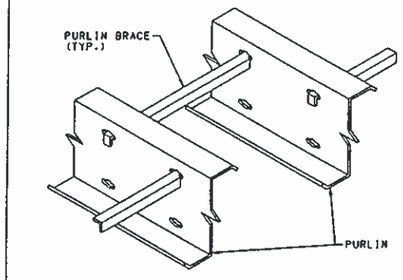
DETAIL F125 — EAVE STRUT CONN. TO INTERM. FRAME
STRUT CONNECTION



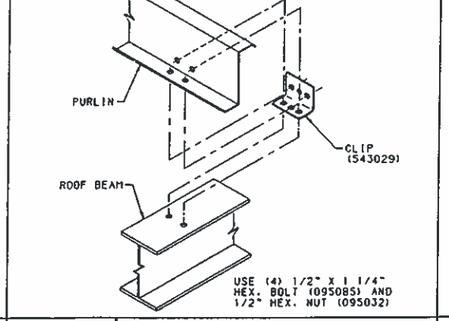
DETAIL F128 — EAVE STRUT CONN. TO ENDWALL FRAME



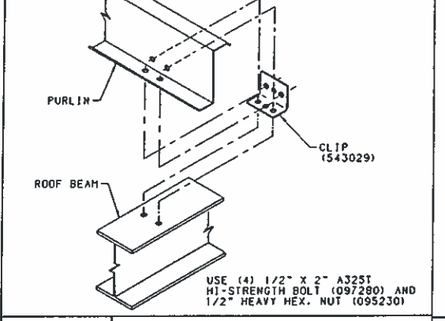
DETAIL F146 — PURLIN BRACE LAYOUT
(2) ROWS TOP - (0) ROWS BOTTOM



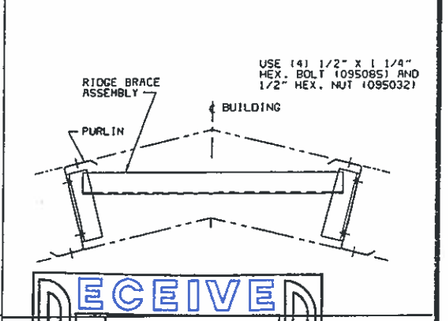
DETAIL F152 — PURLIN BRACE
TOP ROW



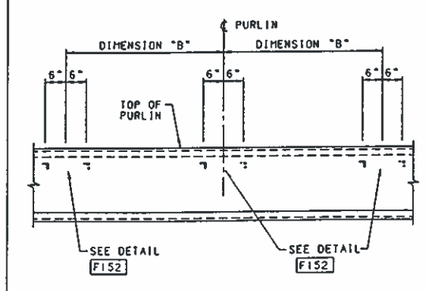
DETAIL F257 — PURLIN CONNECTION TO EW ROOF BEAM



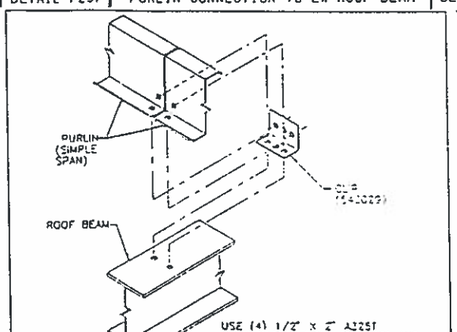
DETAIL F258 — PURLIN CONNECTION TO EW ROOF BEAM



DETAIL F262 — RIDGE CHANNEL CONNECTION



DETAIL F307 — PURLIN BRACE LAYOUT
(3) ROWS TOP - (0) ROWS BOTTOM



DETAIL F102 — SIMPLE SPAN PURLIN CONNECTION
STRUT CONNECTION

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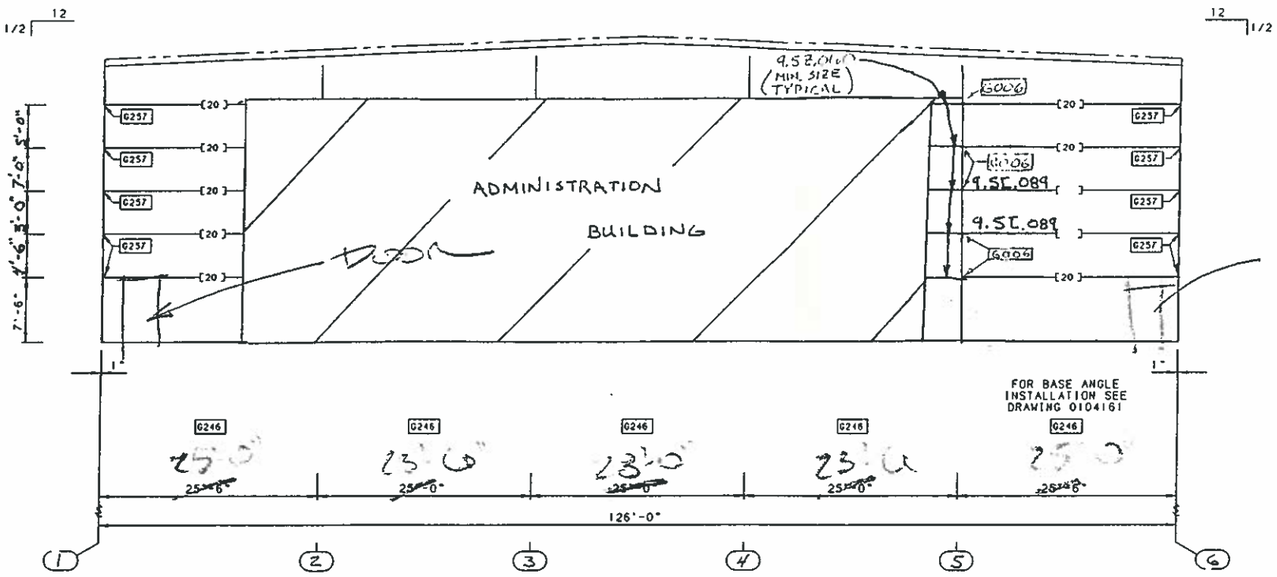
REVISION NO. 1	REVISION NO. 2				
DATE:		DATE:		BUILDER:	BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC
DRAWN BY:		DRAWN BY:		PROJECT:	ROCKLAND RECYCLING ROCKLAND COUNTY, NY
CHECKED BY:		CHECKED BY:		BUILDING ORDER DESCRIPTION:	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95
				DRAWING TITLE:	ROOF SECONDARY STRUCTURAL DETAIL SHEET
				GROUP: W	AG FILE NO:
				DRAWING NUMBER:	D96-087989-04B
				DATE: 12/27/96	REV. 01

BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM

FOR GABLE ANGLE INSTALLATION SEE DRAWING 1080944



UNIT 1 FRONT EW STRUCTURAL ELEVATION AT GRID A

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
20	GIRT	550297 283-2		
21	GIRT	550297 289-2	24'-1 1/4"	
39	GIRT	550303 019-2	1'-7 1/4"	
41	GIRT	550303 029-2	2'-5 1/4"	
47	DOOR HEADER	580145	23'-11 1/2"	1
49	DOOR POST	580251	14'-6 7/16"	
53	(2) DOOR HEADER	580629	23'-11 1/2"	3
56	(2) DOOR HEADER	580637	24'-11 1/2"	2

FIELD WORK SCHEDULE				
▲	DETAIL	FIELD WORK DIMENSIONS		
1	X026	A = 19'-11 1/2"	B = 4'-0"	
2	X027	A = 5 3/8"	B = 24'-0 3/4"	C = 5 3/8"
		D = 3"	E = 7/8"	F = 7/8"
3	X055	A = 23'-9 1/8"	B = 2 3/8"	C = 4"
		D = 7/8"	E = 3"	F = 3"

STANDARD NOTES:

WS0006 FILL ALL OPEN HOLES IN DOOR POST WEBS WITH PLASTIC SNAP-IN PLUGS (097229).

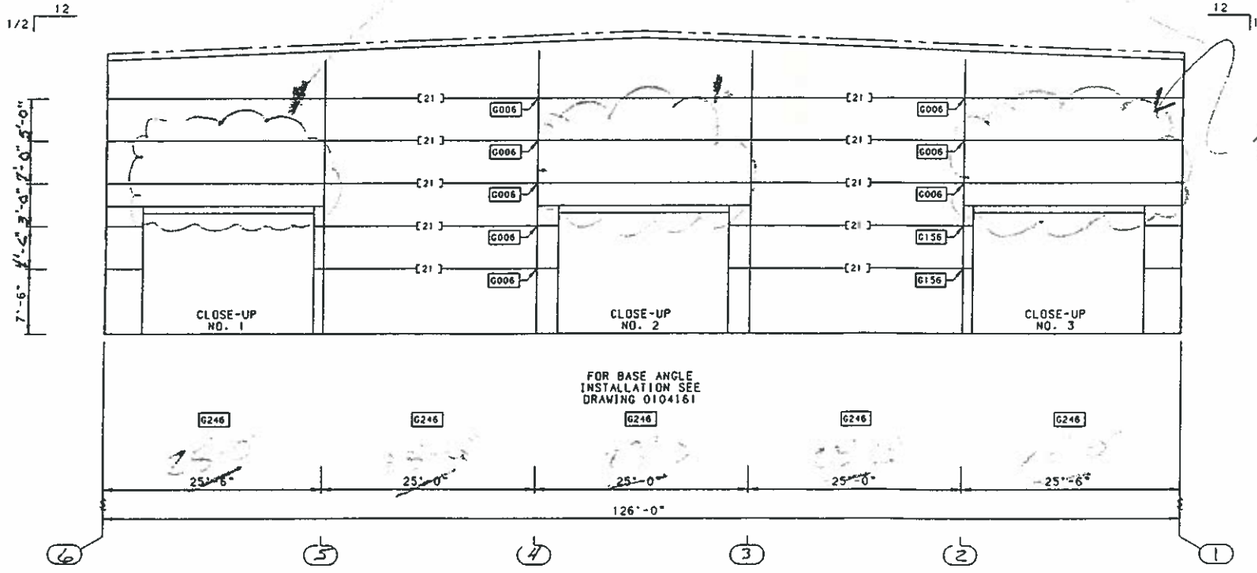
WS0010 THIS UNIT HAS AN OVERHEAD DOOR REQUIRING A DOUBLE "C" HEADER. BOLT THE TWO "C" HEADERS TOGETHER WITH (2) 1/2" X 1 1/4" BOLTS (095085) AND NUTS (095032) ON APPROXIMATELY 5'-0" CENTERS. IF FACTORY HOLES ARE NOT PROVIDED IN HEADERS, FIELD LOCATE 9/16" DIA. HOLES AS REQUIRED.

WS0011 GIRTS MUST BE INSTALLED ABOVE DOUBLE C HEADER AT STANDARD LOCATION.

WS0014 UNPUNCHED GIRTS ARE SUPPLIED AT OVERHEAD OR SLIDE DOORS. PUNCHED WALL SYSTEMS REQUIRE THE FIELD DRILLING OF THE 5/16" PANEL ATTACHMENT HOLES IN THE GIRT FLANGE.

WS0023 I M P O R T A N T
REFER TO PRONTO DETAIL G047 FOR PROPER GIRT ALIGNMENT.

FOR GABLE ANGLE INSTALLATION SEE DRAWING 1080944



UNIT 1 REAR EW STRUCTURAL ELEVATION AT GRID K

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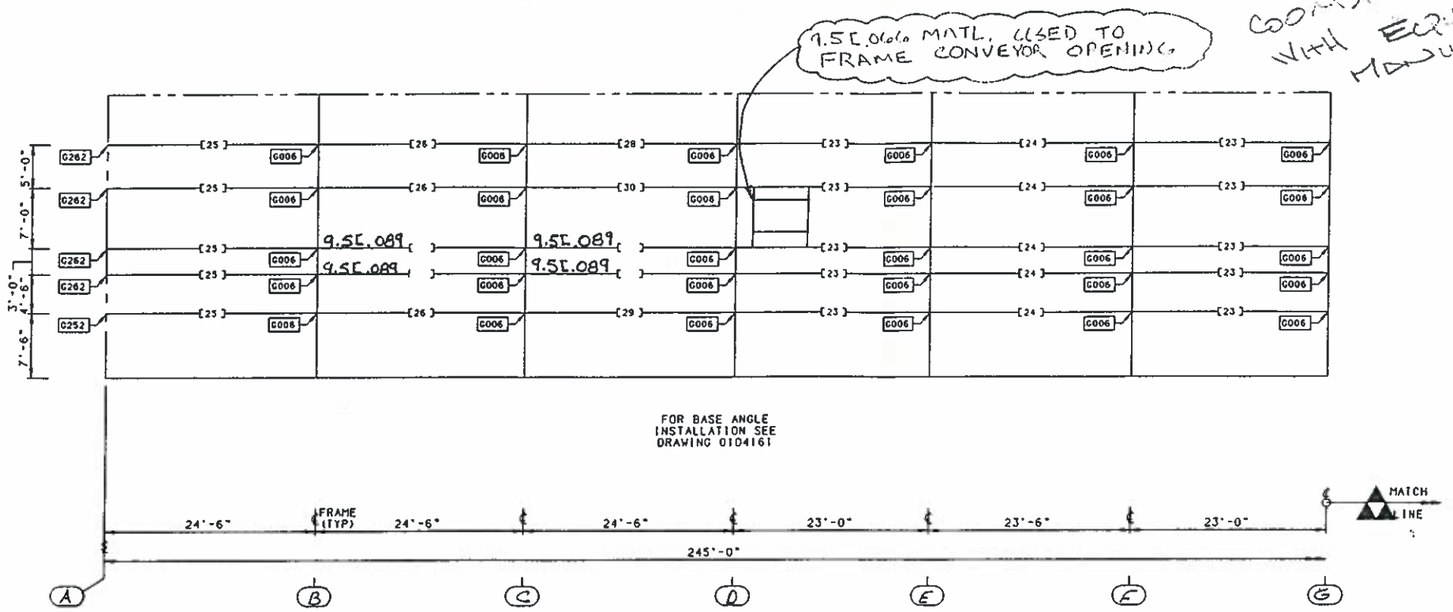
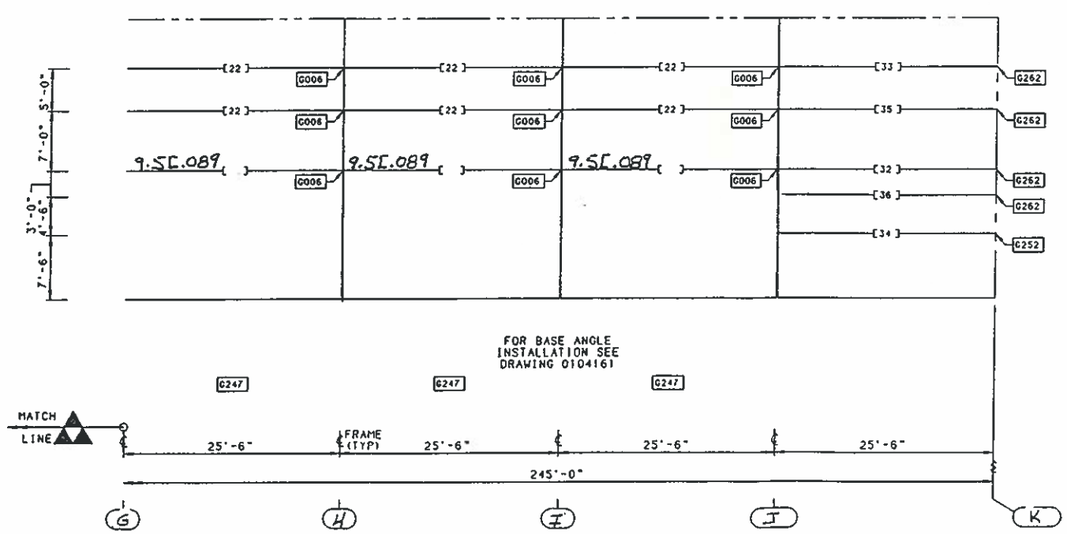
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE 95	DRAWING TITLE: WALL SECONDARY STRUCTURAL ELEVATION	AG FILE NO:
DRAWN BY:	DRAWN BY:						GROUP: W	DATE: 12/27/96
CHECKED BY:	CHECKED BY:						DRAWING NUMBER: D96-087989-05	REV. 01



UNIT 1 RIGHT SW STRUCTURAL ELEVATION AT GRID 6

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
22	GIRT	550297 295-2	24'-7 1/4"	
23	GIRT	550300 265-2	22'-1 1/4"	
24	GIRT	550301 271-2	22'-7 1/4"	
25	GIRT	550301 277-2	23'-1 1/4"	
26	GIRT	550302 283-2	23'-7 1/4"	
27	GIRT	550302 283-2	23'-7 1/4"	7
28	GIRT	550302 283-2	23'-7 1/4"	5
29	GIRT	550302 283-2	23'-7 1/4"	8
30	GIRT	550302 283-2	23'-7 1/4"	4
31	GIRT	550302 283-2	23'-7 1/4"	6
32	GIRT	550302 289-2	24'-1 1/4"	10
33	GIRT	550302 289-2	24'-1 1/4"	13
34	GIRT	550302 289-2	24'-1 1/4"	11
35	GIRT	550302 289-2	24'-1 1/4"	9
36	GIRT	550302 289-2	24'-1 1/4"	12

FIELD WORK SCHEDULE			
▲	DETAIL	FIELD WORK DIMENSIONS	
4	X001	A = 6'-11 5/8"	B = 16'-7 5/8"
5	X001	A = 3'-2 19/32"	B = 20'-4 21/32"
6	X001	A = 9'-1 19/32"	B = 14'-5 21/32"
7	X001	A = 11'-4 19/32"	B = 12'-2 21/32"
8	X001	A = 5'-9 1/16"	B = 17'-10 3/16"
9	X001	A = 7'-1 13/32"	B = 16'-11 27/32"
10	X001	A = 11'-7 15/32"	B = 12'-5 25/32"
11	X001	A = 5'-10 15/32"	B = 18'-2 25/32"
12	X001	A = 9'-3 7/8"	B = 14'-9 3/8"
13	X001	A = 3'-3 13/32"	B = 20'-9 27/32"



UNIT 1 RIGHT SW STRUCTURAL ELEVATION AT GRID 6

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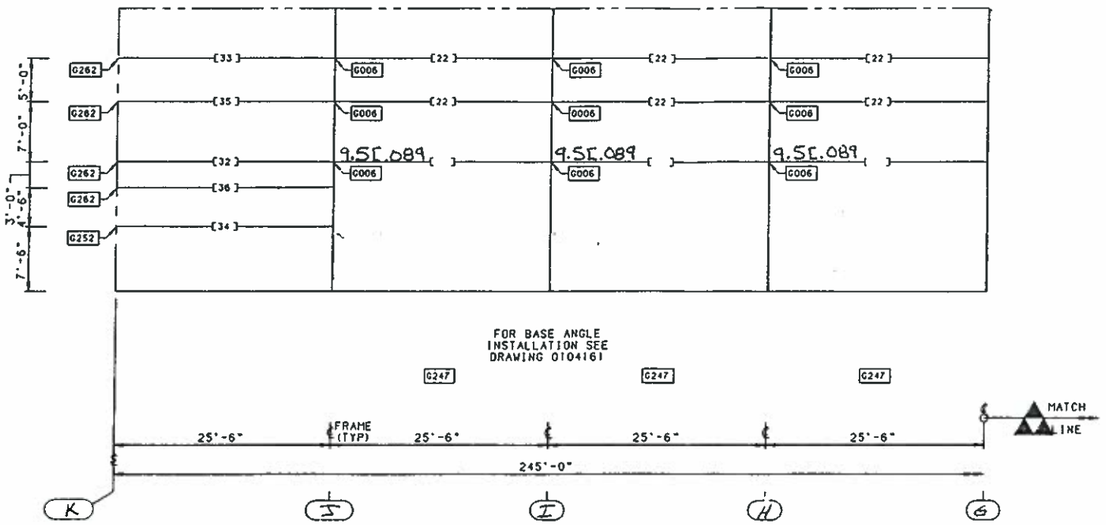
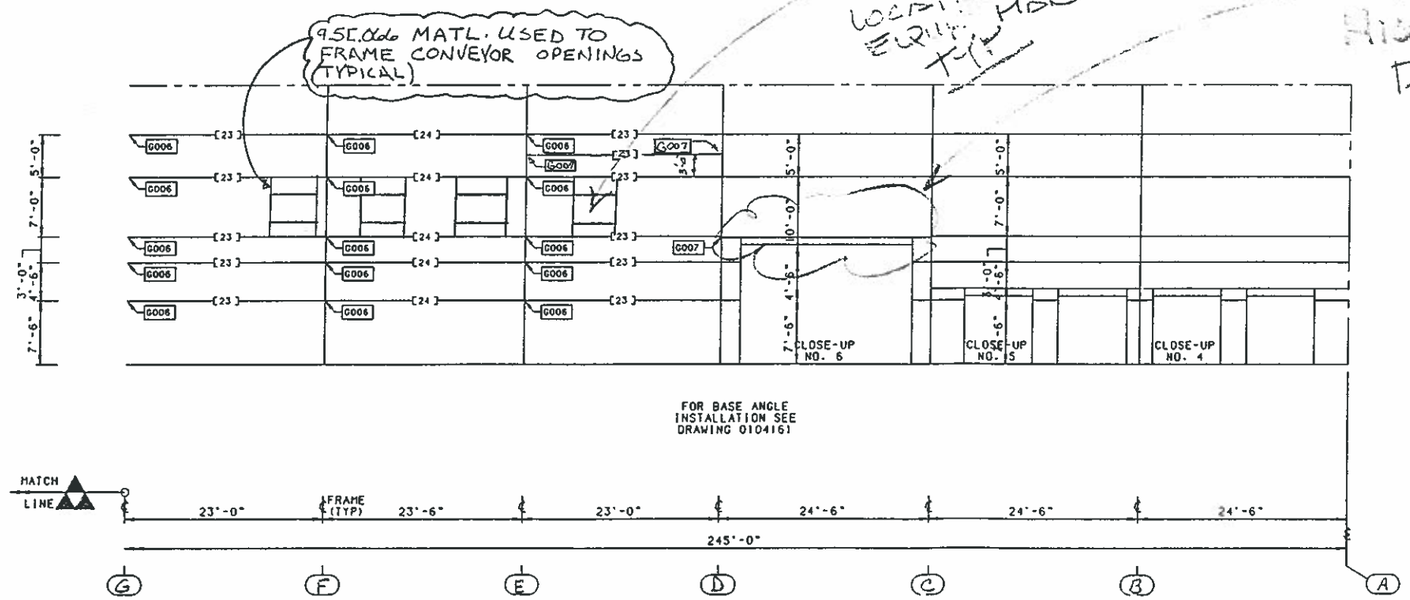
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PROMO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: WALL SECONDARY STRUCTURAL ELEVATION	AG FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W / DATE: 12/27/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-05A / REV. 01



UNIT 1 LEFT SW STRUCTURAL ELEVATION AT GRID 1



UNIT 1 LEFT SW STRUCTURAL ELEVATION AT GRID 1

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
22	GIRT	550297 295-2	24'-7 1/4"	
23	GIRT	550300 265-2	22'-1 1/4"	
24	GIRT	550301 271-2	22'-7 1/4"	
25	GIRT	550301 277-2	23'-1 1/4"	
26	GIRT	550302 283-2	23'-7 1/4"	
28	GIRT	550302 283-2	23'-7 1/4"	5
30	GIRT	550302 283-2	23'-7 1/4"	4
32	GIRT	550302 289-2	24'-1 1/4"	10
33	GIRT	550302 289-2	24'-1 1/4"	13
34	GIRT	550302 289-2	24'-1 1/4"	11
35	GIRT	550302 289-2	24'-1 1/4"	9
36	GIRT	550302 289-2	24'-1 1/4"	12
37	GIRT	550303 016-2	1'-4 1/4"	8
38	GIRT	550303 016-2	1'-4 1/4"	6
40	GIRT	550303 025-2	2'-1 1/4"	
42	GIRT	550303 031-2	2'-7 1/4"	
43	GIRT	550303 037-2	3'-1 1/4"	
48	DOOR HEADER	580145	23'-11 1/2"	1
50	DOOR POST	580251	14'-6 7/16"	
51	DOOR POST	580263	8'-11 7/16"	14
52	DOOR HEADER	580273	9'-11 1/2"	15
54	(2) DOOR HEADER	580629	23'-11 1/2"	16
55	(2) DOOR HEADER	580629	23'-11 1/2"	17

FIELD WORK SCHEDULE				
▲	DETAIL	FIELD WORK DIMENSIONS		
1	X026	A = 19'-11 1/2"	B = 4'-0"	
4	X001	A = 6'-11 5/8"	B = 16'-7 5/8"	
5	X001	A = 3'-2 19/32"	B = 20'-4 21/32"	
6	X001	A = 9'-1 19/32"	B = 14'-5 21/32"	
8	X001	A = 5'-9 1/16"	B = 17'-10 3/16"	
9	X001	A = 7'-1 13/32"	B = 16'-11 27/32"	
10	X001	A = 11'-7 15/32"	B = 12'-5 25/32"	
11	X001	A = 5'-10 15/32"	B = 18'-2 25/32"	
12	X001	A = 9'-3 7/8"	B = 14'-9 3/8"	
13	X001	A = 3'-3 13/32"	B = 20'-9 27/32"	
14	X044	A = 8'-6 7/16"	B = 5"	C = 7/8"
		D = 8'-1 1/16"	E = 1 1/2"	
15	X026	A = 7'-11 1/2"	B = 2'-0"	
16	X027	A = 2 3/8"	B = 23'-6 3/4"	C = 2 3/8"
		D = 3"	E = 7/8"	F = 7/8"
17	X027	A = 5 3/8"	B = 23'-0 3/4"	C = 5 3/8"
		D = 3"	E = 7/8"	F = 7/8"

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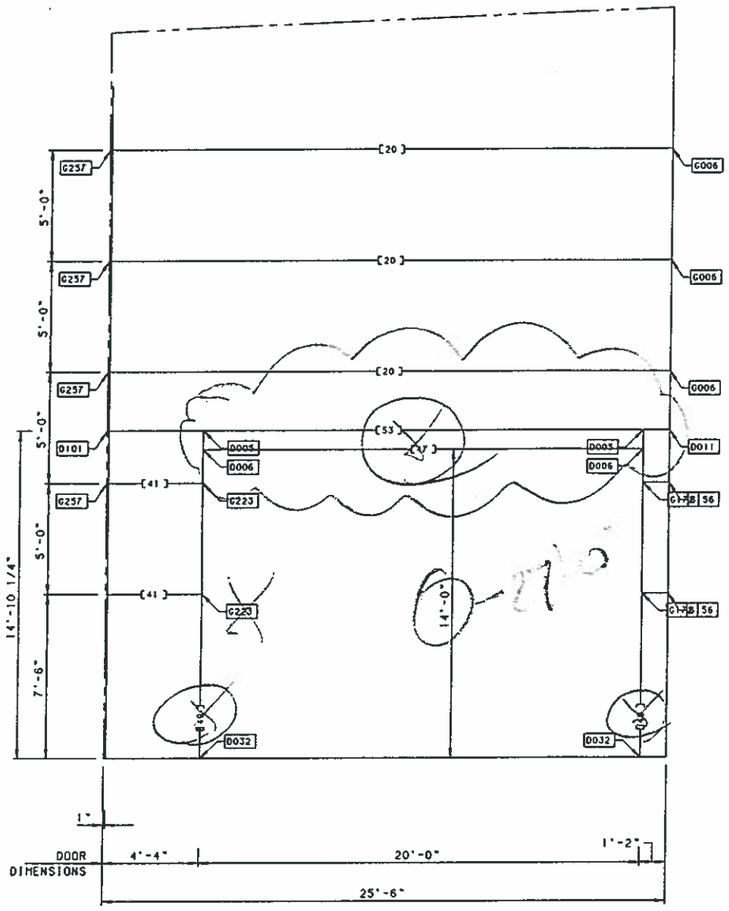
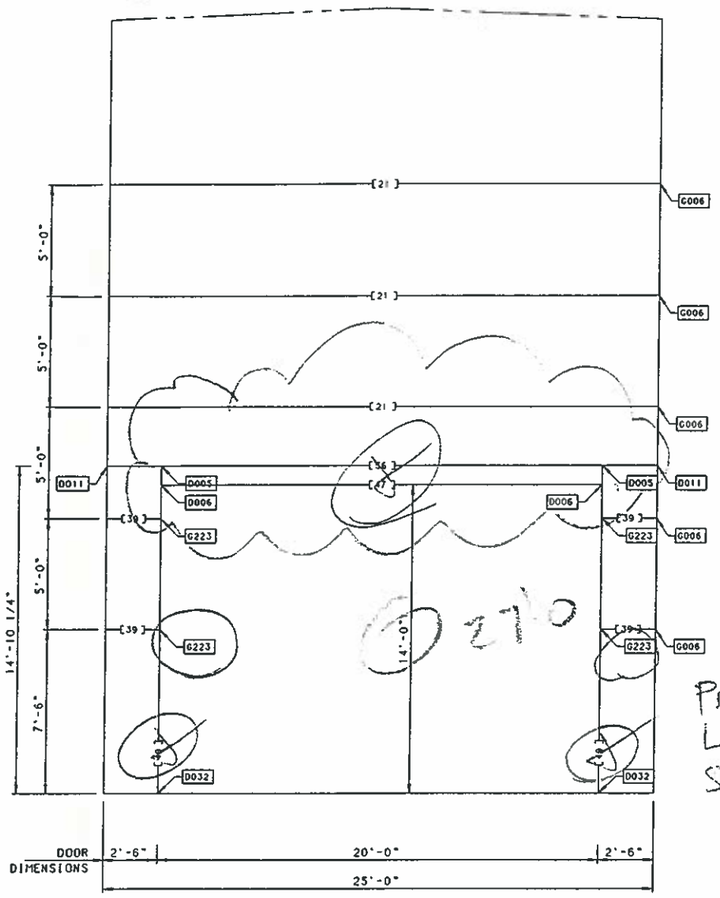
Building will not be fabricated until one signed copy is returned
Approved as drawn _____
Approved as corrected _____

REVISION NO. 1	REVISION NO. 2						
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRISM® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE9.5	DRAWING TITLE: WALL SECONDARY STRUCTURAL ELEVATION
DRAWN BY:	DRAWN BY:						
CHECKED BY:	CHECKED BY:						

AC FILE NO:
GROUP: W
DATE: 12/27/96
DRAWING NUMBER: D96-087989-05B
REV. 01

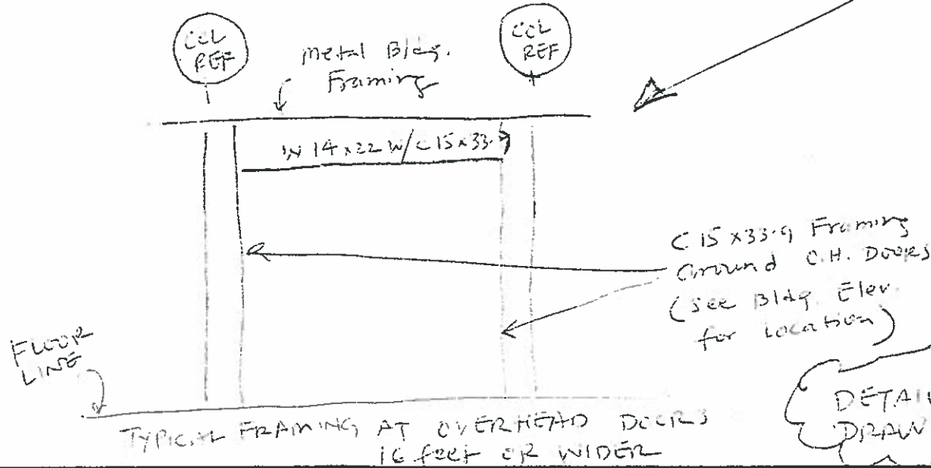


CLOSE-UP #1



CLOSE-UP #2

PROVIDE STEEL FRAMING AROUND LARGE DOOR OPENINGS AS SHOWN BELOW



DETAIL AS SHOWN ON DRAWING RS-1

PART SCHEDULE

[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
20	GIRT	550297 283-2	23'-7 1/4"	
21	GIRT	550297 289-2	24'-1 1/4"	
39	GIRT	550303 019-2	1'-7 1/4"	
41	GIRT	550303 029-2	2'-5 1/4"	
47	DOOR HEADER	580145	23'-11 1/2"	1
49	DOOR POST	580251	14'-6 7/16"	
53	(2) DOOR HEADER	580629	23'-11 1/2"	3
56	(2) DOOR HEADER	580637	24'-11 1/2"	2

FIELD WORK SCHEDULE

▲	DETAIL	FIELD WORK DIMENSIONS		
1	X026	A = 19'-11 1/2"	B = 4'-0"	
2	X027	A = 5 3/8"	B = 24'-0 3/4"	C = 5 3/8"
		D = 3"	E = 7/8"	F = 7/8"
3	X055	A = 23'-9 1/8"	B = 2 3/8"	C = 4"
		D = 7/8"	E = 3"	F = 3"

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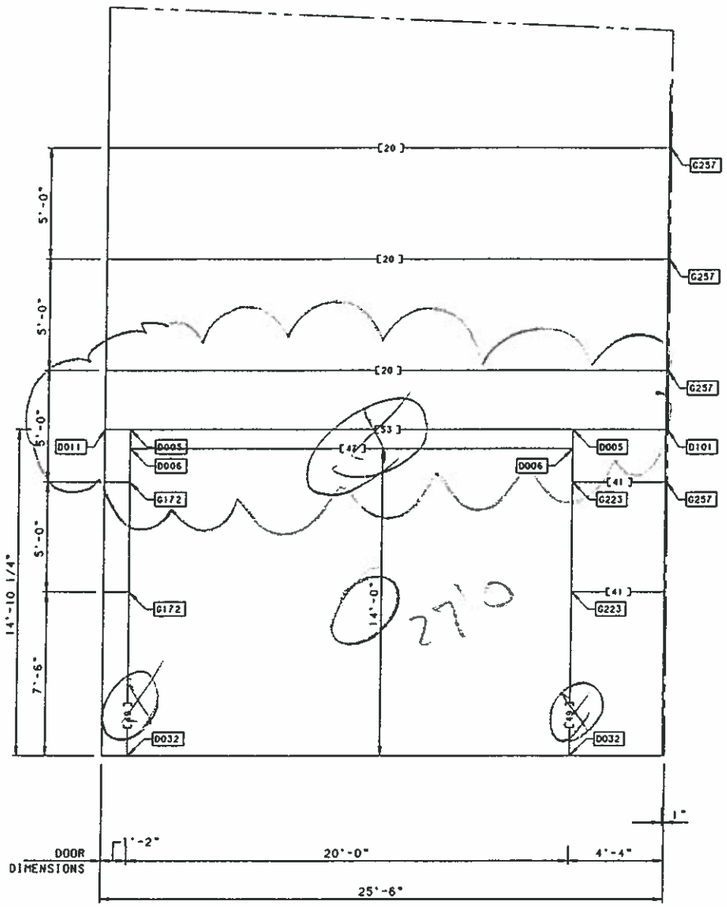
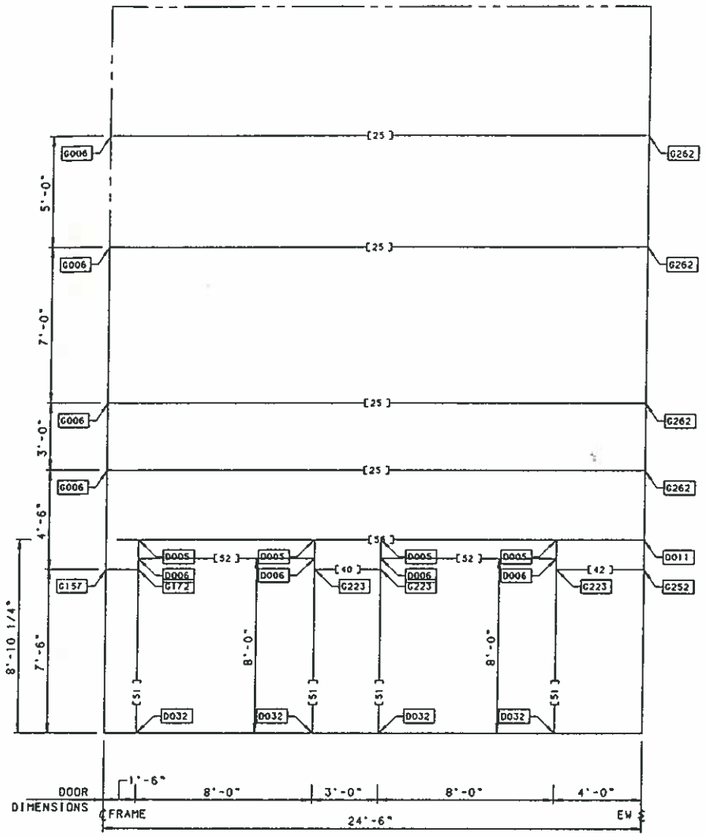
Approved as corrected _____

REVISION NO. 1	REVISION NO. 2						
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: DOOR DETAIL DRAWING	AC FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W / DATE: 12/27/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-05C / REV. 01



CLOSE-UP #3



CLOSE-UP #4

PART SCHEDULE				
[ ]	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
20	GIRT	550297 283-2	23'-7 1/4"	
25	GIRT	550301 277-2	23'-1 1/4"	
40	GIRT	550303 025-2	2'-1 1/4"	
41	GIRT	550303 029-2	2'-5 1/4"	
42	GIRT	550303 031-2	2'-7 1/4"	
47	DOOR HEADER	580145	23'-11 1/2"	1
49	DOOR POST	580251	14'-6 7/16"	
51	DOOR POST	580263	8'-11 7/16"	14
52	DOOR HEADER	580273	9'-11 1/2"	15
53	(2) DOOR HEADER	580629	23'-11 1/2"	3
55	(2) DOOR HEADER	580629	23'-11 1/2"	17

FIELD WORK SCHEDULE				
▲	DETAIL	FIELD WORK DIMENSIONS		
1	X026	A = 19'-11 1/2"	B = 4'-0"	
3	X055	A = 23'-9 1/8"	B = 2 3/8"	C = 4"
		D = 7/8"	E = 3"	F = 3"
14	X044	A = 8'-6 7/16"	B = 5"	C = 7/8"
		D = 8'-1 1/16"	E = 1 1/2"	
15	X026	A = 7'-11 1/2"	B = 2'-0"	
17	X027	A = 5 3/8"	B = 23'-0 3/4"	C = 5 3/8"
		D = 3"	E = 7/8"	F = 7/8"

PROVIDE STEEL FRAMING AROUND DOOR AS SHOWN ON DRAWING

D-96-087989-05C

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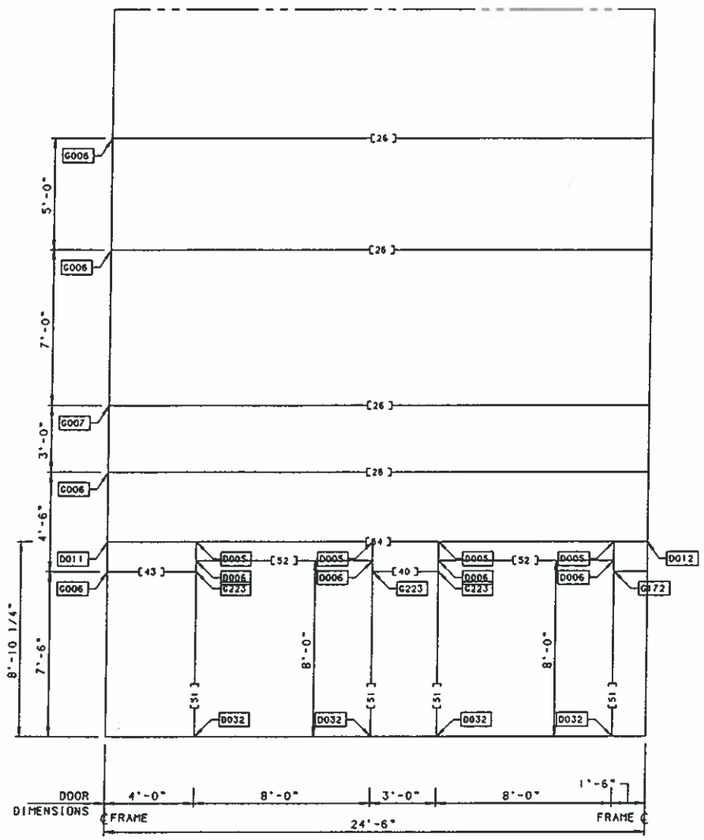
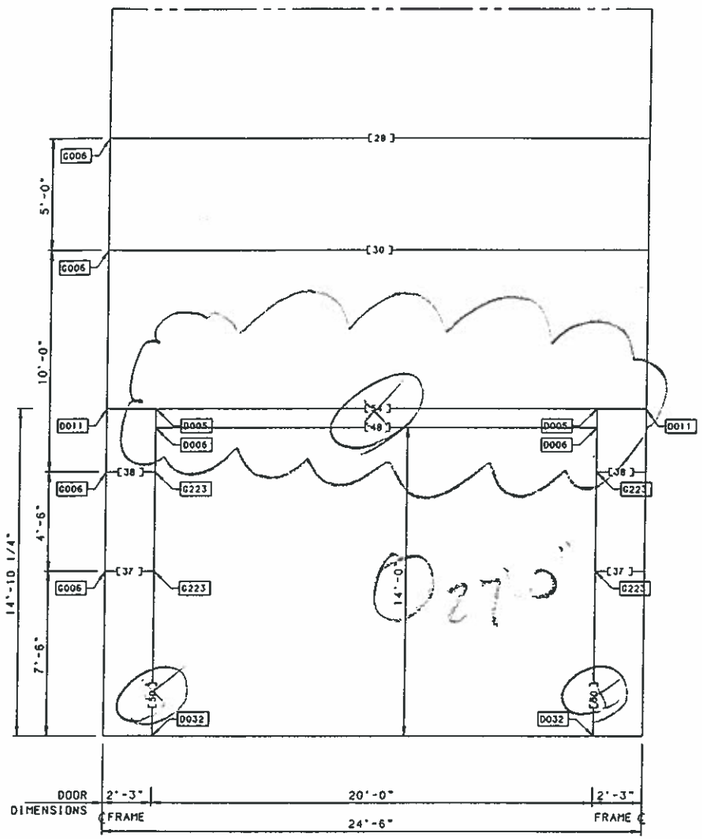
Approved as drawn _____

Approved as corrected _____

REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: DOOR DETAIL DRAWING	GROUP: W DRAWING NUMBER: D96-087989-05D
DRAWN BY:	DRAWN BY:							AC FILE NO: DATE: 12/26/96 REV. 01
CHECKED BY:	CHECKED BY:							



CLOSE-UP #5



CLOSE-UP #6

PART SCHEDULE				
( )	PART NAME	PART NUMBER	PART LENGTH	FIELD WORK ▲
26	GIRT	550302 283-2	23'-7 1/4"	
28	GIRT	550302 283-2	23'-7 1/4"	5
30	GIRT	550302 283-2	23'-7 1/4"	4
37	GIRT	550303 016-2	1'-4 1/4"	8
38	GIRT	550303 016-2	1'-4 1/4"	6
40	GIRT	550303 025-2	2'-1 1/4"	
43	GIRT	550303 037-2	3'-1 1/4"	
48	DOOR HEADER	580145	23'-11 1/2"	1
50	DOOR POST	580251	14'-6 7/16"	
51	DOOR POST	580263	8'-11 7/16"	14
52	DOOR HEADER	580273	9'-11 1/2"	15
54	(2) DOOR HEADER	580629	23'-11 1/2"	16

FIELD WORK SCHEDULE				
▲	DETAIL	FIELD WORK DIMENSIONS		
1	X026	A = 19'-11 1/2"	B = 4'-0"	
4	X001	A = 6'-11 5/8"	B = 16'-7 5/8"	
5	X001	A = 3'-2 19/32"	B = 20'-4 21/32"	
6	X001	A = 9'-1 19/32"	B = 14'-5 21/32"	
8	X001	A = 5'-9 1/16"	B = 17'-10 3/16"	
14	X044	A = 8'-6 7/16"	B = 5"	C = 7/8"
		D = 8'-1 1/16"	E = 1 1/2"	
15	X026	A = 7'-11 1/2"	B = 2'-0"	
16	X027	A = 2 3/8"	B = 23'-6 3/4"	C = 2 3/8"
		D = 3"	E = 7/8"	F = 7/8"

PROVIDE STEEL FRAMING AROUND DOOR AS SHOWN ON DRAWING

D-96-087989-05C

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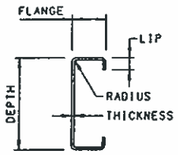
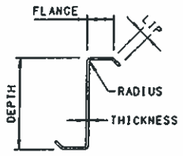
Approved as drawn _____
Approved as corrected _____

REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: DOOR DETAIL DRAWING	AG FILE NO:
DRAWN BY:	DRAWN BY:							GROUP: W DATE: 12/17/96
CHECKED BY:	CHECKED BY:							DRAWING NUMBER: D96-087989-05E REV. 01



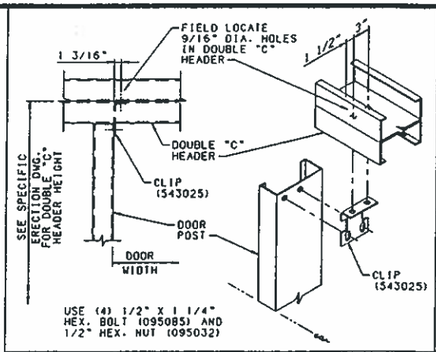
C - SECTION DESIGN INFORMATION

PART	DEPTH	FLANGE	LIP	THICKNESS	RADIUS
DOOR HEADER 580145	9"	3 1/2"	13/16"	.062"	5/16"
DOOR HEADER 580273	9"	3 1/2"	3/4"	.062"	5/16"
DOOR HEADER 580629	8"	3 1/2"	1 3/8"	.100"	5/16"
DOOR HEADER 580637	8"	3 1/2"	1 3/8"	.100"	5/16"
DOOR POST 580251	9"	3 1/2"	7/8"	.082"	5/16"
DOOR POST 580263	9"	3 1/2"	13/16"	.062"	5/16"

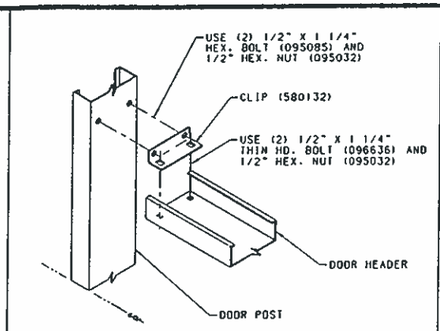


Z - SECTION DESIGN INFORMATION

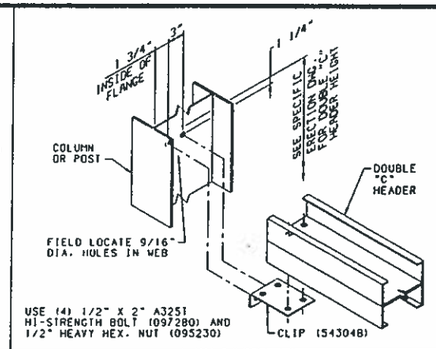
PART	DEPTH	FLANGE	LIP	THICKNESS	RADIUS
GIRT 550297 283-2	9 1/2"	2 3/4"	1/16"	.073"	1/4"
GIRT 550297 289-2	9 1/2"	2 3/4"	1/16"	.073"	1/4"
GIRT 550297 295-2	9 1/2"	2 3/4"	1/16"	.073"	1/4"
GIRT 550300 265-2	9 1/2"	2 3/4"	3/16"	.100"	1/4"
GIRT 550301 271-2	9 1/2"	2 3/4"	3/16"	.110"	1/4"
GIRT 550301 277-2	9 1/2"	2 3/4"	3/16"	.110"	1/4"
GIRT 550302 283-2	9 1/2"	2 3/4"	1 1/4"	.120"	1/4"
GIRT 550302 289-2	9 1/2"	2 3/4"	1 1/4"	.120"	1/4"
GIRT 550303 016-2	9 1/2"	2 3/4"	1/16"	.060"	1/8"
GIRT 550303 019-2	9 1/2"	2 3/4"	1/16"	.060"	1/8"
GIRT 550303 025-2	9 1/2"	2 3/4"	1/16"	.060"	1/8"
GIRT 550303 029-2	9 1/2"	2 3/4"	1/16"	.060"	1/8"
GIRT 550303 031-2	9 1/2"	2 3/4"	1/16"	.060"	1/8"
GIRT 550303 037-2	9 1/2"	2 3/4"	1/16"	.060"	1/8"



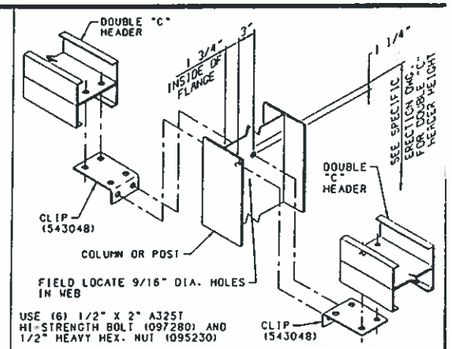
DETAIL D005 | DOOR POST TO DOUBLE "C" HEADER



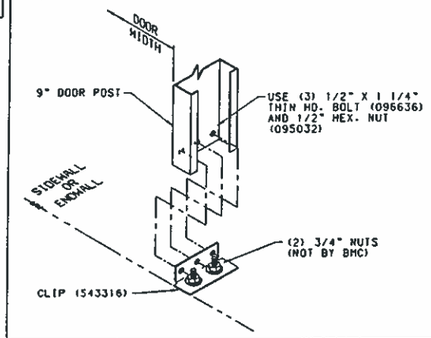
DETAIL D006 | DOOR HEADER TO DOOR POST



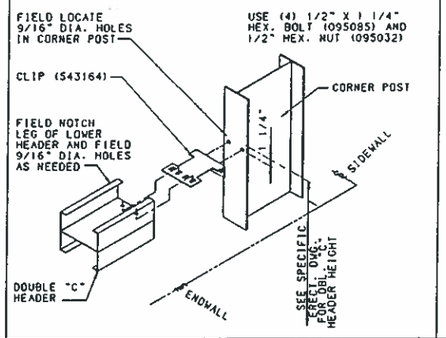
DETAIL D011 | DOUBLE "C" HEADER TO COLUMN OR POST ONE HEADER CONNECTION



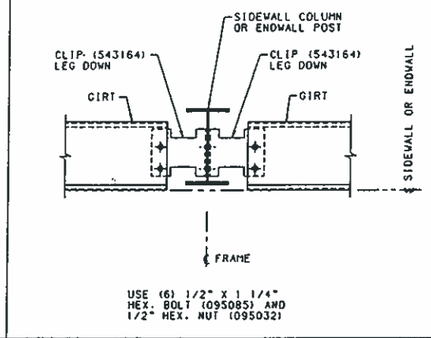
DETAIL D012 | DOUBLE "C" HEADER TO COLUMN OR POST TWO HEADER CONNECTION



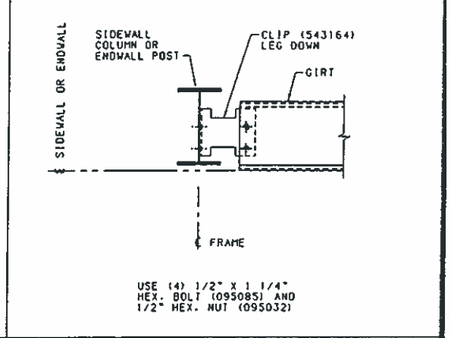
DETAIL D032 | DOOR POST BASE CLIP CONNECTION 9" DOOR POST



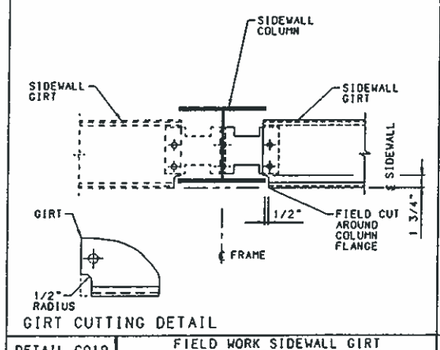
DETAIL D101 | EW DBL. "C" HDR. TO CNR. POST AT 6" SETBACK EW & 1" OR 8" SETBACK SW



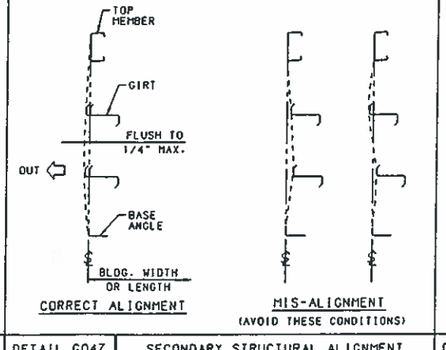
DETAIL G006 | DOUBLE GIRT TO COLUMN CONN.



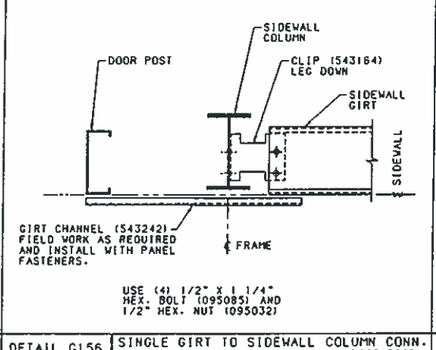
DETAIL G007 | SINGLE GIRT TO COLUMN CONN.



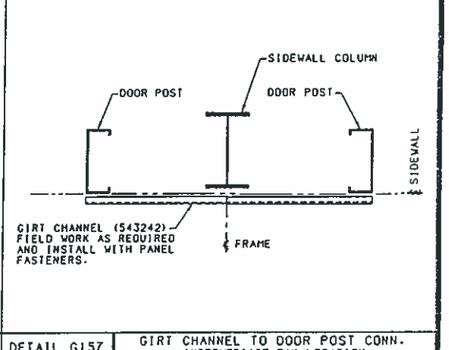
DETAIL G019 | FIELD WORK SIDEWALL GIRT COLUMN FLANGES WIDER THAN 10"



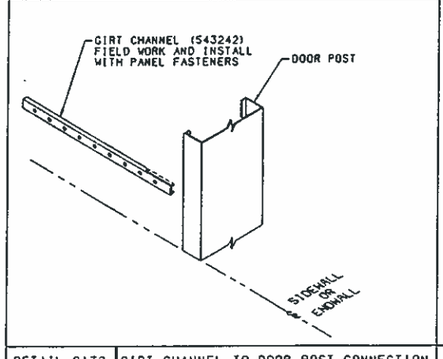
DETAIL G047 | SECONDARY STRUCTURAL ALIGNMENT



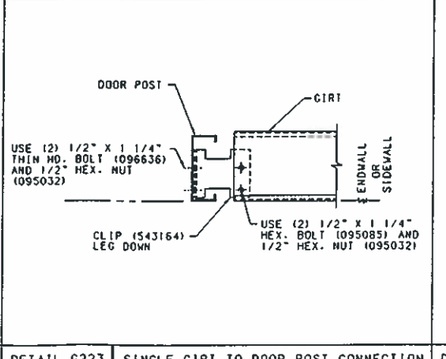
DETAIL G156 | SINGLE GIRT TO SIDEWALL COLUMN CONN. INTERM. BAY LOCATION - W/ ADJ. DOOR POST



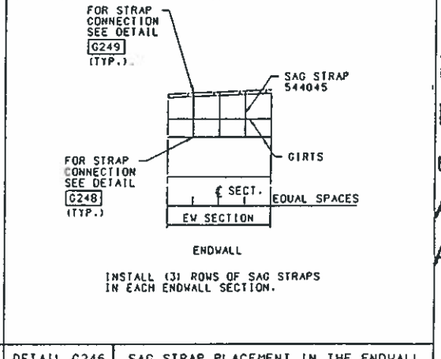
DETAIL G157 | GIRT CHANNEL TO DOOR POST CONN. INTERMEDIATE BAY LOCATION



DETAIL G172 | GIRT CHANNEL TO DOOR POST CONNECTION



DETAIL G223 | SINGLE GIRT TO DOOR POST CONNECTION



DETAIL G246 | SAG STRAP PLACEMENT IN THE ENDWALL

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Building will not be fabricated until one signed copy is returned
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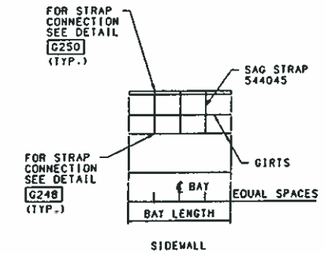
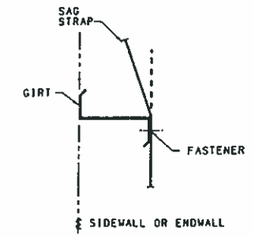
RECEIVED
JAN 3 1997

REVISION NO. 1	REVISION NO. 2		BUILDER:	PROJECT:	BUILDING ORDER DESCRIPTION:	DRAWING TITLE:	AG FILE NO:
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	WALL SECONDARY STRUCTURAL ELEVATION DETAIL SHEET	DATE: 12/27/96
DRAWN BY:	DRAWN BY:	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM					DRAWING NUMBER: D96-087989-05F
CHECKED BY:	CHECKED BY:						REV. 01



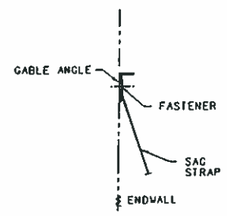
INSTALL (3) ROWS OF SAG STRAPS IN EACH SIDEWALL BAY.

DETAIL G247 | SAG STRAP PLACEMENT IN THE SIDEWALL



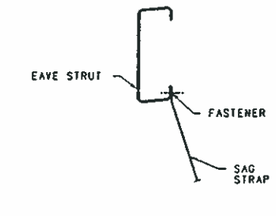
SAG STRAP IS FURNISHED 20' LONG AND MUST BE FIELD CUT TO LENGTH REQUIRED. ATTACH SAG STRAP TO THE GIRT WITH SELF DRILLING SCREW 097216. SPLICE SAG STRAPS AT GIRT LOCATIONS IF NECESSARY.

DETAIL G248 | SAG STRAP TO GIRT CONNECTION



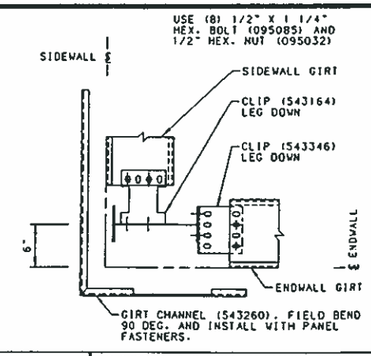
ATTACH SAG STRAP TO THE GABLE ANGLE WITH SELF DRILLING SCREW 097216.

DETAIL G249 | SAG STRAP TO GABLE ANGLE CONNECTION

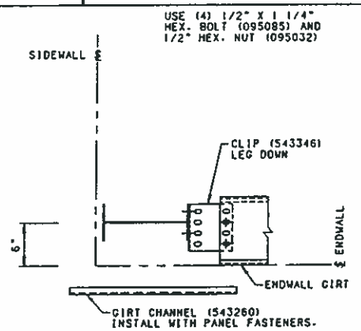


ATTACH SAG STRAP TO THE EAVE STRUT WITH SELF DRILLING SCREW 097216.

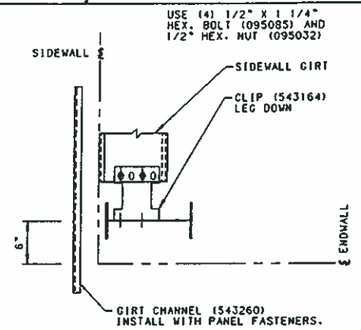
DETAIL G250 | SAG STRAP TO EAVE STRUT CONNECTION



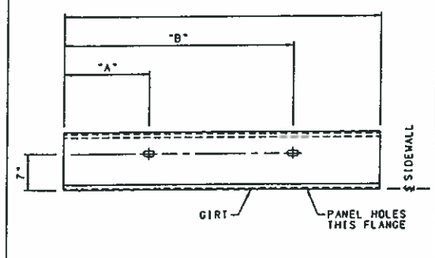
DETAIL G252 | 9 1/2" SW & 9 1/2" EW GIRTS TO CNR. POST 6" SETBACK ENDWALL



DETAIL G257 | 9 1/2" EW GIRT TO H-SECT. CNR. POST 6" SETBACK ENDWALL

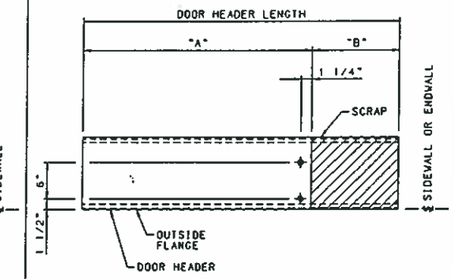


DETAIL G262 | 9 1/2" SW GIRT TO H-SECT. CNR. POST 6" SETBACK ENDWALL



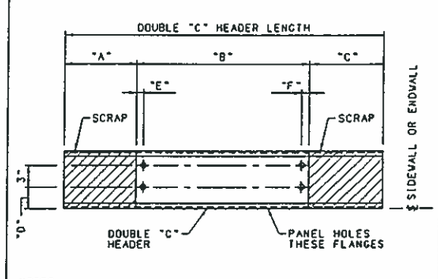
NOTES:
1. FIELD LOCATE 1" DIA. X 2" SLOTS AS SHOWN.
2. SEE "FIELD WORK SCHEDULE" FOR DIMENSIONS.

DETAIL X001 | FIELD SLOT SW GIRT FOR BRACE RODS



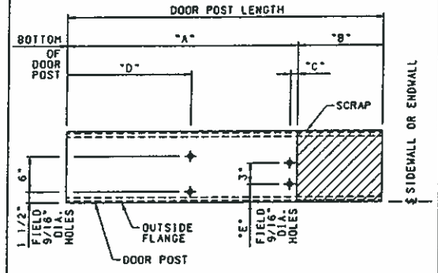
NOTES:
1. FIELD CUT DOOR HEADER AND LOCATE 9/16" DIA. HOLES AS SHOWN.
2. SEE "FIELD WORK SCHEDULE" FOR DIMENSIONS.

DETAIL X026 | FIELD WORK DOOR HEADER



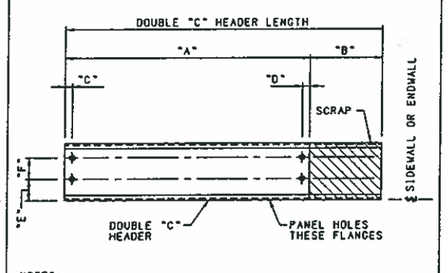
NOTES:
1. FIELD CUT DOUBLE "C" HEADER AND LOCATE 9/16" DIA. HOLES AS SHOWN.
2. SEE "FIELD WORK SCHEDULE" FOR DIMENSIONS.

DETAIL X027 | FIELD WORK DOUBLE "C" HEADER



NOTES:
1. FIELD CUT DOOR POST AND LOCATE HOLES AS SHOWN.
2. SEE "FIELD WORK SCHEDULE" FOR DIMENSIONS.

DETAIL X044 | FIELD WORK DOOR POST



NOTES:
1. FIELD CUT DOUBLE "C" HEADER AND LOCATE 9/16" DIA. HOLES AS SHOWN.
2. SEE "FIELD WORK SCHEDULE" FOR DIMENSIONS.

DETAIL X055 | FIELD WORK DOUBLE "C" HEADER

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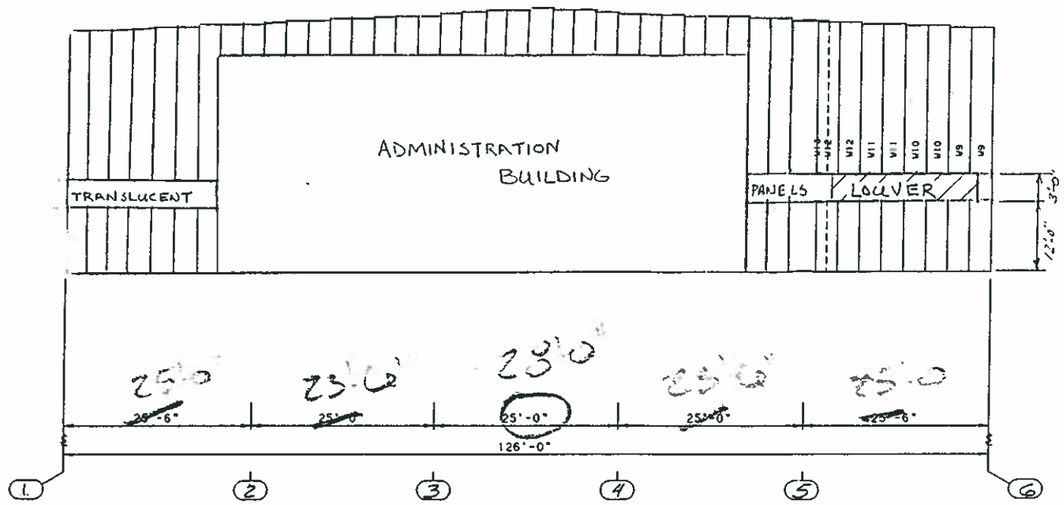
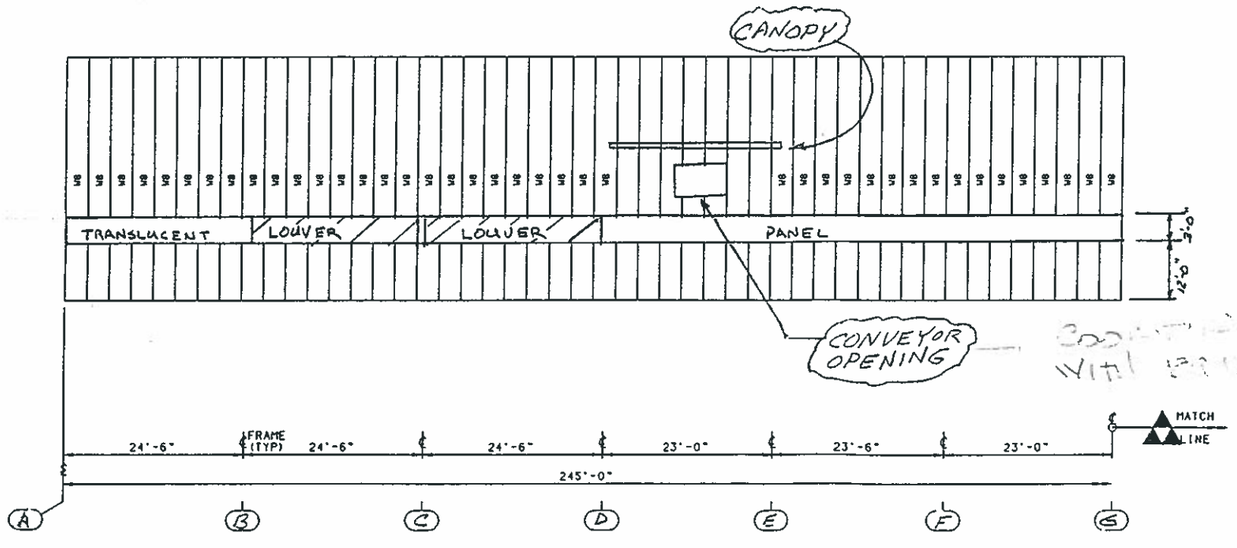
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	DRAWING TITLE: WALL SECONDARY STRUCTURAL ELEVATION DETAIL SHEET	AC FILE NO: GROUP: W DATE: 12/2/96 DRAWING NUMBER: D96-087989-05G REV. 01
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							



FRONT ENDWALL PANELING ELEVATION
AT GRID A



RIGHT SIDEWALL PANELING ELEVATION
AT GRID 6

STANDARD NOTES:

WP0010 INSTALL OVERHEAD DOOR TRIM FOR BRII WALL PANELS PER DRAWING 104219

WP0014 BRII WALL PANEL-TO-PANEL FASTENERS ARE 097364 (1/4 X 3/4 T-30 TORX SELF DRILLING SCREW).

WP0019 BRII WALL PANEL-TO-STRUCTURAL TOP/BASE FASTENERS ARE 097361 (11/32 X 7/8 T-45 TORX SCRUBOLT).

WP0028 FOR GENERAL BRII WALL PNL INFO. REFER TO THE FOLLOWING DWGS :

104217	-	GENERAL PANELING INFORMATION
105017	-	INSULATION AT TOP OF WALL-SIDEWALL
105018	-	INSULATION AT TOP OF WALL-ENDWALL
1080854	-	WALL PANEL LENGTH CALCULATIONS
1080873	-	GENERAL INSTALLATION TORX FASTENERS

WP0030 THE DIRECTION OF ERECTION FOR BUTLERIB II WALL PANEL IS LEFT-TO-RIGHT.

IMPORTANT APPEARANCE ITEM
FIELD TRIM INSULATION SO THAT THERE IS MAXIMUM OF 3" THICKNESS BETWEEN STRUCTURALS AND FLAT SURFACE OF WALL PANEL. WHEN TRIMMING INSULATION, BE CAREFUL NOT TO CUT VAPOR RETARDER.

WP0075 BRII WALL PANEL-TO-GIRT FASTENERS ARE 097361 (11/32 X 7/8 T-45 TORX SCRUBOLT).

UNPUNCHED DOOR SIDE GIRTS REQUIRE FIELD DRILLED 5/16" HOLES.

NOTE:
WALL PANELS WILL BE DIFFERENT TYPES ABOVE AND BELOW TRANSLUCENT PANELS/ LOUVERS TYPICAL OF ALL FOUR WALLS!

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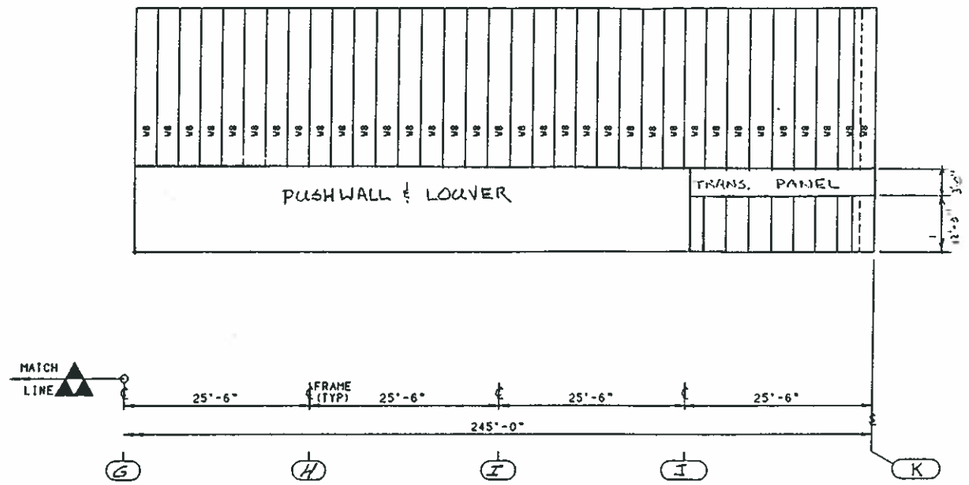
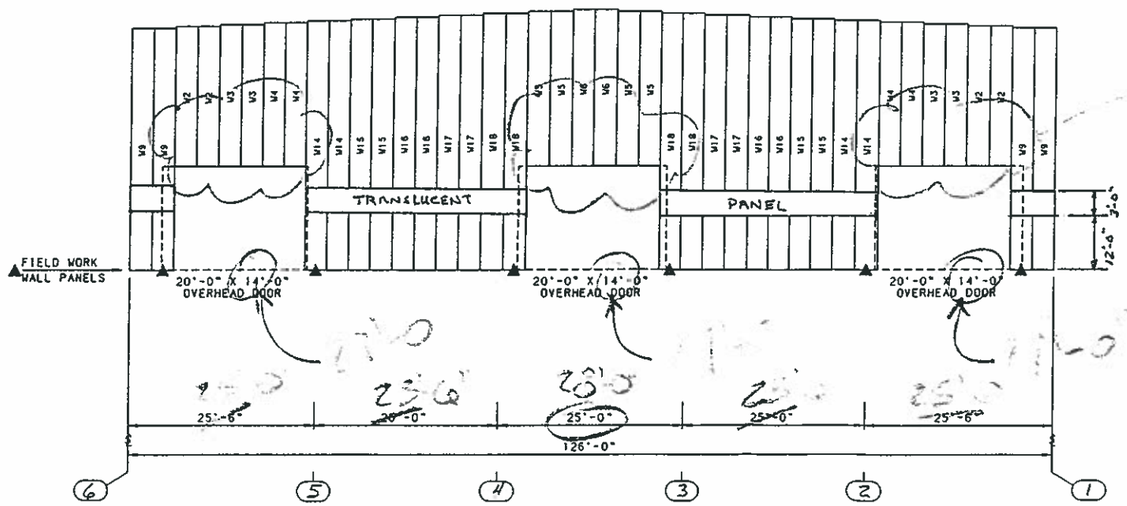
REVISION NO. 1	REVISION NO. 2						
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: 126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE9.5	DRAWING TITLE: WALL PANEL DRAWING
DRAWN BY:	DRAWN BY:						GROUP: W / DATE: 12/27/96
CHECKED BY:	CHECKED BY:						DRAWING NUMBER: D96-087989-06 / REV. 01

AC FILE NO:



RIGHT SIDEWALL PANELING ELEVATION
AT GRID 6



REAR ENDWALL PANELING ELEVATION
AT GRID K

RECEIVED
JAN 3 1997

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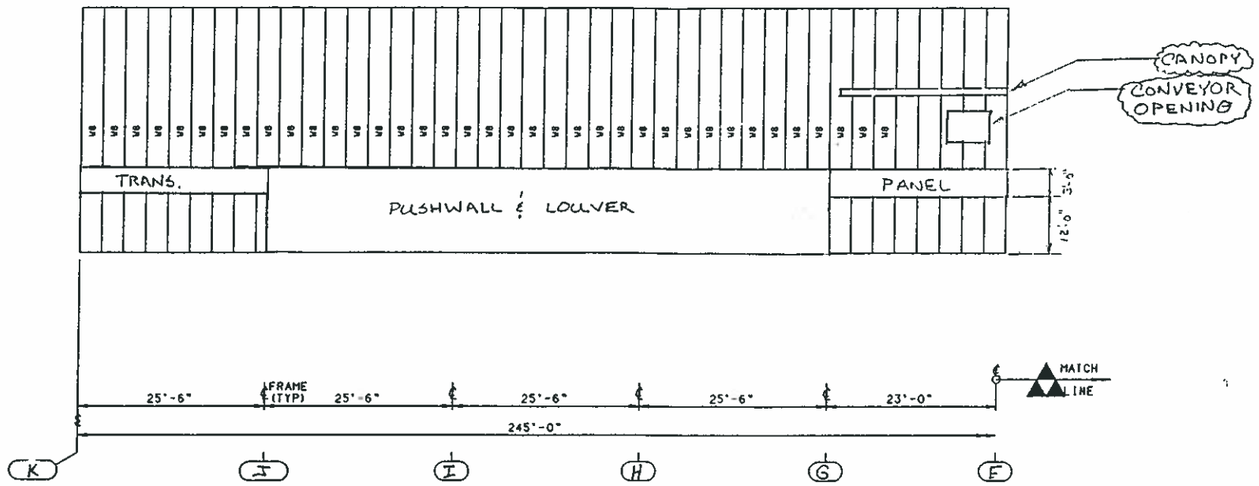
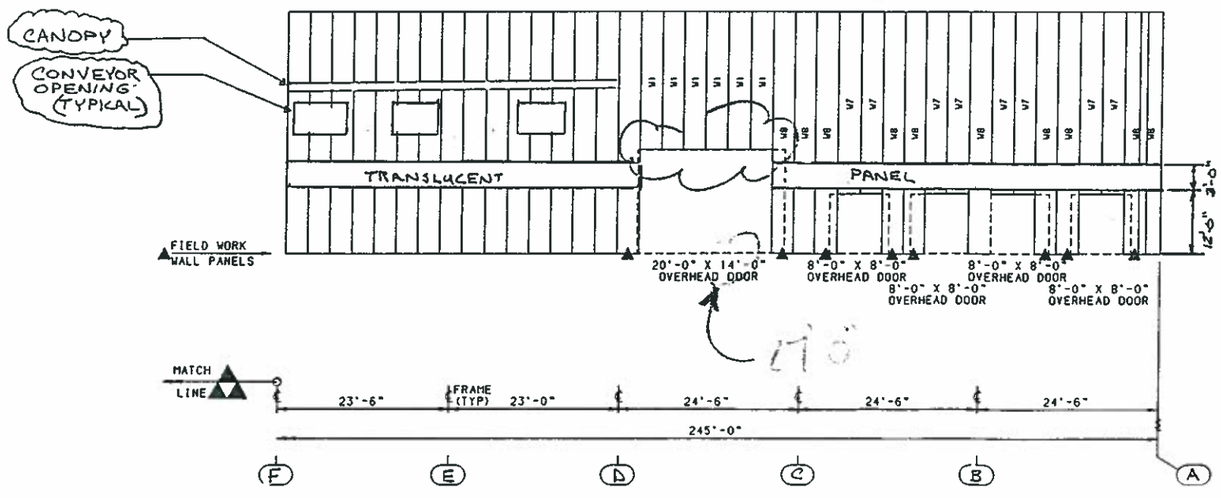
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	ROCKLAND RECYCLING ROCKLAND COUNTY, NY	126X245X33 LRF 40# Roof SL + 0#CLL 80 MPH EXP C ASCE95	WALL PANEL DRAWING	GROUP: W	DATE: 12/27/96
DRAWN BY:	DRAWN BY:	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM					DRAWING NUMBER: D96-087989-06A	REV. 01
CHECKED BY:	CHECKED BY:							



LEFT SIDEWALL PANELING ELEVATION
AT GRID 1



LEFT SIDEWALL PANELING ELEVATION
AT GRID 1

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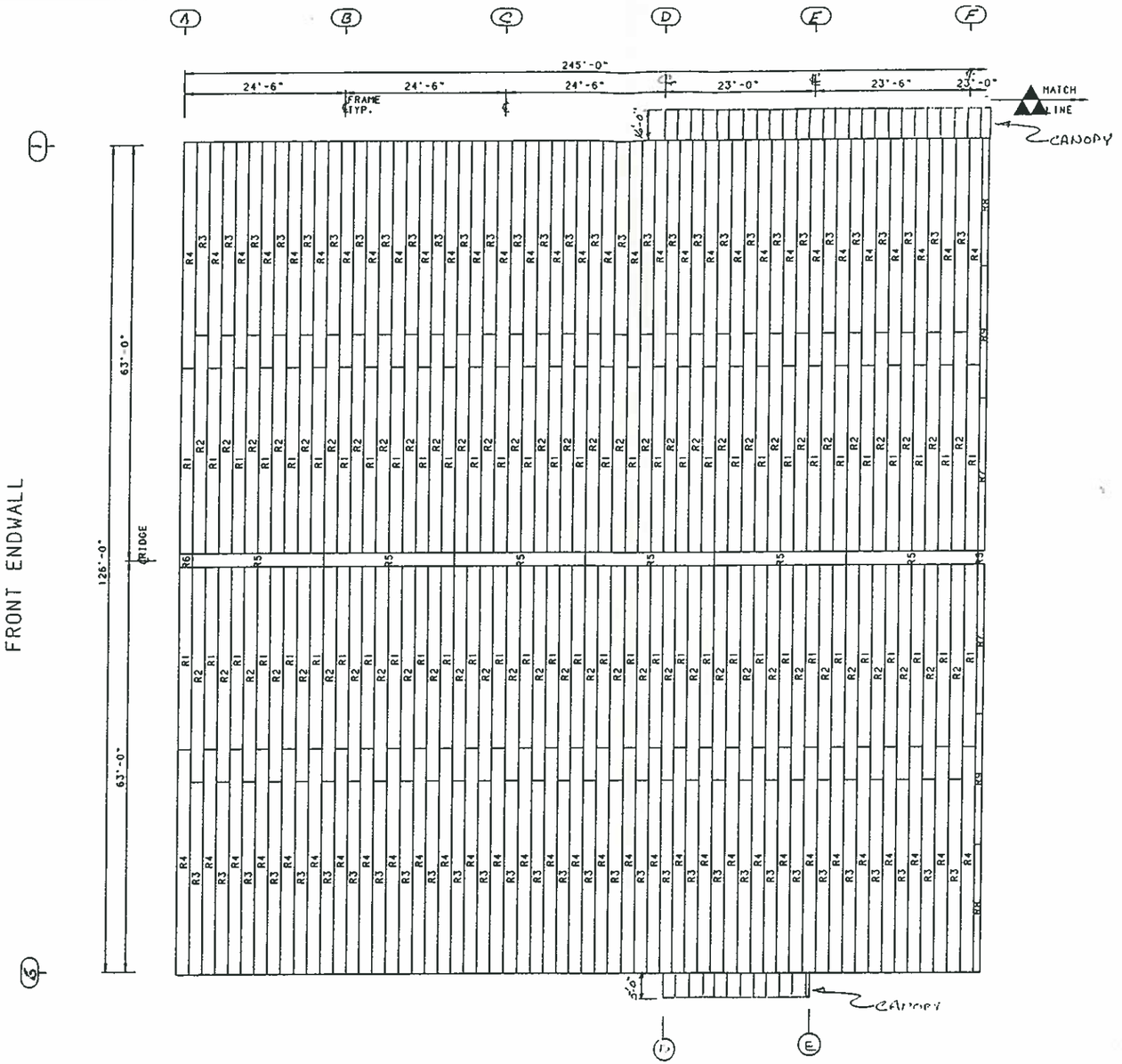
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							



ROOF PANEL SCHEDULE					
ID	PART NUMBER	SUFF.	LENGTH	DESCRIPTION	HOLE TO HOLE
R1	560105	643	345-7	MR24 SPLICE PANEL ALZN	28'-0 9/32"
R2	560105	643	406-0	MR24 SPLICE PANEL ALZN	33'-0 11/32"
R3	560118	643	358-5	MR24 EAVE PANEL ALZN	28'-10 21/32"
R4	560118	643	418-6	MR24 EAVE PANEL ALZN	33'-10 23/32"
R5	560157	645		MR24 RIDGE COVER	
R6	560173			MR24 RIDGE END COVER	
R7	560586	643	285-7	12" MR24 PANEL ALZN	23'-0 1/4"
R8	560591	643	238-4	12" MR24 PANEL ALZN	18'-10 9/16"
R9	560591	643	246-2	12" MR24 PANEL ALZN	20'-0 7/32"

STANDARD NOTES:

RP0031 REFER TO GENERAL ROOF INDEX DRAWING 104995 FOR ADDITIONAL ERECTION DRAWING REQUIREMENTS.

REFER TO DRAWING 1080876 AND/OR 1080877 WHEN FIELD WORK IS REQUIRED FOR VARIABLE-WIDTH ROOF PANELS.

RP0038 W A R N I N G
PANELS WITH PROTECTIVE OIL COATING ARE SLIPPERY. PROCEED WITH CAUTION. WIPE CLEAN IF NECESSARY.

RP0046 PANEL CLIP FASTENERS
USE SCRUBOLT 097196 (GREEN 3/8 X 1) FOR PANEL CLIP-TO-PURLIN CONNECTIONS.

RP0054 DIRECTION OF ERECTION FOR MR-24 PANELS ON LEFT SLOPE IS FRONT TO REAR OF ROOF SURFACE.

RP0055 DIRECTION OF ERECTION FOR MR-24 PANELS ON RIGHT SLOPE IS REAR TO FRONT OF ROOF SURFACE.

RP0059 MR24 RIDGE COVER IS FURNISHED IN 20' LENGTHS. FIELD CUT THE RIDGE COVER TO LENGTH AS REQUIRED.

RP0062 ROOF PANELS MUST BE ATTACHED TO ALL ROOF STRUCTURALS TO INSURE THE STRUCTURAL INTEGRITY OF THE ROOF. THIS INCLUDES ALL PURLINS ADDED FOR SPECIFIC LOADING CONDITIONS, ETC.

ENOUGH PANEL-TO-STRUCTURAL FASTENERS, CLIPS (IF MR-24/CMR-24) HAVE BEEN FURNISHED FOR ALL ROOF STRUCTURALS.

RP0073 HOLE TO HOLE DIMENSION IN THE ROOF PANEL SCHEDULE IS NORMALLY THE DISTANCE BETWEEN THE STRUCTUAL ATTACHMENTS AT EACH END OF ROOF PANEL (SEE DWG 000001). THIS MAY NOT BE TRUE FOR CUSTOM PANEL CONDITIONS.

FINISH FOR ROOF
TOP
FOR

TTP

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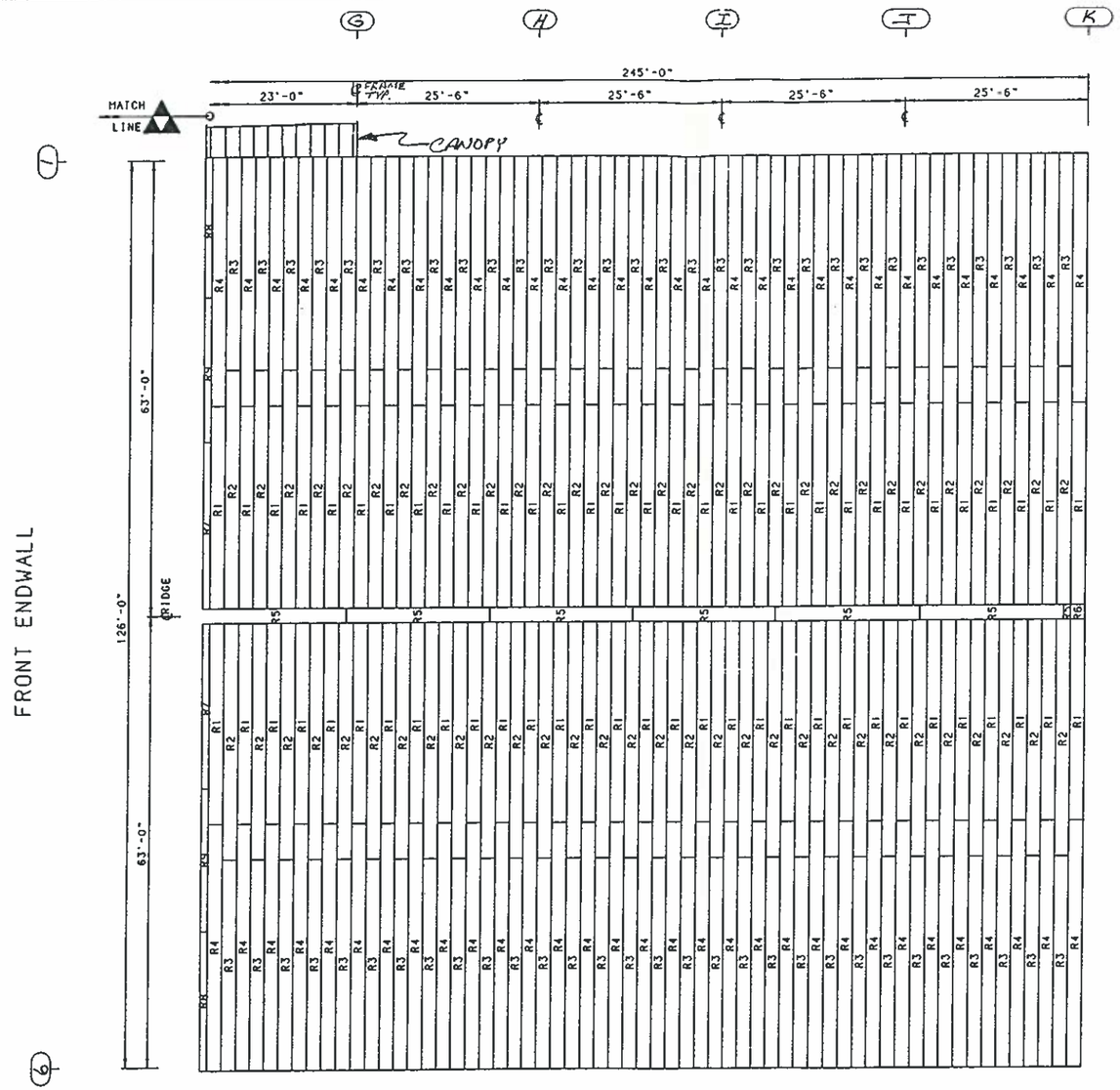
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							



ROOF PANEL SCHEDULE					
ID	PART NUMBER	SUFF.	LENGTH	DESCRIPTION	HOLE TO HOLE
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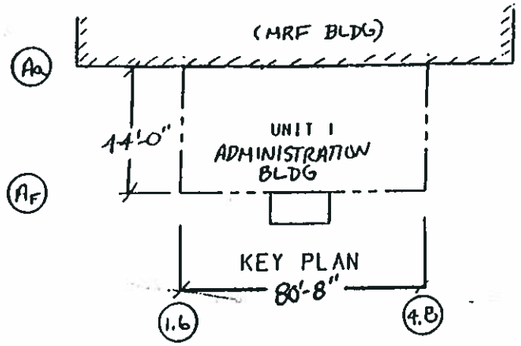
DRAWN BY:	DRAWN BY:							AC FILE NO: DATE: 12/27/96 REV. 01
CHECKED BY:	CHECKED BY:							

APPENDIX D3

Butler Drawings for Existing Area 3

(14 sheets)



SPECIFIC ERECTION DRAWING LIST

THE DRAWINGS LISTED BELOW HAVE BEEN CREATED BY COMPUTER SPECIFICALLY FOR YOUR ORDER TO ASSIST YOU IN PUTTING UP YOUR BUILDING. THESE SPECIFIC ERECTION DRAWINGS ARE THE SAME SIZE AS THIS SHEET AND CAN BE IDENTIFIED INDIVIDUALLY FROM THE TITLES AND DRAWING SEQUENCE NUMBERS THAT APPEAR IN THE LOWER RIGHT HAND CORNER OF EACH DRAWING.

DRAWING TITLE:		AS FILE NO.:
ROOF SECONDARY STRUCTURAL FRAMING PLAN		DATE: 07/16/01
	DRAWING NUMBER: D 83-123456-05L	REVISION: 02

TITLE

THE YEAR DURING WHICH YOUR ORDER WAS ENTERED

THE BUTLER ORDER NUMBER OF YOUR ORDER

DRAWING SEQUENCE NUMBER

REVISION LEVEL OF THE DRAWING. IF THE DRAWING HAS NEVER BEEN REVISED, 00 APPEARS HERE.

087996-00	COVER DRAWING
087996-01	SPECIFIC ANCHOR BOLT DRAWING
087996-01A	SPECIFIC ANCHOR BOLT DRAWING
087996-02	MEZZANINE LAYOUT DRAWING
087996-02A	MEZZANINE DETAILS DRAWING
087996-02B	MEZZANINE DETAILS DRAWING
087996-02C	MEZZANINE DETAILS DRAWING
087996-03	ROOF LAYOUT DRAWING
087996-03A	ROOF LAYOUT DRAWING
087996-03B	ROOF DETAILS DRAWING
087996-03C	ROOF DETAILS DRAWING
087996-04	FRAME CROSS SECTION DRAWING
087996-04A	FRAME CROSS SECTION DRAWING
087996-05	GREENHOUSE DETAILS DRAWING

FIELD WORK SUMMARY

WIND BRACING

FW0001 FIELD WORK MAY BE REQUIRED AT LOWER ROOF BEAM KNEE AREA FOR BRACING CLIP CONNECTION.

WALL SECONDARY

FW0008 FIELD LOCATE HOLES IN DOUBLE "C" HEADER FOR DOOR POST CONNECTION.

FW0010 FIELD LOCATE HOLES IN COLUMN OR POST FOR DOUBLE "C" HEADER CONNECTION IF REQUIRED.

FW0030 FIELD LOCATE SLOTS IN SIDEWALL GIRT FOR SIDEWALL ROD BRACING CONDITION.

FW0040 FIELD CUT AND LOCATE HOLES IN DOOR POST.

FW0042 FIELD CUT AND LOCATE HOLES IN DOOR HEADER.

FW0043 FIELD CUT AND LOCATE HOLES IN DOUBLE "C" HEADER.

FW0056 FIELD WORK GIRT CHANNEL AT INTERMEDIATE SIDEWALL COLUMN WITH ADJACENT DOOR POST(S).

FW0072 FIELD WORK GIRT CHANNEL AT DOOR POST.

COVER DRAWING NOTES

STANDARD NOTES:

CD0001 ATTACH PATENT PLATE 007849 TO THE WEB OF AN INTERMEDIATE FRAME COLUMN AT EYE LEVEL.

CD0002 PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING MANIFEST FOR POSSIBLE SUBSTITUTIONS.

CD0011 HIGH STRENGTH BOLTING:

ALL HIGH STRENGTH BOLTS ARE A-325-T WITH HEAVY HEX NUTS AND ARE TO BE INSTALLED USING THE "TURN-OF-THE-NUT" METHOD SPECIFIED IN THE NINTH EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" PER SECTION 8 D (1). A-325 BOLTS MAY BE INSTALLED WITHOUT WASHERS WHEN TIGHTENED BY THE "TURN-OF-THE-NUT" METHOD. IT IS THE RESPONSIBILITY OF THE ERECTOR TO ASSURE PROPER TIGHTNESS. SEE INSTALLATION OF A-325 BOLT DRAWING D-1080268 (GROUP 52-38).

CD0013 IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO THE MATERIALS SUPPLIED BY BUTLER MFG. CO. AND IS NOT INTENDED AS THE SEAL OF THE ENGINEER OF RECORD FOR THE ENTIRE PROJECT.

CD0017

MATERIALS	ASTM DESIGNATION	
STRUCT PLATE 1" & LESS	A-529	FY= 55KSI (GRADE 55)
STRUCT PLATE OVER 1"	A-529	FY= 50KSI (GRADE 50)
LIGHT GAGE/COLD FORMED	A-570	FY= 55KSI (GRADE 55)
BRACE RODS 3/4" & LESS	A-108	GRADE 1018
BRACE RODS OVER 3/4"	A-572	GRADE 50 OR GREATER
HOT ROLLED MILL SHAPES	A-36, A-572	FY= 36KSI, FY=50KSI
ROOF AND WALL PANELS	A-446	GRADE 45 OR GREATER
BOLTS	A-307 AND A-325	

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MGI Copy

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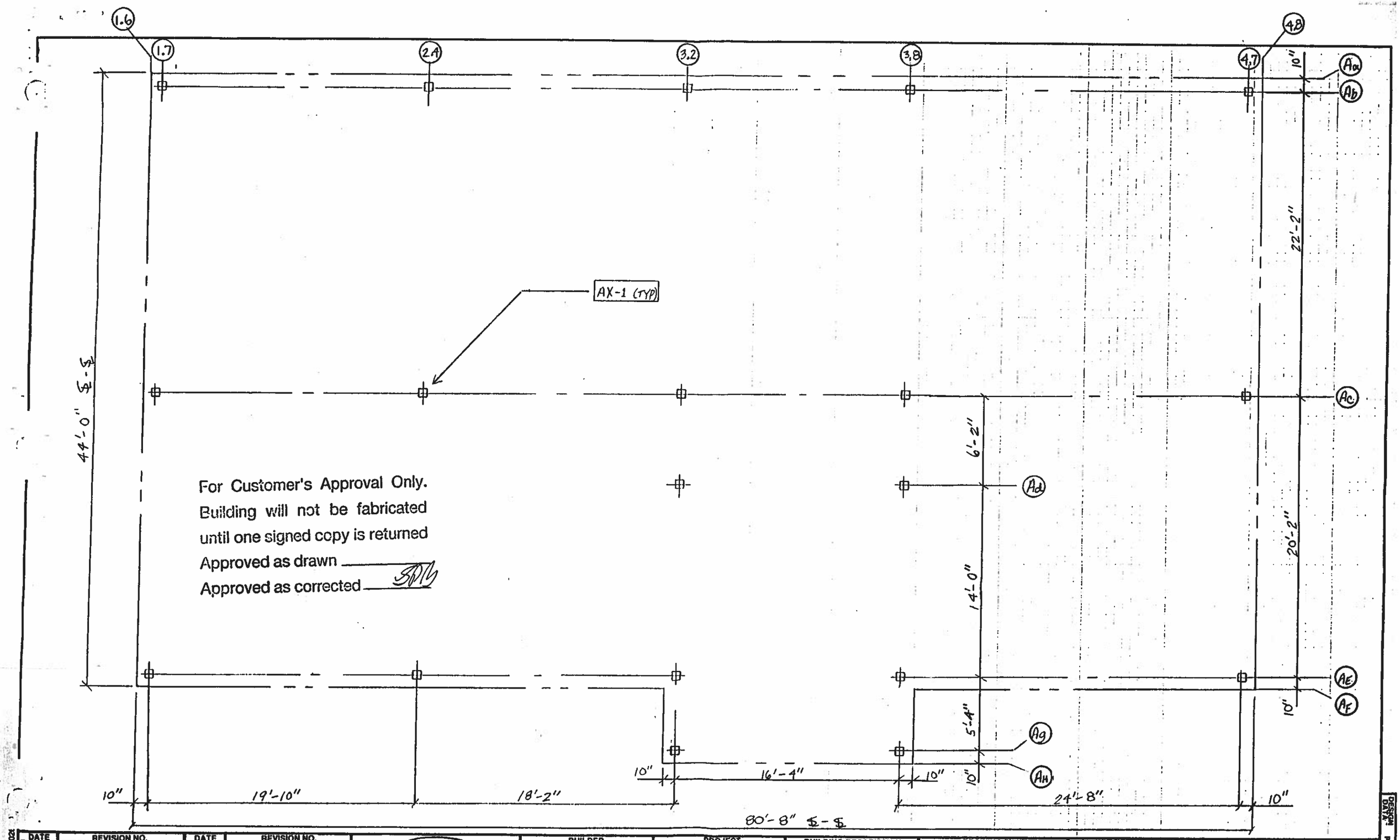
DRAWN BY:	DRAWN BY:							



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DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY, GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASIMS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: 12/28/96 / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	ANCHOR BOLT LAYOUT	B 087996-01 / 1

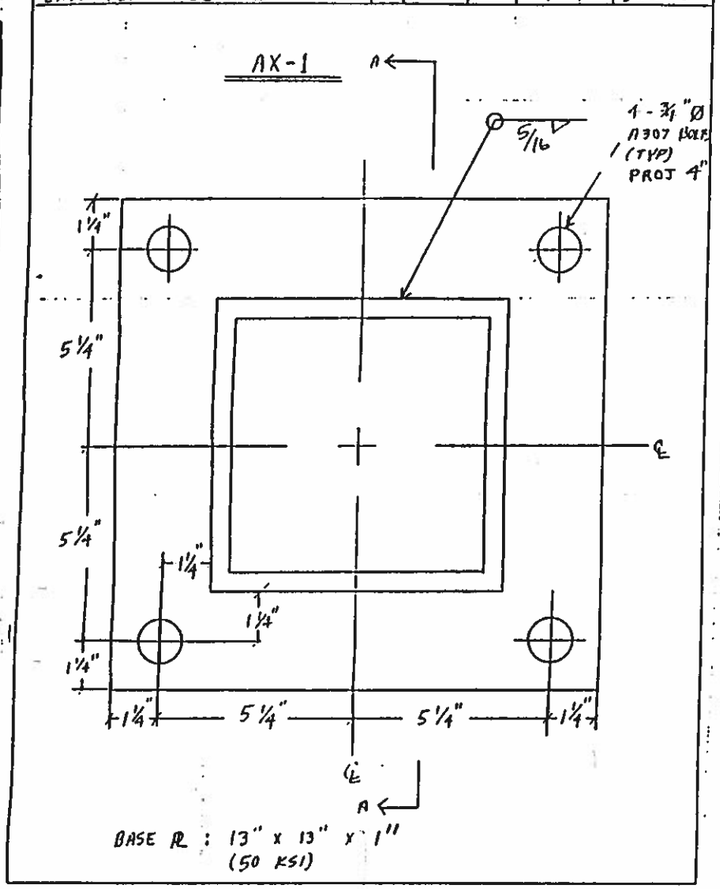
FORM NO. 025 — DESIGN DATA — PAGE

BUTLER MFG. COMPANY ENGINEERING DATA

FILE NO 087996

JOB: BORGHESI -- ADMINISTRATION BLDG | MADE BY: DASIMS | CHD BY | DATE: 12/18/96 | PAGE | OF

BASE PLATE DETAIL | REVISION 1 | 2 | DIV: BULK S.



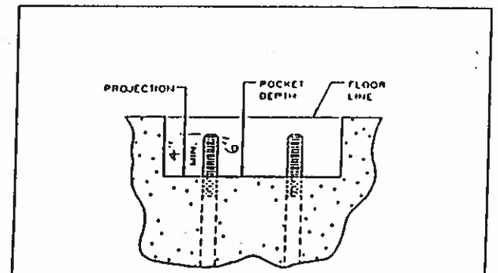
BASE PL : 13" x 13" x 1"
(50 KSI)

BUTLER MFG. COMPANY ENGINEERING DATA

FILE NO 087996

JOB: BORGHESI ADMINISTRATION BLDG | MADE BY: DASIMS | CHD BY | DATE: 12/19/96 | PAGE | OF

SECTION THROUGH BASE PLATE | REVISION 1 | 2 | DIV: BULK S



SECTION A-A | COLUMN POCKET SECTION

BORGHESI -- ADMINISTRATION BUILDING
FRAME REACTIONS

ORDER # 087996 REV NO. 2
SHOP BY: DASIMS DATE 09/4/96
CHECKED BY:

FRAME REACTIONS

POST LOCATION (GRIDS)	DEAD LOAD (ROOF + 2ND FLOOR) H	V	Z	SNOW LOAD (ROOF) H	V	Z	FLOOR LIVE (2ND FLOOR) H	V	Z	EARTHQUAKE H	V	Z	WIND + H DIRECTION CASE 1 H	V	Z	WIND - H DIRECTION CASE 1 H	V	Z
1.7-Ab	0	7	1	-1	28	-1	0	5	1	-3	-5	-4	-1	-7	0	2	-4	0
2.4-Ab	0	15	0	0	44	1	1	10	0	-3	-2	-2	-2	-11	0	2	-11	0
3.2-Ab	0	16	0	0	34	1	0	21	0	-3	-1	-2	-2	-8	0	2	-8	0
3.8-Ab	0	20	0	-1	46	1	1	26	0	-3	-1	-2	-2	-12	0	2	-12	0
4.7-Ab	-1	8	1	1	31	-1	-1	7	1	-3	-4	-3	-2	-5	0	2	-8	0
1.7-Ac	1	16	-1	-1	24	1	2	22	-1	-3	-3	-4	-2	-10	0	2	-6	0
2.4-Ac	-1	29	0	0	43	-1	-1	43	0	-3	1	-2	-2	-15	0	2	-15	0
3.2-Ac	-1	17	0	0	34	-1	-1	23	0	-3	-3	-2	-2	-10	0	2	-9	0
3.8-Ac	1	29	0	-1	48	-1	2	42	0	-3	-3	-1	-2	-14	0	2	-14	0
4.7-Ac	-1	20	-1	1	26	1	-2	27	-1	-3	3	-3	-2	-8	0	2	-11	0
3.2-Ad	1	6	0	1	3	-1	1	6	1	-2	-4	-3	-1	-6	-1	1	-1	1
3.8-Ad	-1	6	0	-1	3	-1	-1	6	1	-2	3	-3	-1	-1	1	1	-6	-1
1.7-Ae	1	9	-1	-1	5	0	1	11	-1	-2	-3	-3	-1	-6	0	2	-4	0
2.4-Ae	0	15	0	0	8	0	-1	21	0	-3	2	-2	-1	-9	0	2	-9	0
3.2-Ae	-1	7	-1	0	2	-1	-1	9	-1	-3	3	-3	-1	-2	0	2	-4	1
3.8-Ae	1	10	-1	-1	4	-1	2	14	-1	-3	-3	-3	-2	-6	1	2	-3	-1
4.7-Ae	-1	11	-1	1	6	0	-2	14	-1	-3	3	-2	-2	-5	0	1	-8	0
3.2-Ag	0	3	0	0	8	0	0	1	0	-1	8	-1	-1	-4	0	1	-5	0
3.8-Ag	0	4	0	0	9	1	0	1	0	-1	8	-1	-1	-4	0	1	-4	0

POST LOCATION (GRIDS)	WIND + H DIRECTION CASE 2 H	V	Z	WIND - H DIRECTION CASE 2 H	V	Z	WIND + Z DIRECTION CASE 1 H	V	Z	WIND + Z DIRECTION CASE 1 H	V	Z	WIND - Z DIRECTION CASE 2 H	V	Z	WIND + Z DIRECTION CASE 2 H	V	Z
1.7-Ab	-2	-5	0	2	-3	0	0	-2	3	0	-9	-3	0	1	3	0	-8	-3
2.4-Ab	-2	-7	0	2	-8	0	0	-9	2	0	-13	-2	0	-6	2	0	-9	-3
3.2-Ab	-2	-6	0	2	-5	0	0	-7	2	0	-9	-1	0	-5	1	0	-6	-2
3.8-Ab	-2	-8	0	2	-6	0	0	-11	2	0	-13	-1	0	-7	1	0	-9	-2
4.7-Ab	-2	-3	0	2	-6	0	0	-3	3	0	-10	-3	0	-1	3	0	-8	-3
1.7-Ac	-2	-7	0	2	-3	0	0	-10	3	0	-6	-3	0	-7	3	0	-3	-3
2.4-Ac	-2	-9	0	2	-9	0	0	-15	1	0	-14	-1	0	-10	1	0	-9	-1
3.2-Ac	-2	-8	0	2	-7	0	0	-7	1	0	-12	-1	0	-5	1	0	-10	-1
3.8-Ac	-2	-9	0	2	-10	0	0	-11	1	0	-16	-1	0	-8	1	0	-12	-1
4.7-Ac	-2	-4	0	2	-7	0	0	-11	3	0	-7	-3	0	-8	3	0	-4	-3
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3.8-Ad	-1	1	1	1	-6	-1	0	-1	3	0	-6	-3	0	1	3	0	-5	-2
1.7-Ae	-2	-5	0	1	-3	0	0	-7	2	0	-4	-2	0	-6	2	0	-2	-2
2.4-Ae	-2	-7	0	1	-7	0	0	-11	2	0	-8	-2	0	-7	3	0	-5	-1
3.2-Ae	-2	-2	0	1	-2	1	0	-3	3	0	-2	-3	0	1	3	0	2	-2
3.8-Ae	-1	-2	1	3	2	-1	1	-5	3	0	-4	-3	1	-1	3	0	-1	-2
4.7-Ae	-2	-3	0	2	-7	0	-1	-8	2	-1	-5	-2	-1	-6	2	-1	-4	-2
3.2-Ag	-1	-5	0	1	-7	0	0	-9	1	0	2	-1	0	-12	1	0	-2	-1
3.8-Ag	-1	-8	0	1	-7	0	0	-9	1	0	2	-1	0	-13	1	0	-3	-1

REACT.XLS

@ Ac-3.2
can 13"x13"x1"
Base PL be used?

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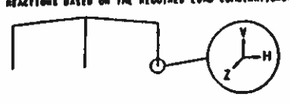
Building will not be fabricated
until one signed copy is returned
Approved as drawn
Approved as corrected SCB

REACTION NOTES:
1. THE VERTICAL (V) AND HORIZONTAL (H) AND Z) REACTION ARE STATED IN KIPS. (1 KIP = 1000 POUNDS) POSITIVE DIRECTION IS AS SHOWN IN THE FOLLOWING DIAGRAM.
2. MOMENT REACTIONS ARE STATED IN INCH-KIPS AND ARE POSITIVE IN A CLOCKWISE DIRECTION.
3. THE FORCE ON THE ANCHOR BOLTS OR FOUNDATION WILL BE IN THE OPPOSITE DIRECTION TO THAT SHOWN.
4. MAXIMUM REACTION SUMMARY IS THE MAXIMUM POSITIVE AND NEGATIVE REACTIONS BASED ON THE REQUIRED LOAD COMBINATIONS.



DESIGN DATA PAGE

DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASIMS	DRAWN BY:	ENG. APPR.:
					BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	ANCHOR BOLT DETAILS & REACTIONS	DATE:	REV NO.	CHECKED BY:	DATE:
									DRAWING NUMBER			REV. NO.
									B 087996 - 01 A			

1.6 1.7 2.4 3.2 3.8 4.7 1.0

1'-4" MAXIMUM OVERHANG

17'-0"

F (SIM)

F (SIM)

100

STAIRWAY OPENING

18'-0½"

180

R101 (TYP)

181

W18X35

101

Detail for support of slab and CMU

102

W18X35

103

Provide framing for landing and stair stringer support

STAIRWAY OPENING

192

W18X35

R101 (TYP)

182

183 184 185 186 187 188

7'-0"

ELEVATOR OPENING

190

6'-8"

189

W18X35

191

W18X35

22'-2"

111

113

44'-0" E-E

104 105 106 107

115

114

2'-7" 11'-2" 2'-7"

10'-10" RADIUS (S-TYPE EXTENSIONS)

20'-2"

112

116 117

OPEN TO BELOW

E E

E E

108 109 110

F F

F F

R100 (TYP)

A_E A_F A_G A_H

10" 19'-10" 18'-2" 10" 16'-1" 10" 10" 24'-8" 10"

80'-8" E-E

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DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASIMS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: 12/19/96 / DRAWING NUMBER / REV. NO.
					BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	MEZZANINE LAYOUT	B 087996-02

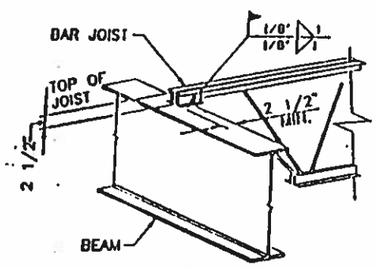
FORM NO. 0291

MEZZANINE BEAM SCHEDULE

BEAM	SECTION	TOP OF STEEL ELEVATION ** (AFF)	END CONNECTION DETAIL
100	W18 X 35	11'-6"	MX - 1
101	W18 X 35	11'-6"	MX - 1
102	W18 X 35	10'-8 3/8"	MX - 1 (SIM)
103	W24 X 55	11'-6"	MX - 2
104	W18 X 35	11'-6"	MX - 1
105	W18 X 35	11'-6"	MX - 1
106	W18 X 35	11'-6"	MX - 1
107	W24 X 55	11'-6"	MX - 2
108	W18 X 35	11'-6"	MX - 1
109	W18 X 35	11'-6"	MX - 1
110	W18 X 35	11'-6"	MX - 1
111	W18 X 35	11'-8 1/2"	MX - 3
112	W12 X 19	11'-8 1/2"	MX - 6
113	W18 X 35	11'-8 1/2"	MX - 3
114	W12 X 19	11'-8 1/2"	MX - 6
115	W12 X 19	11'-6"	MX - 4
116	W12 X 19	11'-8 1/2"	MX - 5
117	W12 X 19	11'-8 1/2"	MX - 5
180	W18 X 35	11'-6"	MX - 8
181	W18 X 35	11'-8 1/2"	MX - 7
182	W18 X 35	11'-8 1/2"	MX - 8
183	W12 X 19	11'-8 1/2"	MX - 9
184	W12 X 19	11'-8 1/2"	MX - 9
185	W12 X 19	11'-8 1/2"	MX - 9
186	W12 X 19	11'-8 1/2"	MX - 9
187	W12 X 19	11'-8 1/2"	MX - 9
188	W18 X 35	11'-8 1/2"	MX - 9
189	W18 X 35	11'-6"	MX - 10
190	W12 X 19	11'-8 1/2"	MX - 11
191	W18 X 35	11'-8 1/2"	MX - 7
192	W18 X 35	11'-6"	MX - 6

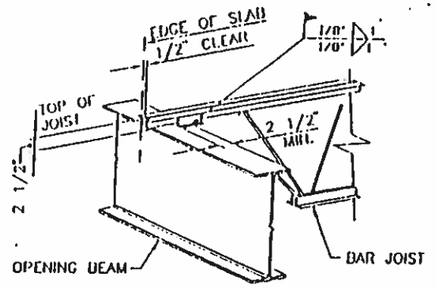
** ALL ELEVATIONS BASED ON A CONCRETE DECK OF 3 1/2"

ALL TUBES 46 KSI
ALL BEAMS 50 KSI



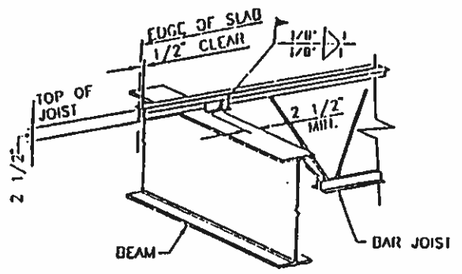
REV. DATE: 09/20/00 | REV. NO. 00

DETAIL R100 — TYPICAL JOIST BEARING



REV. DATE: 09/20/00 | REV. NO. 00

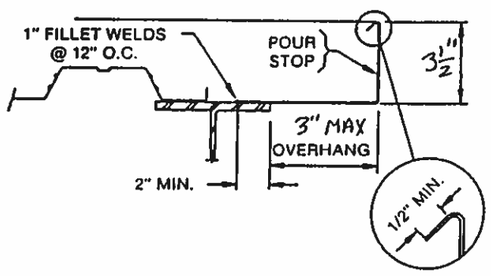
DETAIL R101 — CHORD EXTENDED AT FRAMED OPENING



REV. DATE: 09/20/00 | REV. NO. 00

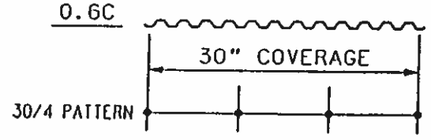
DETAIL R102 — EXTENDED TOP CHORD

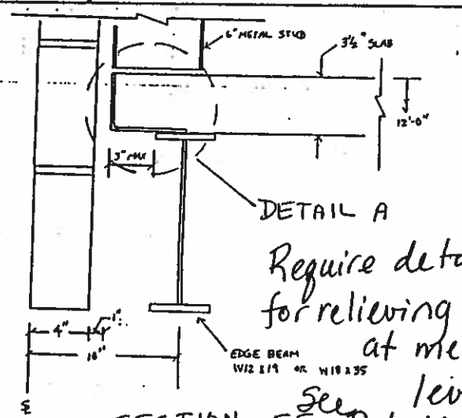
DETAIL @ POUR STOP



DETAIL A

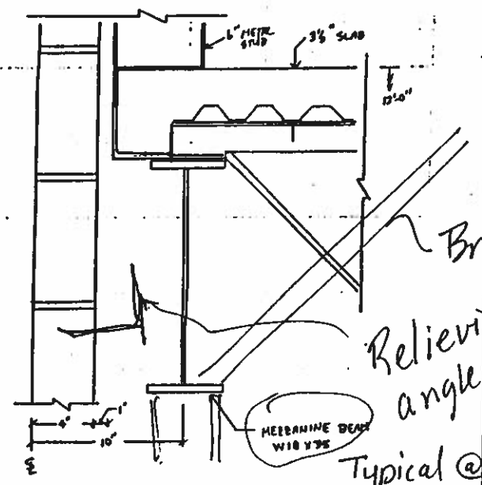
C-DECK FASTENER LAYOUT





SECTION E-E

Require details for relieving angles at mezz. level. See Details A/RA8, D/RA9 etc.



SECTION F-F

Brace?

Relieving angles

Typical @ bottom flange of outer beams: is the beam designed for lateral load from stud wall below? Is lateral brace needed?

MEZZANINE NOTES

1. ALL JOISTS = 18K3
2. JOIST SPACING = 2'- 6" (TYP)
3. 2 ROWS JOIST BRIDGING TYP. AT ALL SPANS > 18' -0"
4. 1 ROW JOIST BRIDGING TYP. AT ALL SPANS < 18' -0"
5. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF BEAM OR COLUMN
6. DECK MATERIAL = 0.6C22 GALVANIZED
7. TYPE 16 POUR STOP TYPICAL AT ALL EDGE BEAMS AND OPENINGS (SEE DETAIL)
8. FASTENER LAYOUT = 30/4 PATTERN (SEE DETAIL)

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					BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	MEZZANINE DETAILS	DATE:	REV. NO. CHECKED BY:	DATE:
									DRAWING NUMBER		REV. NO.
									B	087996-02A	

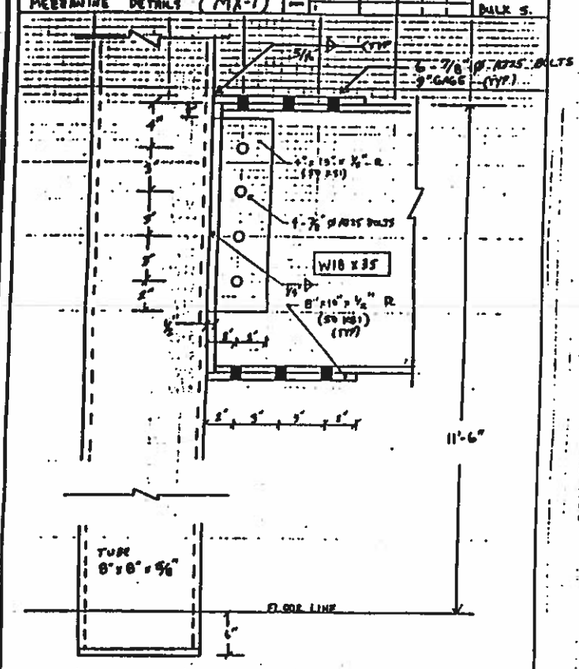
FORM NO. 6851-1/83

DATA PAGE

BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG

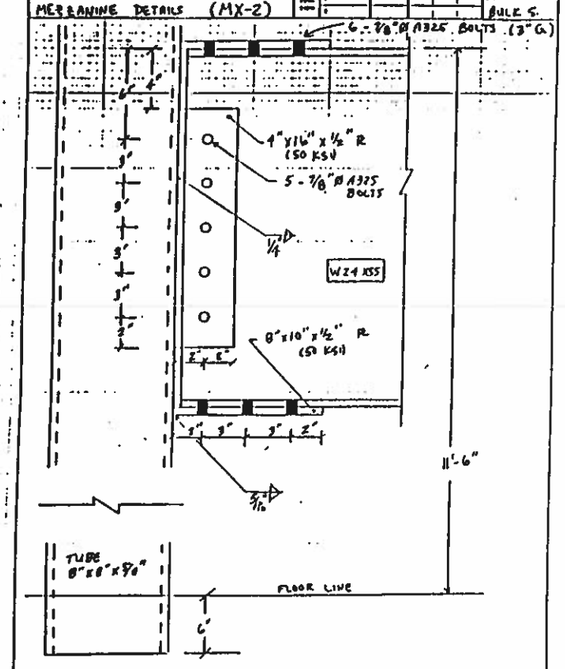
MEZZANINE DETAILS (MX-1)



BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG

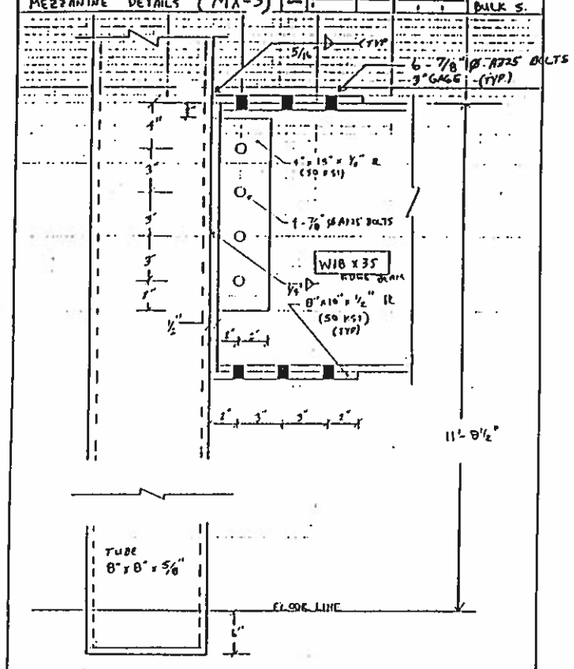
MEZZANINE DETAILS (MX-2)



BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG

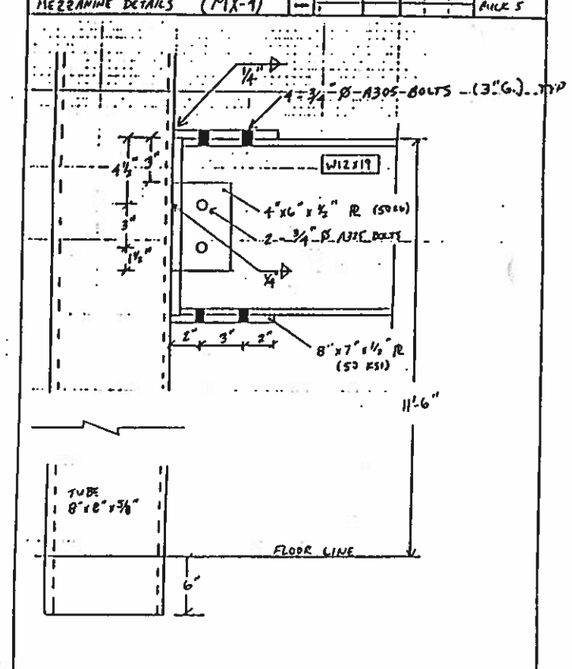
MEZZANINE DETAILS (MX-3)



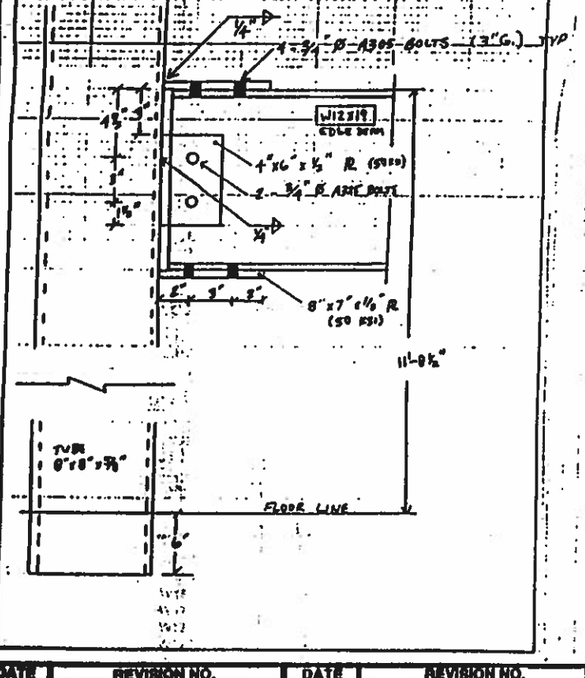
BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG

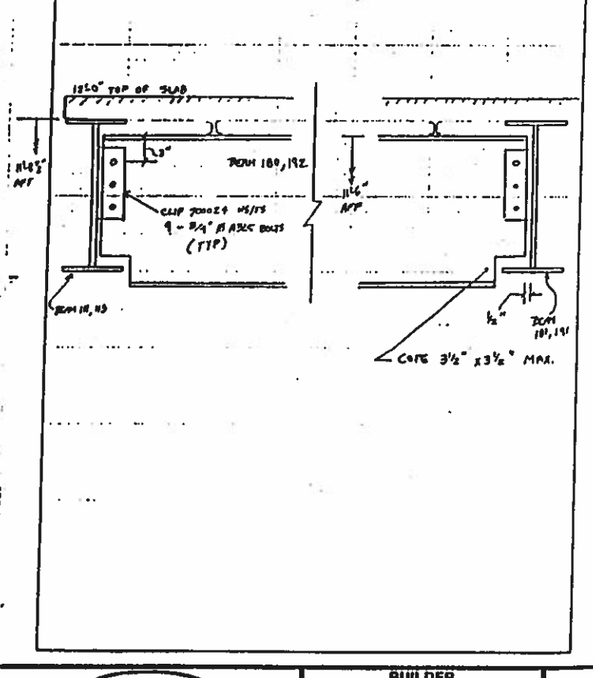
MEZZANINE DETAILS (MX-4)



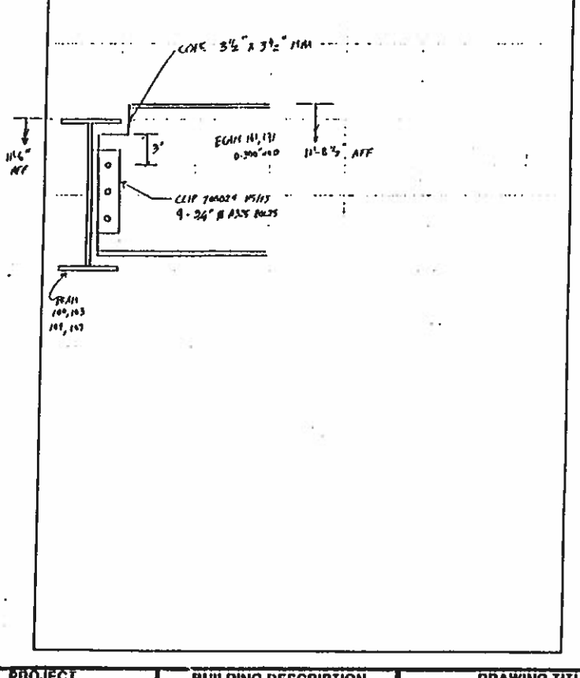
MEZZANINE DETAILS (MX-5)



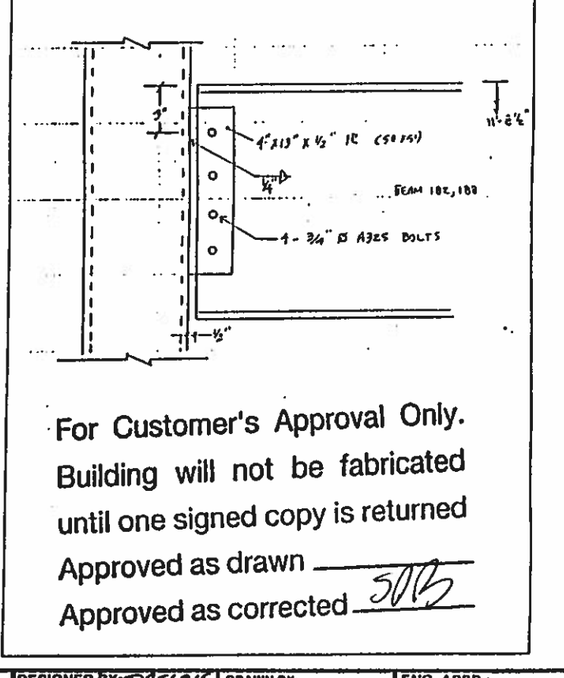
MEZZANINE DETAILS (MX-6)



MEZZANINE DETAILS (MX-7)



MEZZANINE DETAILS (MX-8)



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					BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	MEZZANINE DETAILS	DATE: / REV NO. / CHECKED BY: / DATE:
									DRAWING NUMBER: B 087996-020 / REV. NO.

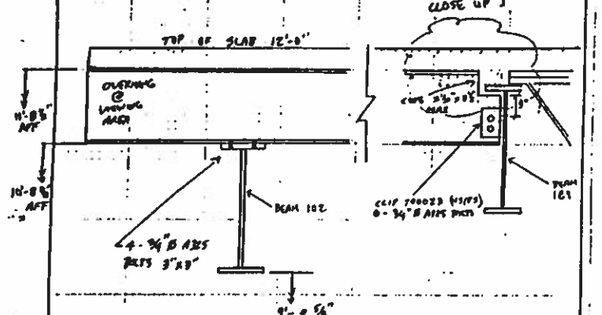
FORM NO. 0881-

BUTLER MFG. COMPANY ENGINEERING DATA

087996

BORGHESI -- ADMIN BLDG | DESIGN BY: DASIMS | CHK BY | DATE: 12 | 30 | 96 | PAGE | BY

MEZZANINE DETAILS (MX-9) | BULK S

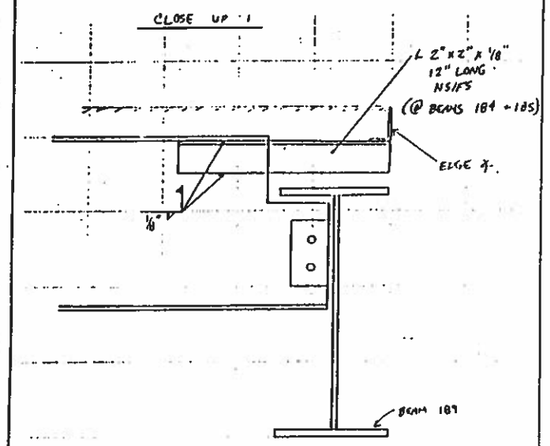


BUTLER MFG. COMPANY ENGINEERING DATA

087996

BORGHESI -- ADMIN BLDG | DESIGN BY: DASIMS | CHK BY | DATE: 12 | 30 | 96 | PAGE | BY

BULK S

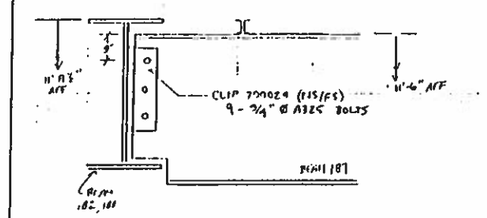


BUTLER MFG. COMPANY ENGINEERING DATA

087996

BORGHESI -- ADMIN BLDG | DESIGN BY: DASIMS | CHK BY | DATE: 12 | 30 | 96 | PAGE | BY

MEZZANINE DETAILS (MX-10) | BULK S

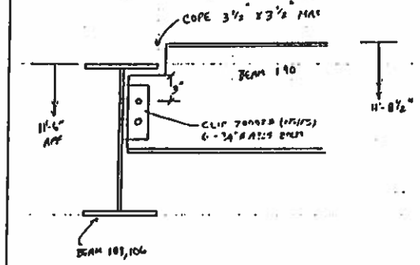


BUTLER MFG. COMPANY ENGINEERING DATA

087996

BORGHESI -- ADMIN BLDG | DESIGN BY: DASIMS | CHK BY | DATE: 12 | 30 | 96 | PAGE | BY

MEZZANINE DETAILS (MX-11) | BULK S



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DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY, GENERAL OFFICES–KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASIMS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	MEZZANINE DETAILS	B 087996 – 02C

FORM NO. 0081

DATA PAGE

JOIST EXTENSIONS 4'-4" MAX

JOIST SPACING @ 5'-0"

2250# RTU #2

1500# RTU #1

ROOF HATCH

ELEVATOR PENTHOUSE

7'-0"

6'-8"

1'-6"

3'-0"

3'-6"

22'-2"

20'-2"

44'-0"

10"

19'-10"

18'-2"

16'-1"

21'-8"

80'-8" Ł-Ł

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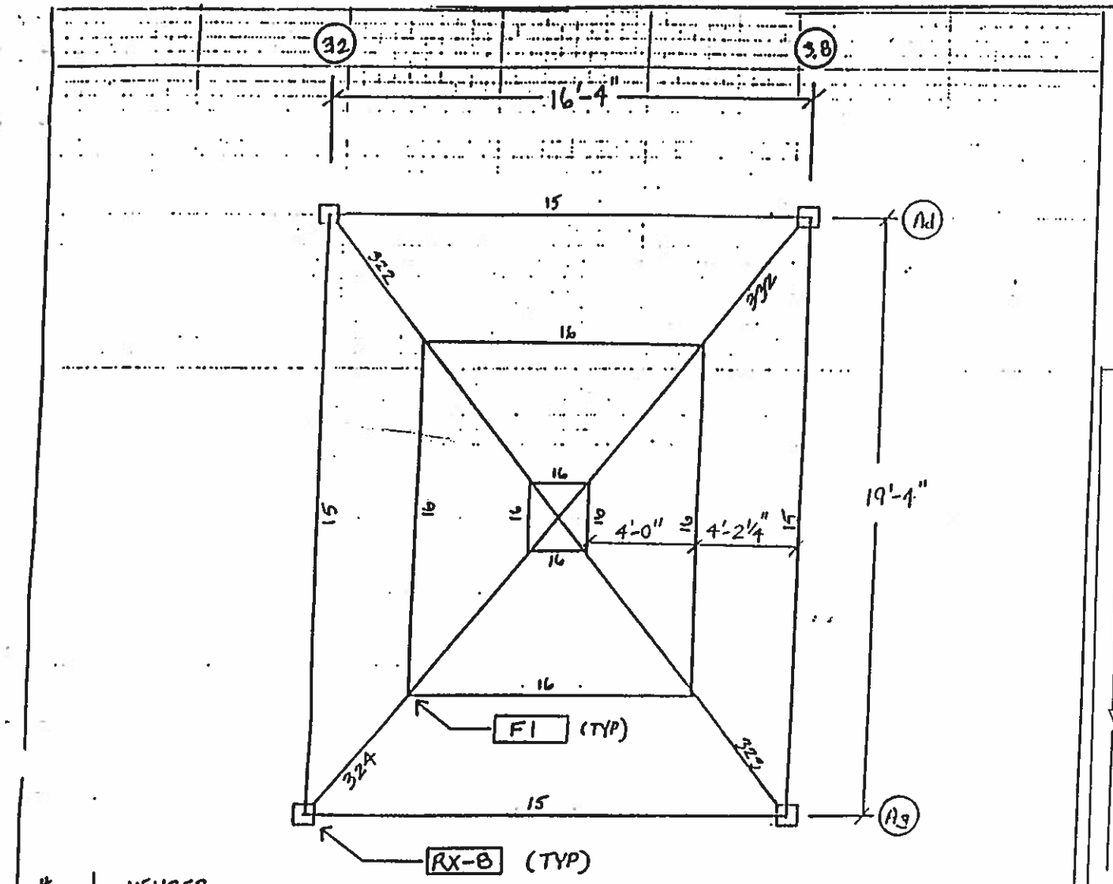
DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASIMS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: 12/10/96 / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	ROOF LAYOUT	B 087996 - 03

FORM NO. 4-1-1

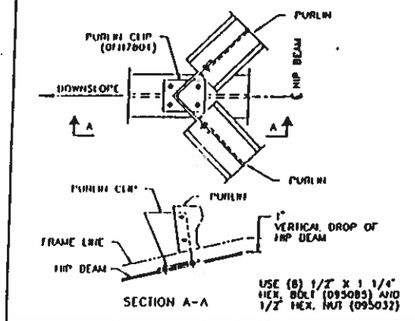
DESIGN DATA

PAGE

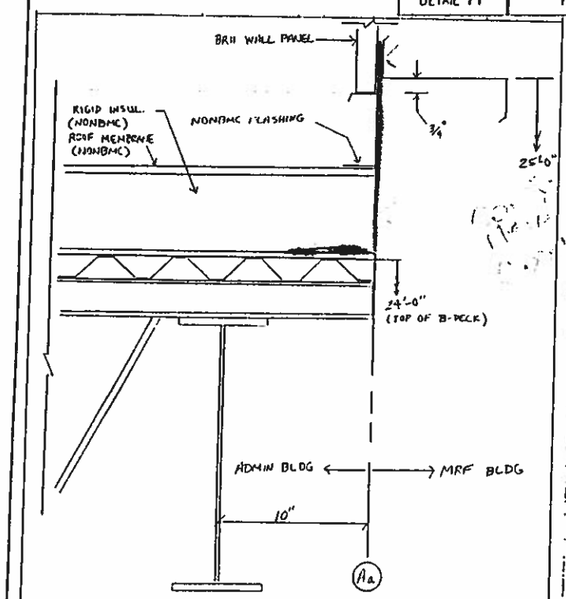


#	MEMBER	
15	PURLIN	9½ Z .067
16	EAVE STRUT	9½ C .089

} 1-ROW TOP BRACING @ MIDSPAN



DETAIL F1 — HIP BEAM PURLIN CONNECTION



SECTION H-H - ROOF DETAIL AT MRF BUILDING

ROOF BEAM SCHEDULE

BEAM	SECTION	TOP OF STEEL ELEVATION (AEF)	END CONNECTION DETAIL
300	W18 X 35	23'-8"	RX - 1
301	W18 X 35	23'-8"	RX - 1
302	W18 X 35	23'-8"	RX - 1
303	W18 X 35	23'-8"	RX - 1
304	W18 X 35	23'-8"	RX - 1
305	W18 X 35	23'-8"	RX - 1
306	W18 X 35	23'-8"	RX - 1
307	W18 X 35	23'-8"	RX - 1
308	W12 X 19	23'-8"	RX - 2
309	W12 X 19	23'-8"	RX - 2
310	W12 X 19	23'-8"	RX - 2
325	W12 X 19	23'-8"	RX - 2
312	W18 X 35	23'-8"	RX - 3
314	W18 X 35	23'-8"	RX - 3
315	W18 X 35	23'-8"	RX - 3
318	W18 X 35	23'-8"	RX - 3
320	W18 X 35	23'-8"	RX - 3
311	W12 X 19	23'-8"	RX - 4
313	W12 X 19	23'-8"	RX - 4
316	W12 X 19	23'-8"	RX - 4
317	W12 X 19	23'-8"	RX - 4
330	W12 X 19	23'-8"	RX - 4
331	W12 X 19	23'-8"	RX - 4
321	W12 X 19	23'-8"	RX - 4
326	W12 X 19	23'-8"	RX - 4 (SIM)
327	W12 X 19	23'-8"	RX - 4 (SIM)
390	W12 X 19	23'-8"	RX - 5
391	W12 X 19	23'-8"	RX - 6
328	W12 X 19	28'-2"	RX - 7

			LOW END	HIGH END
322	W12 X 19	VARIES	RX - 8	RX - 9
323	W12 X 19	VARIES	RX - 8	RX - 9
324	W12 X 19	VARIES	RX - 8	RX - 9
332	W12 X 19	VARIES	RX - 8	RX - 9

Assure joist design considers snow drift, uplift and adequate bridging.

Butler to provide support framing.

ROOF SECONDARIES @ TOWER AREA

VSR-24 g ROOF
VERIFY COLOR

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ROOF NOTES

1. JOIST SIZE BY JOIST MANUFACTURER
2. JOIST SPACING = 5'- 0" (TYP)
3. JOIST BRIDGING BY JOIST MANUFACTURER
4. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF BEAM OR COLUMN.
5. DECK MATERIAL = 1.5B20 GALVANIZED
6. FULLY ADHERED ROOF MEMBRANE, MECHANICALLY FASTENED TAPERED RIGID INSULATION, VAPOR BARRIER, PRESSURE TREATED WOOD BLOCKING, FLASHINGS, WALKWAY PADS, ROOF DRAINS AND ALL OTHER MISCELLANEOUS ROOF PARTS ARE NOT BY BUTLER MANUFACTURING.
7. ALL ROOF CURBS, HATCHES, AND SUPPORTING FRAMING ARE NOT BY BUTLER MANUFACTURING.

OIL

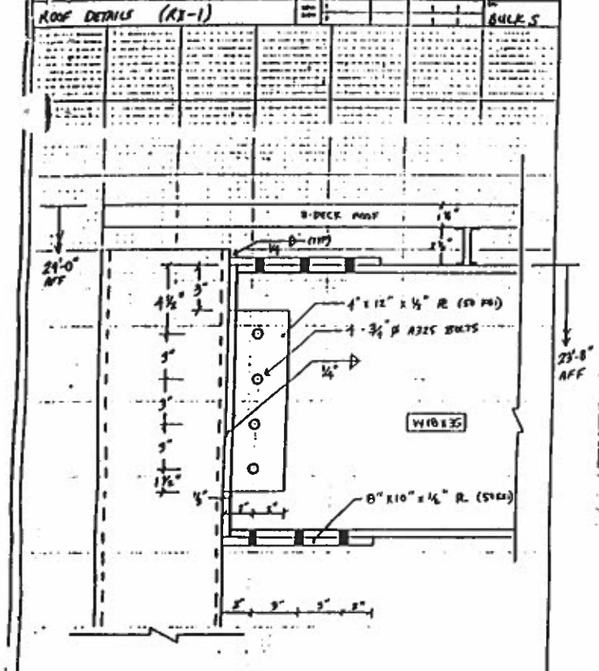
DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY, GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: ZMS/MS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	ROOF LAYOUT	B 087996-03A

FORM NO. 225 — DESIGN DATA — PAGE

BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG | DASIMS | 1 | 2 | 96 | 087996 | BULK S

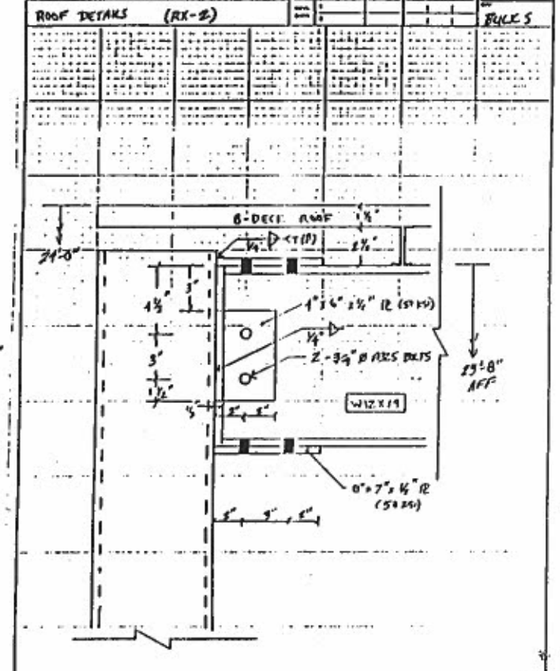
ROOF DETAILS (RX-1)



BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG | DASIMS | 1 | 2 | 96 | 087996 | BULK S

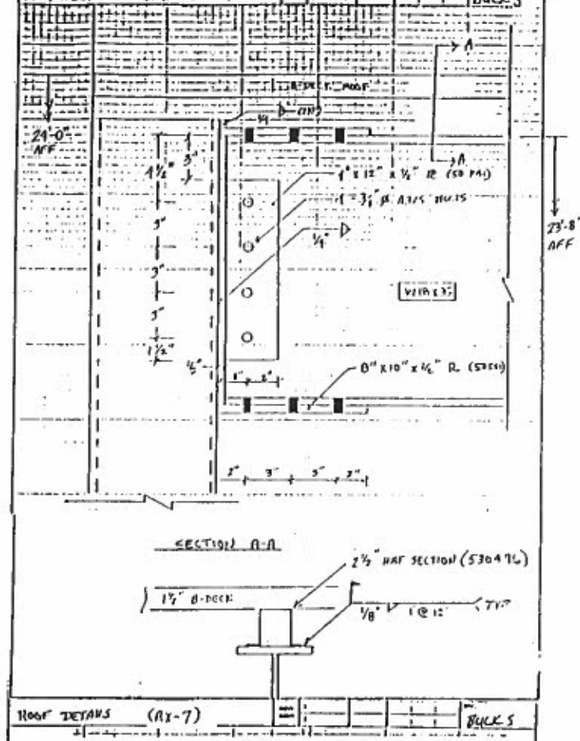
ROOF DETAILS (RX-2)



BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG | DASIMS | 1 | 2 | 96 | 087996 | BULK S

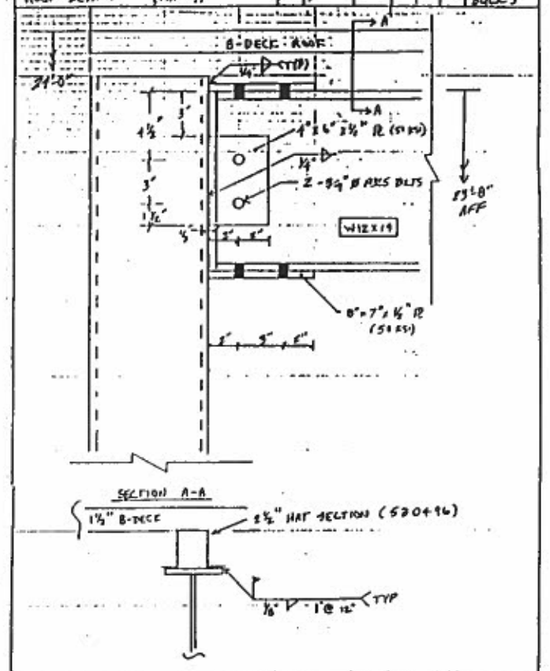
ROOF DETAILS (RX-3)



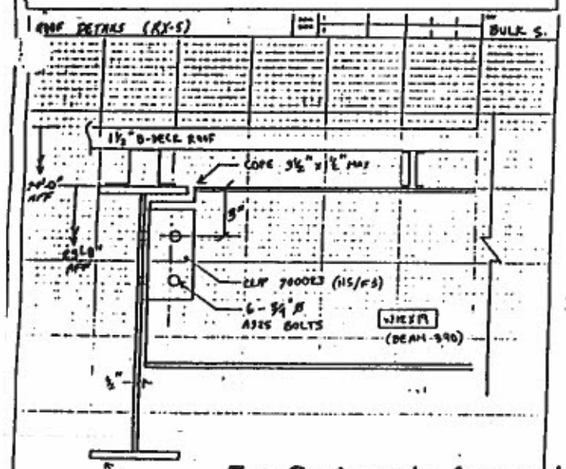
BUTLER MFG. COMPANY ENGINEERING DATA

BORGHESI -- ADMIN BLDG | DASIMS | 1 | 2 | 96 | 087996 | BULK S

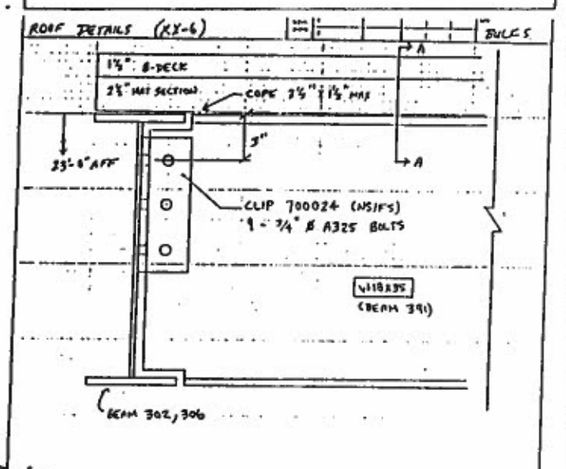
ROOF DETAILS (RX-4)



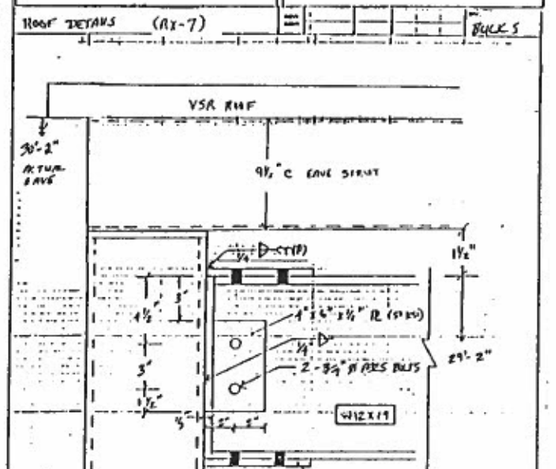
ROOF DETAILS (RX-5)



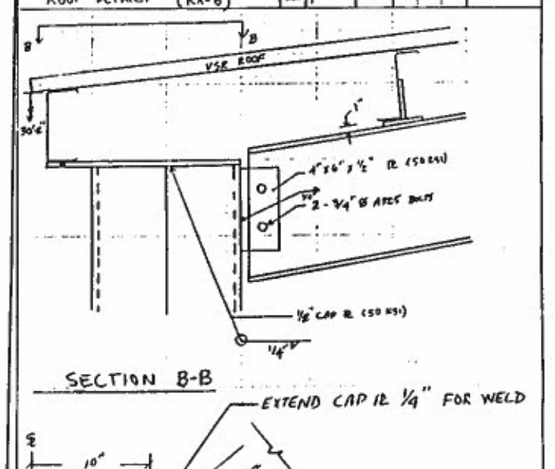
ROOF DETAILS (RX-6)



ROOF DETAILS (RX-7)



ROOF DETAILS (RX-8)



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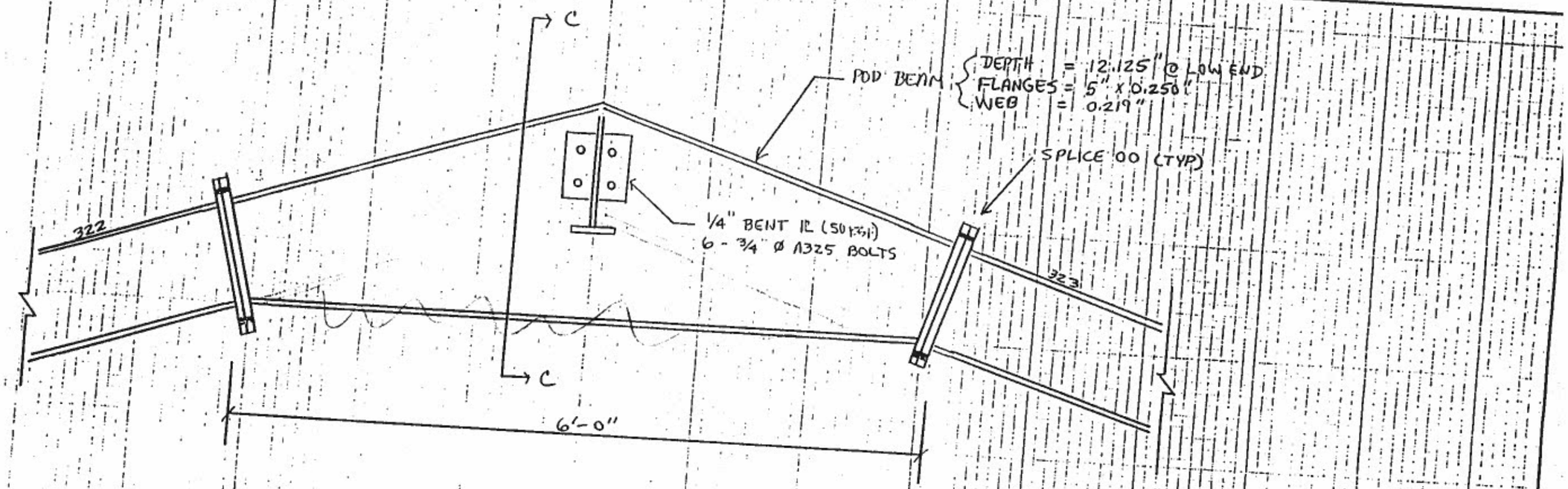
DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASIMS	DRAWN BY:	ENG. APPR.:
				BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	ROOF DETAILS	DATE:	REV NO.	CHECKED BY:	DATE:

BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

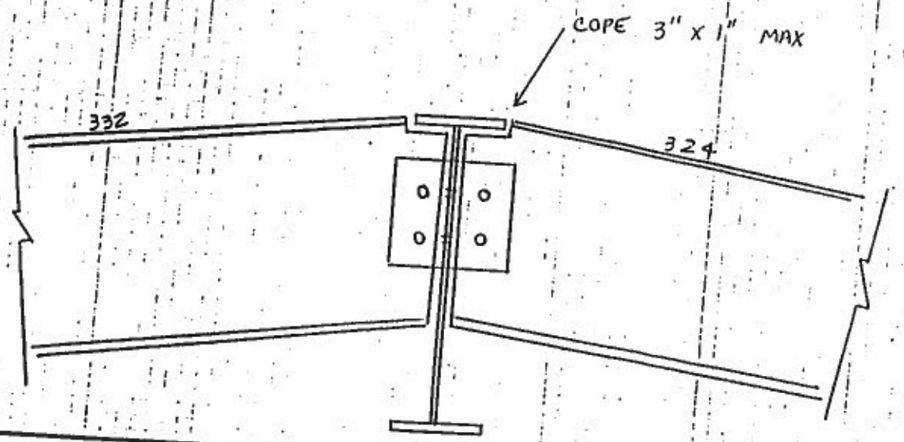
DRAWING NUMBER: B 087996-03B | REV. NO.

DESIGN DATA PAGE

DETAIL RX-9



SECTION CC



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Building will not be fabricated until one signed copy is returned
Approved as drawn _____
Approved as corrected SAB

DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.

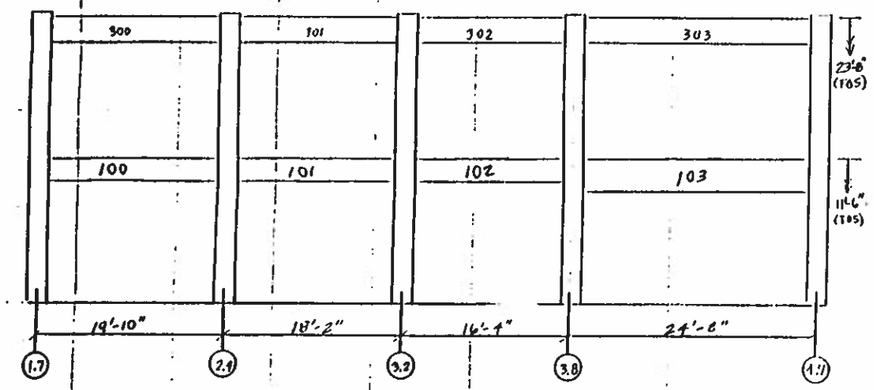
BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE
BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	ROOF DETAILS

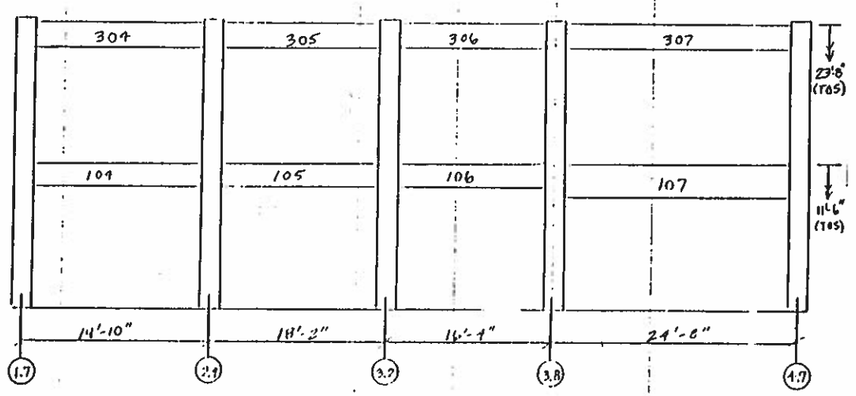
DESIGNED BY: BASINS	DRAWN BY:	ENG. APPR.:
DATE:	CHECKED BY:	DATE:

DRAWING NUMBER: B 087996-03C REV. NO.

DESIGN DATA PAGE



FRAME CROSS-SECTION @ GRID A$_b$



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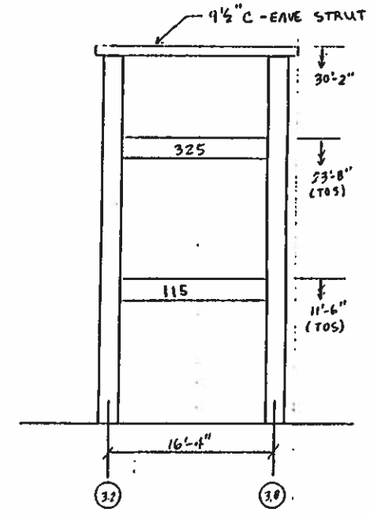

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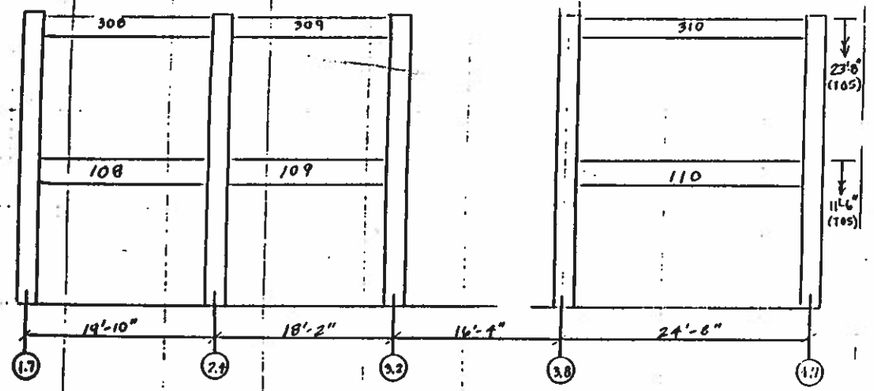

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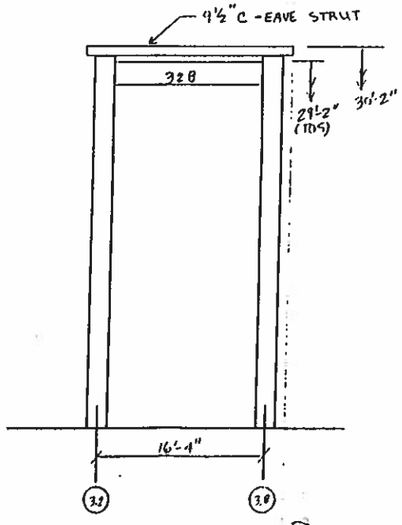

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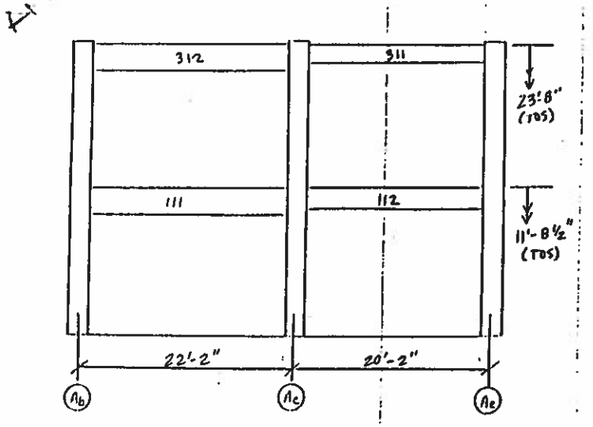
AG?

Back side?



FRAME CROSS-SECTION @ GRID 1.7

FORM NO. 0281-10

DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.

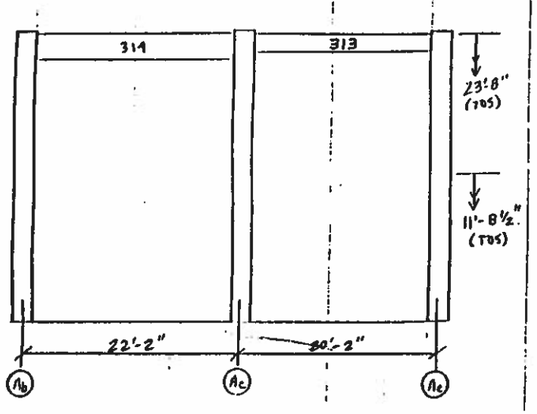
BUTLER MANUFACTURING COMPANY
GENERAL OFFICES–KANSAS CITY, MISSOURI

BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE
BORGIESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	FRAME CROSS-SECTIONS

DESIGNED BY: DASIMS | DRAWN BY: | ENG. APPR.:
DATE: | REV NO. | CHECKED BY: | DATE:
DRAWING NUMBER: B 08799b-04 | REV. NO.:

DESIGN DATA

PAGE



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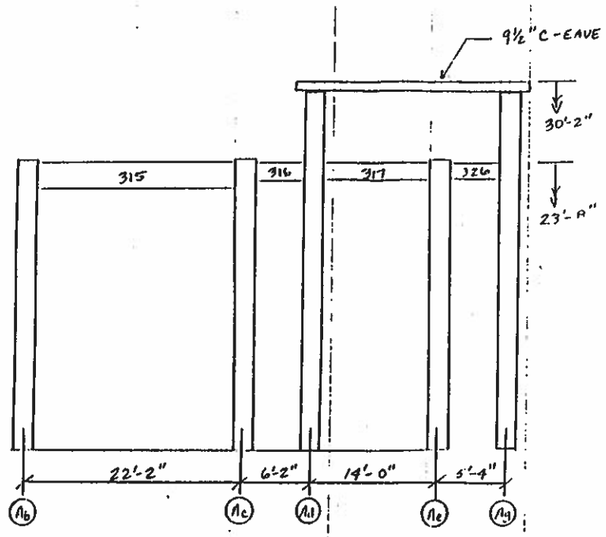

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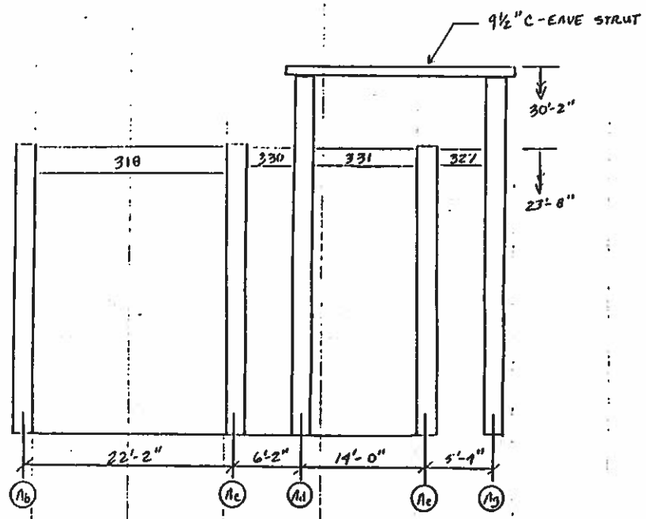

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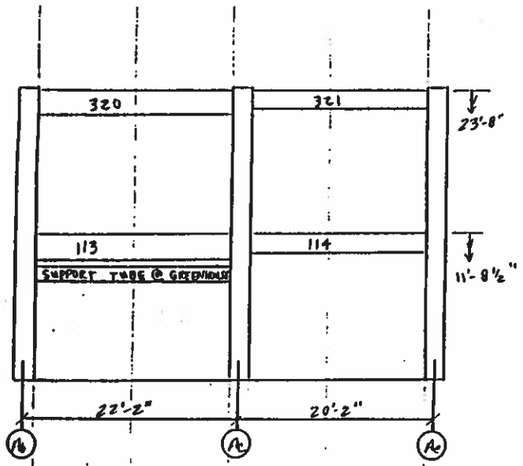
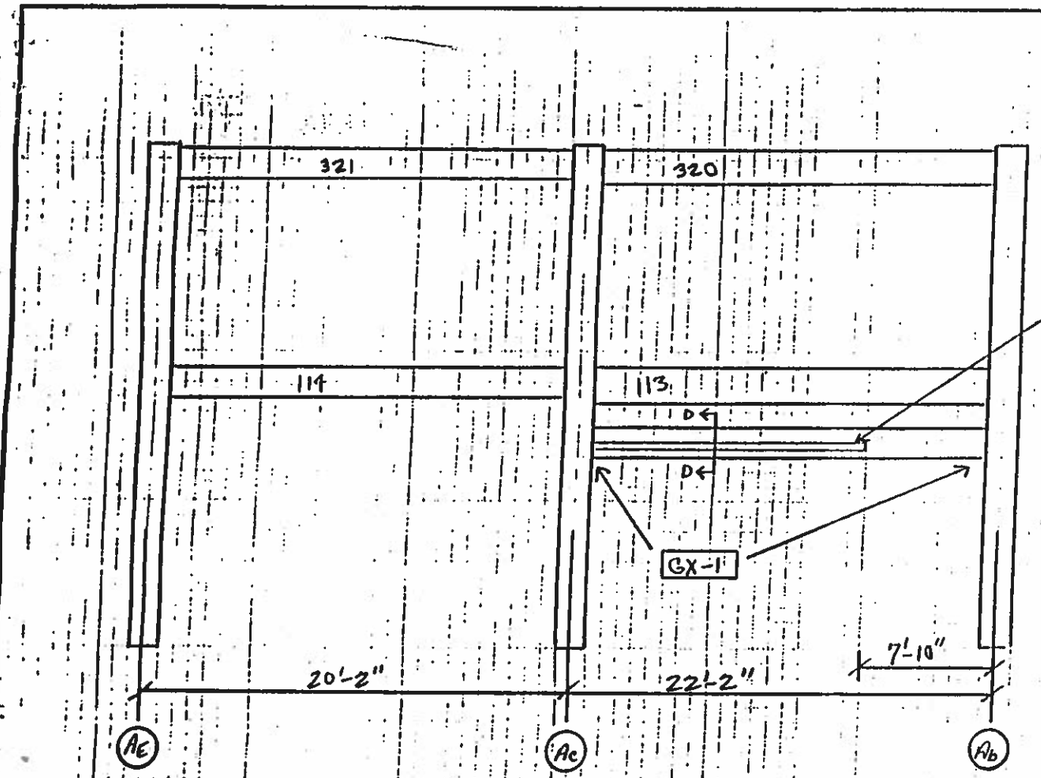


FRAME CROSS-SECTION @ GRID 4.7

Block silent ANGLE ?

DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY, GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	FRAME CROSS-SECTIONS	B 087996-04-A

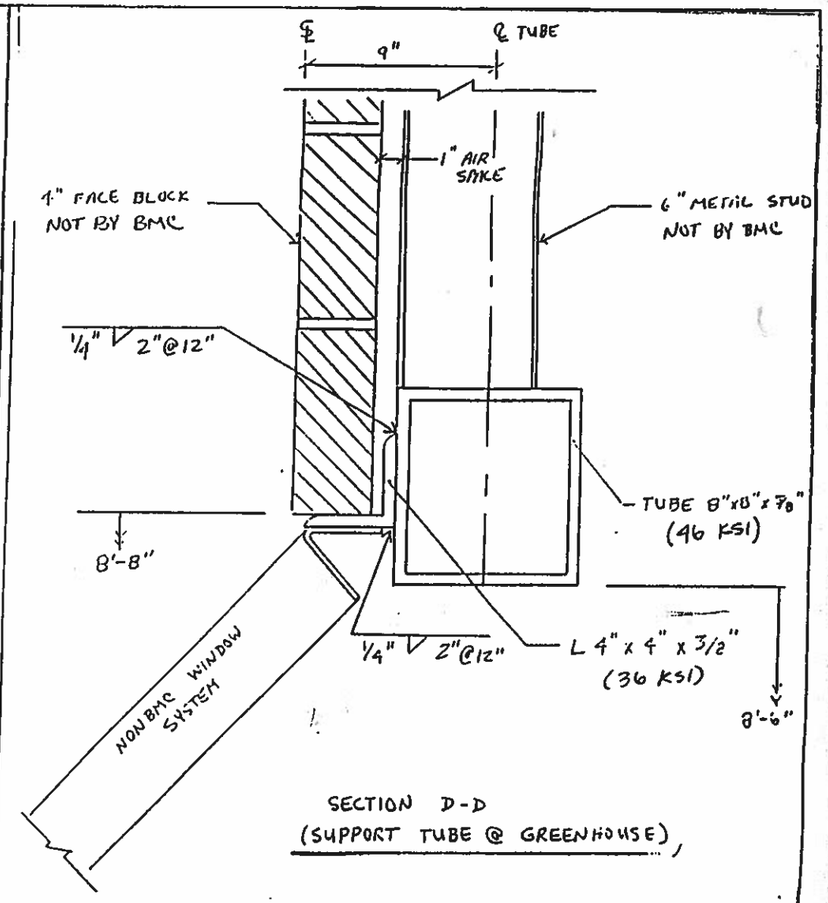
DESIGN DATA PAGE



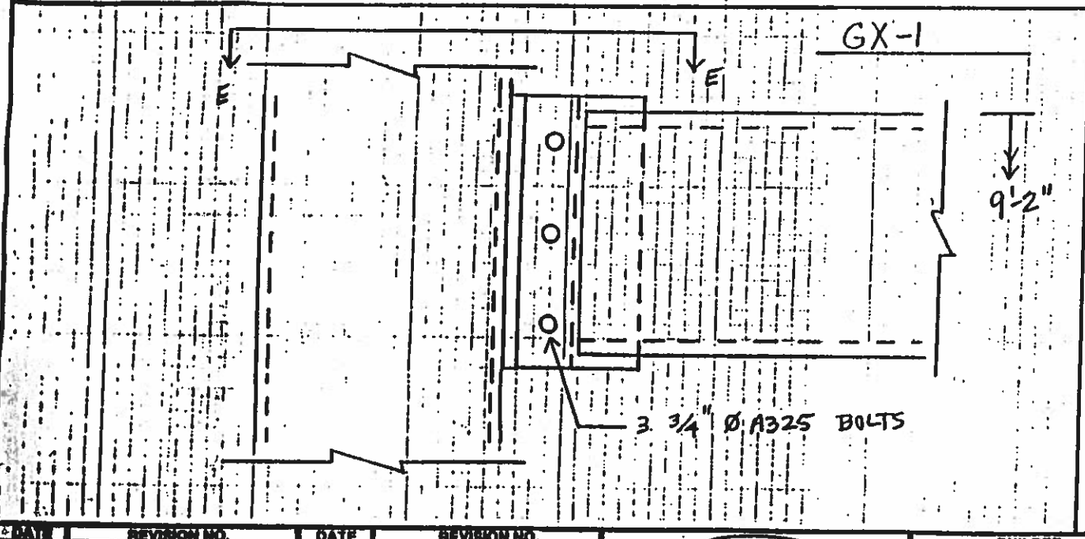
SHELF ANGLE EXTENDS 14'-0" FROM COLUMN @ GRID 1/c

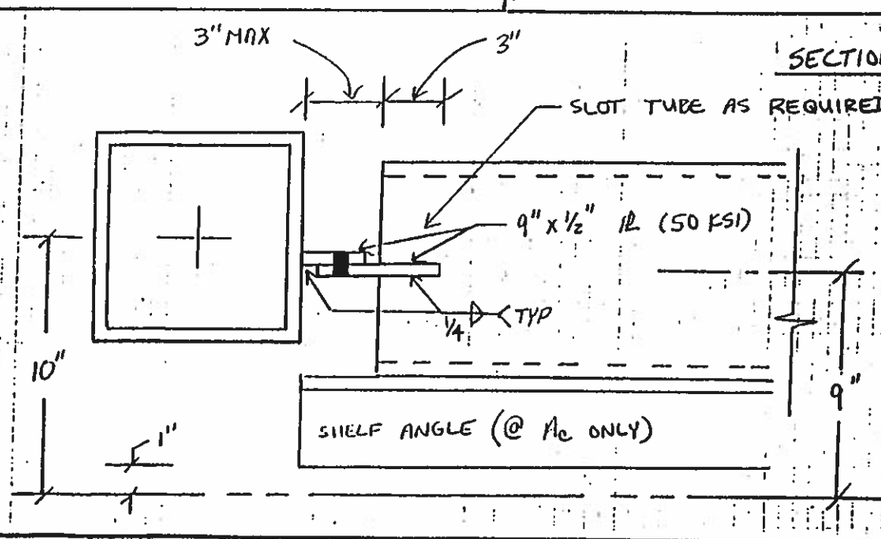
Fill Shelf Angle?

CROSS SECTION @ GRID 4.7



SECTION D-D
(SUPPORT TUBE @ GREENHOUSE)





SECTION E-E

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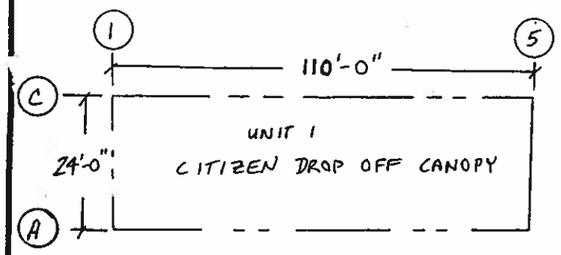
DATE BY ICHK	REVISION NO.	DATE BY ICHK	REVISION NO.	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DAS/MS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND RECYCLING	ADMINISTRATION	GREENHOUSE DETAILS	B 087996-05

DESIGN DATA PAGE

APPENDIX D4

Butler Drawings for Existing Canopy

(7 sheets)



SPECIFIC ERECTION DRAWING LIST

THE DRAWINGS LISTED BELOW HAVE BEEN CREATED BY COMPUTER SPECIFICALLY FOR YOUR ORDER TO ASSIST YOU IN PUTTING UP YOUR BUILDING. THESE SPECIFIC ERECTION DRAWINGS ARE THE SAME SIZE AS THIS SHEET AND CAN BE IDENTIFIED INDIVIDUALLY FROM THE TITLES AND DRAWING SEQUENCE NUMBERS THAT APPEAR IN THE LOWER RIGHT HAND CORNER OF EACH DRAWING.

DRAWING TITLE:		AG FILE NO.:
ROOF SECONDARY STRUCTURAL FRAMING PLAN		DATE: 02/14/03
	DRAWING NUMBER: D 83-123456-05L	REVISION 02

TITLE

THE YEAR DURING WHICH YOUR ORDER WAS ENTERED

THE BUTLER ORDER NUMBER OF YOUR ORDER

DRAWING SEQUENCE NUMBER

REVISION LEVEL OF THE DRAWING. IF THE DRAWING HAS NEVER BEEN REVISED, 00 APPEARS HERE.

087997-00	COVER DRAWING
087997-01	SPECIFIC ANCHOR BOLT DRAWING
087997-01A	SPECIFIC ANCHOR BOLT DRAWING
087997-02	FRAME CROSS SECTION DRAWING
0879977-02A	FRAME CROSS SECTION DRAWING
087997-03	ROOF SECONDARIES DRAWING
087997-03A	ROOF SECONDARIES DRAWING

FIELD WORK SUMMARY

WIND BRACING

FW0001 FIELD WORK MAY BE REQUIRED AT LOWER ROOF BEAM KNEE AREA FOR BRACING CLIP CONNECTION.

WALL SECONDARY

FW0008 FIELD LOCATE HOLES IN DOUBLE "C" HEADER FOR DOOR POST CONNECTION.

FW0010 FIELD LOCATE HOLES IN COLUMN OR POST FOR DOUBLE "C" HEADER CONNECTION IF REQUIRED.

FW0030 FIELD LOCATE SLOTS IN SIDEWALL GIRT FOR SIDEWALL ROD BRACING CONDITION.

FW0040 FIELD CUT AND LOCATE HOLES IN DOOR POST.

FW0042 FIELD CUT AND LOCATE HOLES IN DOOR HEADER.

FW0043 FIELD CUT AND LOCATE HOLES IN DOUBLE "C" HEADER.

FW0056 FIELD WORK GIRT CHANNEL AT INTERMEDIATE SIDEWALL COLUMN WITH ADJACENT DOOR POST(S).

FW0072 FIELD WORK GIRT CHANNEL AT DOOR POST.

COVER DRAWING NOTES

STANDARD NOTES:

CD0001 ATTACH PATENT PLATE 007849 TO THE WEB OF AN INTERMEDIATE FRAME COLUMN AT EYE LEVEL.

CD0002 PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING MANIFEST FOR POSSIBLE SUBSTITUTIONS.

CD0011 HIGH STRENGTH BOLTING:

ALL HIGH STRENGTH BOLTS ARE A-325-T WITH HEAVY HEX NUTS AND ARE TO BE INSTALLED USING THE "TURN-OF-THE-NUT" METHOD SPECIFIED IN THE NINTH EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" PER SECTION 8 D (3). A-325 BOLTS MAY BE INSTALLED WITHOUT WASHERS WHEN TIGHTENED BY THE "TURN-OF-THE-NUT" METHOD. IT IS THE RESPONSIBILITY OF THE ERECTOR TO ASSURE PROPER TIGHTNESS. SEE INSTALLATION OF A-325T BOLT DRAWING D-1080268 (GROUP 52-38).

CD0013 IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO THE MATERIALS SUPPLIED BY BUTLER MFG. CO. AND IS NOT INTENDED AS THE SEAL OF THE ENGINEER OF RECORD FOR THE ENTIRE PROJECT.

CD0017

MATERIALS	ASTM DESIGNATION	
STRUCT PLATE 1" & LESS	A-529	FY= 55KSI (GRADE 55)
STRUCT PLATE OVER 1"	A-529	FY= 50KSI (GRADE 50)
LIGHT GAGE/COLD FORMED	A-570	FY= 55KSI (GRADE 55)
BRACE RODS 3/4" & LESS	A-108	GRADE 1018
BRACE RODS OVER 3/4"	A-572	GRADE 50 OR GREATER
HOT ROLLED MILL SHAPES	A-36; A-572	FY= 36KSI; FY=50KSI
ROOF AND WALL PANELS	A-446	GRADE 45 OR GREATER
BOLTS	A-307 AND A-325	

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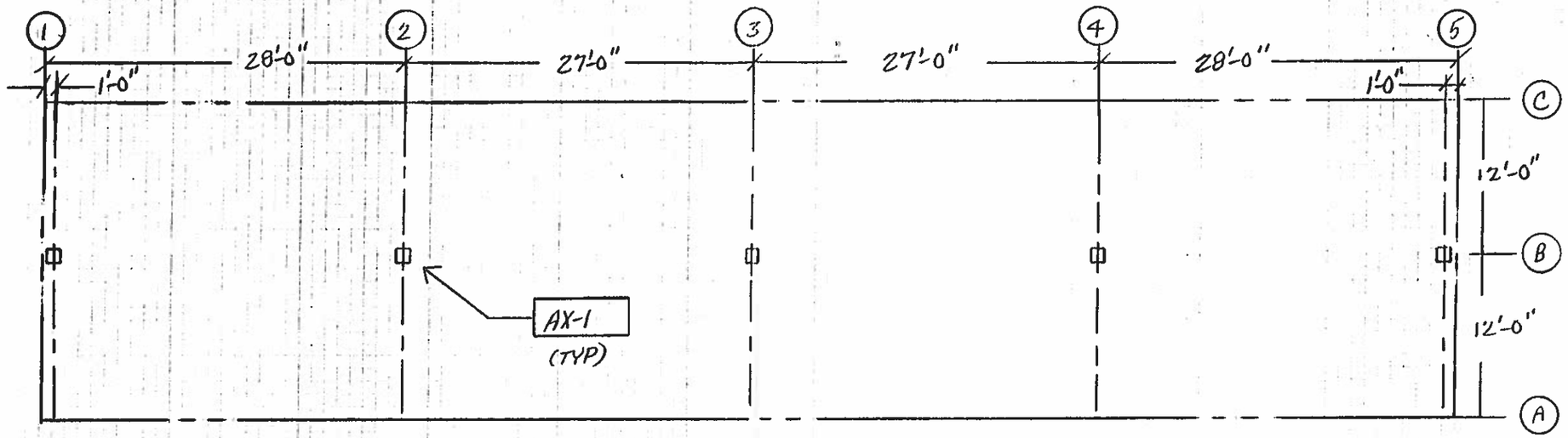
REVISION NO. 1	REVISION NO. 2							
DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	PRODUCT OF THE PRONTO® ORDER ENGINEERING SYSTEM	BUILDER: BORGHESI BLDG & ENG CO TORRINGTON CONNECTIC	PROJECT: ROCKLAND RECYCLING ROCKLAND COUNTY, NY	BUILDING ORDER DESCRIPTION: CITIZEN DROP OFF CANOPY	DRAWING TITLE: COVER DRAWING	AG FILE NO: GROUP: M DATE: 12/19/96 DRAWING NUMBER: D97-087997-00 REV.
DRAWN BY:	DRAWN BY:							
CHECKED BY:	CHECKED BY:							



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DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY GENERAL OFFICES-KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: TJPS/TMS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: / DRAWING NUMBER / REV. NO.
					BORGHESI BLDG & ENGINEERING	ROCKLAND COUNTY RECYCLING	CITIZEN DROP OFF CANOPY	ANCHOR BOLT LAYOUT	B 087997-01

FORM NO. 0261-1

DESIGN DATA

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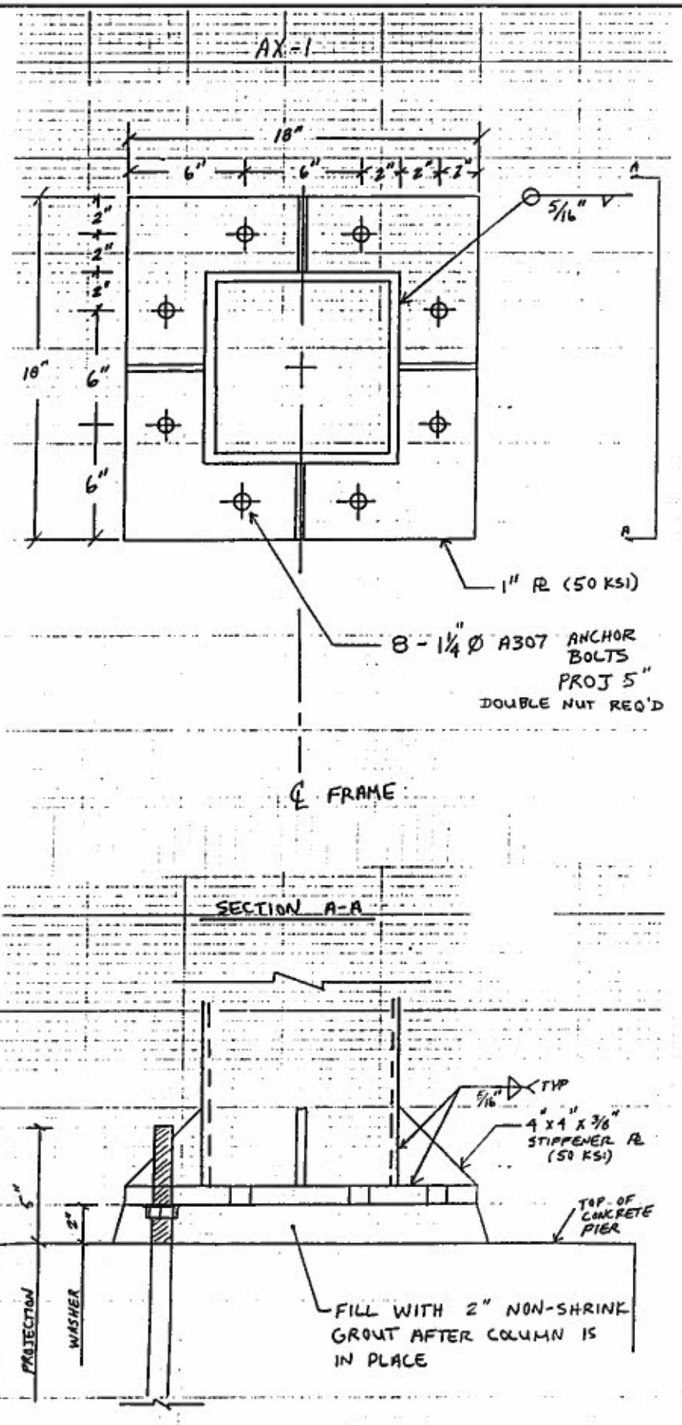
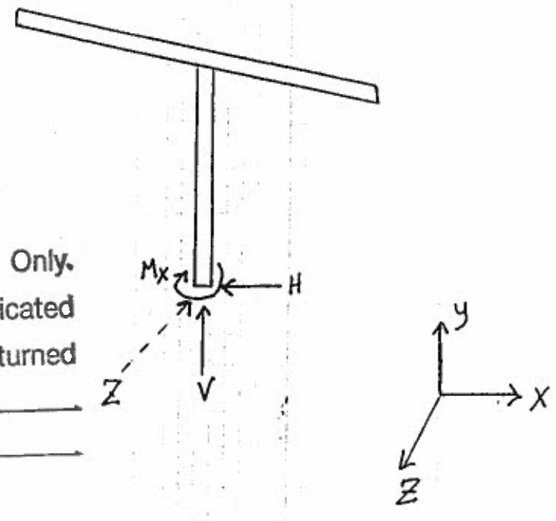


REACTION NOTES:

1. THE VERTICAL (V) AND HORIZONTAL (H AND Z) REACTION ARE STATED IN KIPS. (1 KIP = 1000 POUNDS) POSITIVE DIRECTION IS AS SHOWN IN THE FOLLOWING DIAGRAM.
2. MOMENT REACTIONS ARE STATED IN INCH-KIPS AND ARE POSITIVE IN A CLOCKWISE DIRECTION.
3. THE FORCE ON THE ANCHOR BOLTS OR FOUNDATION WILL BE IN THE OPPOSITE DIRECTION TO THAT SHOWN.
4. MAXIMUM REACTION SUMMARY IS THE MAXIMUM POSITIVE AND NEGATIVE REACTIONS BASED ON THE REQUIRED LOAD COMBINATIONS.

FRAME REACTIONS

	H	V	Z	M_X	M_Z
DEAD	0	5	0	+7	0
SNOW	0	27	0	+1	0
SNOW RIGHT	0	13	0	-803	0
SNOW LEFT	0	13	0	+803	0
WIND Z-DIR	5	-13	-3	-550	-256
WIND X-DIR	4	-9	0	-370	0



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DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.	BUTLER MANUFACTURING COMPANY, GENERAL OFFICES–KANSAS CITY, MISSOURI	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: DASHS / DRAWN BY: / ENG. APPR.: / DATE: / REV NO. / CHECKED BY: / DATE: / DRAWING NUMBER / REV. NO.
				BUTLER	BORGHESI BLDG & ENGINEERING	ROCKLAND COUNTY RECYCLING	CITIZEN DROP OFF CANOPY	ANCHOR BOLT DETAILS & REACTIONS	B 087997-01 A

FORM NO. 0261-1?

DESIGN DATA

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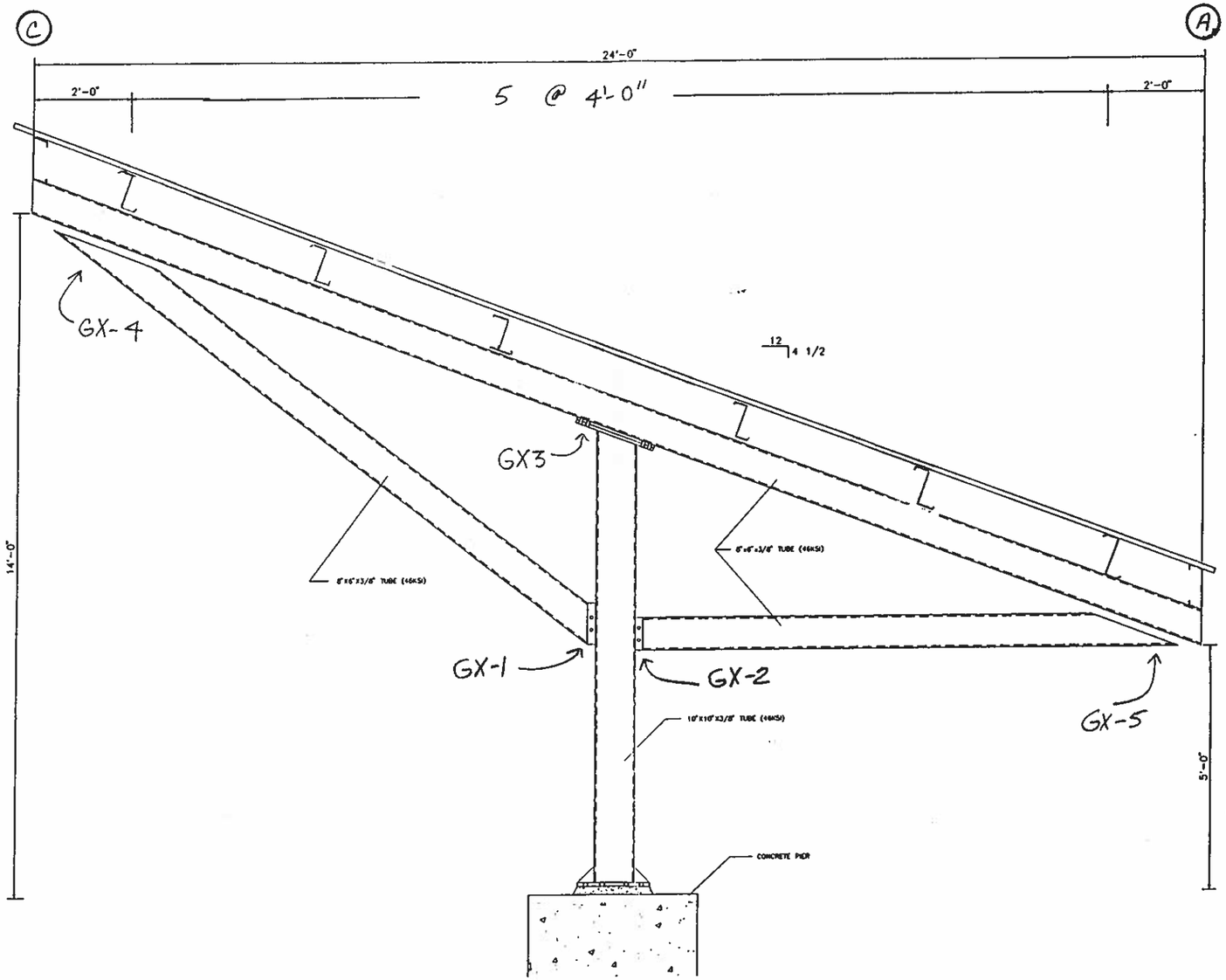

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DATE:	DATE:	BUTLER MANUFACTURING COMPANY GENERAL OFFICES–KANSAS CITY, MISSOURI	BORGHESI BLDG & ENGINEERING	ROCKLAND COUNTY RECYCLING	CITIZEN DROP OFF CANOPY	FRAME CROSS SECTION	GROUP:	DATE:
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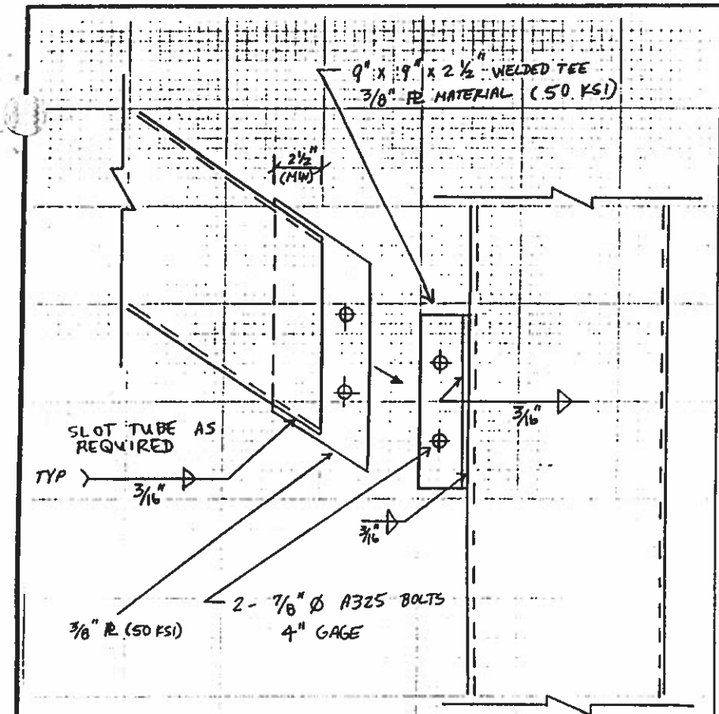
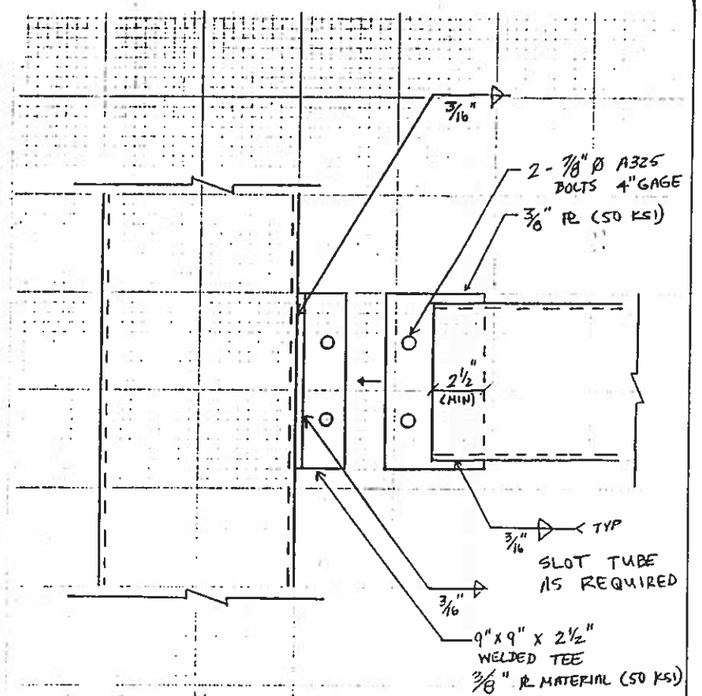
CHECKED BY:	CHECKED BY:							



GX-1 DETAIL



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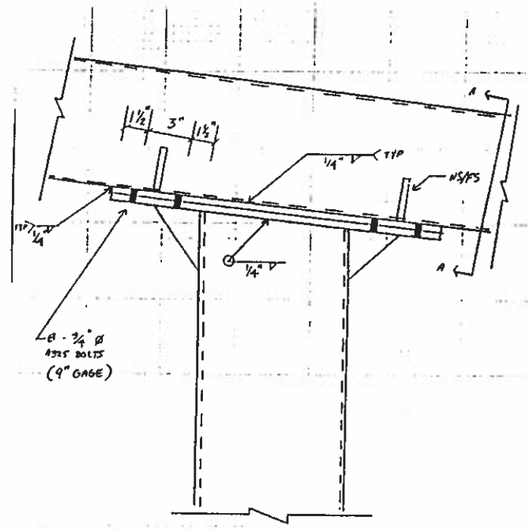
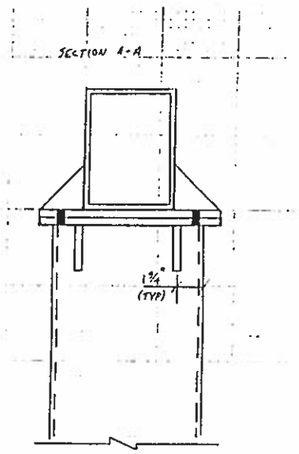


SPLICE PLATES : 12" x 22 5/8" x ¾" (TYP)
STIFFENERS : 3" x 3" x 5/16" (MINIMUM) ¼" TYP. EACH LEG



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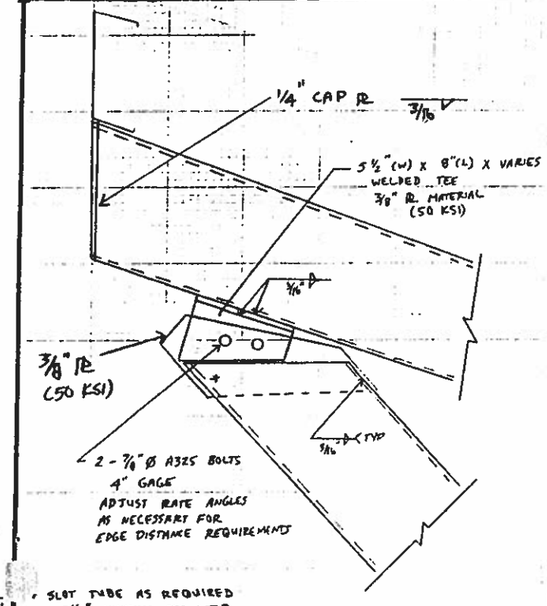
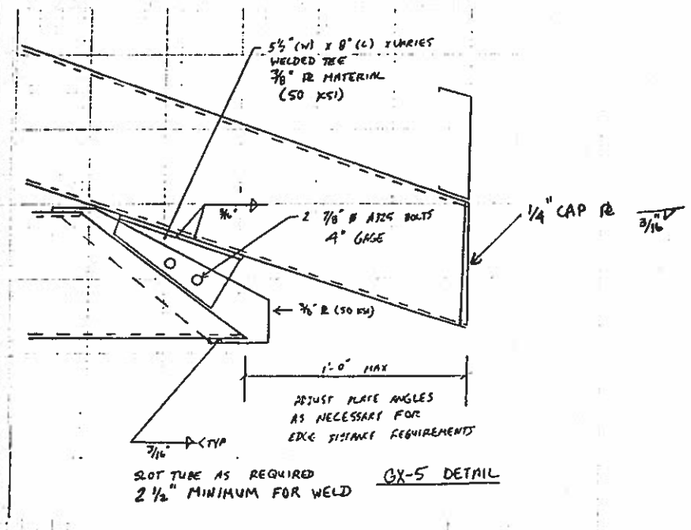


GX-4 DETAIL



GX-5 DETAIL

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BY	CHK	BY	CHK	BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE	DESIGNED BY: TJS 5/19	DRAWN BY:	ENG. APPR.:
				BORGHESI BLDG & ENGINEERING	ROCKLAND COUNTY RECYCLING	CITIZEN DROP OFF CANOPY	FRAME DETAILS	DATE:	REV NO.	CHECKED BY: / DATE:
								DRAWING NUMBER B 087996-02 A		REV. NO.

BUTLER MANUFACTURING COMPANY
GENERAL OFFICES–KANSAS CITY, MISSOURI

FORM NO. 0261-1

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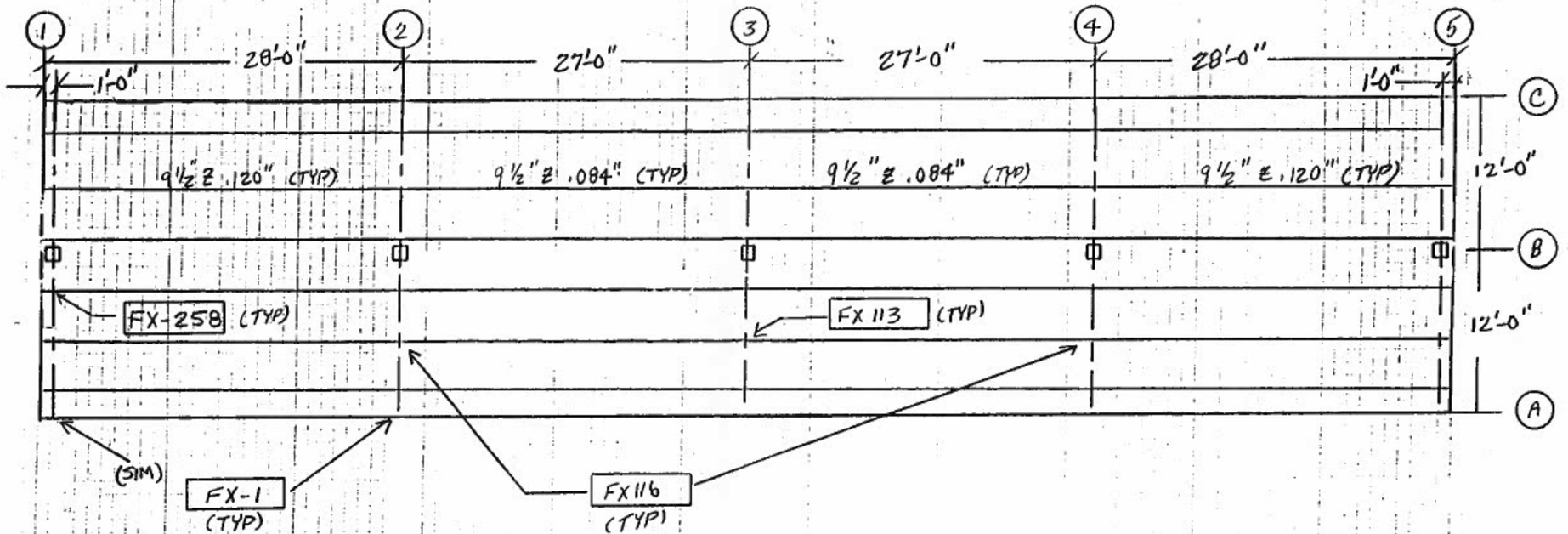

ALL EAVE STRUTS 9½" C .098

* 1 ROW TOP BRACES TYPICAL @ ALL PURLINS & EAVE STRUTS

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FORM NO. 0261-

DATE BY CHK	REVISION NO.	DATE BY CHK	REVISION NO.

BUTLER MANUFACTURING COMPANY
GENERAL OFFICES–KANSAS CITY, MISSOURI

BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE
BORGHESI BLDG & ENGINEERING	ROCKLAND COUNTY RECYCLING	CITIZEN DROP OFF CANOPY	ROOF SECONDARIES

DESIGNED BY: DAS/MS	DRAWN BY:	ENG. APPR.:
DATE:	REV NO. CHECKED BY:	DATE:
DRAWING NUMBER		REV. NO.
B 087997-03		

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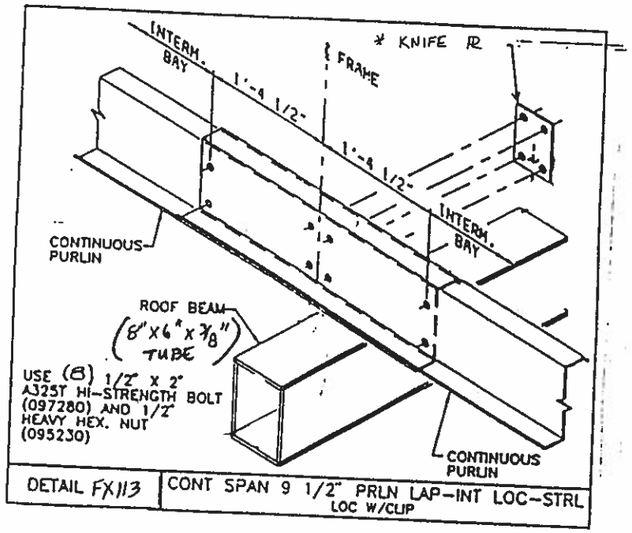
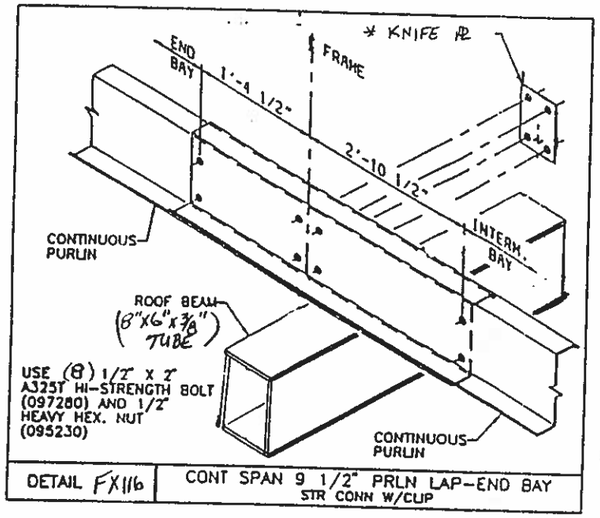
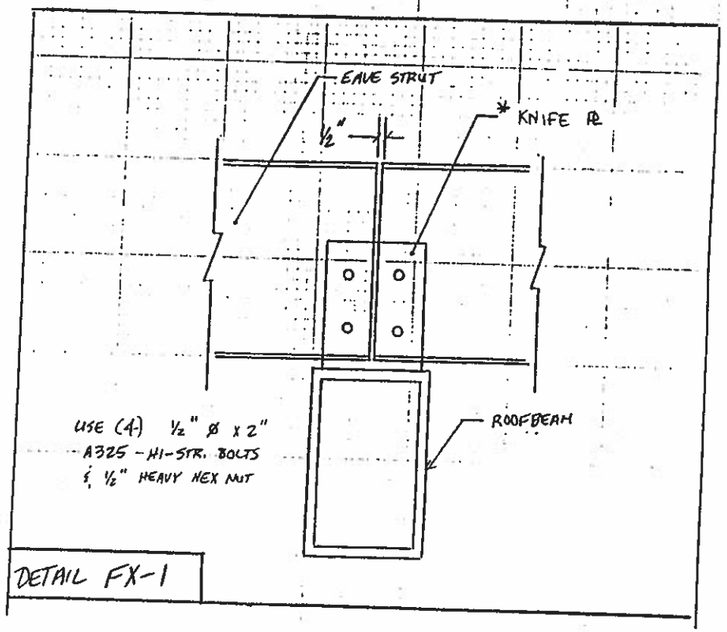


DETAIL FX113 | CONT SPAN 9 1/2" PRLN LAP-INT LOC-STRL LOC W/CLIP



DETAIL FX116 | CONT SPAN 9 1/2" PRLN LAP-END BAY STR CONN W/CLIP

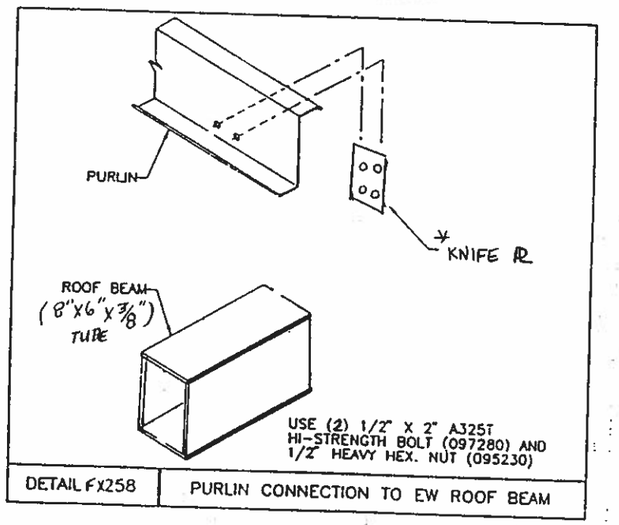


DETAIL FX-1

* KNIFE PL = 5 1/4" X 7 1/2" X 1/4" (50 KSI)

3/16 WELD TO ROOF BEAM

HOLE PUNCHING TO MATCH STD. CLIP 543048



DETAIL FX258 | PURLIN CONNECTION TO EW ROOF BEAM

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BUTLER MANUFACTURING COMPANY
GENERAL OFFICES-KANSAS CITY, MISSOURI

BUILDER	PROJECT	BUILDING DESCRIPTION	DRAWING TITLE
BORGHESI BLDG & ENGINEERING	ROCKLAND COUNTY RECYCLING	CITIZEN DROP OFF CANOPY	ROOF SECONDARY DETAILS

DESIGNED BY: DASIMS	DRAWN BY:	ENG. APPR.:
DATE: 1/21/97 REV NO.	CHECKED BY:	DATE:
DRAWING NUMBER		REV. NO.
B 087996-03 A		

DESIGN DATA PAGE

APPENDIX D5

Geotechnical Report

(23 pages)

FRENCH & PARRELLO ASSOCIATES

Advancing Our Client's Vision
IMPROVING OUR WORLD

Report of Subsurface Exploration & Geotechnical Engineering Assessment

Rockland Green Material Recovery Facility

Hillburn
Rockland County, New York

Submitted to:

Mr. Ryan Lawlor
RRT DESIGN & CONSTRUCTION
1 Huntington Quadrangle, Suite 3S01
Melville, NY 11747

February 3, 2021
FPA No. 17004.001R1

1800 Route 34, Suite 101 • Wall, NJ • 07719 • T 732.312.9800 • F 732.312.9801
NEW JERSEY | NEW YORK | PENNSYLVANIA | GEORGIA
fpaengineers.com

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Bethlehem, Pennsylvania
Hackettstown, New Jersey
Camden, New Jersey
Newark, New Jersey
New York, New York
Atlanta, Georgia

February 3, 2021

Mr. Ryan Lawlor
RRT DESIGN & CONSTRUCTION
1 Huntington Quadrangle, Suite 3S01
Melville, NY 11747

Re: Report of Subsurface Exploration &
Geotechnical Engineering Assessment
Rockland Green Material Recovery Facility
Hillburn, Rockland County, New York
FPA No. 17004.001R1

Dear Mr. Lawlor:

INTRODUCTION

This report presents the results of our Subsurface Exploration and Geotechnical Engineering Assessment performed in connection with the proposed improvements to the Rockland Green Material Recovery Facility located at 420 Torne Valley Road, Hillburn, New York. The regional location of the project site is presented on Drawing No. 1, "Regional Location Plan."

The material recovery facility building, a truck loading canopy, miscellaneous structures and paved parking surfaces currently occupy the property. The proposed project will consist of the construction of an addition to the existing material recovery facility building which has a finished floor elevation of +551 feet. The proposed one-story building addition will be approximately 6,400 square feet in plan area and will be constructed with a slab-on-grade foundation. Several below-grade pits situated approximately 6 feet to 8 feet below the building first-floor slab elevation are proposed within the addition. The existing grades at the site vary from approximately elevation +520 feet to the west of the site to elevation +575 feet to the east of the site. It is our understanding that consideration is being given to re-grading the existing steep slope that is present immediately east of the proposed building addition around the existing truck loading canopy.

The purpose for our involvement on the project at this time was to perform a subsurface exploration program and geotechnical engineering assessment to facilitate the planning, design and construction of the proposed improvements. Our scope of services included the subcontracting of 6 test borings, technical observation of the field work, engineering evaluation

of the acquired data and the preparation of this report. Our services were performed in accordance with our proposal dated December 22, 2020.

SUBSURFACE EXPLORATION

The subsurface conditions at the Rockland Green Material Recovery Facility were explored on January 29, 2021 through the advancement of 6 test borings with a truck mounted drill rig. Test borings B-1 through B-4 were performed within the vicinity of the proposed building addition. Test borings B-5 and B-6 were performed in the area of the proposed slope regrading. All field work was performed by a drilling subcontractor retained by FPA while under the full-time technical observation by a geotechnical representative of FPA. The test borings were field located based on existing site features presented on the site plan provided by the Client. The approximate as-drilled boring locations are presented on Drawing No. 2, "Test Boring Location Plan."

The test borings were advanced to depths ranging from approximately 15 feet to 17 feet below the existing ground surface utilizing mud rotary drilling procedures. Soil samples were obtained by advancing a standard two-inch diameter split-spoon sampler in accordance with ASTM Test Method D-1586, The Standard Penetration Test. Soil samples were taken continuously to a depth of 12 feet and at maximum 5-foot intervals thereafter. All soil samples were classified in the field using the Burmister Soil Classification System. The soil samples were returned to our in-house soils laboratory for further review and will be stored for a minimum period of 60 days from the date of this report.

The depth to groundwater was estimated based on the moisture content of the retrieved soil samples. Details of the drilling procedures, soil classifications, groundwater depths and Standard Penetration Test results are presented on the boring logs in Appendix A.

SITE CONDITIONS

Regional Geology

Based on our review of the published geologic literature and our previous work near the project site, the native soils should consist of glacial till material known as the Charlton fine sandy loam by the USDA. The glacial soils typically consist of a dense mixture of coarse to fine sand intermixed with silt, clay and coarse to fine gravel. Cobbles and boulders are typically encountered with depth. The glacial soils are underlain by Quartz-Plagioclase Gneiss bedrock at depths greater than 25 feet in the immediate project vicinity.

Subsurface Conditions

The subsurface soil conditions at the project site were generally consistent with those reported in the regional geology. The test borings encountered granular glacial soils from the existing ground surface to their terminating depths. The glacial soils typically consisted of coarse to fine sand intermixed with minor to moderate amounts of silt and clay as well as varying amounts of coarse to fine gravel. The amount of silt, clay and gravel typically increased with depth within the glacial soils. A possible boulder was encountered in test boring B-4 at a depth of approximately

10 feet below the existing grade. Based on the results of the Standard Penetration Testing, the relative density of the glacial soils may be described as medium-dense to very dense to a depth of approximately 6 feet and dense to very dense, thereafter.

The static groundwater level was not observed within the test borings. However, soil samples at depths ranging from approximately 2 feet to 12 feet below the existing grade were observed to be moist as noted on the test boring logs. It is our opinion the moist soils are a likely indication of a perched groundwater condition. Seasonal and storm related fluctuations in the groundwater level, as well as the potential presence of perched groundwater within the glacial soils, should be anticipated. For a more detailed description of the subsurface soil and groundwater conditions encountered, please refer to the test boring logs presented in Appendix A.

Seismicity

We have reviewed the guidelines presented in the New York Edition of the 2018 International Building Code (IBC) regarding seismic design. Based upon our review, we offer the following site characterization parameters:

Short Period Spectral Acceleration (S_s).....0.283g
Spectral Acceleration @ 1 Second (S_1) 0.060g
Site Class .....D

DISCUSSION & RECOMMENDATIONS

General

Based on the results of our subsurface exploration and geotechnical engineering assessment, it is our opinion that the proposed building addition may be founded on conventional shallow foundations. We strongly recommend that the Contractor consider the presence of cobbles, boulders and dense glacial soils during the preparation of his bid and planning of his work. It is our opinion that the site is suitable for the proposed construction provided that the engineering and construction related implications of these soil characteristics are recognized and the recommendations contained herein are addressed.

Groundwater Considerations

The static groundwater level and estimated seasonal high water level were not encountered within any of the test borings. However, soil samples at depths ranging from approximately 2 feet to 12 feet below the existing ground surface were observed to be moist which is likely to be an indication of a perched groundwater condition. We do not anticipate that the static groundwater level will be encountered within foundation excavations. However, the internal drainage characteristic of the glacial soils encountered is typically poor, and during periods of heavy precipitation perched groundwater may be present. The perched water is a result of stormwater percolating into the ground and becoming trapped upon isolated hydraulically restrictive soil layers. Although the perched water will remain unless it is mechanically removed

and will need to be considered in the design and construction of the project, it is our opinion that it should not be considered as the regional static or seasonal high water level. In the event that perched groundwater is encountered within foundation or utility excavations, it is our opinion that the associated dewatering may be accomplished using in-trench sump pumps, placed within crushed stone. The potential presence of perched groundwater should be considered in the planning of the earthwork operations and in the design of the walls for the below grade pits. We recommend that the designer include a waterproofing membrane and wall drains along all below-grade walls.

Shallow Foundations

Based on the results of our subsurface exploration, it is our opinion that the proposed building addition may be founded on conventional shallow foundations bearing on the in-situ granular soils or on compacted structural fill. The foundations may be designed for a net allowable bearing pressure of 4,000 psf. We recommend that continuous wall footings and individual column footings be designed with a minimum width of 24 inches and 36 inches, respectively. In accordance with IBC guidelines, we recommend the bottom of all reinforced concrete foundations exposed to outside ambient temperatures extend to a minimum depth of 42 inches below the proposed grade for frost protection.

Our analyses indicate that shallow foundations bearing directly on the native soils or compacted structural fill and designed for a bearing pressure of 4,000 psf will undergo post construction settlements of less than 1 inch. We estimate that differential settlements will be on the order of a ½ inch over a horizontal distance of 50 feet. We estimate that the majority of the anticipated settlements would occur within two months of the completion of the building addition.

Foundation Excavation & Subgrade Preparation

We anticipate that equipment adequately sized to accommodate very dense glacial soils, cobbles and boulders will be required to perform excavations for foundations. If nested cobbles or large boulders are encountered, we anticipate that specialized excavating equipment may be required. We recommend that all excavations be hand trimmed, in a workmanlike manner, and that the footing subgrades be compacted using a walk-behind, vibratory roller to further densify the subsoils and delineate soft regions. A vibratory plate compactor may be used in areas where space and access are limited. Any areas exhibiting excessive yielding should be over-excavated and backfilled using on-site soils approved by the Geotechnical Engineer for re-use or imported fill material meeting the gradational requirement for Type “G” structural fill presented in Appendix B. Fills should be placed in maximum 12-inch thick lifts and compacted to a minimum of 95 percent of their maximum dry density as determined by ASTM Test Method D-1557, The Modified Proctor Test. The lift thickness should be reduced if the selected compaction equipment does not result in adequate compaction.

In the event that foundation excavations are conducted during inclement weather, or if the subgrades are left open overnight, we recommend that the foundation subgrades be over-excavated to allow for the placement of 6 inches of No. 57 Coarse Graded Aggregate. The crushed stone will serve as a work mat to preclude disturbance of the subgrade due to construction and

inclement weather and will facilitate in-trench dewatering, if necessary. The gradational requirements for No. 57 Coarse Graded Aggregate is also presented in Appendix B.

Floor Slabs

Provided that the required earthwork is accomplished in accordance with the recommendations contained in this report, we recommend that a modulus of subgrade reaction of 200 pci be utilized in the structural design of the concrete slab. We recommend that a minimum 4-inch thick layer of No. 57 Coarse Graded Aggregate be placed beneath all floor slabs to provide uniform support.

Site Preparation & Earthwork

Initial Site Preparation

Following the initial stripping of asphalt pavement and unsuitable surficial soils in the vicinity of the proposed building addition, the ground surface should then be leveled, rough graded in areas where structural fills are proposed and proof-rolled using a minimum 10 ton, smooth drum roller. Additionally, we recommend that the proof-rolling operation be monitored by FPA, such that soft areas may be delineated, their impact on the proposed construction evaluated, and remediated, if necessary. Remediation may include the dental excavation of the soft material and backfilling with suitable aggregate or the installation of geotextile fabrics or geogrids to facilitate the bridging of weak areas.

Fills

We recommend that the fills required under or in the vicinity of any proposed structures and paved areas consist of approved on-site granular soils or imported fill material meeting the gradational requirement for Type “G” structural fill. Fills in structural areas should be placed in maximum 12-inch thick layers compacted to a minimum of 95 percent of the maximum dry density as determined by ASTM Test Method D-1557, The Modified Proctor Test. Non-structural fills should be compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM Test Method D-698, The Standard Proctor. All fills placed on sloping terrain should be benched into the existing soils.

We anticipate that the in-situ granular glacial soils will be suitable for re-use as backfill material. However, we note that the on-site soils generally consisted of granular soils intermixed with approximately 15 percent to 35 percent fine grained soils (silt and clay sized soil particles). While this material may be used as fill for the proposed improvements, we note that the material may be moisture sensitive during construction and may present difficulties in handling and inhibit proper compaction if the moisture content is not within the optimal range. Imported well-graded granular fill material (Type “G” Fill) may also be used for compacted structural fill and general grading fill placement and earthwork. The surface of all compacted fill subgrades should be graded or sloped to provide drainage of surface run-off. In addition, the surface of all prepared subgrades should be thoroughly compacted at the end of each day to seal the surface and minimize softening that may result from precipitation.

Regrading the Existing Steep Slope

Based on the "Grading Plan" prepared by the Maguire Group, a steep slope of less than 2 Horizontal to 1 Vertical is present directly east of the proposed building addition. The existing slope begins at approximate elevation +556 feet at the existing pavement level and steeply slopes up to elevation +574 feet at the crest of the slope. A rip rap dissipator and drainage swale with erosion control fabric are present above the existing slope. It is our understanding that consideration is being given to re-grading the slope as part of the proposed project.

We anticipate that the in-situ granular glacial soils or imported Type "G" fill will be suitable as fill material for the proposed re-grading of the existing steep slope. We do not anticipate that bedrock will be encountered in the vicinity of the proposed slope regarding provided excavations do not advance beyond 15 feet below the existing ground surface. Fills should be placed in maximum 12-inch thick layers compacted to a minimum of 95 percent of the maximum dry density as determined by ASTM Test Method D-1557, The Modified Proctor Test. All fills placed on sloping terrain should be benched into the existing soils.

Due to the sensitivity of the in-situ soils to mechanical disturbances, particularly when wet, all stripping and excavation work should proceed with care to avoid unnecessary agitation of the in-situ soils and the use of wide track earthwork equipment should be considered to the extent possible. Earthwork should be limited during or immediately following periods of high precipitation or ground thaw. We recommend that the Contractor grade the site each day to route water away from and limit standing water on previously placed material. The Contractor should also seal the soils with a vibratory roller at the end of each day to limit the infiltration of any water that does come in contact with the soils.

It is our opinion that the control of surface water runoff and the installation of suitable erosion control will be essential to the performance of the proposed earthen slope. It is our opinion that these items are essential in mitigating safety concerns and addressing long-term performance and maintenance issues. Surface water runoff may cause surficial erosion along earthen slopes and may potentially initiate stability related issues. It is important that surface water runoff be controlled with drainage swales or similar structures such as to preclude channelized flow along the slope face. Adequate erosion control measures will also need to be incorporated into the design of the slopes. Additionally, we recommend that slope stability concerns be given consideration during the selection of the topsoil to be used on steep slopes. We recommend that topsoil used on steep slopes be a predominately granular soil, with sufficient amounts of silt and clay sized soil particles to produce a fair amount of cohesion, such that the topsoil is inherently stable when subjected to sheet flow resulting from surface water runoff. Loose, loamy, or "fluffy" topsoil should not be utilized.

Lateral Earth Pressures

Below-grade walls will need to be designed to resist lateral earth forces. On-site soils meeting the gradation of Type "G" fill can be used as backfill behind the proposed below-grade walls. Cobbles and boulders larger than 6 inches in diameter should be removed and not used as backfill. Again, due to the presence of perched water conditions, we recommend that the

designer include a waterproofing membrane and wall drains along the below-grade walls. To facilitate the design of below-grade walls, we offer the following soil parameters:

	On-Site Soils/Type "G" Fill
Total Unit Weight of Soil (γ)	125 pcf
Angle of Soil Internal Friction (Φ)	32°
Cohesion (C)	0 psf
Active Earth Pressure Coefficient (Ka)	0.31
At-Rest Earth Pressure Coefficient (Ko)	0.47
Passive Earth Pressure Coefficient (Kp)	3.25
Coefficient of Base Friction:	
In-Situ cohesive Soils (μ)	0.35
Coarse Graded Aggregate (μ)	0.60

In the event that concentrated loads are located in the vicinity of the walls, we recommend that the potential for additional lateral pressures on the below-grade walls be evaluated. The magnitude of any lateral stress increases may be calculated using published solutions based on elastic theory. We recommend that the below-grade walls of the pits be designed for a uniform surcharge of 360 psf at the ground surface to account for heavy vehicular loads. The use of heavy compaction equipment within 5 feet of any below grade walls should be prohibited.

Pavement

The subsurface conditions encountered at the site will provide adequate support for pavement. We recommend that the pavement subgrade be leveled, rough-graded, and proof-rolled using a minimum 10 ton, smooth drum vibratory roller, capable of producing a dynamic load of 20 tons. This will serve to further densify the subsoils and delineate potential soft zones. We recommend that a minimum of 3 passes be made within the proposed paved areas. Areas which exhibit excessive yielding or pumping should be selectively excavated. The fill to be used to replace unsuitable soil shall consist of approved on-site granular soils or imported fill meeting the gradational requirements of Type "G" Fill. The fills should be placed in maximum 12 inch thick lifts and compacted to a minimum of 95 percent of the maximum dry density as determined by ASTM Test Method D-1557, the Modified Proctor.

Provided the required earthwork is performed in accordance with the above recommendations, it is our opinion that a subgrade resilient modulus of 7,500 psi will be suitable for use in the design of the flexible pavement section. We recommend that the asphalt pavement section incorporate a minimum 6-inch thick layer of Dense Graded Aggregate (DGA) subbase. The gradational requirements for DGA is presented in Appendix B.

CLOSING & LIMITATIONS

The recommendations contained herein are contingent upon subsurface conditions remaining consistent with those encountered during our subsurface exploration. They are also contingent upon the basis that all foundation related aspects of construction, including stripping, controlled fill operation, foundation excavation and subgrade preparation, and asphalt pavement construction be observed by a representative of FPA. This is to observe compliance with the design concepts and specifications and to allow design changes in the event that subsurface conditions differ from those anticipated prior to construction.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of wetlands, chemically hazardous, or biologically toxic materials in the soil, surface water, groundwater or air, on or below or around the site.

Services performed by FPA during this project have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended in the services provided.

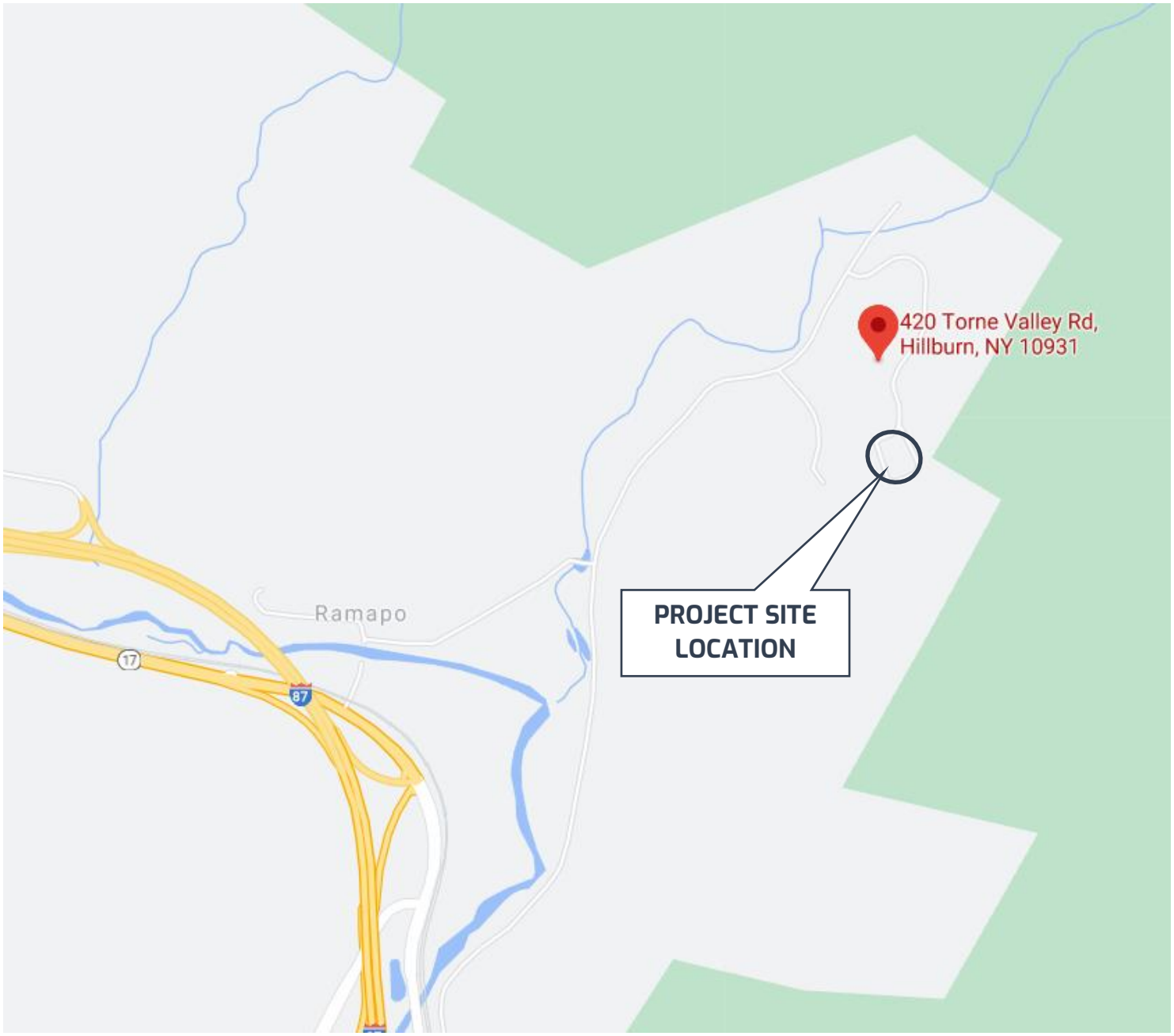
Should you have any questions or if we can be of service to you in the future, please feel free to contact us.

Sincerely,

FRENCH & PARRELLO ASSOCIATES

David M. Rohmeyer, PE
Project Engineer

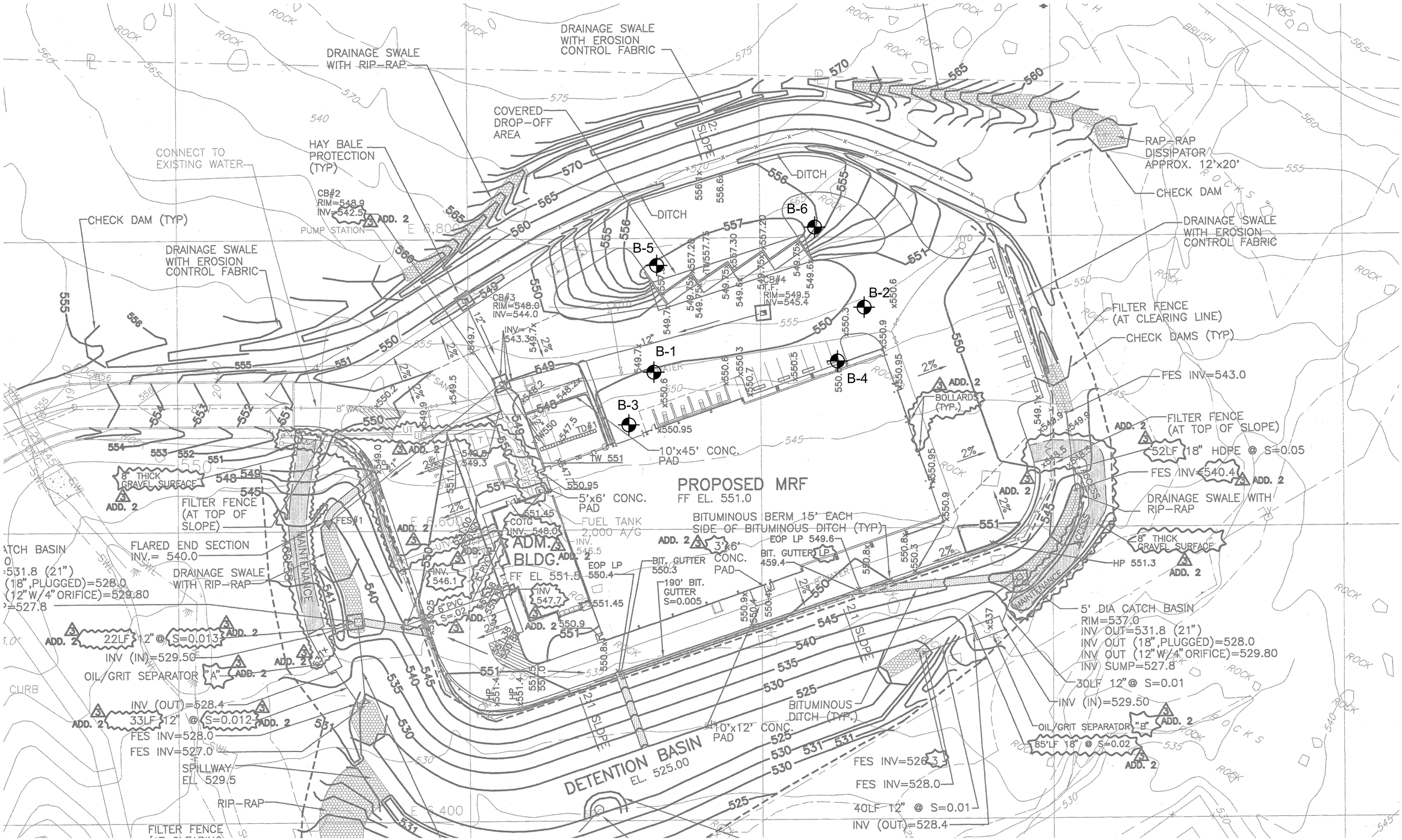
Robert D. Knotz, PE
Project Consultant



REGIONAL LOCATION PLAN

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK

SCALE:	DATE:	JOB NO.:	DRAWING NO.:
NTS	February 2021	17004.001	1



LEGEND:

TEST BORING LOCATION

No.	Date	Revision	Revised By	Checked By

30 0 30 60
SCALE IN FEET

FPA FRENCH & PARRELLO ASSOCIATES

Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

TEST BORING LOCATION PLAN

FOR

ROCKLAND GREEN MATERIAL RECOVERY FACILITY

HILLBURN
ROCKLAND COUNTY, NEW YORK

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
FEBRUARY 2021	–	APPROX. 1"=30'	17004.001
DRAWN BY:	CHECKED BY:	FIELD BOOK	DRAWING NO.
RDK	–	–	2

O:\17K\17000\17004 – Rockland County Solid Waste\CADD\17004.001 – Test Boring Location Plan.dwg TBPLAN

APPENDIX A
Test Boring Logs

BURMISTER SOIL CLASSIFICATION SYSTEM

A. Cohesionless Soils: Particle Size Definitions

Soil	Fraction	U.S. Standard Sieve	Actual Sizes
Gravel	coarse	3 in. to 1 in.	76 mm to 25 mm
	medium	1 in. to 3/8 in.	25 mm to 9.5 mm
	fine	3/8 in. to No. 10	9.5 mm to 2.0 mm
Sand	coarse	No. 10 to No. 30	2.0 mm to 0.6 mm
	medium	No. 30 to No. 60	0.6 mm to 0.25 mm
	fine	No. 60 to No. 200	0.25 mm to 0.75 mm
Silt		< No. 200	< 0.075 mm

B. Terms Describing Gradation of Cohesionless Soils

Written Description	Symbol/Designation	Defining Proportions
coarse, medium to fine	cmf	all fractions > 10%
coarse to medium	cm	< 10% fine
medium to fine	mf	< 10% coarse
coarse	c	< 10% medium and fine
medium	m	< 10% coarse and fine
fine	f	< 10% coarse and medium

Note: Use (+) for upper limit and (-) for lower limit.

C. Cohesive Soils: Terms Describing Plasticity

Soil	Plasticity Index	Workability	Plasticity Description
SILT	0	--	Non-Plastic
Clayey SILT	1 to 5	1/4 in. thread	Slightly Plastic
SILT & CLAY	5 to 10	1/8 in. thread	Low Plasticity
CLAY & SILT	10 to 20	1/16 in. thread	Medium Plasticity
Silty CLAY	20 to 40	1/32 in. thread	High Plasticity
CLAY	>40	1/64 in. thread	Very High Plasticity

D. Terms Describing Overall Composition of Soil

Written Proportion	Proportion Symbol	Proportion Percent by Weight
and	a	35 to 50
some	s	20 to 35
little	l	10 to 20
trace	t	1 to 10

Note: Use (+) for upper limit and (-) for lower limit.

TEST BORING LOG

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK
(FPA PROJECT NO. 17004.001)

BORING NO.: B-1
SHEET 1 OF 1

DATE STARTED: 1/29/2021
DATE FINISHED: 1/29/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: +550'±
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – 27 – 27		S-1 TOP 18" Asphalt. BOT 6": Grey cmf **GRAVEL**, some c⁺mf Sand, little Silt.
	S-2 2-4'	27 – 10 – 10 – 11		S-2 Brown cmf **SAND**, some mf Gravel, little Silt.
--- 5'---	S-3 4-6'	8 – 7 – 9 – 8		S-3 Brown cmf **SAND**, little cmf Gravel, little Silt. *(moist)*
	S-4 6-8'	12 – 20 – 20 – 23		S-4 Brown cmf **SAND**, little Clayey Silt, trace c⁺mf Gravel.
---10'---	S-5 8-10'	13 – 23 – 22 – 21		S-5 Brown cm **SAND**, some cf Gravel, trace⁺ Clayey Silt.
	S-6 10-12'	32 – 26 – 26 – 24		S-6 Same as **S-5**.
---15'---	S-7 15-17'	50/0" – X – X – X		S-7 Brown cmf **SAND,** some cf Gravel, trace⁺ Clayey Silt.
				END OF BORING @ 15'
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: C. KROSCHINSKI, PE

CONTRACTOR: CRAIG TEST BORING
DRILLER: N. BEHLER

TEST BORING LOG

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK
(FPA PROJECT NO. 17004.001)

BORING NO.: B-2
SHEET 1 OF 1

DATE STARTED: 1/29/2021
DATE FINISHED: 1/29/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: +550.5'±
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – 42 – 20		S-1 TOP 12": Asphalt. MID 6": Grey cmf **GRAVEL**, and cmf Sand, little Silt. BOT 6": Brown cmf **SAND**, little Silt.
	S-2 2-4'	16 – 17 – 18 – 16		S-2 Brown cmf **SAND**, little Silt, trace f Gravel. *(moist)*
--- 5'---	S-3 4-6'	18 – 21 – 21 – 21		S-3 Brown cm **SAND**, and cmf Gravel, trace Silt. *(moist)* (rock in tip) *Low Recovery*
	S-4 6-8'	25 – 40 – 20 – 31		S-4 Brown cmf **SAND**, little Silt, trace^{+} mf Gravel. *(moist)*
	S-5	20 – 25 – 27 – 30		S-5 Brown cmf **SAND**, little Silt, little cf Gravel. *(moist)*
---10'---	8-10'			
	S-6 10-12'	10 – 50/1" – X – X		S-6 Same as **S-5**.
---15'---				
	S-7 15-17'	23 – 31 – 36 – 50/5"		S-7 Brown mf **SAND**, some Clayey Silt, little mf Gravel.
				END OF BORING @ 16'11"
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: C. KROSCHINSKI, PE

CONTRACTOR: CRAIG TEST BORING
DRILLER: N. BEHLER

TEST BORING LOG

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK
(FPA PROJECT NO. 17004.001)

BORING NO.: B-3
SHEET 1 OF 1

DATE STARTED: 1/29/2021
DATE FINISHED: 1/29/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: +551'±
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – 14 – 13		S-1 TOP 12": Asphalt. MID 6": Grey cmf **GRAVEL**, some⁺ cmf Sand, trace Silt.
	S-2 2-4'	14 – 22 – 34 – 22		BOT 6": Brown cmf **SAND**, little Silt. S-2 Brown cmf **SAND**, and c⁺mf Gravel, little Silt.
--- 5'---	S-3 4-6'	15 – 11 – 17 – 14		S-3 Dark Brown mf **SAND**, little cmf Gravel, little Clayey Silt. *(moist)*
	S-4 6-8'	14 – 22 – 32 – 29		S-4 Dark Brown cmf **SAND**, little Clayey Silt, little cf Gravel.
---10'---	S-5 8-10'	8 – 19 – 30 – 13		S-5 Dark Brown mf **SAND**, some Clayey Silt. (rock in tip of spoon) *Low Recovery*
---15'---	S-6 10-12'	7 – 14 – 15 – 17		S-6 Brown cmf **SAND**, some Silty Clay. *(moist)*
	S-7 15-17'	12 – 12 – 42 – 51		S-7 Same as **S-6**.
---20'---				END OF BORING @ 17'
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: C. KROSCHINSKI, PE

CONTRACTOR: CRAIG TEST BORING
DRILLER: N. BEHLER

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST BORING LOG

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK
(FPA PROJECT NO. 17004.001)

BORING NO.: B-4
SHEET 1 OF 1

DATE STARTED: 1/29/2021
DATE FINISHED: 1/29/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: +550.5'±
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – 16 – 26		S-1 TOP 12": Asphalt. BOT 12": Brown cmf **SAND**, some cmf Gravel, little Silt.
	S-2 2-4'	19 – 21 – 11 – 10		S-2 Brown cmf **SAND**, some⁻ mf Gravel, little Silt.
--- 5'---	S-3 4-6'	8 – 12 – 11 – 13		S-3 Brown cmf **SAND**, little mf Gravel, little Silt. *(moist)*
	S-4 6-8'	16 – 18 – 27 – 16		S-4 Same as **S-3**.
---10'---	S-5 8-10'	20 – 25 – 25 – 50/3"		S-5 Brown cmf **GRAVEL**, and cmf Sand, little Silt. *(moist)*
	S-6 10-12'	20 – 19 – 22 – 35		S-6 Brown cmf **SAND**, little Silt, trace⁺ mf Gravel. *(moist)*
---15'---	S-7 15-17'	54 – 42 – 50/3" – X		S-7 Brown c⁻mf **SAND**, little Silt, trace⁺ mf Gravel.
				END OF BORING @ 16'3"
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: C. KROSCHINSKI, PE

CONTRACTOR: CRAIG TEST BORING
DRILLER: N. BEHLER

TEST BORING LOG

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK
(FPA PROJECT NO. 17004.001)

BORING NO.: B-5
SHEET 1 OF 1

DATE STARTED: 1/29/2021
DATE FINISHED: 1/29/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: +557'±
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	X – X – 16 – 20		S-1 TOP 12": Asphalt. MID 6": Grey cmf **SAND**, and cmf Gravel, trace Silt. BOT 6": Brown mf **SAND**, little Silt.
	S-2 2-4'	29 – 32 – 36 – 28		S-2 Brown cmf **SAND**, little Silt, trace cf Gravel.
--- 5'---	S-3 4-6'	23 – 12 – 16 – 13		S-3 Brown mf **SAND**, some c Gravel, little Silt. *(moist)*
	S-4 6-8'	10 – 18 – 15 – 17		S-4 Brown mf **SAND**, some Clayey Silt, trace m Gravel.
---10'---	S-5 8-10'	8 – 24 – 22 – 18		S-5 Same as **S-4**.
	S-6 10-12'	34 – 42 – 47 – 50/5"		S-6 Brown cmf **SAND**, some cmf Gravel, little Clayey Silt.
---15'---	S-7 15-17'	13 – 17 – 20 – 19		S-7 Brown cmf **SAND**, little Silt.
---20'---				END OF BORING @ 17'
---25'---				
---30'---				
---35'---				

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: C. KROSCHINSKI, PE

CONTRACTOR: CRAIG TEST BORING
DRILLER: N. BEHLER

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

TEST BORING LOG

ROCKLAND GREEN MATERIAL RECOVERY FACILITY
HILLBURN, ROCKLAND COUNTY, NEW YORK
(FPA PROJECT NO. 17004.001)

BORING NO.: B-6
SHEET 1 OF 1

DATE STARTED: 1/29/2021
DATE FINISHED: 1/29/2021
DEPTH OF WATER: Dry
LOCATION: See Plan
GROUND ELEVATION: +556'±
GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE: Mud Rotary
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
	S-1 0-2'	X – X – 46 – 36		S-1	TOP 12": Asphalt. BOT 12": Grey cmf **SAND**, and cmf Gravel, trace Silt.
	S-2 2-4'	38 – 34 – 34 – 29		S-2	Brown cmf **SAND**, little Silt, trace mf Gravel. *(moist)*
--- 5'---	S-3 4-6'	14 – 50 – 42 – 30		S-3	Brown cmf **SAND**, little Silt, little cmf Gravel. *(moist)*
	S-4 6-8'	19 – 14 – 32 – 17		S-4	Brown cmf **SAND**, and+ cmf Gravel, little Silt. *(moist)*
	S-5	10 – 20 – 19 – 18		S-5	Brown cmf **SAND**, little Silt, little mf Gravel. *(moist)*
---10'---	8-10'				
	S-6 10-12'	24 – 20 – 27 – 29		S-6	Brown cmf **SAND**, little Silt, little mf Gravel.
---15'---					
	S-7 15-17'	21 – 27 – 26 – 24		S-7	Same as **S-6**.
					END OF BORING @ 17'
---20'---					
---25'---					
---30'---					
---35'---					

SOILS ENGINEER: R. KNOTZ, PE
DRILLING INSPECTOR: C. KROSCHINSKI, PE

CONTRACTOR: CRAIG TEST BORING
DRILLER: N. BEHLER

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.

APPENDIX B
Gradational Requirements

Allowable Gradational Envelope

Type "G" Fill

GRANULAR FILL

U.S. Standard Sieve Size	Percent Finer By Weight
2"	100
1"	80 – 100
3/8"	70 – 100
No. 10	50 – 100
No. 30	30 – 85
No. 60	15 – 65
No. 200	5 - 15

Allowable Gradational Envelope

AASHTO M43

Standard Sizes of Coarse Aggregate Size No. 57

U.S. Standard Sieve Size	Percent Finer by Weight
1 ½”	100
1”	95 - 100
½”	25 - 60
No. 4	0 - 10
No. 8	0 - 5

Allowable Gradational Envelope

STANDARD SPECIFICATIONS

Dense Graded Aggregate (DGA)

U.S. Standard Sieve Size	Percent Finer by Weight
1 ½”	100
¾”	55 – 90
No. 4	25 – 50
No. 50	5 – 20
No. 200	3 – 10

APPENDIX D6

Roof Inspection Report

(16 pages)

Anderson Design Group
25 Wallkill Ave.
Montgomery, NY 12549

Field Report: Rockland Green

Rockland Green
Rockland County MRF Expansion
Rockland County (US)
Report number: 21205-4
Date: April 07 2021

Location Map:

Contacts:

Role and company name	Name	Contact information	Present
Architect [ADG Architects]	Jason Anderson, AIA	845.294.2724 jta@adgarchitect.com	✘
Senior Associate [ADG Architects]	Thomas Anderson	845.294.2724 tha@adgarchitect.com	✔
Project Manager [RRT Environmental]	Natalie Kovac	nkovac@rrtenviro.com	✘
Project Manager [Empire Sales Group]	Tom Scriven	347.564.7734 tom@empiresalesgroup.net	✔
President [RRT Design & Construction]	Nathiel Egosi	631.756.1060 negosi@rrtenviro.com	✘

Introduction:

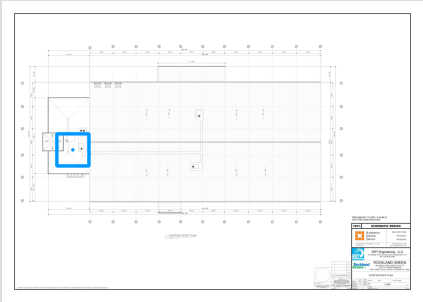
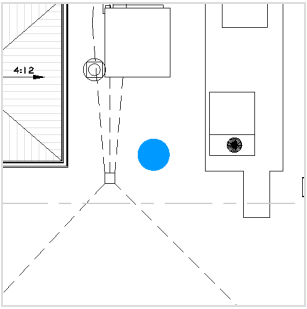
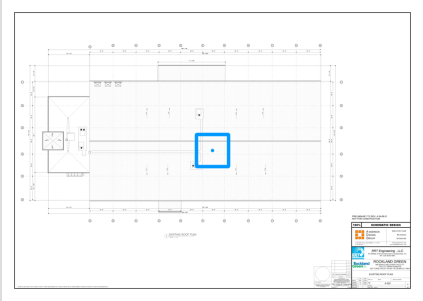
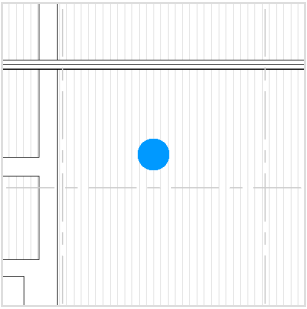
The Client, RRT Design & Construction, is designing facility improvements to 499-010 Rockland Green MRF located in Hillburn, NY. This report has been requested to identify issues and potential required repairs to the existing roof. This report is intended to be used to assist the Client in understanding the improvements required and to develop a preliminary budget.

Scope:

The scope of this report includes outlining the existing conditions of the roof based on a visual inspection. In addition to identifying areas of concern relative to the integrity and age, the inspection was performed with an eye towards keeping and repairing the existing roof.

The basis of this report was a visual inspection performed by our office, together with our Roofing Consultant, Empire Sales Group (Versico, Calisle), on March 30, 2021. Empire Sales Group's Roof Investigation Report is attached herein.

Observations:

Observation	Description
Envelope	
4.1 Office Roof March 30, 2021	The roof is a TPVC roof in excellent condition, particularly given it's estimated 26 years in service. *April 07 2021* The markings on the roof state that it is a Sarnafil PVC roofing system. It is fully adhered, and while the insulation thickness could not be confirmed, the plans show it to be 2 layers; for a total value of R-30. *April 07 2021* There does not seem to be any evidence of failure. Top ply thickness loss is a concern as indicated by the extreme dirt buildup in the sections near the building. Once the reinforcement fibers become exposed and start grabbing the dirt, which was noted, the top ply material is near the end of it's life cycle. *April 07 2021* Sarnafil TPVC roof was and still is is considered one of the best on the market, however, as stated above, it is at the end of its life cycle. *April 07 2021* **Proposed Option 1:** The recommended solution would to be remove everything down to the decking. The decking could then be inspected and a new TPO or EPDM membrane with code complaint vapor barrier and insulation would be added. This would provide for a new 30 year warrantied TPO or EPDM assembly. *April 07 2021* **Proposed Option 2:** Relying on the accuracy of the R-30 value indicated in the original construction documents, a quick fix would be to add an additional membrane over the existing. The existing PVC (Sarnafil) does require that such membrane and/or additional coating be by one of their approved manufacturers. Attached hereto is such a membrane as recommended by a SIKA representative. *April 07 2021*   see online
4.2 PEMB Metal Roof March 30, 2021	The metal roof and building is Butler Widespan with an MR24 standing seam roof, which is also considered one of the best in the industry. The roof appears to be in good condition, commensurate with the age of the structure. *April 07 2021* Minimal touch up and a manufacturer approved coating is recommended. *April 07 2021*   see online

Conclusion:

1. Although the Office roof is in good condition for its age, considering the small roofing area and the extent of the new renovations within the offices below, we recommend that this roof be replaced.

2. We recommend that the existing PEMB MRF/Transfer Station metal roof be selectively repaired and coated.

3. See attached roofing consultant report for additional information.

Documents:

Description	Status	Date	Responsible
Roof Investigation Report	Received		

General Conditions

Disclaimer: Site visits performed by the Architect under this contract have been conducted under the limited conditions as described by site observations in the General Conditions of the Contract for Construction, as referenced in the Owner-Architect Agreement.

There were only limited Architectural, Structural, and MEP/FP drawings available for review. This report does not include an in-depth analysis of the building systems, i.e. energy usage studies, equipment warranty/life expectancy review, etc., nor does it include any inspection requiring demolition, i.e. core samples, bearing capacity tests, etc. A hazardous material inspection, i.e. asbestos, lead, etc., was not performed by a hazardous material inspection agency. It is recommended that a hazardous material inspection be performed on all existing buildings.

Information contained in this Field Observation Report, by Jason T. Anderson Architect, P.C. dba Anderson Design Group and it's consulting engineers, has been prepared to the best of our knowledge according to observable conditions at the site. This information will be an approved record unless written notice to the contrary is received within seven (7) calendar days of the issue date of this document. Written corrections shall be reported to an Architect at Anderson Design Group. Oral rebuttals will not be accepted.

ROCKLAND GREEN
Hillburne, NY

Roof Investigation Report

Inspection Date: 03/30/2021

PREPARED BY:

Tom Scriven
Empire Sales Group
1088 Midwood Drive
Rahway, NJ 07065
tom@empiresalesgroup.net
732-381-3804

PREPARED FOR:

Thomas Anderson
Senior Associate
Anderson Design Group
THA@ADGarchitect.com
Phone: 845-764-9687
Fax: 845-675-1230

FACILITY INFORMATION:

Rockland Green (Rockland County Recycling)
420 Torne Valley Road
Hillburne, NY 10931
Building Type: Office
Neighborhood: Urban and Suburban

This report was prepared using True Roof Rater by

04/03/2021

Thomas Anderson
Senior Associate
Anderson Design Group
Email: THA@ADGarchitect.com

In accordance with your request, a visual inspection of the roof at the referenced building was conducted. The purpose of the inspection was to obtain a general overview of the current condition of the roof and to provide recommendations for repairing the existing roof as well as related cost estimates for the repair work.

The building is of masonry and steel reinforced concrete construction and is number (2) stories in height. The roof area consists of 1 roof section encompassing approximate (3000) square feet. The existing roof is composed of a loose single ply Sarnafil PVC roofing system, apparently fully adhered. The roof system appears to be in fair condition. There appears to be the beginning of top ply thinning where the reinforcement fibers showing through. There are catching dirt and my guess some moisture. The building was constructed in 1995 and the membrane although solid is nearing it's end.

The premium situation is that all layers be removed and we can inspect the metal decking. The news that the existing insulation is already in 2 layers with R value of 30 that can also give hope to some excellent retrofit options

It is understood that the foregoing information as well as the information contained in this report is based on visual observations only. It is further understood that the cost estimates offered are for budgeting purposes only. Actual costs may vary and can only be determined by obtaining a bid from a qualified commercial roofing contractor.

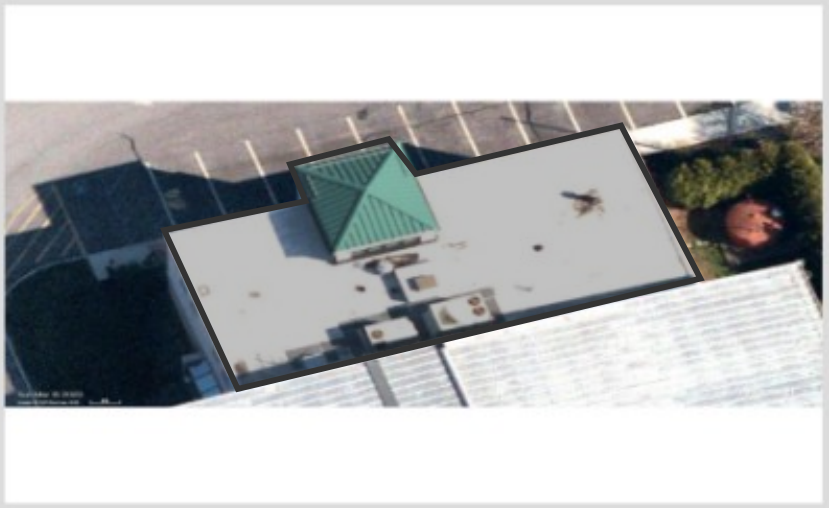
Please feel free to contact me at (347) 564-7734, if you have any questions or if you require any additional assistance.

Sincerely,

Tom Scriven

ROCKLAND GREEN - HILLBURNE, NY

Roof Repair/Replacement Costs



ROOFTOP SUMMARY:

Roof Sections: 1
Total Issues: 4
Total Details: 0

Section	Severity	Recommendation	Repair Cost	Replacement Cost
A)			N/A	N/A
			$0.00	**$0.00**

Disclaimer

This report has been prepared by an individual trained by experience and education in this industry. However, this report is not intended to be and does not constitute an expert opinion on the cause of any deficiencies found, rather it addresses such deficiencies, if found, and proposed corrective action to restore the effectiveness and long term viability of the roof. This report was not prepared by a licensed professional engineer and is not intended to be a statement or opinion concerning the quality of the installation inspected, since its focus is on remediation of any conditions found. This report is for the exclusive use for the recipient and may not be used by any other person or entity without the prior express consent of the author.

Notice: Scale drawings, preliminary specifications and documentation provided by are preliminary. The successful bidder is responsible for all building permits, field conditions and compliance with building codes. Any budgetary figures are preliminary only and not guaranties. Preliminary specifications and budgeting parameters are based upon field inspections and test cuts when applicable and are subject to revisions based upon final field conditions and construction issues. The successful bidder is responsible to conduct their own field tests and construction inspections to assure proper installation and compliance with building codes. No structural analysis has been provided in these preliminary specifications.

Versico nor their independent representatives are architects and therefore it is not the intent herein to describe all of the details for roofing and flashing. The roofing contractors shall assure themselves that they have been provided with all information and details required by the membrane manufacturer or project conditions to achieve a complete water-tight installation regardless of whether or not such information or details are expressed specifically herein. The roofing contractor shall provide immediate notice to the owner in the event the roofing contractor determines that additional information, details or drawings are necessary to achieve a complete watertight installation. All work shall be performed by the roofing contractor in accordance with local, state and federal laws, codes and regulation. Owner shall accept responsibility for the adequacy of the design and the conformance of the design with all local, state, federal laws, codes. To the extent applicable, Owner accepts responsibility for any identification, analysis removal and disposal of asbestos containing material.

Section A Overview:

Section Outcome:

Severity:

Section Summary:
Section Issues: 4
Section Details: 0

Section Recommendation:

Section Composition:

Layer Type	Description	Method of Attachment
Membrane	PVC - reinforced	Cold adhesive
Insulation	Polyisocyanurate	Mechanically attached

Section A:

Issue AI-1: Membrane deterioration

Description:
Membrane surface deterioration include erosion, wearing away of the membrane surface and allowing moisture to get sucked into the top ply

Why is this an issue?
Membrane deterioration affects the strength and watertight integrity of the roofing system. Freeze thaw can not further deteriorate the roof plies

Severity:
Moderate

Action:
Requires Repair

Top ply deterioration

Membrane Wearing

Section A:

Issue AI-2: dirt and contaminants excessive near roof exhaust

Description:
seems to be an extreme amount of contaminants exhausting out onto the roof

Why is this an issue?
although PVC is an excellent resilient material, 26 years of this can start to wear down the membrane

Severity:
Moderate

Action:
Requires Repair

Exhaust Contamination

Section A:

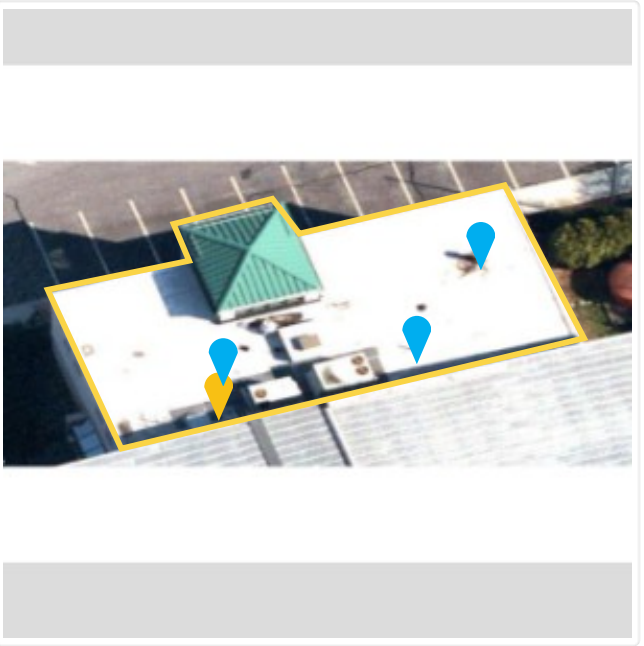
Issue AI-3: Metal Panel Wall

Description:
the new membrane will need to be brough behing the existing panel wall. That will require the fasteners to be backed out and an termination bar installed on the wall. Resetting the panels

Why is this an issue?
fair amount of work to terminate properly. I would recommending using new washers when the wall reinstalled

Severity:
Minor

Action:
Monitor



Panel Wall

Section A:

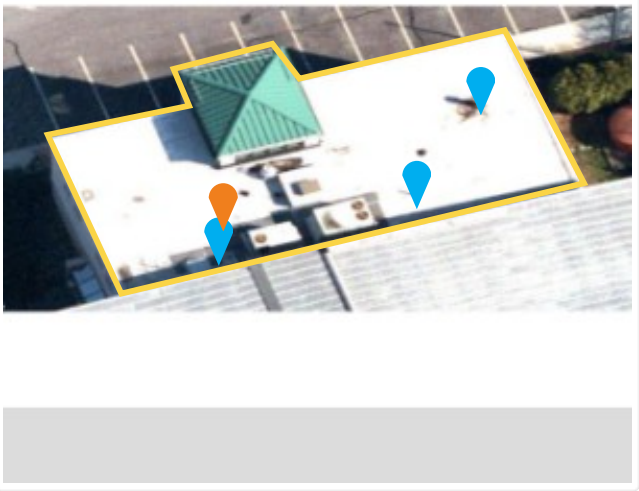
Issue AI-4: Walkway pad lifting or displaced

Description:
Walkway pads are installed to protect the membrane from foot traffic and punctures that may occur when servicing rooftop equipment.

Why is this an issue?
This is a minor condition and will not cause leaks, but pads should be repaired to continue protecting the membrane. Dirt & mildew tend to collect under lifting pads. This can also create a slipping hazard

Severity:
Moderate

Action:
Requires Repair



Dirt collection between pads

Pads lifting

RE-ROOFING
SOLUTIONS

Commercial Roofing Recover Options

VERSICO
ROOFING SYSTEMS

BUILDING VALUE

CHOOSE THE ROOF THAT IS **RIGHT FOR YOUR BUILDING**

Versico understands that every building is different and has unique requirements when it comes to choosing the right replacement roof. This guide is designed to help you easily identify the best recover option based on your existing roof system, your energy requirements, and your budget. Whatever your needs, Versico provides a comprehensive offering of products, services, and warranty options.

System Options	Existing Roof Type					
	Metal	Gravel Surface BUR	Smooth Surface BUR & Modified Bitumen	TPO or EPDM	Ballasted EPDM	PVC
Premium						
RapidLock EPDM, TPO or PVC membrane with new SecurShield™ RL insulation	Up to 20 (flute fill required)	Up to 20	Up to 20	Up to 20	Up to 20	Up to 20
Fully Adhered or Mechanically Attached EPDM, TPO, PVC, or VersiFleece TPO or PVC membrane with new polyiso	Up to 20 (flute fill required)	Up to 20	Up to 20	Up to 20	Up to 20	Up to 20
VacuSeal™ EPDM, TPO, or PVC with new DuraStorm VSH™ or approved gypsum cover board	Up to 20 (flute fill required)	Up to 20	Up to 20	Up to 20	N/A	Up to 20
Induction Welded TPO or PVC with new polyiso insulation	Up to 20 (flute fill required)	Up to 20	Up to 20	Up to 20	Up to 20	Up to 20
Standard						
Fully Adhered VersiFleece TPO or PVC Membrane (Direct recovery application without new insulation)	N/A	N/A	Up to 20	Up to 20	N/A	N/A
Fully Adhered or Mechanically Attached EPDM, TPO, or PVC with Versico SecurShield HD or approved Cover Board	Up to 20 (flute fill required)	Up to 20	Up to 20	Up to 20	Up to 20	Up to 20
Induction Welded TPO, or PVC with Versico SecurShield HD or approved Cover Board	Up to 20 (flute fill required)	Up to 20	Up to 20	Up to 20	Up to 20	Up to 20
Induction Welded TPO or PVC (without new insulation)	N/A	N/A	N/A	Up to 15	N/A	N/A
Mechanically Attached TPO, EPDM, or PVC (without new insulation)	N/A	N/A	Up to 15 (EPDM & TPO only)	Up to 15	N/A	N/A
Basic						
X-Tenda Coat*	Up to 10	N/A	Up to 5	Up to 10	N/A	Up to 10

Approved Substrates for mechanically attached insulation and membrane include corrugated steel (min. 22 ga), structural concrete, plywood (min. 15/32"), wood plank. Consult Versico specifications for full list

For metal roof recovers, mechnically attached systems must be attached through purlins

A minimum of .060 mil EPDM, TPO, or PVC membrane is required for most systems. Consult Versico specifications for further details

Puncture and hail warranties may be available when using VersiFleece membranes, 80 mil TPO and PVC, 60 mil reinforced or 90 mil non-reinforced EPDM membranes.

*Like all of Versico's dependable roofing products, X-Tenda Coat products are backed by industry-leading warranties. Depending on the thickness of the coating application, Versico offers 5- and 10-year Material and Limited System Warranties on its X-Tenda Coat systems. Note: System Warranties are only available when coating is applied to a Versico roofing system. Please refer to Versico's Specifications and Details for complete warranty information.

RE-ROOFING SOLUTIONS

Convenience, value and performance are three critical considerations when it comes to the success of any reroofing project. Versico Roofing Systems has designed specific reroofing systems to address all these concerns. Learn about the ideal reroofing products and systems by looking for the Reroofing Solutions logo on Versico's website and literature.

Convenience: When conducting a reroofing project on an occupied building there are many considerations to ensure minimal disruption and maximum convenience. Fumes and odors, noise level, project timeline, aesthetics, and the ability to maintain normal operations to name a few. Versico offers a wide range of products and systems designed with these considerations in mind.

Value: From installed cost to energy efficiency, maintenance cost and overall environmental impact, the value of a new roofing system from Versico takes many factors into consideration. As the leading manufacturer of low-slope roofing products and with more system options than any competitor, Versico can outline how different solutions can provide the value that is most important to any customer.

Performance: With warranty options from 10-30 years, 55 to 120 mph, and options to include hail and accidental puncture coverage, Versico can design a reroofing system that provides the resistance to the elements required to keep your roofing system performing for decades. A building's roofing system plays a major role in the energy efficiency and resiliency of that building. Versico has designed numerous reroofing solutions to maximize performance in any environmental condition.

Re-Roofing Design Considerations

Re-roofing over an old roofing system can save considerable time and labor. However, you must consider all options, including a complete tear-off of the old roofing system when necessary. Always consult a roofing design professional to discuss your options. It's also important to contact an engineering professional to ensure the building and roof structure are not overloaded by adding new material or making alterations to the roofing system. Additional re-roofing considerations include:

- If wet or damaged insulation is present, it should always be removed and replaced during re-roofing.
- Always check local and state energy codes to determine whether it is necessary to add insulation to a roofing system to meet minimum LTTR values.
- Always consult local and state building code requirements to ensure the design of a new roof meets all requirements.
- Consider using a rigid coverboard or VersiFleece membrane to prevent punctures or in hail-prone regions.
- Design with future use in mind, including the potential installation of solar energy systems or amenity space like roof gardens and paver systems.

VERSICO
ROOFING SYSTEMS

A SINGLE SOURCE FOR SINGLE-PLY ROOFING

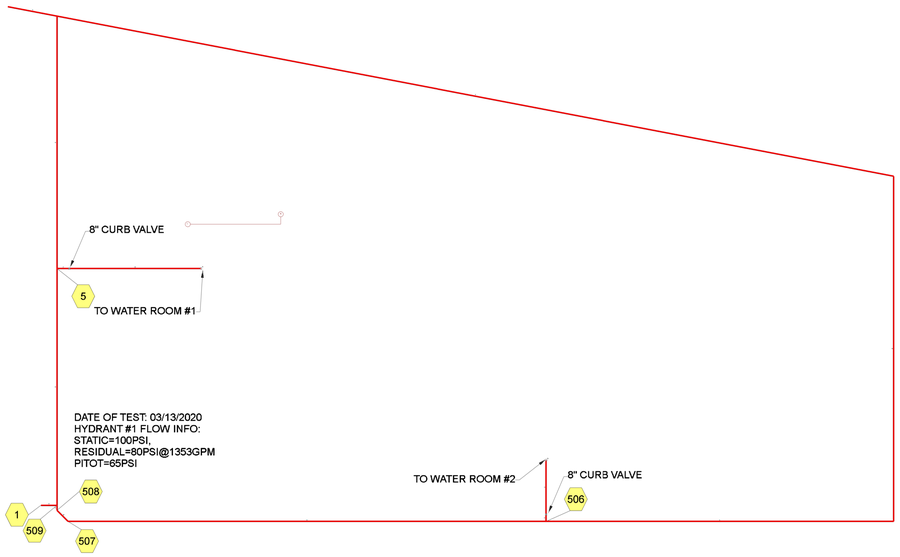
800.992.7663 • www.versico.com

REPRINT REQUEST CODE: 605187 – "Re-roofing Guide Brochure" – 09.09.20

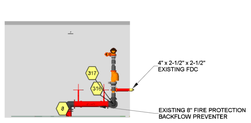
APPENDIX D7

Existing Sprinkler Drawings and Hydraulic Calculations

(87 pages)



FIRE PROTECTION - EXISTING 8" UNDERGROUND PIPING
SCALE: 1/32" = 1'-0"



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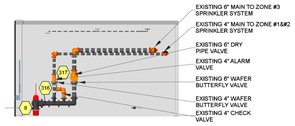

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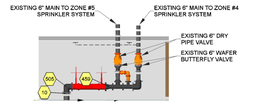

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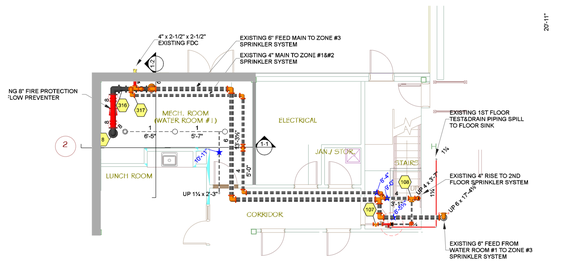
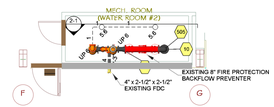


FIRE PROTECTION - EXISTING WATER ROOM #1 PLAN
SCALE: 1/8" = 1'-0"



FIRE PROTECTION - EXISTING WATER ROOM #2 PLAN
SCALE: 1/8" = 1'-0"

ABBREVIATIONS LIST

A.B.D.	AUTO MATIC BALL DRIP
(E)	EXISTING
F.C.V.A.	FLOOR CONTROL VALVE ASSEMBLY
F.D.C.	FIRE DEPARTMENT CONNECTION
(N)	NEW
(R)	EXISTING TO BE REPLACED & RELOCATED
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
OS&Y	OUTSIDE STEM AND YOKE
(TYP.)	TYPICAL
★—0"	PIPE CENTER LINE (CL) ABOVE FINISH FLOOR (AFF)

SCOPE OF WORK

SURVEY AND GENERATE AS-BUILT DRAWINGS FOR THE EXISTING SPRINKLER SYSTEMS AS APRIL 2021.

DESIGN CRITERIA

1. SPRINKLER SYSTEM SHALL BE HYDRAULICALLY VERIFIED BASED ON THE MOST RECENT WATER FLOW TEST AND THE DESIGN CRITERIA SHOWN ON THE AS-BUILT DRAWINGS DATED 03-08-1998, PROVIDED BY OTHERS.

1.1 OFFICE AREA, 1ST AND 2ND FLOOR (WET SPRINKLER SYSTEM ZONE #1, AND RESPECTIVELY WET SPRINKLER SYSTEM ZONE #2) SHALL BE HYDRAULICALLY VERIFIED TO PROVIDE 0.10 GPM/SQ FT OVER MOST REMOTE AREA OF 1,500 SQ FT. THE OUTSIDE HOSE INCLUDED TO BE 250 GPM.

1.2 PROCESS AREA, DRY CEILING SPRINKLER SYSTEM ZONE #3 AND DRY CEILING SPRINKLER SYSTEM ZONE #4 SHALL BE HYDRAULICALLY VERIFIED TO PROVIDE 0.20 GPM/SQ FT OVER MOST REMOTE AREA OF 3,900 SQ FT. THE OUTSIDE HOSE INCLUDED TO BE 500 GPM.

1.3 TIPPING AREA, DRY CEILING SPRINKLER SYSTEM ZONE #5 SHALL BE HYDRAULICALLY VERIFIED TO PROVIDE 0.20 GPM/SQ FT OVER MOST REMOTE AREA OF 3,900 SQ FT. THE OUTSIDE HOSE INCLUDED TO BE 500 GPM.

1.4 MINIMUM PRESSURE AT ANY SPRINKLER SHALL BE AS REQUIRED BUT IN NO CASES IT SHOULD BE LESS THAN 7 PSI.

WATERFLOW TEST DATA

PROVIDED BY:	Campbell Fire Protection
DATE:	03/13/2020
STATIC PRESSURE:	100 PSI
RESIDUAL PRESSURE:	80 PSI@1353GPM
HYDRANT:	#1

REVISIONS

Rev. No.	Date	Description	By
1	05-04-21	SURVEY EXISTING SPRINKLER SYSTEMS	I.I.

NOTE: Any alteration to these Plans Unless Done Under The Direction Of A NYS Licensed And Registered Professional Engineer Or Architect Is A Violation Of NYS Education Law.

PLOT PLAN
SCALE: N.T.S.

NICET CERTIFIED
Designer Ben Barton
NICET #107840, Level IV
Water Based Systems Layout

0 1'-0" 2'-0" 4'-0" 8'-0"

AREA OF WORK

KEY PLAN
N.T.S.

N

ENGINEERING SERVICES BY:
EM3 ENGINEERING PLLC.
58 GUION STREET
PLEASANTVILLE, NY 10570

EMILE H. MUNIER III, P.E.
NYS LIC. # 065758

WMFPS

W & M Fire Protection Services
50 Broadway
Hawthorne, NY 10532
PHONE:(914) 741-2222 WEBSITE: www.wmsprinkler.com

Rockland Green Facility Improvment

420 Torne Valley Road,
Hillburn, NY 10931

CUSTOMER: RRT Design & Construction
1 Huntington Quadrangle, 3S01,Melville, NY 11747,

DRAWING DESCRIPTION:
FIRE PROTECTION - EXISTING SPRINKLER FIRE PROTECTION

AREA:	Underground and Details
PERMIT NO.	-
CONTRACT NO.	1054-0014595
APPROVAL:	
DRAWN BY:	I.I.
DRAWN WITH:	AutoSPRINK
SCALE:	AS NOTED
DATE:	05/07/21
SHEET:	Sheet 1 of 5
	SP-001.00

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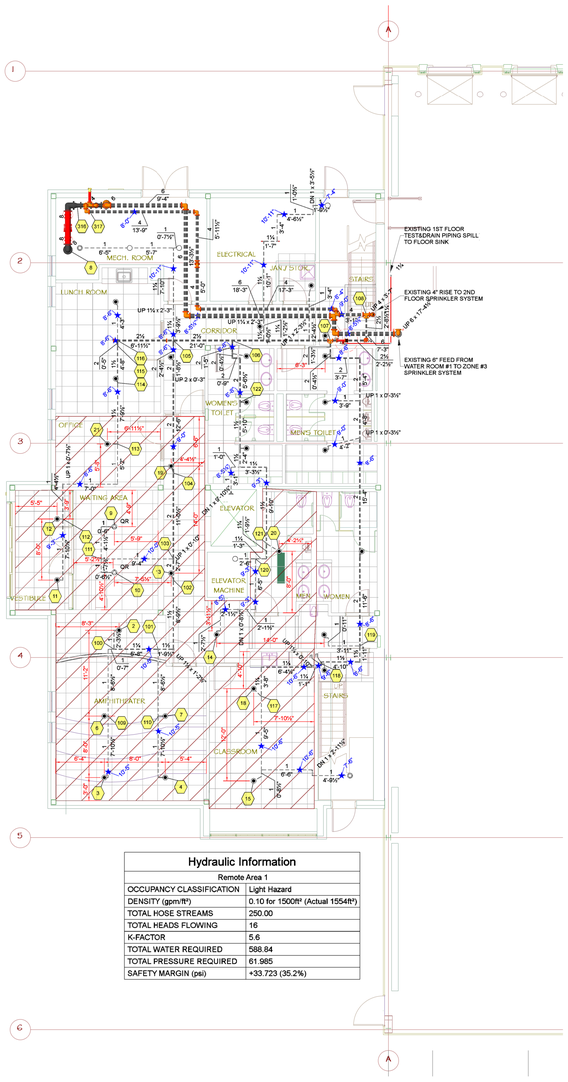

Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1554ft²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	16
K-FACTOR	5.6
TOTAL WATER REQUIRED	588.84
TOTAL PRESSURE REQUIRED	61.985
SAFETY MARGIN (psi)	+33.723 (35.2%)

FIRE PROTECTION - 1ST FLOOR OFFICE EXISTING SPRINKLER PROTECTION SYSTEM

SCALE: 1/8" = 1'-0"

ABBREVIATIONS LIST

A.B.D.	AUTO MATIC BALL DRIP
(E)	EXISTING
F.C.V.A.	FLOOR CONTROL VALVE ASSEMBLY
F.D.C.	FIRE DEPARTMENT CONNECTION
(N)	NEW
(R)	EXISTING TO BE REPLACED & RELOCATED
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
OS&Y	OUTSIDE STEM AND YOKE
(TYP.)	TYPICAL
★—0"	PIPE CENTER LINE (CL) ABOVE FINISH FLOOR (AFF)

SCOPE OF WORK

SURVEY AND GENERATE AS-BUILT DRAWINGS FOR THE EXISTING SPRINKLER SYSTEMS AS APRIL 2021.

DESIGN CRITERIA

1. SPRINKLER SYSTEM SHALL BE HYDRAULICALLY VERIFIED BASED ON THE MOST RECENT WATER FLOW TEST AND THE DESIGN CRITERIA SHOWN ON THE AS-BUILT DRAWINGS DATED 03-08-1998, PROVIDED BY OTHERS.

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1.2 PROCESS AREA, DRY CEILING SPRINKLER SYSTEM ZONE #3 AND DRY CEILING SPRINKLER SYSTEM ZONE #4 SHALL BE HYDRAULICALLY VERIFIED TO PROVIDE 0.20 GPM/SQ FT OVER MOST REMOTE AREA OF 3,900 SQ FT. THE OUTSIDE HOSE INCLUDED TO BE 500 GPM.

1.3 TIPPING AREA, DRY CEILING SPRINKLER SYSTEM ZONE #5 SHALL BE HYDRAULICALLY VERIFIED TO PROVIDE 0.20 GPM/SQ FT OVER MOST REMOTE AREA OF 3,900 SQ FT. THE OUTSIDE HOSE INCLUDED TO BE 500 GPM.

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PROVIDED BY:	Campbell Fire Protection
DATE:	03/13/2020
STATIC PRESSURE:	100 PSI
RESIDUAL PRESSURE:	80 PSI@1353GPM
HYDRANT:	#1

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Rev. No.	Date	Description	By
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NOTE: Any alteration to these Plans Unless Done Under The Direction Of A NYS Licensed And Registered Professional Engineer Or Architect Is A Violation Of NYS Education Law.

PLOT PLAN

SCALE: N.T.S.

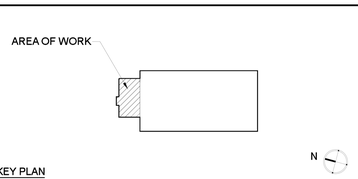
NICET CERTIFIED

Designer Ben Barton
NICET #107840, Level IV
Water Based Systems Layout

0 1'-0" 2'-0" 4'-0" 8'-0"

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
◉	Central		G8	29	5.6	Recessed	½	Standard	Chrome	165°F	
◎	Central		A	2	5.6	Pendent	½	Standard	Brass	165°F	
○	Central		A	4	5.6	Upright	½	Standard	Brass	165°F	
▷	Central		H	1	5.6	Sidewall	½	Standard	Brass	165°F	
△	Reliable	RA1414	F1FR56	2	5.6	Recessed	½	Quick	Brass	155°F	



KEY PLAN
N.T.S.

ENGINEERING SERVICES BY:
EM3 ENGINEERING PLLC.
58 GUION STREET
PLEASANTVILLE, NY 10570

EMILE H. MUNIER III, P.E.
NYS LIC. # 065758

WMFPS

W & M Fire Protection Services
50 Broadway
Hawthorne, NY 10532
PHONE:(914) 741-2222 WEBSITE: www.wmsprinkler.com

Rockland Green Facility Improvment

420 Torne Valley Road,
Hillburn, NY 10931

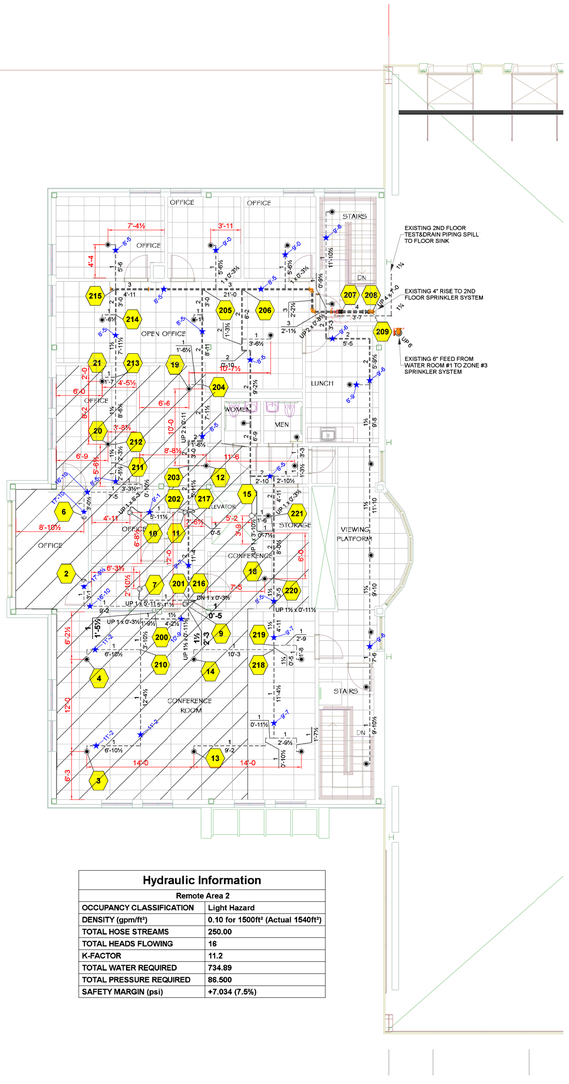
CUSTOMER: RRT Design & Construction
1 Huntington Quadrangle, 3S01,Melville, NY 11747,

DRAWING DESCRIPTION:
FIRE PROTECTION - EXISTING SPRINKLER FIRE PROTECTION

AREA:	Office 1st Floor
PERMIT NO.	-
CONTRACT NO.	1054-0014595
APPROVAL:	
DRAWN BY:	I.I.
DRAWN WITH:	AutoSPRINK
SCALE:	AS NOTED
DATE:	05/05/21
SHEET:	Sheet 2 of 5

SP-100.00

FILE NAME: 054-0014595-Rockland Green_Set_SP100



Hydraulic Information	
Remote Area 2	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1540ft²)
TOTAL HOSE STREAMS	250.00
TOTAL HEADS FLOWING	16
K-FACTOR	11.2
TOTAL WATER REQUIRED	734.89
TOTAL PRESSURE REQUIRED	86.500
SAFETY MARGIN (psi)	+7.034 (7.5%)

FIRE PROTECTION - 2ND FLOOR OFFICE EXISTING SPRINKLER PROTECTION SYSTEM

SCALE: 1/8" = 1'-0"

ABBREVIATIONS LIST

A.B.D.	AUTO MATIC BALL DRIP
(E)	EXISTING
F.C.V.A.	FLOOR CONTROL VALVE ASSEMBLY
F.D.C.	FIRE DEPARTMENT CONNECTION
(N)	NEW
(R)	EXISTING TO BE REPLACED & RELOCATED
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
OS&Y	OUTSIDE STEM AND YOKE
(TYP.)	TYPICAL
★—1¼"	PIPE CENTER LINE (CL) ABOVE FINISH FLOOR (AFF)

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1.3 TIPPING AREA, DRY CEILING SPRINKLER SYSTEM ZONE #5 SHALL BE HYDRAULICALLY VERIFIED TO PROVIDE 0.20 GPM/SQ FT OVER MOST REMOTE AREA OF 3,900 SQ FT. THE OUTSIDE HOSE INCLUDED TO BE 500 GPM.

1.4 MINIMUM PRESSURE AT ANY SPRINKLER SHALL BE AS REQUIRED BUT IN NO CASES IT SHOULD BE LESS THAN 7 PSI.

WATERFLOW TEST DATA

PROVIDED BY:	Campbell Fire Protection
DATE:	03/13/2020
STATIC PRESSURE:	100 PSI
RESIDUAL PRESSURE:	80 PSI@1353GPM
HYDRANT:	#1

REVISIONS

Rev. No.	Date	Description	By
1	05-04-21	SURVEY EXISTING SPRINKLER SYSTEMS	I.I.

NOTE: Any alteration to these Plans Unless Done Under The Direction Of A NYS Licensed And Registered Professional Engineer Or Architect Is A Violation Of NYS Education Law.

PLOT PLAN

SCALE: N.T.S.

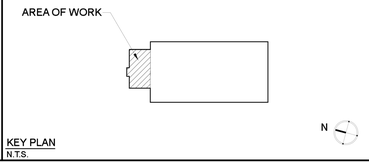
NICET CERTIFIED

Designer Ben Barton
NICET #107840, Level IV
Water Based Systems Layout

0 1'-0" 2'-0" 4'-0" 8'-0"

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
◉	Central		G8	29	5.6	Recessed	½	Standard	Chrome	165°F	
⊘	Central		ELO-L4	2	11.2	Pendent	¾	Standard	Chrome	200°F	
△	Reliable	RA1414	F1FR56	4	5.6	Recessed	½	Quick	Chrome	155°F	
○	Central		A	1	5.6	Upright	½	Standard	Brass	165°F	



KEY PLAN
N.T.S.

ENGINEERING SERVICES BY:
EM3 ENGINEERING PLLC.
58 GUION STREET
PLEASANTVILLE, NY 10570

EMILE H. MUNIER III, P.E.
NYS LIC. # 085758

WMFPS

W & M Fire Protection Services
50 Broadway
Hawthorne, NY 10532

PHONE:(914) 741-2222 WEBSITE: www.wmsprinkler.com

Rockland Green Facility Improvment

420 Torne Valley Road,
Hillburn, NY 10931

CUSTOMER: RRT Design & Construction
1 Huntington Quadrangle, 3S01,Melville, NY 11747,

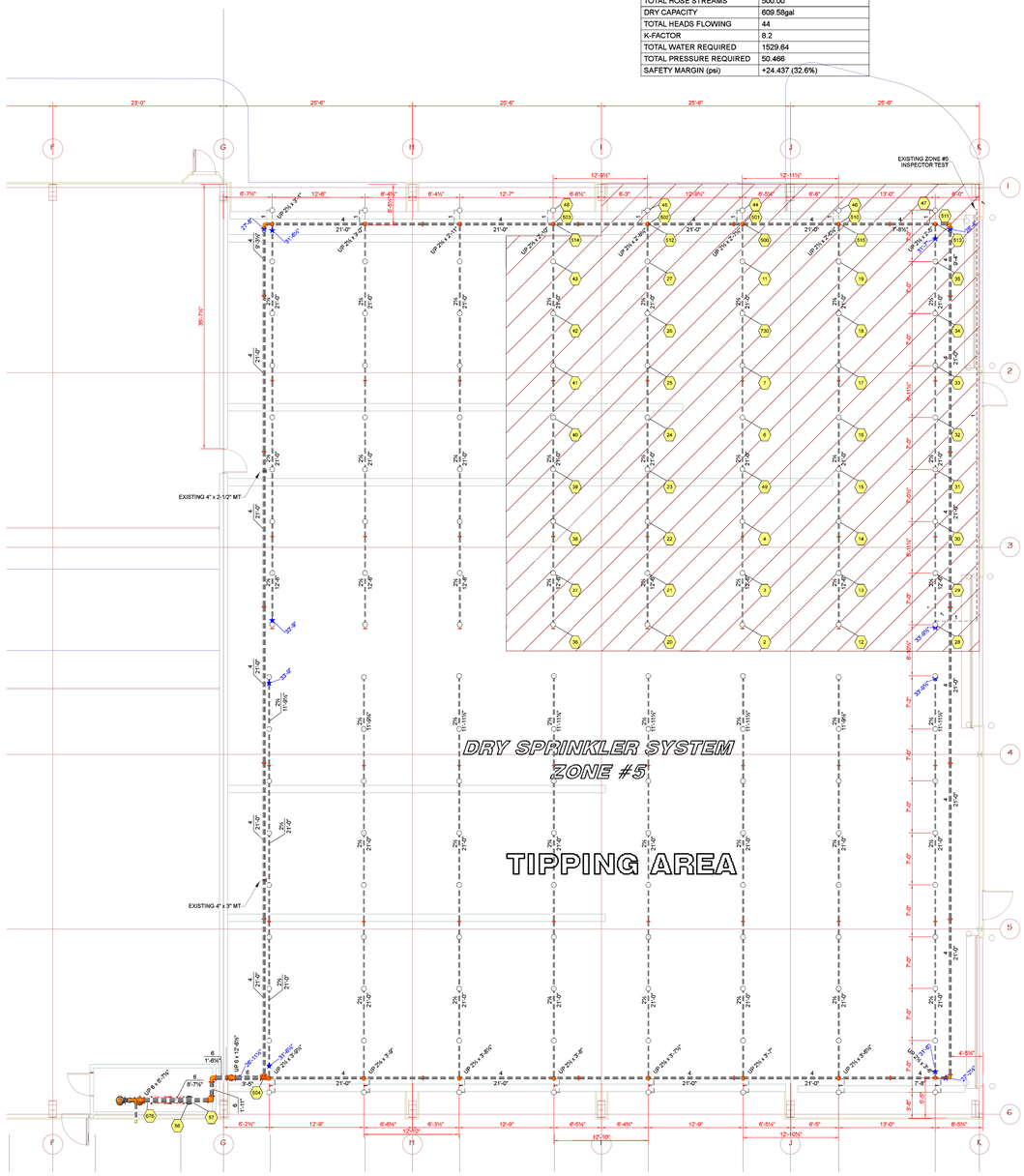
DRAWING DESCRIPTION:
FIRE PROTECTION - EXISTING SPRINKLER FIRE PROTECTION

AREA:	Office 2nd Floor
PERMIT NO.	-
CONTRACT NO.	1054-0014595
APPROVAL:	
DRAWN BY:	I.I.
DRAWN WITH:	AutoSPRINK
SCALE:	AS NOTED
DATE:	05/05/21
SHEET:	Sheet 3 of 5

SP-101.00

File: Model_Room\3D Model\Layout Layer_Zone_Fill.DWG

Hydraulic Information	
Remote Area 5	
OCCUPANCY CLASSIFICATION	Ordinary Group II
DENSITY (gpm/ft²)	0.20 for 1500ft² (Actual 3937ft²)
TOTAL HOSE STREAMS	500.00
DRY CAPACITY	609.58gal
TOTAL HEADS FLOWING	44
K-FACTOR	8.2
TOTAL WATER REQUIRED	1529.64
TOTAL PRESSURE REQUIRED	50.466
SAFETY MARGIN (psi)	+24.437 (32.6%)



FIRE PROTECTION - TIPPING AREA EXISTING SPRINKLER PROTECTION SYSTEM
SCALE: 1/8" = 1'-0"

ABBREVIATIONS LIST

A.B.D.	AUTO MATIC BALL DRIP
(E)	EXISTING
F.C.V.A.	FLOOR CONTROL VALVE ASSEMBLY
F.D.C.	FIRE DEPARTMENT CONNECTION
(N)	NEW
(R)	EXISTING TO BE REPLACED & RELOCATED
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
OS&Y	OUTSIDE STEM AND YOKE
(TYP.)	TYPICAL
★—1¼"	PIPE CENTER LINE (CL) ABOVE FINISH FLOOR (AFF)

SCOPE OF WORK

SURVEY AND GENERATE AS-BUILT DRAWINGS FOR THE EXISTING SPRINKLER SYSTEMS AS APRIL 2021.

DESIGN CRITERIA

1. SPRINKLER SYSTEM SHALL BE HYDRAULICALLY VERIFIED BASED ON THE MOST RECENT WATER FLOW TEST AND THE DESIGN CRITERIA SHOWN ON THE AS-BUILT DRAWINGS DATED 03-08-1998, PROVIDED BY OTHERS.

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PROVIDED BY:	Campbell Fire Protection
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RESIDUAL PRESSURE:	80 PSI@1353GPM
HYDRANT:	#1

REVISIONS

Rev. No.	Date	Description	By
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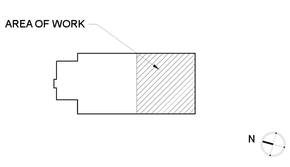
PLOT PLAN
SCALE: N.T.S.

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
◯	Central		A	144	8.2	Upright	½	Standard	Bronze	286°F	

NICET CERTIFIED
Designer Ben Barton
NICET #107840, Level IV
Water Based Systems Layout

0 1'-0" 2'-0" 4'-0" 8'-0"



KEY PLAN
N.T.S.

ENGINEERING SERVICES BY:
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EMILE H. MUNIER III, P.E.
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W & M Fire Protection Services
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PHONE:(914) 741-2222 WEBSITE: www.wmsprinkler.com

Rockland Green Facility Improvment

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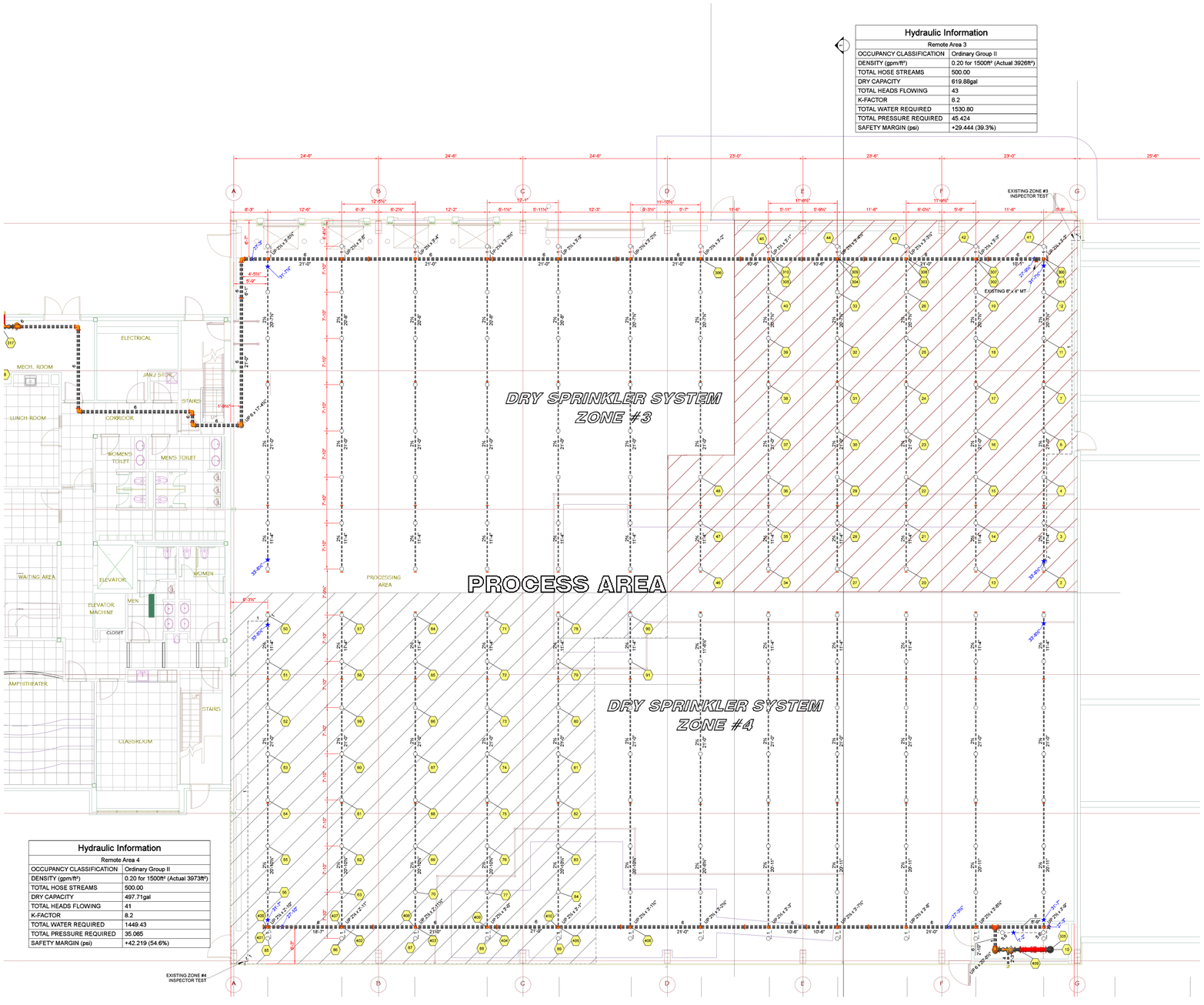
Hillburn, NY 10931

CUSTOMER: RRT Design & Construction
1 Huntington Quadrangle, 3S01,Melville, NY 11747,

DRAWING DESCRIPTION:
FIRE PROTECTION - EXISTING SPRINKLER FIRE PROTECTION

AREA:	Tipping Area
PERMIT NO.	-
CONTRACT NO.	1054-0014595
APPROVAL:	
DRAWN BY:	I.I.
DRAWN WITH:	AutoSPRINK
SCALE:	AS NOTED
DATE:	05/05/21
SHEET	Sheet 5 of 5
	SP-103

File Name: 1054-0014595 Tipping Area Zone 5 Drawing.spd



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WATERFLOW TEST DATA

PROVIDED BY:	Campbell Fire Protection
DATE:	03/13/2020
STATIC PRESSURE:	100 PSI
RESIDUAL PRESSURE:	80 PSI@1353GPM
HYDRANT:	#1

REVISIONS

Rev. No.	Date	Description	By
1	05-04-21	SURVEY EXISTING SPRINKLER SYSTEMS	I.I.

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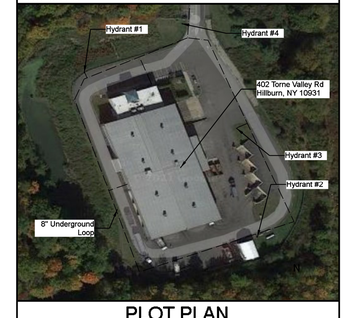

PLOT PLAN

SCALE: N.T.S.

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
	Central		A	192	8.2	Upright	¾	Standard	Bronze	286°F	
	Central		A	2	5.6	Upright	½	Standard	Bronze	165°F	

AREA OF WORK

KEY PLAN
N.T.S.

N

ENGINEERING SERVICES BY:
EM3 ENGINEERING PLLC.
58 GUION STREET
PLEASANTVILLE, NY 10570

EMILE H. MUNIER III, P.E.
NYS LIC. # 065758

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Designer Ben Barton
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WMFPS

W & M Fire Protection Services
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PHONE:(914) 741-2222 WEBSITE: www.wmsprinkler.com

Rockland Green Facility Improvment

420 Torne Valley Road,
Hillburn, NY 10931

CUSTOMER: RRT Design & Construction
1 Huntington Quadrangle, 3S01,Melville, NY 11747,

DRAWING DESCRIPTION:
FIRE PROTECTION - EXISTING SPRINKLER FIRE PROTECTION

AREA:	Process Area Ceiling Sys
PERMIT NO.	-
CONTRACT NO.	1054-0014595
APPROVAL:	
DRAWN BY:	I.I.
DRAWN WITH:	AutoSPRINK
SCALE:	AS NOTED
DATE:	05/05/21
SHEET:	Sheet 4 of 5
	SP-102.00

P:\1 RAMS\1054-0014595-Rockland Green Zone 1 & Core.dwg

Hydraulic Calculations

for

Project Name: Rockland Green Facility Improvment
Location: 420 Torne Valley Road,, Hillburn, NY 10931,
Drawing Name: 1054-0014595 Rockland Green 1st 041621 Calculation Date: 5/4/2021

Design

Remote Area Number:	1
Occupancy Classification:	Light Hazard
Density	0.100gpm/ft²
Area of Application:	1500ft² (Actual 1554ft²)
Coverage per Sprinkler:	225ft²
Type of sprinklers calculated:	Pendent
No. of sprinklers calculated:	16
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	250.00	at Node:	1	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):
From Water Supply at Node 1: 588.84 @ 61.553 (Safety Margin = 34.155 psi)
Type of System: Wet
Volume of Dry or PreAction System: N/A

Name of Contractor: W & M Fire Protection Services
Address: 50 Broadway, Hawthorne, NY 10532
Phone Number: (914) 741-2222
Name of designer: Ion Ionita
Authority Having Jurisdiction:

Notes:

Hydraulic Overview

Job Number: 1054-0014595
Report Description: Light Hazard (1)

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	Phone: / FAX:
Address 1: 420 Torne Valley Road,	State Certification/License Number:
Address 2: Hillburn, NY 10931	AHJ:
Address 3:	Job Site/Building:

System

Density: 0.100gpm/ft²	Area of Application: 1500ft² (Actual 1554ft²)
Most Demanding Sprinkler Data: 5.6 K-Factor 18.50 at 10.914	Hose Streams: 250.00
Coverage Per Sprinkler: 225ft²	Number Of Sprinklers Calculated: 16 / Number Of Sprinklers Calculated: 0
System Pressure Demand: 61.553	System Flow Demand: 338.84
Total Demand: 588.84 @ 61.553	Pressure Result: +34.155 (35.7%)

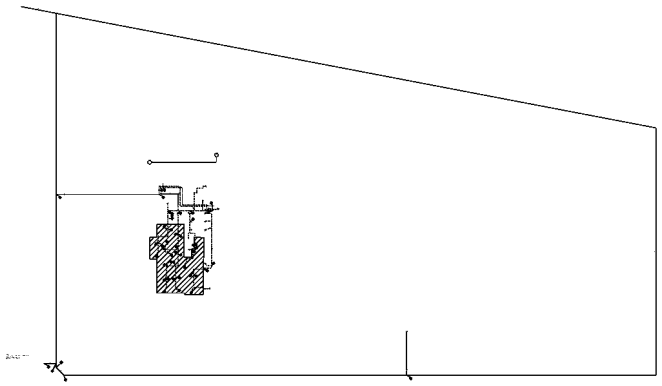
Supplies

Node	Name	Flow(gpm)	Hose Flow(gpm)	Static(psi)	Residual(psi)
1	Water Supply	1353.00	250.00	100.000	80.000

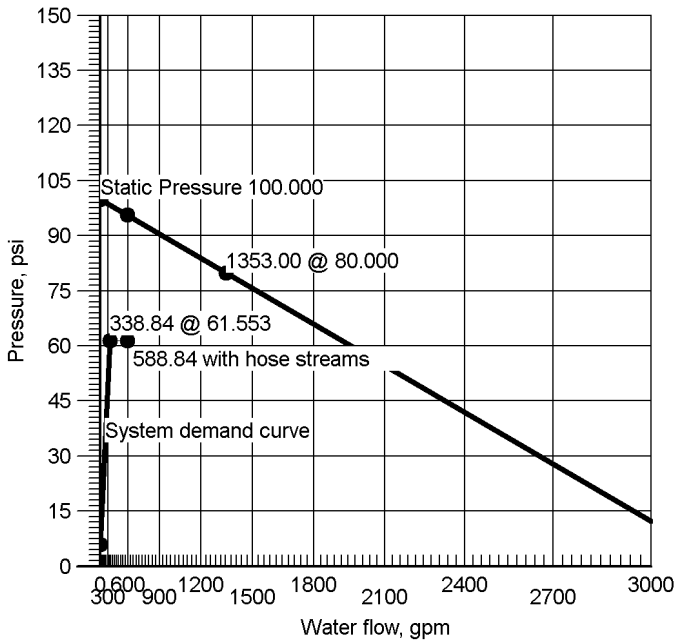
Check Point Gauges

Identifier	Pressure(psi)	K-Factor(K)	Flow(gpm)

1054-0014595 Rockland Green_1st_041621



Supply at Node 1 (1353.00, 0.00, 100.000, 80.000)



Hydraulic Summary

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	State Certification/License Number:
Address 1: 420 Torne Valley Road,	AHJ:
Address 2: Hillburn, NY 10931	Job Site/Building:
Address 3:	Drawing Name: 1054-0014595 Rockland Green_1st_041621

System

Most Demanding Sprinkler Data: 5.6 K-Factor 18.50 at 10.914

Hose Allowance At Source: 250.00

Additional Hose Supplies

Node	Flow(gpm)

Total Hose Streams: 250.00

System Flow Demand	Total Water Required (Including Hose Allowance)
338.84	588.84

Maximum Pressure Unbalance In Loops: 0.000

Maximum Velocity Above Ground: 22.71 between nodes 108 and 107

Maximum Velocity Under Ground	
1.97 between nodes 5 and 8	

Volume capacity of Wet Pipes	Volume capacity of Dry Pipes
4460.16gal	

Remote Area(s)

Occupancy	Job Suffix
Light Hazard	

Density	Area of Application
0.100gpm/ft²	1500ft² (Actual 1554ft²)

Number Of Sprinklers Calculated	Number Of Nozzles Calculated	Coverage Per Sprinkler
16	0	225ft²

Supplies

Node	Name	Hose Flow (gpm)	Static (psi)	Residual (psi) @ Flow (gpm)	Available (psi) @ Total Demand (gpm)	Required (psi)	Safety Margin (psi)
1	Water Supply	250.00	100.000	80.000 @ 1353.00	95.708 @ 588.84	61.553	34.155

Contractor

	Contractor Number	Contact Name	Contact Title
	52	Hank Munier	President

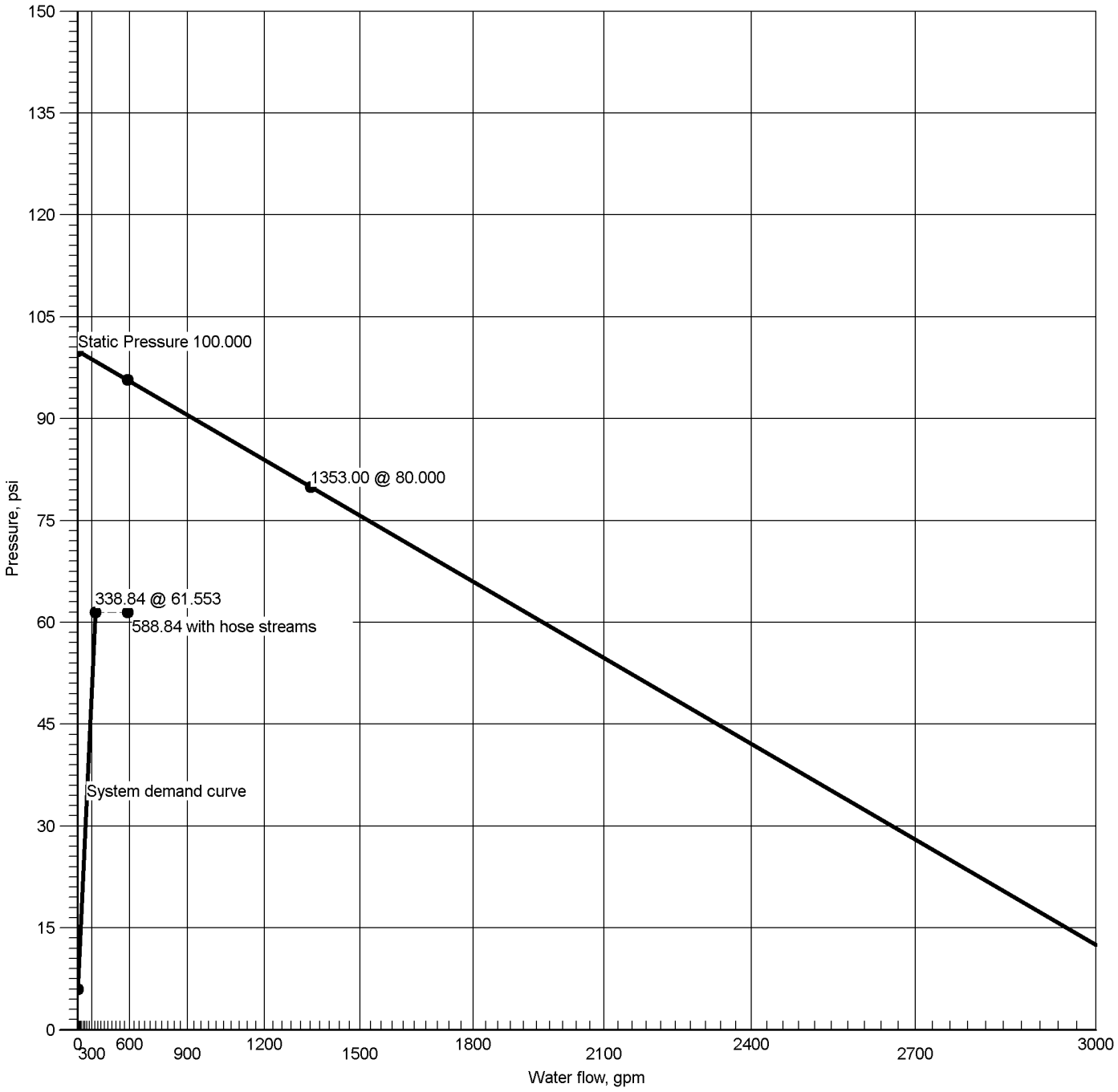
Name of Contractor:	Phone	Extension
W & M Fire Protection Services	(914) 741-2222	

Address 1	FAX
50 Broadway	

Address 2	E-mail
Hawthorne, NY 10532	

Address 3	Web-Site
	www.wmsprinkler.com

Supply at Node 1



Hydraulic Graph	Supply at Node 1
Static: Pressure	100.000
Residual: Pressure	80.000 @ 1353.00
Available Pressure at Time of Test	95.708 @ 588.84
System Demand	61.553 @ 338.84
System Demand (Including Hose Allowance at Source)	61.553 @ 588.84

Summary Of Outflowing Devices

Job Number: 1054-0014595
Report Description: Light Hazard (1)

Device	Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)	Density (gpmpft2)	Coverage (Foot)
Sprinkler 2	**18.50**	**18.50**	**5.6**	**10.914**	**0.100gpm/ft²**	185ft²
Sprinkler 3	15.57	10.20	5.6	7.733	0.153gpm/ft²	102ft²
Sprinkler 4	15.80	8.60	5.6	7.960	0.184gpm/ft²	86ft²
Sprinkler 6	15.94	14.20	5.6	8.102	0.112gpm/ft²	142ft²
Sprinkler 7	16.17	11.90	5.6	8.337	0.136gpm/ft²	119ft²
Sprinkler 9	18.07	9.90	5.6	10.417	0.183gpm/ft²	99ft²
Sprinkler 10	18.29	10.20	5.6	10.662	0.179gpm/ft²	102ft²
Sprinkler 11	19.81	8.80	5.6	12.520	0.225gpm/ft²	88ft²
Sprinkler 12	20.27	8.80	5.6	13.100	0.230gpm/ft²	88ft²
Sprinkler 13	23.00	12.30	5.6	16.863	0.187gpm/ft²	123ft²
Sprinkler 14	25.08	11.20	5.6	20.057	0.224gpm/ft²	112ft²
Sprinkler 15	26.19	18.90	5.6	21.875	0.139gpm/ft²	189ft²
Sprinkler 18	27.01	18.90	5.6	23.256	0.143gpm/ft²	189ft²
Sprinkler 19	24.37	12.30	5.6	18.940	0.198gpm/ft²	123ft²
Sprinkler 20	27.65	13.50	5.6	24.384	0.205gpm/ft²	135ft²
Sprinkler 21	27.12	15.90	5.6	23.453	0.171gpm/ft²	159ft²

Most Demanding Sprinkler Data

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @	Flow (gpm)	Available (psi) @	Total Demand (gpm)	Required Pressure (psi)
1	Water Supply	100.000	80.000	1353.00	95.708	588.84	61.553

Node Analysis

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
1	-4'-6"	Supply	61.553	338.84	
2	8'-10½"	Sprinkler	10.914	18.50	Density: 0.100gpm/ft² Coverage: 185ft²
3	9'-5½"	Sprinkler	7.733	15.57	Density: 0.153gpm/ft² Coverage: 102ft²
4	9'-5½"	Sprinkler	7.960	15.80	Density: 0.184gpm/ft² Coverage: 86ft²
6	9'-5½"	Sprinkler	8.102	15.94	Density: 0.112gpm/ft² Coverage: 142ft²
7	9'-5½"	Sprinkler	8.337	16.17	Density: 0.136gpm/ft² Coverage: 119ft²
9	9'-0"	Sprinkler	10.417	18.07	Density: 0.183gpm/ft² Coverage: 99ft²
10	9'-0"	Sprinkler	10.662	18.29	Density: 0.179gpm/ft² Coverage: 102ft²
11	8'-11½"	Sprinkler	12.520	19.81	Density: 0.225gpm/ft² Coverage: 88ft²
12	8'-11½"	Sprinkler	13.100	20.27	Density: 0.230gpm/ft² Coverage: 88ft²
13	8'-0"	Sprinkler	16.863	23.00	Density: 0.187gpm/ft² Coverage: 123ft²
14	8'-0"	Sprinkler	20.057	25.08	Density: 0.224gpm/ft² Coverage: 112ft²
15	8'-5½"	Sprinkler	21.875	26.19	Density: 0.139gpm/ft² Coverage: 189ft²
18	8'-5½"	Sprinkler	23.256	27.01	Density: 0.143gpm/ft² Coverage: 189ft²
19	8'-0"	Sprinkler	18.940	24.37	Density: 0.198gpm/ft² Coverage: 123ft²
20	8'-5"	Sprinkler	24.384	27.65	Density: 0.205gpm/ft² Coverage: 135ft²
21	8'-0"	Sprinkler	23.453	27.12	Density: 0.171gpm/ft² Coverage: 159ft²
5	-4'-6"		61.468		
8	0'-0"		59.385		

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
100	10'-5"		12.098		
101	10'-5"		13.187		
102	9'-0"		18.280		
103	9'-0"		18.564		
104	9'-0"		20.566		
105	8'-6"		29.826		
106	8'-6"		31.277		
107	8'-6"		34.793		
108	9'-0"		50.130		
109	10'-5"		8.644		
110	10'-5"		8.941		
111	10'-0"		11.262		
112	9'-3"		14.416		
113	8'-6"		25.906		
114	8'-6"		28.472		
115	8'-6"		29.206		
116	8'-6"		29.687		
117	10'-6"		25.192		
118	9'-0"		31.110		
119	8'-6"		32.874		
120	9'-3"		26.480		
121	9'-3"		26.813		
122	8'-8"		30.369		

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
316	1'-7"		58.648		
317	1'-7"		58.643		
506	-4'-6"		61.527		
507	-4'-6"		61.542		
508	-4'-6"		61.544		
509	-4'-6"		61.547		

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
2	8'-10½"	5.6	18.50	1	(See Notes)	5'-6½"	120	10.914	• • • • • **Route 1** • • • • •
100	10'-5"		18.50	1.05		11'-0"	0.112653	-0.679	Sprinkler,
						16'-6½"		1.864	3E(2'-0"), T(5'-0")
100	10'-5"		31.51	1¼		5'-10"	120	12.098	Flow (q) from Route 2
101	10'-5"		50.01	1.38		5'-10"	0.186524	1.088	
101	10'-5"		31.97	1½	(See Notes)	12'-4½"	120	13.187	Flow (q) from Route 3
102	9'-0"		81.98	1.61		8'-0"	0.219675	0.616	2E(4'-0")
						20'-4½"		4.477	
102	9'-0"		23.00	2		2'-9"	120	18.280	Flow (q) from Route 10
103	9'-0"		104.98	2.07		2'-9"	0.102794	0.285	
103	9'-0"		36.36	2		11'-3"	120	18.564	Flow (q) from Route 6
104	9'-0"		141.34	2.07		11'-3"	0.178204	2.001	
104	9'-0"		24.37	2	(See Notes)	17'-9½"	120	20.566	Flow (q) from Route 13
105	8'-6"		165.71	2.07		20'-0"	0.239183	0.217	2E(5'-0"), PO(10'-0")
						37'-9½"		9.044	
105	8'-6"		67.20	2½		7'-8"	120	29.826	Flow (q) from Route 8
106	8'-6"		232.91	2.47		7'-8"	0.188964	1.451	
106	8'-6"		52.73	2½		12'-9"	120	31.277	Flow (q) from Route 14
107	8'-6"		285.64	2.47		12'-9"	0.275645	3.516	
107	8'-6"		53.20	2½	(See Notes)	8'-6½"	120	34.793	Flow (q) from Route 11
108	9'-0"		338.84	2.47		32'-7"	0.378066	-0.217	BV(6'-0"), 2fE(4'-3½"), T(12'-0"), cplg(6'-0")
						41'-1½"		15.554	
108	9'-0"			4	(See Notes)	57'-7"	120	50.130	
317	1'-7"		338.84	4.03		94'-0"	0.034947	3.215	6E(10'-0"), 2EE(4'-0"), ALV(6'-0"), T(20'-0")
						151'-7"		5.298	
317	1'-7"			6		1'-1½"	120	58.643	
316	1'-7"		338.84	6.07		1'-1½"	0.004751	0.005	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
316	1'-7"			8	(See Notes)	8'-7"	120	58.648	
8	0'-0"		338.84	7.98		32'-0"	0.001248	0.686	2LtE(13'-0"), BFP(6'-0")
						40'-7"		0.051	
8	0'-0"			8	(See Notes)	79'-6"	140	59.385	
5	-4'-6"		338.84	8.39		100'-1"	0.000735	1.951	
						179'-7"		0.132	E(30'-6½"), PIV(10'-2"), T(59'-4½")
5	-4'-6"			8	(See Notes)	123'-3½"	140	61.468	
509	-4'-6"		254.17	8.39		59'-4½"	0.000432		
						182'-8½"		0.079	T(59'-4½")
509	-4'-6"		84.67	8	(See Notes)	8'-4½"	140	61.547	Flow (q) from Route 17
1	-4'-6"		338.84	8.39			0.000735		
						8'-4½"		0.006	S
			250.00					61.553	Hose Allowance At Source
1			588.84						Total(Pt) Route 1
3	9'-5½"	5.6	15.57	1	(See Notes)	10'-4"	120	7.733	• • • • • **Route 2** • • • • •
109	10'-5"		15.57	1.05		6'-0"	0.081913	-0.426	Sprinkler,
						16'-4"		1.336	3E(2'-0")
109	10'-5"		15.94	1	(See Notes)	9'-5½"	120	8.644	Flow (q) from Route 4
100	10'-5"		31.51	1.05		2'-0"	0.301764		
						11'-5½"		3.455	E(2'-0")
								12.098	Total(Pt) Route 2
4	9'-5½"	5.6	15.80	1	(See Notes)	10'-9"	120	7.960	• • • • • **Route 3** • • • • •
110	10'-5"		15.80	1.05		6'-0"	0.084129	-0.426	Sprinkler,
						16'-9"		1.408	3E(2'-0")
110	10'-5"		16.17	1	(See Notes)	8'-8½"	120	8.941	Flow (q) from Route 5
101	10'-5"		31.97	1.05		5'-0"	0.309894		
						13'-8½"		4.245	T(5'-0")
								13.187	Total(Pt) Route 3
6	9'-5½"	5.6	15.94	1	(See Notes)	2'-4"	120	8.102	• • • • • **Route 4** • • • • •
109	10'-5"		15.94	1.05		9'-0"	0.085519	-0.426	Sprinkler,
						11'-4"		0.968	2E(2'-0"), T(5'-0")
								8.644	Total(Pt) Route 4

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
7	9'-5½"	5.6	16.17	1	(See Notes)	2'-9"	120	8.337	• • • • • **Route 5** • • • • •
						9'-0"	0.087813	-0.426	Sprinkler,
110	10'-5"		16.17	1.05		11'-9"		1.030	2E(2'-0"), T(5'-0")
								8.941	Total(Pt) Route 5
9	9'-0"	5.6	18.07	1	(See Notes)	4'-10"	120	10.417	• • • • • **Route 6** • • • • •
						7'-0"	0.107901	-0.434	Sprinkler,
111	10'-0"		18.07	1.05		11'-10"		1.279	E(2'-0"), T(5'-0"), fd
111	10'-0"		18.29	1	(See Notes)	10'-5½"	120	11.262	Flow (q) from Route 7
						7'-0"	0.393213	0.434	
103	9'-0"		36.36	1.05		17'-5½"		6.869	E(2'-0"), T(5'-0")
								18.564	Total(Pt) Route 6
10	9'-0"	5.6	18.29	1	(See Notes)	2'-4½"	120	10.662	• • • • • **Route 7** • • • • •
						7'-0"	0.110253	-0.434	Sprinkler,
111	10'-0"		18.29	1.05		9'-4½"		1.033	E(2'-0"), T(5'-0"), fd
								11.262	Total(Pt) Route 7
11	8'-11½"	5.6	19.81	1	(See Notes)	9'-10½"	120	12.520	• • • • • **Route 8** • • • • •
						6'-0"	0.127910	-0.135	Sprinkler,
112	9'-3"		19.81	1.05		15'-10½"		2.032	3E(2'-0")
112	9'-3"		20.27	1	(See Notes)	17'-8½"	120	14.416	Flow (q) from Route 9
						6'-0"	0.470933	0.325	
113	8'-6"		40.08	1.05		23'-8½"		11.165	3E(2'-0")
113	8'-6"		27.12	1¼		7'-11½"	120	25.906	Flow (q) from Route 15
							0.322191		
114	8'-6"		67.20	1.38		7'-11½"		2.566	
114	8'-6"			1½		4'-10"	120	28.472	
							0.152084		
115	8'-6"		67.20	1.61		4'-10"		0.734	
115	8'-6"			2	(See Notes)	0'-8"	120	29.206	
						10'-0"	0.045042		
116	8'-6"		67.20	2.07		10'-8"		0.481	PO(10'-0")
116	8'-6"			2½		7'-4"	120	29.687	
							0.018956		
105	8'-6"		67.20	2.47		7'-4"		0.139	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
								29.826	Total(Pt) Route 8
12	8'-11½"	5.6	20.27	1	(See Notes)	1'-10½"	120	13.100	• • • • • **Route 9** • • • • • Sprinkler,
112	9'-3"		20.27	1.05		9'-0"	0.133382	-0.135	2E(2'-0"), T(5'-0")
						10'-10½"		1.452	
								14.416	Total(Pt) Route 9
13	8'-0"	5.6	23.00	1	(See Notes)	1'-11"	120	16.863	• • • • • **Route 10** • • • • • Sprinkler,
102	9'-0"		23.00	1.05		9'-0"	0.168474	-0.424	2E(2'-0"), T(5'-0")
						10'-11"		1.841	
								18.280	Total(Pt) Route 10
15	8'-5½"	5.6	26.19	1	(See Notes)	13'-7½"	120	21.875	• • • • • **Route 11** • • • • • Sprinkler,
117	10'-6"		26.19	1.05		6'-0"	0.214329	-0.893	3E(2'-0")
						19'-7½"		4.210	
117	10'-6"		27.01	1¼	(See Notes)	13'-2½"	120	25.192	Flow (q) from Route 12
118	9'-0"		53.20	1.38		12'-0"	0.209092	0.650	4E(3'-0")
						25'-2½"		5.268	
118	9'-0"			1½	(See Notes)	7'-8"	120	31.110	
119	8'-6"		53.20	1.61		8'-0"	0.098698	0.217	2E(4'-0")
						15'-8"		1.547	
119	8'-6"			2	(See Notes)	43'-8½"	120	32.874	
107	8'-6"		53.20	2.07		21'-11"	0.029231		
						65'-7½"		1.919	2E(5'-0"), T(10'-0"), cplg(1'-11")
								34.793	Total(Pt) Route 11
18	8'-5½"	5.6	27.01	1	(See Notes)	3'-5½"	120	23.256	• • • • • **Route 12** • • • • • Sprinkler,
117	10'-6"		27.01	1.05		9'-0"	0.226812	-0.893	2E(2'-0"), T(5'-0")
						12'-5½"		2.829	
								25.192	Total(Pt) Route 12
19	8'-0"	5.6	24.37	1	(See Notes)	1'-11"	120	18.940	• • • • • **Route 13** • • • • • Sprinkler,
104	9'-0"		24.37	1.05		9'-0"	0.187586	-0.424	2E(2'-0"), T(5'-0")
						10'-11"		2.050	
								20.566	Total(Pt) Route 13
14	8'-0"	5.6	25.08	1	(See Notes)	16'-2"	120	20.057	• • • • • **Route 14** • • • • • Sprinkler,
120	9'-3"		25.08	1.05		19'-0"	0.197796	-0.533	7E(2'-0"), T(5'-0")
						35'-2"		6.956	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
120	9'-3"			1¼	(See Notes)	3'-5"	120	26.480	
						3'-0"	0.052022		
121	9'-3"		25.08	1.38		6'-5"		0.334	E(3'-0")
121	9'-3"		27.65	1½	(See Notes)	22'-0"	120	26.813	Flow (q) from Route 16
						12'-0"	0.097107	0.253	
122	8'-8"		52.73	1.61		34'-0"		3.303	E(4'-0"), T(8'-0")
122	8'-8"			2	(See Notes)	9'-0½"	120	30.369	
						20'-0"	0.028760	0.072	
106	8'-6"		52.73	2.07		29'-0½"		0.835	2E(5'-0"), PO(10'-0")
								31.277	Total(Pt) Route 14
21	8'-0"	5.6	27.12	1	(See Notes)	2'-7½"	120	23.453	• • • • • **Route 15** • • • • •
						9'-0"	0.228592	-0.208	Sprinkler,
113	8'-6"		27.12	1.05		11'-7½"		2.661	2E(2'-0"), T(5'-0")
								25.906	Total(Pt) Route 15
20	8'-5"	5.6	27.65	1	(See Notes)	2'-9"	120	24.384	• • • • • **Route 16** • • • • •
						9'-0"	0.236969	-0.352	Sprinkler,
121	9'-3"		27.65	1.05		11'-9"		2.782	2E(2'-0"), T(5'-0")
								26.813	Total(Pt) Route 16
506	-4'-6"		84.67	8	(See Notes)	249'-5"	140	61.527	• • • • • **Route 17** • • • • •
						15'-3"	0.000057		Flow (q) from Route 18
507	-4'-6"		84.67	8.39		264'-8"		0.015	EE(15'-3")
507	-4'-6"			8	(See Notes)	8'-2"	120	61.542	
						10'-7"	0.000082		
508	-4'-6"		84.67	8.25		18'-8½"		0.002	EE(10'-7")
508	-4'-6"			8	(See Notes)	2'-7½"	140	61.544	
						59'-4½"	0.000057		
509	-4'-6"		84.67	8.39		62'-0"		0.004	T(59'-4½")
								61.547	Total(Pt) Route 17
5	-4'-6"		254.17	8	(See Notes)	937'-2½"	140	61.468	• • • • • **Route 18** • • • • •
						105'-2"	0.000057		Flow (q) from Route 1
506	-4'-6"		84.67	8.39		1042'-5"		0.059	T(59'-4½"), EE(15'-3"), E(30'-6½")
								61.527	Total(Pt) Route 18

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV	Pressure Reducing Valve	red	Reducer/Adapter	S	Supply
sCV	Swing Check Valve	SFx	Seismic Flex	Spr	Sprinkler
St	Strainer	T	Tee Flow Turn 90°	Tr	Tee Run
U	Union	WirF	Wirsbo	WMV	Water Meter Valve
Z	Cap				

Hydraulic Calculations

for

Project Name: Rockland Green Facility Improvment
Location: 420 Torne Valley Road,, Hillburn, NY 10931,
Drawing Name: 1054-0014595 Rockland Green 2nd 041321 Calculation Date: 5/4/2021

Design

Remote Area Number:	2
Occupancy Classification:	Light Hazard
Density	0.10gpm/ft²
Area of Application:	1500ft² (Actual 1540ft²)
Coverage per Sprinkler:	225ft²
Type of sprinklers calculated:	Upright, Pendent
No. of sprinklers calculated:	16
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	250.00	at Node:	1	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 1: 734.89 @ 86.500 (Safety Margin = 7.034 psi)

Type of System:

Volume of Dry or PreAction System: N/A

Name of Contractor: W & M Fire Protection Services
Address: 50 Broadway, Hawthorne, NY 10532
Phone Number: (914) 741-2222
Name of designer: Ion Ionita
Authority Having Jurisdiction:

Notes:

Hydraulic Overview

Job Number: 1054-0014595
Report Description: Light Hazard (2)

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	Phone: / FAX:
Address 1: 420 Torne Valley Road,	State Certification/License Number:
Address 2: Hillburn, NY 10931	AHJ:
Address 3:	Job Site/Building:

System

Density: 0.10gpm/ft²	Area of Application: 1500ft² (Actual 1540ft²)
Most Demanding Sprinkler Data: 11.2 K-Factor 33.00 at 8.681	Hose Streams: 250.00
Coverage Per Sprinkler: 225ft²	Number Of Sprinklers Calculated: 16 / Number Of Sprinklers Calculated: 0
System Pressure Demand: 86.500	System Flow Demand: 484.89
Total Demand: 734.89 @ 86.500	Pressure Result: +7.034 (7.5%)

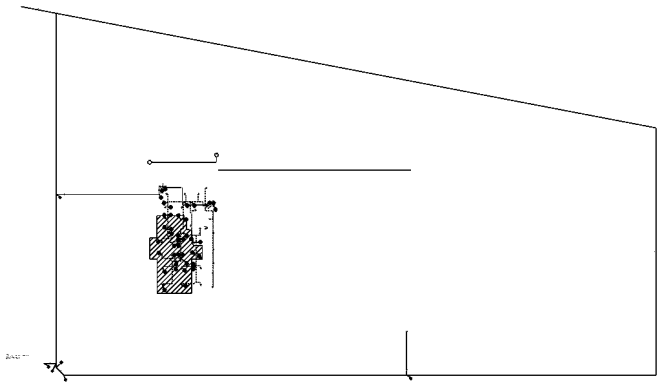
Supplies

Node	Name	Flow(gpm)	Hose Flow(gpm)	Static(psi)	Residual(psi)
1	Water Supply	1353.00	250.00	100.000	80.000

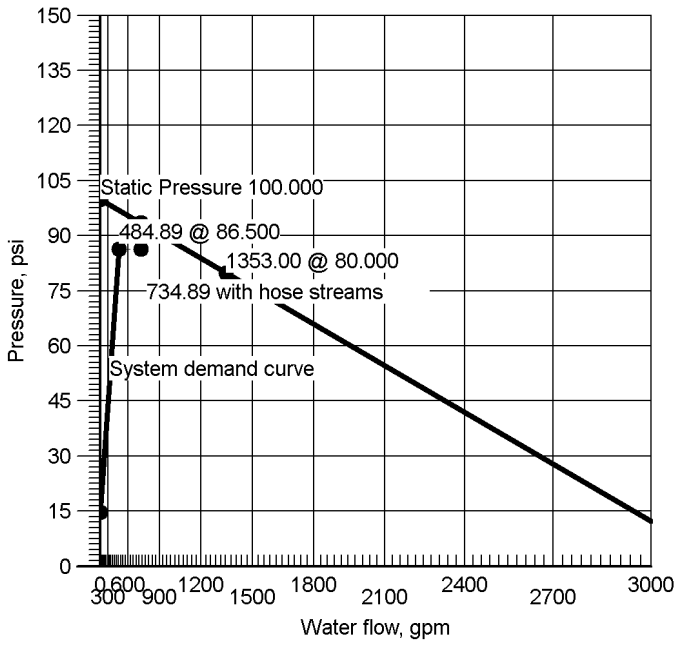
Check Point Gauges

Identifier	Pressure(psi)	K-Factor(K)	Flow(gpm)

1054-0014595 Rockland Green_2nd_041321



Supply at Node 1 (1353.00, 0.00, 100.000, 80.000)



Hydraulic Summary

Job Number: 1054-0014595
Report Description: Light Hazard (2)

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	State Certification/License Number:
Address 1: 420 Torne Valley Road,	AHJ:
Address 2: Hillburn, NY 10931	Job Site/Building:
Address 3:	Drawing Name: 1054-0014595 Rockland Green_2nd_041321

System

Most Demanding Sprinkler Data: 11.2 K-Factor 33.00 at 8.681

Hose Allowance At Source: 250.00

Additional Hose Supplies

Node	Flow(gpm)

Total Hose Streams: 250.00

System Flow Demand	Total Water Required (Including Hose Allowance)
484.89	734.89

Maximum Pressure Unbalance In Loops: 0.000

Maximum Velocity Above Ground: 23.15 between nodes 205 and 204

Maximum Velocity Under Ground	
2.81 between nodes 5 and 8	

Volume capacity of Wet Pipes	Volume capacity of Dry Pipes
4593.53gal	

Remote Area(s)

Occupancy	Job Suffix
Light Hazard	

Density	Area of Application
0.10gpm/ft²	1500ft² (Actual 1540ft²)

Number Of Sprinklers Calculated	Number Of Nozzles Calculated	Coverage Per Sprinkler
16	0	225ft²

Supplies

Node	Name	Hose Flow (gpm)	Static (psi)	Residual (psi) @ Flow (gpm)	Available (psi) @ Total Demand (gpm)	Required (psi)	Safety Margin (psi)
1	Water Supply	250.00	100.000	80.000 @ 1353.00	93.534 @ 734.89	86.500	7.034

Contractor

	Contractor Number	Contact Name	Contact Title
	52	Hank Munier	President

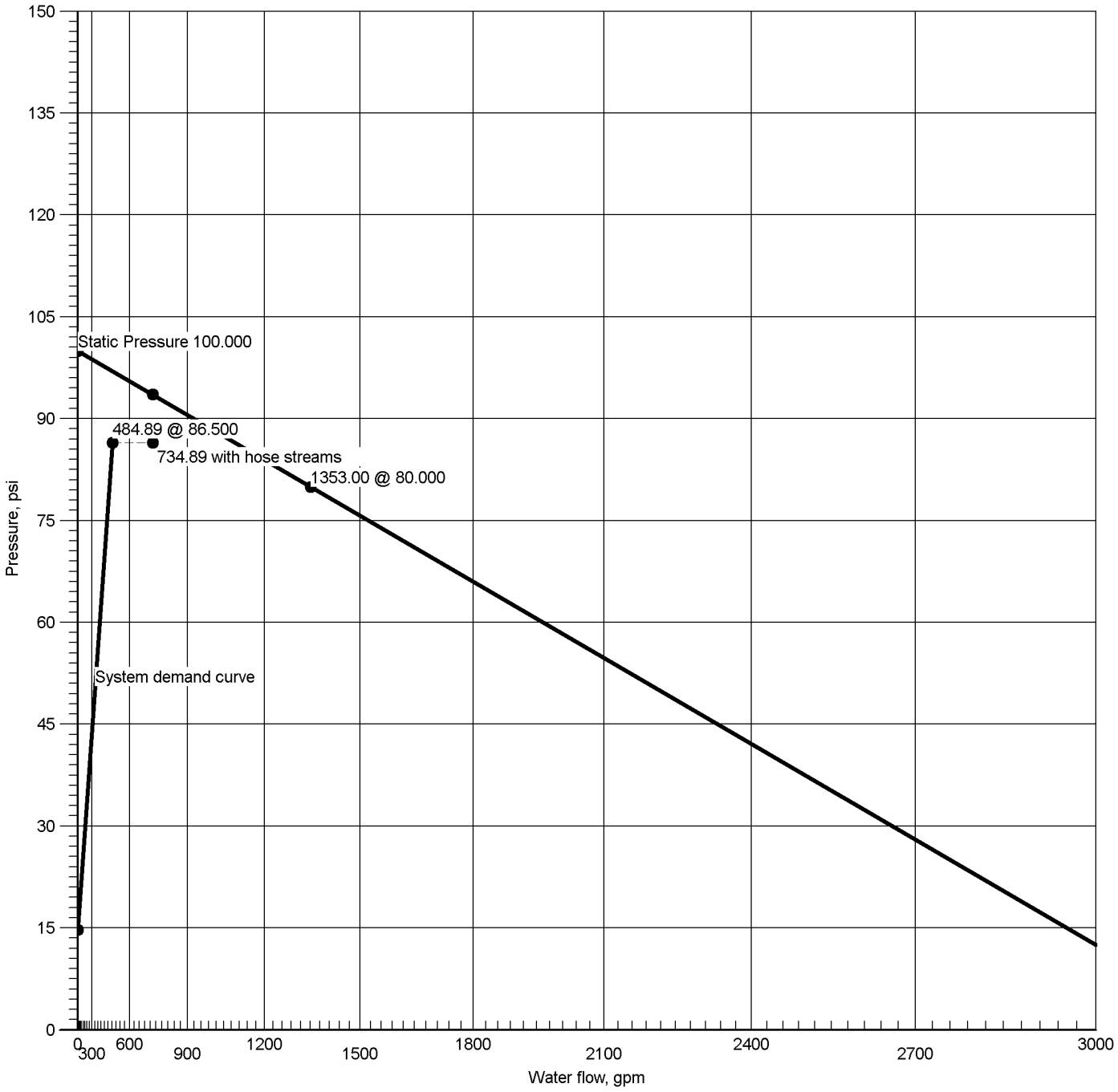
Name of Contractor:	Phone	Extension
W & M Fire Protection Services	(914) 741-2222	

Address 1	FAX
50 Broadway	

Address 2	E-mail
Hawthorne, NY 10532	

Address 3	Web-Site
	www.wmsprinkler.com

Supply at Node 1



Hydraulic Graph	Supply at Node 1
Static: Pressure	100.000
Residual: Pressure	80.000 @ 1353.00
Available Pressure at Time of Test	93.534 @ 734.89
System Demand	86.500 @ 484.89
System Demand (Including Hose Allowance at Source)	86.500 @ 734.89

Summary Of Outflowing Devices

Job Number: 1054-0014595
Report Description: Light Hazard (2)

Device	Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)	Density (gpmpft2)	Coverage (Foot)
Sprinkler 2	**33.00**	**33.00**	**11.2**	**8.681**	**0.23gpm/ft²**	144ft²
Sprinkler 3	20.76	17.50	5.6	13.741	0.12gpm/ft²	175ft²
Sprinkler 4	21.53	17.50	5.6	14.777	0.12gpm/ft²	175ft²
Sprinkler 6	44.52	33.00	11.2	15.798	0.31gpm/ft²	144ft²
Sprinkler 7	25.24	7.30	5.6	20.310	0.35gpm/ft²	73ft²
Sprinkler 9	26.05	14.40	5.6	21.642	0.18gpm/ft²	144ft²
Sprinkler 10	26.18	13.20	5.6	21.855	0.20gpm/ft²	132ft²
Sprinkler 11	26.85	6.10	5.6	22.986	0.44gpm/ft²	61ft²
Sprinkler 12	29.05	17.60	5.6	26.917	0.17gpm/ft²	176ft²
Sprinkler 13	29.53	17.50	5.6	27.812	0.17gpm/ft²	175ft²
Sprinkler 14	31.35	17.50	5.6	31.333	0.18gpm/ft²	175ft²
Sprinkler 15	32.68	7.80	5.6	34.048	0.42gpm/ft²	78ft²
Sprinkler 18	34.21	17.80	5.6	37.324	0.19gpm/ft²	178ft²
Sprinkler 19	33.48	13.00	5.6	35.744	0.26gpm/ft²	130ft²
Sprinkler 20	34.72	15.00	5.6	38.436	0.23gpm/ft²	150ft²
Sprinkler 21	35.75	10.00	5.6	40.762	0.36gpm/ft²	100ft²

Most Demanding Sprinkler Data

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @ Flow (gpm)		Available (psi) @ Total Demand (gpm)		Required Pressure (psi)
1	Water Supply	100.000	80.000	1353.00	93.534	734.89	86.500

Node Analysis

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
1	-16'-6	Supply	86.500	484.89	
2	17'-6½	Sprinkler	8.681	33.00	Density: 0.23gpm/ft² Coverage: 144ft²
3	8'-10½	Sprinkler	13.741	20.76	Density: 0.12gpm/ft² Coverage: 175ft²
4	8'-10½	Sprinkler	14.777	21.53	Density: 0.12gpm/ft² Coverage: 175ft²
6	17'-6½	Sprinkler	15.798	44.52	Density: 0.31gpm/ft² Coverage: 144ft²
7	8'-8	Sprinkler	20.310	25.24	Density: 0.35gpm/ft² Coverage: 73ft²
9	8'-0	Sprinkler	21.642	26.05	Density: 0.18gpm/ft² Coverage: 144ft²
10	8'-0	Sprinkler	21.855	26.18	Density: 0.20gpm/ft² Coverage: 132ft²
11	8'-0	Sprinkler	22.986	26.85	Density: 0.44gpm/ft² Coverage: 61ft²
12	8'-0	Sprinkler	26.917	29.05	Density: 0.17gpm/ft² Coverage: 176ft²
13	8'-10½	Sprinkler	27.812	29.53	Density: 0.17gpm/ft² Coverage: 175ft²
14	8'-10½	Sprinkler	31.333	31.35	Density: 0.18gpm/ft² Coverage: 175ft²
15	12'-11	Sprinkler	34.048	32.68	Density: 0.42gpm/ft² Coverage: 78ft²
18	8'-0	Sprinkler	37.324	34.21	Density: 0.19gpm/ft² Coverage: 178ft²
19	8'-0	Sprinkler	35.744	33.48	Density: 0.26gpm/ft² Coverage: 130ft²
20	8'-0	Sprinkler	38.436	34.72	Density: 0.23gpm/ft² Coverage: 150ft²
21	8'-0	Sprinkler	40.762	35.75	Density: 0.36gpm/ft² Coverage: 100ft²
5	-16'-6		86.335		
8	-12'-0		84.128		

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
200	10'-9		22.707		
201	9'-7		26.210		
202	9'-7		27.881		
203	9'-7		29.580		
204	8'-5		40.532		
205	8'-5		51.350		
206	8'-5		52.097		
207	8'-5		62.777		
208	8'-5		63.509		
209	1'-0		67.107		
210	11'-2		17.141		
211	8'-5		42.014		
212	8'-5		42.379		
213	8'-5		46.184		
214	8'-5		49.526		
215	8'-5		51.148		
216	9'-1		22.340		
217	9'-1		23.751		
218	9'-7		38.313		
219	9'-7		38.463		
220	8'-5		41.228		
221	8'-5		41.934		
316	-10'-5		83.343		

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
317	-10'-5		83.343		
506	-16'-6		86.449		
507	-16'-6		86.478		
508	-16'-6		86.481		
509	-16'-6		86.488		

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
2	17'-6½	11.2	33.00	1	(See Notes)	20'-8½	120	8.681	• • • • • **Route 1** • • • • •
200	10'-9		33.00	1.0490		13'-0 33'-8½	0.328645	2.949 11.076	Sprinkler, 4E(2'-0), T(5'-0)
200	10'-9		42.29	1½	(See Notes)	7'-11½	120	22.707	Flow (q) from Route 2
201	9'-7		75.29	1.6100		8'-0 15'-11½	0.187641	0.506 2.997	2E(4'-0)
201	9'-7		51.29	2		11'-6	120	26.210	Flow (q) from Route 5
202	9'-7		126.57	2.0670		 11'-6	0.145307	 1.671	
202	9'-7		53.03	2		6'-1½	120	27.881	Flow (q) from Route 7
203	9'-7		179.60	2.0670		 6'-1½	0.277604	 1.699	
203	9'-7		29.05	2	(See Notes)	13'-6	120	29.580	Flow (q) from Route 9
204	8'-5		208.66	2.0670		15'-0 28'-6	0.366350	0.506 10.447	3E(5'-0)
204	8'-5		33.48	2	(See Notes)	12'-5	120	40.532	Flow (q) from Route 14
205	8'-5		242.14	2.0670		10'-0 22'-5	0.482458	 10.818	PO(10'-0)
205	8'-5		114.99	3		5'-2	120	51.350	Flow (q) from Route 4
206	8'-5		357.12	3.0680		 5'-2	0.144672	 0.747	
206	8'-5		127.77	3	(See Notes)	15'-11	120	52.097	Flow (q) from Route 10
207	8'-5		484.89	3.0680		26'-0 41'-11	0.254748	 10.681	2E(5'-0), BV(10'-0), cplg(6'-0)
207	8'-5			4	(See Notes)	4'-0	120	62.777	
208	8'-5		484.89	4.0260		6'-9½ 10'-9½	0.067821	 0.732	E(6'-9½)
208	8'-5			4		7'-5	120	63.509	
209	1'-0		484.89	4.2600		 7'-5	0.051508	3.215 0.382	
209	1'-0			4	(See Notes)	62'-5	120	67.107	
317	-10'-5		484.89	4.0260		104'-0 166'-5	0.067821	4.949 11.287	7E(10'-0), 2EE(4'-0), ALV(6'-0), T(20'-0)

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
317	-10'-5			6		0'-0	120	83.343	
316	-10'-5		484.89	6.0650		0'-0	0.009220	0.000	
316	-10'-5			8	(See Notes)	8'-7	120	83.343	
8	-12'-0		484.89	7.9810		32'-0 40'-7	0.002421	0.686 0.098	2LtE(13'-0), BFP(6'-0)
8	-12'-0			8	(See Notes)	79'-6	140	84.128	
5	-16'-6		484.89	8.3900		100'-1 179'-7	0.001427	1.951 0.256	E(30'-6½), PIV(10'-2), T(59'-4½)
5	-16'-6			8	(See Notes)	123'-3½	140	86.335	
509	-16'-6		363.73	8.3900		59'-4½ 182'-8½	0.000839	0.153	T(59'-4½)
509	-16'-6		121.16	8	(See Notes)	8'-4½	140	86.488	Flow (q) from Route 17
1	-16'-6		484.89	8.3900		8'-4½	0.001427	0.012	S
			250.00					86.500	Hose Allowance At Source
1			734.89						Total(Pt) Route 1
3	8'-10½	5.6	20.76	1	(See Notes)	23'-7	120	13.741	• • • • • **Route 2** • • • • •
210	11'-2		20.76	1.0490		8'-0 31'-7	0.139410	-1.003 4.402	Sprinkler, 4E(2'-0)
210	11'-2		21.53	1	(See Notes)	6'-4½	120	17.141	
200	10'-9		42.29	1.0490		4'-0 10'-4½	0.519912	0.181 5.385	Flow (q) from Route 3 2E(2'-0)
								22.707	Total(Pt) Route 2
4	8'-10½	5.6	21.53	1	(See Notes)	11'-7	120	14.777	• • • • • **Route 3** • • • • •
210	11'-2		21.53	1.0490		11'-0 22'-7	0.149104	-1.003 3.366	Sprinkler, 3E(2'-0), T(5'-0)
								17.141	Total(Pt) Route 3
6	17'-6½	11.2	44.52	1	(See Notes)	26'-11	120	15.798	• • • • • **Route 4** • • • • •
211	8'-5		44.52	1.0490		12'-0 38'-11	0.571774	3.955 22.261	Sprinkler, 6E(2'-0)

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
211	8'-5			1¼		2'-5	120	42.014	
212	8'-5		44.52	1.3800		2'-5	0.150380	0.365	
212	8'-5		34.72	1¼		8'-8½	120	42.379	Flow (q) from Route 15
213	8'-5		79.23	1.3800		8'-8½	0.436945	3.805	
213	8'-5		35.75	1½		8'-1½	120	46.184	Flow (q) from Route 16
214	8'-5		114.99	1.6100		8'-1½	0.410783	3.342	
214	8'-5			2	(See Notes)	3'-4	120	49.526	
215	8'-5		114.99	2.0670		10'-0 13'-4	0.121659	1.623	PO(10'-0)
215	8'-5			3		11'-4	120	51.148	
205	8'-5		114.99	3.0680		11'-4	0.017777	0.202	
								51.350	Total(Pt) Route 4
7	8'-8	5.6	25.24	1	(See Notes)	6'-0½	120	20.310	• • • • • **Route 5** • • • • • Sprinkler,
216	9'-1		25.24	1.0490		5'-0 11'-0½	0.200107	-0.181 2.210	T(5'-0), fd
216	9'-1		26.05	1	(See Notes)	0'-6	120	22.340	Flow (q) from Route 6
201	9'-7		51.29	1.0490		5'-0 5'-6	0.743065	-0.217 4.087	T(5'-0)
								26.210	Total(Pt) Route 5
9	8'-0	5.6	26.05	1	(See Notes)	0'-6	120	21.642	• • • • • **Route 6** • • • • • Sprinkler,
216	9'-1		26.05	1.0490		5'-0 5'-6	0.212216	-0.470 1.167	T(5'-0), fd
								22.340	Total(Pt) Route 6
10	8'-0	5.6	26.18	1	(See Notes)	6'-0½	120	21.855	• • • • • **Route 7** • • • • • Sprinkler,
217	9'-1		26.18	1.0490		5'-0 11'-0½	0.214148	-0.470 2.365	T(5'-0), fd
217	9'-1		26.85	1	(See Notes)	0'-6	120	23.751	Flow (q) from Route 8
202	9'-7		53.03	1.0490		5'-0 5'-6	0.790346	-0.217 4.347	T(5'-0)

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
								27.881	Total(Pt) Route 7
11	8'-0	5.6	26.85	1	(See Notes)	0'-6	120	22.986	• • • • • **Route 8** • • • • • Sprinkler,
217	9'-1		26.85	1.0490		5'-0	0.224379	-0.470	T(5'-0), fd
						5'-6		1.234	
								23.751	Total(Pt) Route 8
12	8'-0	5.6	29.05	1	(See Notes)	3'-10½	120	26.917	• • • • • **Route 9** • • • • • Sprinkler,
203	9'-7		29.05	1.0490		9'-0	0.259660	-0.677	2E(2'-0), T(5'-0)
						12'-10½		3.340	
								29.580	Total(Pt) Route 9
13	8'-10½	5.6	29.53	1	(See Notes)	25'-5	120	27.812	• • • • • **Route 10** • • • • • Sprinkler,
218	9'-7		29.53	1.0490		15'-0	0.267634	-0.316	5E(2'-0), T(5'-0)
						40'-5		10.817	
218	9'-7		31.35	1¼		0'-6½	120	38.313	Flow (q) from Route 11
219	9'-7		60.88	1.3800		0'-6½	0.268355	0.149	
219	9'-7			1½	(See Notes)	9'-10	120	38.463	
220	8'-5		60.88	1.6100		8'-0	0.126671	0.506	2E(4'-0)
						17'-10		2.260	
220	8'-5		34.21	2		8'-3	120	41.228	Flow (q) from Route 13
221	8'-5		95.09	2.0670		8'-3	0.085606	0.705	
221	8'-5		32.68	2	(See Notes)	33'-9	120	41.934	Flow (q) from Route 12
206	8'-5		127.77	2.0670		35'-0	0.147851	10.163	T(10'-0), 3E(5'-0), PO(10'-0)
						68'-9		52.097	Total(Pt) Route 10
14	8'-10½	5.6	31.35	1	(See Notes)	13'-5	120	31.333	• • • • • **Route 11** • • • • • Sprinkler,
218	9'-7		31.35	1.0490		11'-0	0.298828	-0.316	3E(2'-0), T(5'-0)
						24'-5		7.297	
								38.313	Total(Pt) Route 11
15	12'-11	5.6	32.68	1	(See Notes)	7'-4½	120	34.048	• • • • • **Route 12** • • • • • Sprinkler,
221	8'-5		32.68	1.0490		11'-0	0.322704	1.951	3E(2'-0), T(5'-0)
						18'-4½		5.935	
								41.934	Total(Pt) Route 12

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
18	8'-0	5.6	34.21	1	(See Notes)	2'-7	120	37.324	• • • • • **Route 13** • • • • •
220	8'-5		34.21	1.0490		9'-0 11'-7	0.351326	-0.172 4.076	Sprinkler, 2E(2'-0), T(5'-0)
								41.228	Total(Pt) Route 13
19	8'-0	5.6	33.48	1	(See Notes)	3'-8½	120	35.744	• • • • • **Route 14** • • • • •
204	8'-5		33.48	1.0490		11'-0 14'-8½	0.337550	-0.172 4.960	Sprinkler, 3E(2'-0), T(5'-0)
								40.532	Total(Pt) Route 14
20	8'-0	5.6	34.72	1	(See Notes)	2'-5	120	38.436	• • • • • **Route 15** • • • • •
212	8'-5		34.72	1.0490		9'-0 11'-5	0.361000	-0.172 4.115	Sprinkler, 2E(2'-0), T(5'-0)
								42.379	Total(Pt) Route 15
21	8'-0	5.6	35.75	1	(See Notes)	3'-8	120	40.762	• • • • • **Route 16** • • • • •
213	8'-5		35.75	1.0490		11'-0 14'-8	0.381163	-0.172 5.593	Sprinkler, 3E(2'-0), T(5'-0)
								46.184	Total(Pt) Route 16
506	-16'-6		121.16	8	(See Notes)	249'-5	140	86.449	• • • • • **Route 17** • • • • •
507	-16'-6		121.16	8.3900		15'-3 264'-8	0.000110	 0.029	Flow (q) from Route 18 EE(15'-3)
507	-16'-6			8	(See Notes)	8'-2	120	86.478	
508	-16'-6		121.16	8.2490		10'-7 18'-8½	0.000158	 0.003	EE(10'-7)
508	-16'-6			8	(See Notes)	2'-7½	140	86.481	
509	-16'-6		121.16	8.3900		59'-4½ 62'-0	0.000110	 0.007	T(59'-4½)
								86.488	Total(Pt) Route 17
5	-16'-6		363.73	8	(See Notes)	937'-2½	140	86.335	• • • • • **Route 18** • • • • •
506	-16'-6		121.16	8.3900		105'-2 1042'-5	0.000110	 0.114	Flow (q) from Route 1 T(59'-4½), EE(15'-3), E(30'-6½)
								86.449	Total(Pt) Route 18

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV	Pressure Reducing Valve	red	Reducer/Adapter	S	Supply
sCV	Swing Check Valve	SFx	Seismic Flex	Spr	Sprinkler
St	Strainer	T	Tee Flow Turn 90°	Tr	Tee Run
U	Union	WirF	Wirsbo	WMV	Water Meter Valve
Z	Cap				

Hydraulic Calculations

for

Project Name: Rockland Green Facility Improvment
Location: 420 Torne Valley Road,, Hillburn, NY 10931,
Drawing Name: 1054-0014595 Rockland Green Zone 3 4 Conv Calculation Date: 5/5/2021

Design

Remote Area Number:	3
Occupancy Classification:	Ordinary Group II
Density	0.200gpm/ft²
Area of Application:	1500ft² (Actual 3926ft²)
Coverage per Sprinkler:	100ft²
Type of sprinklers calculated:	Upright
No. of sprinklers calculated:	43
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	500.00	at Node:	1	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 1:	1530.80 @ 45.424	(Safety Margin = 29.444 psi)
Type of System:	Dry	
Volume of Dry or PreAction System:	619.88 gal	

Name of Contractor: W & M Fire Protection Services
Address: 50 Broadway, Hawthorne, NY 10532
Phone Number: (914) 741-2222
Name of designer: Ion Ionita
Authority Having Jurisdiction:

Notes:

Hydraulic Overview

Job Number: 1054-0014595
Report Description: Ordinary Group II (3)

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	Phone:
Address 1: 420 Torne Valley Road,	State Certification/License Number:
Address 2: Hillburn, NY 10931	AHJ:
Address 3:	Job Site/Building:

System

Density: 0.200gpm/ft²	Area of Application: 1500ft² (Actual 3926ft²)
Most Demanding Sprinkler Data: 8.2 K-Factor 21.70 at 7.000	Hose Streams: 500.00
Coverage Per Sprinkler: 100ft²	Number Of Sprinklers Calculated: 43
System Pressure Demand: 45.424	System Flow Demand: 1030.80
Total Demand: 1530.80 @ 45.424	Pressure Result: +29.444 (39.3%)

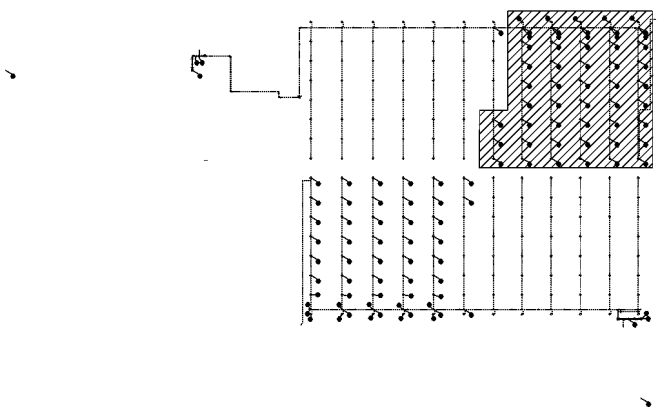
Supplies

Node	Name	Flow(gpm)	Hose Flow(gpm)	Static(psi)	Residual(psi)
1	Water Supply	1353.00	500.00	100.000	80.000

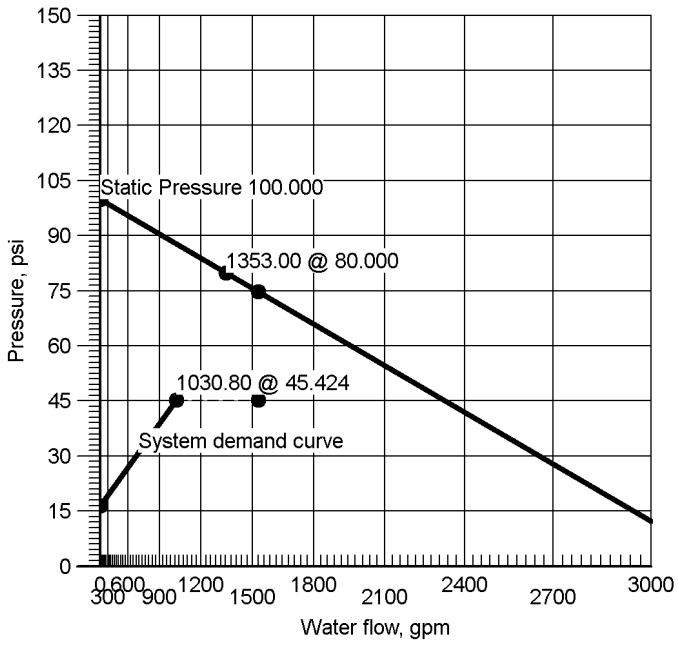
Check Point Gauges

Identifier	Pressure(psi)	K-Factor(K)	Flow(gpm)

1054-0014595 Rockland Green_Zone 3_4_Conv



Supply at Node 1 (1353.00, 0.00, 100.000, 80.000)



Hydraulic Summary

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	State Certification/License Number:
Address 1: 420 Torne Valley Road,	AHJ:
Address 2: Hillburn, NY 10931	Job Site/Building:
Address 3:	Drawing Name: 1054-0014595 Rockland Green_Zone 3_4_Conv

System

Most Demanding Sprinkler Data: 8.2 K-Factor 21.70 at 7.000

Hose Allowance At Source: 500.00

Additional Hose Supplies

Node	Flow(gpm)

Total Hose Streams: 500.00

System Flow Demand	Total Water Required (Including Hose Allowance)
1030.80	1530.80

Maximum Pressure Unbalance In Loops: 0.000

Maximum Velocity Above Ground: 13.93 between nodes 305 and 310

Maximum Velocity Under Ground	
5.98 between nodes 5 and 8	

Volume capacity of Wet Pipes	Volume capacity of Dry Pipes
N/A	619.88 gal

Remote Area(s)

Occupancy	Job Suffix
Ordinary Group II	

Density	Area of Application
0.200gpm/ft²	1500ft² (Actual 3926ft²)

Number Of Sprinklers Calculated	Number Of Nozzles Calculated	Coverage Per Sprinkler
43	0	100ft²

Supplies

Node	Name	Hose Flow (gpm)	Static (psi)	Residual (psi) @ Flow (gpm)	Available (psi) @ Total Demand (gpm)	Required (psi)	Safety Margin (psi)
1	Water Supply	500.00	100.000	80.000 @ 1353.00	74.868 @ 1530.80	45.424	29.444

Contractor

	Contractor Number	Contact Name	Contact Title
	52	Hank Munier	President

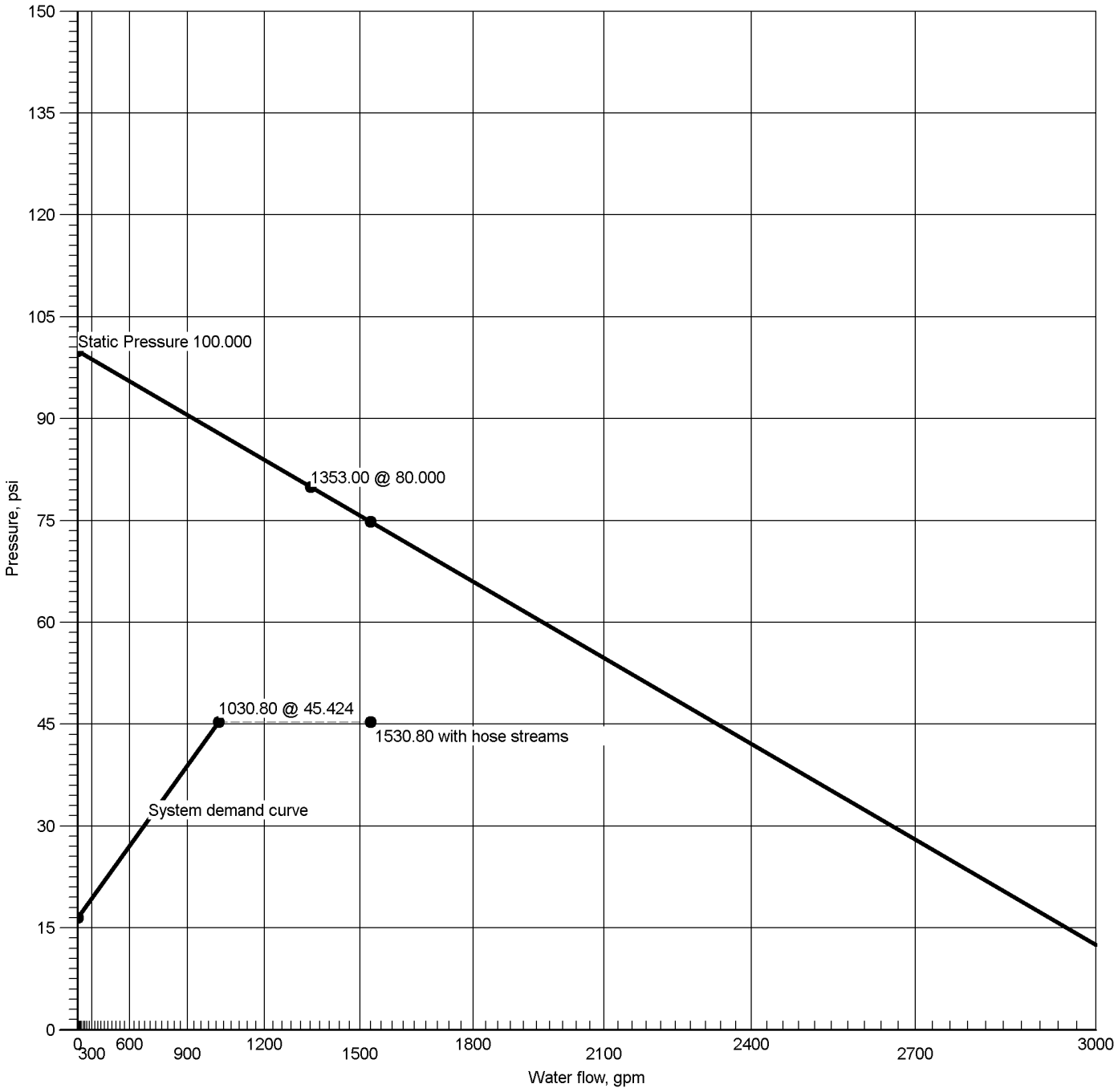
Name of Contractor:	Phone	Extension
W & M Fire Protection Services	(914) 741-2222	

Address 1	FAX
50 Broadway	

Address 2	E-mail
Hawthorne, NY 10532	

Address 3	Web-Site
	www.wmsprinkler.com

Supply at Node 1



Hydraulic Graph	Supply at Node 1
Static: Pressure	100.000
Residual: Pressure	80.000 @ 1353.00
Available Pressure at Time of Test	74.868 @ 1530.80
System Demand	45.424 @ 1030.80
System Demand (Including Hose Allowance at Source)	45.424 @ 1530.80

Summary Of Outflowing Devices

Job Number: 1054-0014595
Report Description: Ordinary Group II (3)

Device	Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)	Density (gpmpft2)	Coverage (Foot)
Sprinkler 2	**21.70**	**18.20**	**8.2**	**7.000**	**0.238gpm/ft²**	91ft²
Sprinkler 3	21.94	18.20	8.2	7.161	0.241gpm/ft²	91ft²
Sprinkler 4	22.26	18.20	8.2	7.370	0.245gpm/ft²	91ft²
Sprinkler 6	22.69	18.20	8.2	7.656	0.249gpm/ft²	91ft²
Sprinkler 7	23.26	18.20	8.2	8.045	0.256gpm/ft²	91ft²
Sprinkler 11	24.00	18.20	8.2	8.569	0.264gpm/ft²	91ft²
Sprinkler 12	24.95	18.20	8.2	9.257	0.274gpm/ft²	91ft²
Sprinkler 13	21.70	18.60	8.2	7.006	0.233gpm/ft²	93ft²
Sprinkler 14	21.95	18.60	8.2	7.167	0.236gpm/ft²	93ft²
Sprinkler 15	22.27	18.60	8.2	7.376	0.239gpm/ft²	93ft²
Sprinkler 16	22.70	18.60	8.2	7.662	0.244gpm/ft²	93ft²
Sprinkler 17	23.27	18.60	8.2	8.052	0.250gpm/ft²	93ft²
Sprinkler 18	24.01	18.60	8.2	8.576	0.258gpm/ft²	93ft²
Sprinkler 19	24.96	18.60	8.2	9.264	0.268gpm/ft²	93ft²
Sprinkler 20	21.75	18.60	8.2	7.037	0.234gpm/ft²	93ft²
Sprinkler 21	22.00	18.60	8.2	7.198	0.237gpm/ft²	93ft²
Sprinkler 22	22.32	18.60	8.2	7.407	0.240gpm/ft²	93ft²
Sprinkler 23	22.74	18.60	8.2	7.694	0.245gpm/ft²	93ft²
Sprinkler 24	23.32	18.60	8.2	8.085	0.251gpm/ft²	93ft²
Sprinkler 25	24.06	18.60	8.2	8.610	0.259gpm/ft²	93ft²
Sprinkler 26	25.01	18.60	8.2	9.301	0.269gpm/ft²	93ft²
Sprinkler 27	21.86	18.40	8.2	7.105	0.238gpm/ft²	92ft²
Sprinkler 28	22.10	18.40	8.2	7.266	0.240gpm/ft²	92ft²
Sprinkler 29	22.42	18.40	8.2	7.477	0.244gpm/ft²	92ft²
Sprinkler 30	22.85	18.40	8.2	7.764	0.248gpm/ft²	92ft²
Sprinkler 31	23.42	18.40	8.2	8.157	0.255gpm/ft²	92ft²
Sprinkler 32	24.17	18.40	8.2	8.686	0.263gpm/ft²	92ft²
Sprinkler 33	25.12	18.40	8.2	9.381	0.273gpm/ft²	92ft²
Sprinkler 34	24.84	18.40	8.2	9.179	0.270gpm/ft²	92ft²
Sprinkler 35	25.07	18.40	8.2	9.345	0.272gpm/ft²	92ft²
Sprinkler 36	25.37	18.40	8.2	9.573	0.276gpm/ft²	92ft²
Sprinkler 37	25.80	18.40	8.2	9.898	0.280gpm/ft²	92ft²
Sprinkler 38	26.39	18.40	8.2	10.357	0.287gpm/ft²	92ft²
Sprinkler 39	27.18	18.40	8.2	10.984	0.295gpm/ft²	92ft²
Sprinkler 40	28.19	18.40	8.2	11.820	0.306gpm/ft²	92ft²
Sprinkler 41	22.16	18.20	8.2	7.303	0.244gpm/ft²	91ft²
Sprinkler 42	22.17	18.60	8.2	7.309	0.238gpm/ft²	93ft²
Sprinkler 43	22.21	18.60	8.2	7.338	0.239gpm/ft²	93ft²
Sprinkler 44	22.31	18.40	8.2	7.402	0.242gpm/ft²	92ft²
Sprinkler 45	25.07	18.40	8.2	9.344	0.272gpm/ft²	92ft²
Sprinkler 46	29.52	18.80	8.2	12.961	0.314gpm/ft²	94ft²
Sprinkler 47	29.72	18.80	8.2	13.136	0.316gpm/ft²	94ft²
Sprinkler 48	30.01	18.80	8.2	13.396	0.319gpm/ft²	94ft²

Most Demanding Sprinkler Data

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @ Flow (gpm)		Available (psi) @ Total Demand (gpm)		Required Pressure (psi)
1	Water Supply	100.000	80.000	1353.00	74.868	1530.80	45.424

Node Analysis

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
1	-4'-6"	Supply	45.424	1030.80	
2	33'-9½"	Sprinkler	7.000	21.70	Density: 0.238gpm/ft² Coverage: 91ft²
3	33'-5½"	Sprinkler	7.161	21.94	Density: 0.241gpm/ft² Coverage: 91ft²
4	33'-1½"	Sprinkler	7.370	22.26	Density: 0.245gpm/ft² Coverage: 91ft²
6	32'-9½"	Sprinkler	7.656	22.69	Density: 0.249gpm/ft² Coverage: 91ft²
7	32'-5½"	Sprinkler	8.045	23.26	Density: 0.256gpm/ft² Coverage: 91ft²
11	32'-1½"	Sprinkler	8.569	24.00	Density: 0.264gpm/ft² Coverage: 91ft²
12	31'-9½"	Sprinkler	9.257	24.95	Density: 0.274gpm/ft² Coverage: 91ft²
13	33'-9½"	Sprinkler	7.006	21.70	Density: 0.233gpm/ft² Coverage: 93ft²
14	33'-5½"	Sprinkler	7.167	21.95	Density: 0.236gpm/ft² Coverage: 93ft²
15	33'-1½"	Sprinkler	7.376	22.27	Density: 0.239gpm/ft² Coverage: 93ft²
16	32'-9½"	Sprinkler	7.662	22.70	Density: 0.244gpm/ft² Coverage: 93ft²
17	32'-5½"	Sprinkler	8.052	23.27	Density: 0.250gpm/ft² Coverage: 93ft²
18	32'-1½"	Sprinkler	8.576	24.01	Density: 0.258gpm/ft² Coverage: 93ft²
19	31'-9½"	Sprinkler	9.264	24.96	Density: 0.268gpm/ft² Coverage: 93ft²
20	33'-9½"	Sprinkler	7.037	21.75	Density: 0.234gpm/ft² Coverage: 93ft²
21	33'-5½"	Sprinkler	7.198	22.00	Density: 0.237gpm/ft² Coverage: 93ft²
22	33'-1½"	Sprinkler	7.407	22.32	Density: 0.240gpm/ft² Coverage: 93ft²
23	32'-9½"	Sprinkler	7.694	22.74	Density: 0.245gpm/ft² Coverage: 93ft²

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
24	32'-5½"	Sprinkler	8.085	23.32	Density: 0.251gpm/ft² Coverage: 93ft²
25	32'-1½"	Sprinkler	8.610	24.06	Density: 0.259gpm/ft² Coverage: 93ft²
26	31'-9½"	Sprinkler	9.301	25.01	Density: 0.269gpm/ft² Coverage: 93ft²
27	33'-9½"	Sprinkler	7.105	21.86	Density: 0.238gpm/ft² Coverage: 92ft²
28	33'-5½"	Sprinkler	7.266	22.10	Density: 0.240gpm/ft² Coverage: 92ft²
29	33'-1½"	Sprinkler	7.477	22.42	Density: 0.244gpm/ft² Coverage: 92ft²
30	32'-9½"	Sprinkler	7.764	22.85	Density: 0.248gpm/ft² Coverage: 92ft²
31	32'-5½"	Sprinkler	8.157	23.42	Density: 0.255gpm/ft² Coverage: 92ft²
32	32'-1½"	Sprinkler	8.686	24.17	Density: 0.263gpm/ft² Coverage: 92ft²
33	31'-9½"	Sprinkler	9.381	25.12	Density: 0.273gpm/ft² Coverage: 92ft²
34	33'-9½"	Sprinkler	9.179	24.84	Density: 0.270gpm/ft² Coverage: 92ft²
35	33'-5½"	Sprinkler	9.345	25.07	Density: 0.272gpm/ft² Coverage: 92ft²
36	33'-1½"	Sprinkler	9.573	25.37	Density: 0.276gpm/ft² Coverage: 92ft²
37	32'-9½"	Sprinkler	9.898	25.80	Density: 0.280gpm/ft² Coverage: 92ft²
38	32'-5½"	Sprinkler	10.357	26.39	Density: 0.287gpm/ft² Coverage: 92ft²
39	32'-1½"	Sprinkler	10.984	27.18	Density: 0.295gpm/ft² Coverage: 92ft²
40	31'-9½"	Sprinkler	11.820	28.19	Density: 0.306gpm/ft² Coverage: 92ft²
41	31'-5½"	Sprinkler	7.303	22.16	Density: 0.244gpm/ft² Coverage: 91ft²
42	31'-5½"	Sprinkler	7.309	22.17	Density: 0.238gpm/ft² Coverage: 93ft²
43	31'-5½"	Sprinkler	7.338	22.21	Density: 0.239gpm/ft² Coverage: 93ft²
44	31'-5½"	Sprinkler	7.402	22.31	Density: 0.242gpm/ft² Coverage: 92ft²
45	31'-5½"	Sprinkler	9.344	25.07	Density: 0.272gpm/ft² Coverage: 92ft²
46	33'-9½"	Sprinkler	12.961	29.52	Density: 0.314gpm/ft² Coverage: 94ft²

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
47	33'-5½"	Sprinkler	13.136	29.72	Density: 0.316gpm/ft² Coverage: 94ft²
48	33'-1½"	Sprinkler	13.396	30.01	Density: 0.319gpm/ft² Coverage: 94ft²
5	-4'-6"		44.758		
8	0'-0"		41.772		
10	0'-0"		43.269		
50	33'-9½"	Sprinkler	28.628	Sprinkler	Density: Coverage:
51	33'-5½"	Sprinkler	28.773	Sprinkler	Density: Coverage:
52	33'-1½"	Sprinkler	28.918	Sprinkler	Density: Coverage:
53	32'-9"	Sprinkler	29.062	Sprinkler	Density: Coverage:
54	32'-5"	Sprinkler	29.207	Sprinkler	Density: Coverage:
55	32'-1"	Sprinkler	29.351	Sprinkler	Density: Coverage:
56	31'-9"	Sprinkler	29.496	Sprinkler	Density: Coverage:
57	33'-9½"	Sprinkler	28.628	Sprinkler	Density: Coverage:
58	33'-5½"	Sprinkler	28.773	Sprinkler	Density: Coverage:
59	33'-1½"	Sprinkler	28.918	Sprinkler	Density: Coverage:
60	32'-9"	Sprinkler	29.062	Sprinkler	Density: Coverage:
61	32'-5"	Sprinkler	29.207	Sprinkler	Density: Coverage:
62	32'-1"	Sprinkler	29.351	Sprinkler	Density: Coverage:
63	31'-9"	Sprinkler	29.496	Sprinkler	Density: Coverage:
64	33'-9½"	Sprinkler	28.628	Sprinkler	Density: Coverage:
65	33'-5½"	Sprinkler	28.773	Sprinkler	Density: Coverage:
66	33'-1½"	Sprinkler	28.918	Sprinkler	Density: Coverage:
67	32'-9"	Sprinkler	29.062	Sprinkler	Density: Coverage:

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
68	32'-5"	Sprinkler	29.207	Sprinkler	Density: Coverage:
69	32'-1"	Sprinkler	29.351	Sprinkler	Density: Coverage:
70	31'-9"	Sprinkler	29.496	Sprinkler	Density: Coverage:
71	33'-9½"	Sprinkler	28.628	Sprinkler	Density: Coverage:
72	33'-5½"	Sprinkler	28.773	Sprinkler	Density: Coverage:
73	33'-1½"	Sprinkler	28.918	Sprinkler	Density: Coverage:
74	32'-9"	Sprinkler	29.062	Sprinkler	Density: Coverage:
75	32'-5"	Sprinkler	29.207	Sprinkler	Density: Coverage:
76	32'-1"	Sprinkler	29.351	Sprinkler	Density: Coverage:
77	31'-9"	Sprinkler	29.496	Sprinkler	Density: Coverage:
78	33'-9½"	Sprinkler	28.628	Sprinkler	Density: Coverage:
79	33'-5½"	Sprinkler	28.773	Sprinkler	Density: Coverage:
80	33'-1½"	Sprinkler	28.918	Sprinkler	Density: Coverage:
81	32'-9"	Sprinkler	29.062	Sprinkler	Density: Coverage:
82	32'-5"	Sprinkler	29.207	Sprinkler	Density: Coverage:
83	32'-1"	Sprinkler	29.351	Sprinkler	Density: Coverage:
84	31'-9"	Sprinkler	29.496	Sprinkler	Density: Coverage:
90	33'-9½"	Sprinkler	28.628	Sprinkler	Density: Coverage:
91	33'-5½"	Sprinkler	28.773	Sprinkler	Density: Coverage:
300	30'-6½"		10.846	Sprinkler	
301	27'-10"		16.719	Sprinkler	
302	27'-9"		16.757	Sprinkler	
303	27'-8½"		16.843	Sprinkler	

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
304	27'-8"		17.000	Sprinkler	
305	27'-7½"		17.253	Sprinkler	
306	27'-7"		17.636	Sprinkler	
307	30'-6½"		10.855	Sprinkler	
308	30'-6½"		10.895	Sprinkler	
309	30'-6½"		10.985	Sprinkler	
310	30'-6½"		13.693	Sprinkler	
316	1'-7"		40.689	Sprinkler	
317	1'-7"		40.647	Sprinkler	
400	30'-6½"		30.021	Sprinkler	
401	27'-10"		31.202	Sprinkler	
402	27'-9½"		31.228	Sprinkler	
403	27'-8½"		31.254	Sprinkler	
404	27'-8"		31.279	Sprinkler	
405	27'-7"		31.304	Sprinkler	
406	27'-6½"		31.330	Sprinkler	
407	30'-6½"		30.021	Sprinkler	
408	30'-6½"		30.021	Sprinkler	
409	30'-6½"		30.021	Sprinkler	
410	30'-6½"		30.021	Sprinkler	
459	1'-9"		42.510	Sprinkler	
505	1'-9"		42.510	Sprinkler	
506	-4'-6"		45.220	Sprinkler	

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
507	-4'-6"		45.337	Sprinkler	
508	-4'-6"		45.348	Sprinkler	
509	-4'-6"		45.375	Sprinkler	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
2	33'-9½"	8.2	21.70	2½	(See Notes)	7'-10"	120	7.000	• • • • • Route 1 • • • • • Sprinkler
3	33'-5½"		21.70	2.47		7'-10"	0.002341	0.142 0.018	
3	33'-5½"	8.2	21.94	2½	(See Notes)	7'-10"	120	7.161	Sprinkler
4	33'-1½"		43.64	2.47		7'-10"	0.008528	0.142 0.067	
4	33'-1½"	8.2	22.26	2½	(See Notes)	7'-10"	120	7.370	Sprinkler
6	32'-9½"		65.90	2.47		7'-10"	0.018281	0.142 0.143	
6	32'-9½"	8.2	22.69	2½	(See Notes)	7'-10"	120	7.656	Sprinkler
7	32'-5½"		88.59	2.47		7'-10"	0.031602	0.142 0.247	
7	32'-5½"	8.2	23.26	2½	(See Notes)	7'-10"	120	8.045	Sprinkler
11	32'-1½"		111.85	2.47		7'-10"	0.048644	0.142 0.381	
11	32'-1½"	8.2	24.00	2½	(See Notes)	7'-10"	120	8.569	Sprinkler
12	31'-9½"		135.85	2.47		7'-10"	0.069700	0.142 0.546	
12	31'-9½"	8.2	24.95	2½	(See Notes)	6'-9½"	120	9.257	Sprinkler,
300	30'-6½"		160.80	2.47		4'-3" 11'-0½"	0.095214	0.539 1.051	E(4'-3")
300	30'-6½"		22.16	2½	(See Notes)	2'-9"	120	10.846	Flow (q) from Route 5
301	27'-10"		182.96	2.47		36'-0" 38'-9"	0.120900	1.188 4.684	PO(12'-0"), mecT(12'-0"), C(12'-0")
301	27'-10"			6		11'-6"	120	16.719	
302	27'-9"		182.96	6.07		11'-6"	0.001519	0.021 0.017	
302	27'-9"		183.03	6		11'-9½"	120	16.757	Flow (q) from Route 2
303	27'-8½"		365.99	6.07		11'-9½"	0.005479	0.021 0.065	
303	27'-8½"		183.41	6		11'-8"	120	16.843	Flow (q) from Route 3
304	27'-8"		549.40	6.07		11'-8"	0.011616	0.021 0.136	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
304	27'-8"		184.24	6		11'-8½"	120	17.000	Flow (q) from Route 4
							0.019834	0.021	
305	27'-7½"		733.65	6.07		11'-8½"		0.232	
305	27'-7½"		207.90	6		11'-6"	120	17.253	Flow (q) from Route 9
							0.031469	0.021	
306	27'-7"		941.55	6.07		11'-6"		0.362	
306	27'-7"		89.25	6	(See Notes)	188'-7½"	120	17.636	Flow (q) from Route 11
						127'-0"	0.037208	11.268	
317	1'-7"		1030.80	6.07		315'-7½"		11.743	8E(14'-0"), DPV(6'-0"), LtE(9'-0")
317	1'-7"			6		1'-1½"	120	40.647	
							0.037208		
316	1'-7"		1030.80	6.07		1'-1½"		0.042	
316	1'-7"			8	(See Notes)	8'-7"	120	40.689	
						32'-0"	0.009773	0.686	
8	0'-0"		1030.80	7.98		40'-7"		0.396	2LtE(13'-0"), BFP(6'-0")
8	0'-0"			8	(See Notes)	79'-6"	140	41.772	
						100'-1"	0.005760	1.951	
5	-4'-6"		1030.80	8.39		179'-7"		1.035	E(30'-6½"), PIV(10'-2"), T(59'-4½")
5	-4'-6"			8	(See Notes)	123'-3½"	140	44.758	
						59'-4½"	0.003382		
509	-4'-6"		772.96	8.39		182'-8½"		0.618	T(59'-4½")
509	-4'-6"		257.84	8	(See Notes)	8'-4½"	140	45.375	Flow (q) from Route 12
							0.005760		
1	-4'-6"		1030.80	8.39		8'-4½"		0.048	S
			500.00					45.424	Hose Allowance At Source
1			1530.80						Total(Pt) Route 1
13	33'-9½"	8.2	21.70	2½	(See Notes)	7'-10"	120	7.006	• • • • • **Route 2** • • • • • Sprinkler
							0.002343	0.142	
14	33'-5½"		21.70	2.47		7'-10"		0.018	
14	33'-5½"	8.2	21.95	2½	(See Notes)	7'-10"	120	7.167	Sprinkler
							0.008534	0.142	
15	33'-1½"		43.66	2.47		7'-10"		0.067	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
15	33'-1½"	8.2	22.27	2½	(See Notes)	7'-10"	120	7.376	Sprinkler
16	32'-9½"		65.93	2.47		7'-10"	0.018296	0.142 0.143	
16	32'-9½"	8.2	22.70	2½	(See Notes)	7'-10"	120	7.662	Sprinkler
17	32'-5½"		88.62	2.47		7'-10"	0.031627	0.142 0.248	
17	32'-5½"	8.2	23.27	2½	(See Notes)	7'-10"	120	8.052	Sprinkler
18	32'-1½"		111.89	2.47		7'-10"	0.048681	0.142 0.381	
18	32'-1½"	8.2	24.01	2½	(See Notes)	7'-10"	120	8.576	Sprinkler
19	31'-9½"		135.91	2.47		7'-10"	0.069754	0.142 0.546	
19	31'-9½"	8.2	24.96	2½	(See Notes)	6'-9½"	120	9.264	Sprinkler,
307	30'-6½"		160.86	2.47		4'-3" 11'-0½"	0.095285	0.539 1.052	E(4'-3")
307	30'-6½"		22.17	2½	(See Notes)	2'-9½"	120	10.855	Flow (q) from Route 6
302	27'-9"		183.03	2.47		36'-0" 38'-9½"	0.120991	1.209 4.693	PO(12'-0"), mecT(12'-0"), C(12'-0")
								16.757	Total(Pt) Route 2
20	33'-9½"	8.2	21.75	2½	(See Notes)	7'-10"	120	7.037	• • • • • **Route 3** • • • • • Sprinkler
21	33'-5½"		21.75	2.47		7'-10"	0.002352	0.142 0.018	
21	33'-5½"	8.2	22.00	2½	(See Notes)	7'-10"	120	7.198	Sprinkler
22	33'-1½"		43.75	2.47		7'-10"	0.008569	0.142 0.067	
22	33'-1½"	8.2	22.32	2½	(See Notes)	7'-10"	120	7.407	Sprinkler
23	32'-9½"		66.07	2.47		7'-10"	0.018369	0.142 0.144	
23	32'-9½"	8.2	22.74	2½	(See Notes)	7'-10"	120	7.694	Sprinkler
24	32'-5½"		88.81	2.47		7'-10"	0.031752	0.142 0.249	
24	32'-5½"	8.2	23.32	2½	(See Notes)	7'-10"	120	8.085	Sprinkler
25	32'-1½"		112.13	2.47		7'-10"	0.048872	0.142 0.383	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
25	32'-1½"	8.2	24.06	2½	(See Notes)	7'-10"	120	8.610	Sprinkler
26	31'-9½"		136.19	2.47		7'-10"	0.070024	0.142 0.548	
26	31'-9½"	8.2	25.01	2½	(See Notes)	6'-9½"	120	9.301	Sprinkler,
308	30'-6½"		161.20	2.47		4'-3" 11'-0½"	0.095651	0.539 1.056	E(4'-3")
308	30'-6½"		22.21	2½	(See Notes)	2'-10"	120	10.895	Flow (q) from Route 7
303	27'-8½"		183.41	2.47		36'-0" 38'-10"	0.121453	1.230 4.717	PO(12'-0"), mecT(12'-0"), C(12'-0")
								16.843	Total(Pt) Route 3
27	33'-9½"	8.2	21.86	2½	(See Notes)	7'-10"	120	7.105	• • • • • **Route 4** • • • • • Sprinkler
28	33'-5½"		21.86	2.47		7'-10"	0.002373	0.142 0.019	
28	33'-5½"	8.2	22.10	2½	(See Notes)	7'-10"	120	7.266	Sprinkler
29	33'-1½"		43.96	2.47		7'-10"	0.008645	0.142 0.068	
29	33'-1½"	8.2	22.42	2½	(See Notes)	7'-10"	120	7.477	Sprinkler
30	32'-9½"		66.38	2.47		7'-10"	0.018531	0.142 0.145	
30	32'-9½"	8.2	22.85	2½	(See Notes)	7'-10"	120	7.764	Sprinkler
31	32'-5½"		89.23	2.47		7'-10"	0.032029	0.142 0.251	
31	32'-5½"	8.2	23.42	2½	(See Notes)	7'-10"	120	8.157	Sprinkler
32	32'-1½"		112.65	2.47		7'-10"	0.049294	0.142 0.386	
32	32'-1½"	8.2	24.17	2½	(See Notes)	7'-10"	120	8.686	Sprinkler
33	31'-9½"		136.82	2.47		7'-10"	0.070623	0.142 0.553	
33	31'-9½"	8.2	25.12	2½	(See Notes)	6'-9½"	120	9.381	Sprinkler,
309	30'-6½"		161.93	2.47		4'-3" 11'-0½"	0.096462	0.539 1.065	E(4'-3")

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
309	30'-6½"		22.31	2½	(See Notes)	2'-10½"	120	10.985	Flow (q) from Route 8
304	27'-8"		184.24	2.47		36'-0"	0.122477	1.252	
						38'-10½"		4.763	PO(12'-0"), mecT(12'-0"), C(12'-0")
								17.000	Total(Pt) Route 4
41	31'-5½"	8.2	22.16	1	(See Notes)	4'-0"	120	7.303	• • • • • **Route 5** • • • • •
300	30'-6½"		22.16	1.05		16'-0"	0.157311	0.397	Sprinkler,
						20'-0"		3.146	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.846	Total(Pt) Route 5
42	31'-5½"	8.2	22.17	1	(See Notes)	4'-0"	120	7.309	• • • • • **Route 6** • • • • •
307	30'-6½"		22.17	1.05		16'-0"	0.157427	0.397	Sprinkler,
						20'-0"		3.149	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.855	Total(Pt) Route 6
43	31'-5½"	8.2	22.21	1	(See Notes)	4'-0"	120	7.338	• • • • • **Route 7** • • • • •
308	30'-6½"		22.21	1.05		16'-0"	0.158007	0.397	Sprinkler,
						20'-0"		3.160	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.895	Total(Pt) Route 7
44	31'-5½"	8.2	22.31	1	(See Notes)	4'-0"	120	7.402	• • • • • **Route 8** • • • • •
309	30'-6½"		22.31	1.05		16'-0"	0.159286	0.397	Sprinkler,
						20'-0"		3.186	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.985	Total(Pt) Route 8
34	33'-9½"	8.2	24.84	2½	(See Notes)	7'-10"	120	9.179	• • • • • **Route 9** • • • • •
35	33'-5½"		24.84	2.47			0.003008	0.142	Sprinkler
						7'-10"		0.024	
35	33'-5½"	8.2	25.07	2½	(See Notes)	7'-10"	120	9.345	Sprinkler
36	33'-1½"		49.91	2.47			0.010933	0.142	
						7'-10"		0.086	
36	33'-1½"	8.2	25.37	2½	(See Notes)	7'-10"	120	9.573	Sprinkler
37	32'-9½"		75.28	2.47			0.023385	0.142	
						7'-10"		0.183	
37	32'-9½"	8.2	25.80	2½	(See Notes)	7'-10"	120	9.898	Sprinkler
38	32'-5½"		101.08	2.47			0.040337	0.142	
						7'-10"		0.316	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
38	32'-5½"	8.2	26.39	2½	(See Notes)	7'-10"	120	10.357	Sprinkler
39	32'-1½"		127.47	2.47		7'-10"	0.061954	0.142 0.485	
39	32'-1½"	8.2	27.18	2½	(See Notes)	7'-10"	120	10.984	Sprinkler
40	31'-9½"		154.65	2.47		7'-10"	0.088583	0.142 0.694	
40	31'-9½"	8.2	28.19	2½	(See Notes)	6'-9½"	120	11.820	Sprinkler,
310	30'-6½"		182.84	2.47		4'-3" 11'-0½"	0.120753	0.539 1.333	E(4'-3")
310	30'-6½"		25.07	2½	(See Notes)	2'-11½"	120	13.693	Flow (q) from Route 10
305	27'-7½"		207.90	2.47		12'-0" 14'-11½"	0.153150	1.273 2.288	PO(12'-0")
								17.253	Total(Pt) Route 9
45	31'-5½"	8.2	25.07	1	(See Notes)	4'-0"	120	9.344	• • • • • **Route 10** • • • • •
310	30'-6½"		25.07	1.05		16'-0" 20'-0"	0.197586	0.397 3.952	Sprinkler, 3E(2'-0"), PO(5'-0"), mecT(5'-0")
								13.693	Total(Pt) Route 10
46	33'-9½"	8.2	29.52	2½	(See Notes)	7'-10"	120	12.961	• • • • • **Route 11** • • • • •
47	33'-5½"		29.52	2.47		7'-10"	0.004138	0.142 0.032	Sprinkler
47	33'-5½"	8.2	29.72	2½	(See Notes)	7'-10"	120	13.136	Sprinkler
48	33'-1½"		59.24	2.47		7'-10"	0.015012	0.142 0.118	
48	33'-1½"	8.2	30.01	2½	(See Notes)	41'-1"	120	13.396	Sprinkler,
306	27'-7"		89.25	2.47		16'-3" 57'-4"	0.032043	2.402 1.838	E(4'-3"), PO(12'-0")
								17.636	Total(Pt) Route 11
506	-4'-6"		257.84	8	(See Notes)	249'-5"	140	45.220	• • • • • **Route 12** • • • • •
507	-4'-6"		257.84	8.39		15'-3" 264'-8"	0.000444	0.117	Flow (q) from Route 13 EE(15'-3")
507	-4'-6"			8	(See Notes)	8'-2"	140	45.337	
508	-4'-6"		257.84	8.39		15'-3" 23'-5"	0.000444	0.010	EE(15'-3")

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
508	-4'-6"			8	(See Notes)	2'-7½"	140	45.348	
509	-4'-6"		257.84	8.39		59'-4½" / 62'-0"	0.000444	0.028	T(59'-4½")
								45.375	Total(Pt) Route 12
5	-4'-6"		772.96	8	(See Notes)	937'-2½"	140	44.758	• • • • • **Route 13** • • • • •
506	-4'-6"		257.84	8.39		105'-2" / 1042'-5"	0.000444	0.463	Flow (q) from Route 1 T(59'-4½"), EE(15'-3"), E(30'-6½")
								45.220	Total(Pt) Route 13

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV	Pressure Reducing Valve	red	Reducer/Adapter	S	Supply
sCV	Swing Check Valve	SFx	Seismic Flex	Spr	Sprinkler
St	Strainer	T	Tee Flow Turn 90°	Tr	Tee Run
U	Union	WirF	Wirsbo	WMV	Water Meter Valve
Z	Cap				

Hydraulic Calculations

for

Project Name: Rockland Green Facility Improvment
Location: 420 Torne Valley Road,, Hillburn, NY 10931,
Drawing Name: 1054-0014595 Rockland Green Zone 3 4 Conv Calculation Date: 5/5/2021

Design

Remote Area Number:	4				
Occupancy Classification:	Ordinary Group II				
Density	0.200gpm/ft²				
Area of Application:	1500ft² (Actual 3973ft²)				
Coverage per Sprinkler:	100ft²				
Type of sprinklers calculated:	Upright				
No. of sprinklers calculated:	41				
No. of nozzles calculated:	0				
In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	500.00	at Node:	1	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 1:	1449.43 @ 35.065	(Safety Margin = 42.219 psi)
Type of System:	Dry	
Volume of Dry or PreAction System:	497.71 gal	

Name of Contractor: W & M Fire Protection Services
Address: 50 Broadway, Hawthorne, NY 10532
Phone Number: (914) 741-2222
Name of designer: Ion Ionita
Authority Having Jurisdiction:

Notes:

Hydraulic Overview

Job Number: 1054-0014595
Report Description: Ordinary Group II (4)

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	Phone:
Address 1: 420 Torne Valley Road,	State Certification/License Number:
Address 2: Hillburn, NY 10931	AHJ:
Address 3:	Job Site/Building:

System

Density: 0.200gpm/ft²	Area of Application: 1500ft² (Actual 3973ft²)
Most Demanding Sprinkler Data: 8.2 K-Factor 21.70 at 7.000	Hose Streams: 500.00
Coverage Per Sprinkler: 100ft²	Number Of Sprinklers Calculated: 41
System Pressure Demand: 35.065	System Flow Demand: 949.43
Total Demand: 1449.43 @ 35.065	Pressure Result: +42.219 (54.6%)

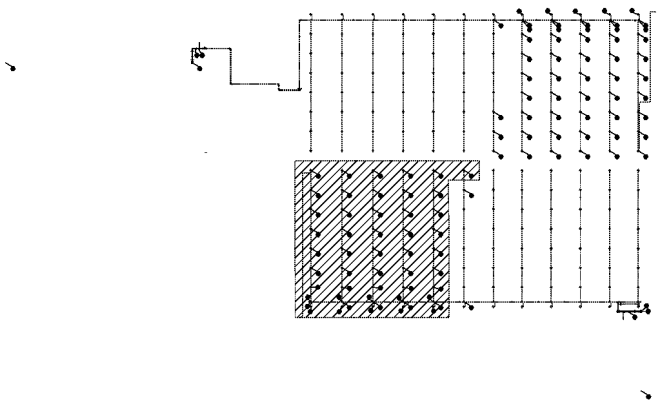
Supplies

Node	Name	Flow(gpm)	Hose Flow(gpm)	Static(psi)	Residual(psi)
1	Water Supply	1353.00	500.00	100.000	80.000

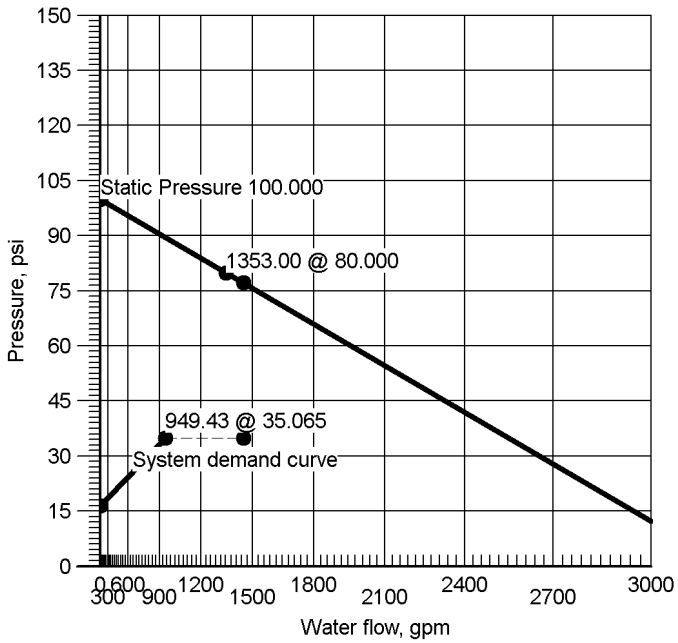
Check Point Gauges

Identifier	Pressure(psi)	K-Factor(K)	Flow(gpm)

1054-0014595 Rockland Green_Zone 3_4_Conv



Supply at Node 1 (1353.00, 0.00, 100.000, 80.000)



Hydraulic Summary

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	State Certification/License Number:
Address 1: 420 Torne Valley Road,	AHJ:
Address 2: Hillburn, NY 10931	Job Site/Building:
Address 3:	Drawing Name: 1054-0014595 Rockland Green_Zone 3_4_Conv

System

Most Demanding Sprinkler Data: 8.2 K-Factor 21.70 at 7.000

Hose Allowance At Source: 500.00

Additional Hose Supplies

Node	Flow(gpm)

Total Hose Streams: 500.00

System Flow Demand	Total Water Required (Including Hose Allowance)
949.43	1449.43

Maximum Pressure Unbalance In Loops: 0.000

Maximum Velocity Above Ground: 12.50 between nodes 405 and 410

Maximum Velocity Under Ground: 6.09 between nodes 10 and 505

Volume capacity of Wet Pipes	Volume capacity of Dry Pipes
4769.63gal N/A	497.71 gal

Remote Area(s)

Occupancy	Job Suffix
Ordinary Group II	

Density	Area of Application
0.200gpm/ft²	1500ft² (Actual 3973ft²)

Number Of Sprinklers Calculated	Number Of Nozzles Calculated	Coverage Per Sprinkler
41	0	100ft²

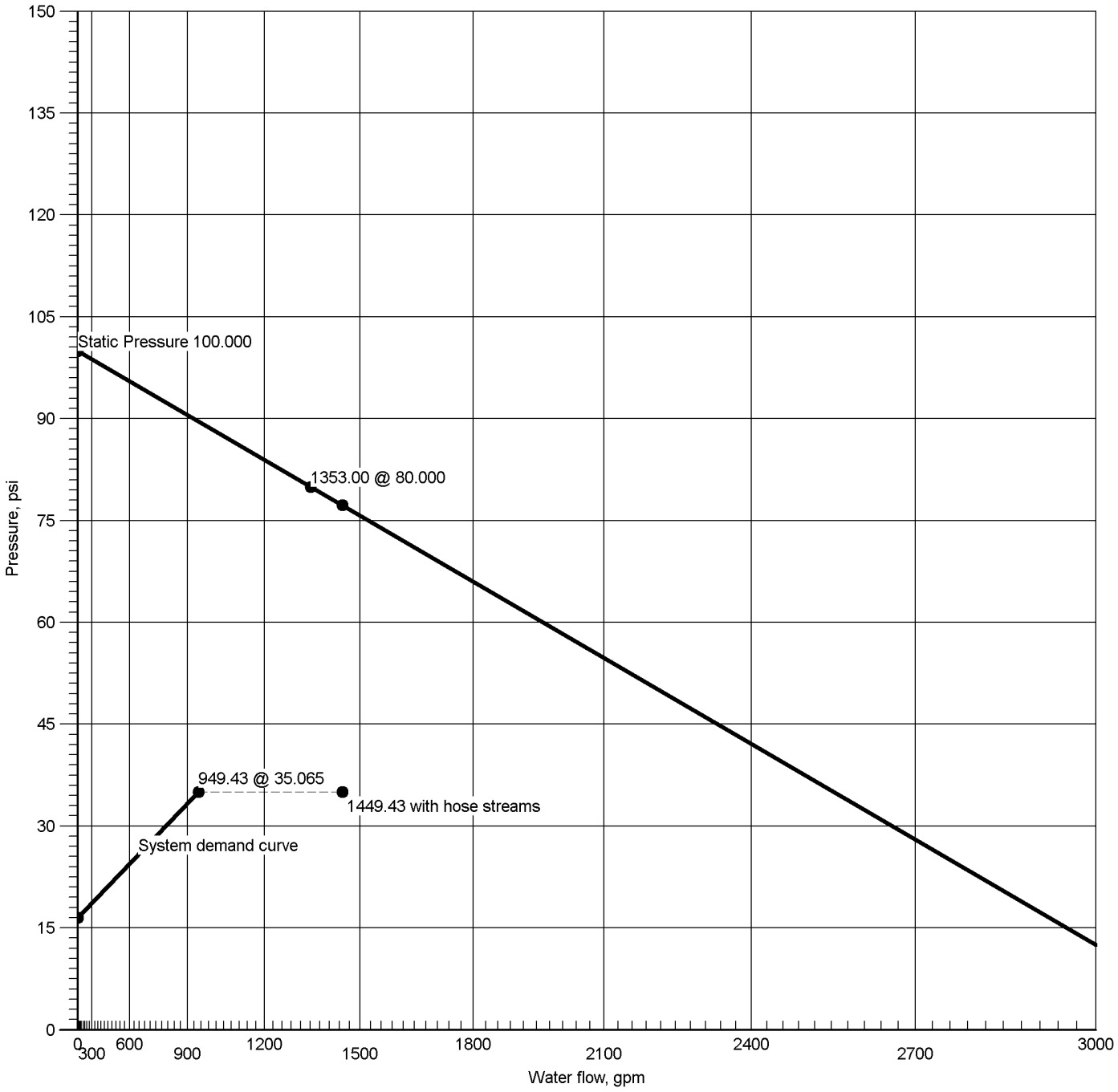
Supplies

Node	Name	Hose Flow (gpm)	Static (psi)	Residual (psi) @ Flow (gpm)	Available (psi) @ Total Demand (gpm)	Required (psi)	Safety Margin (psi)
1	Water Supply	500.00	100.000	80.000 @ 1353.00	77.283 @ 1449.43	35.065	42.219

Contractor

Contractor Number: 52		Contact Name: Hank Munier	Contact Title: President
Name of Contractor: W & M Fire Protection Services		Phone: (914) 741-2222	Extension:
Address 1: 50 Broadway		FAX:	
Address 2: Hawthorne, NY 10532		E-mail:	
Address 3:		Web-Site: www.wmsprinkler.com	

Supply at Node 1



Hydraulic Graph	Supply at Node 1
Static: Pressure	100.000
Residual: Pressure	80.000 @ 1353.00
Available Pressure at Time of Test	77.283 @ 1449.43
System Demand	35.065 @ 949.43
System Demand (Including Hose Allowance at Source)	35.065 @ 1449.43

Summary Of Outflowing Devices

Job Number: 1054-0014595
Report Description: Ordinary Group II (4)

Device		Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)	Density (gpmpft2)	Coverage (Foot)
Sprinkler	**50**	**21.70**	**19.60**	**8.2**	**7.000**	**0.221gpm/ft²**	98ft²
Sprinkler	51	21.95	19.60	8.2	7.163	0.224gpm/ft²	98ft²
Sprinkler	52	22.27	19.60	8.2	7.374	0.227gpm/ft²	98ft²
Sprinkler	53	22.70	19.60	8.2	7.662	0.232gpm/ft²	98ft²
Sprinkler	54	23.27	19.60	8.2	8.054	0.237gpm/ft²	98ft²
Sprinkler	55	24.02	19.60	8.2	8.580	0.245gpm/ft²	98ft²
Sprinkler	56	24.97	19.60	8.2	9.271	0.255gpm/ft²	98ft²
Sprinkler	57	21.71	19.60	8.2	7.008	0.221gpm/ft²	98ft²
Sprinkler	58	21.96	19.60	8.2	7.171	0.224gpm/ft²	98ft²
Sprinkler	59	22.28	19.60	8.2	7.382	0.227gpm/ft²	98ft²
Sprinkler	60	22.71	19.60	8.2	7.670	0.232gpm/ft²	98ft²
Sprinkler	61	23.28	19.60	8.2	8.062	0.238gpm/ft²	98ft²
Sprinkler	62	24.03	19.60	8.2	8.588	0.245gpm/ft²	98ft²
Sprinkler	63	24.98	19.60	8.2	9.280	0.255gpm/ft²	98ft²
Sprinkler	64	21.77	19.60	8.2	7.047	0.222gpm/ft²	98ft²
Sprinkler	65	22.02	19.60	8.2	7.210	0.225gpm/ft²	98ft²
Sprinkler	66	22.34	19.60	8.2	7.422	0.228gpm/ft²	98ft²
Sprinkler	67	22.77	19.60	8.2	7.711	0.232gpm/ft²	98ft²
Sprinkler	68	23.34	19.60	8.2	8.104	0.238gpm/ft²	98ft²
Sprinkler	69	24.09	19.60	8.2	8.633	0.246gpm/ft²	98ft²
Sprinkler	70	25.04	19.60	8.2	9.327	0.256gpm/ft²	98ft²
Sprinkler	71	21.90	19.20	8.2	7.135	0.228gpm/ft²	96ft²
Sprinkler	72	22.15	19.20	8.2	7.298	0.231gpm/ft²	96ft²
Sprinkler	73	22.47	19.20	8.2	7.511	0.234gpm/ft²	96ft²
Sprinkler	74	22.90	19.20	8.2	7.801	0.239gpm/ft²	96ft²
Sprinkler	75	23.48	19.20	8.2	8.197	0.245gpm/ft²	96ft²
Sprinkler	76	24.23	19.20	8.2	8.730	0.252gpm/ft²	96ft²
Sprinkler	77	25.18	19.20	8.2	9.430	0.262gpm/ft²	96ft²
Sprinkler	78	22.13	19.20	8.2	7.287	0.231gpm/ft²	96ft²
Sprinkler	79	22.38	19.20	8.2	7.450	0.233gpm/ft²	96ft²
Sprinkler	80	22.70	19.20	8.2	7.664	0.236gpm/ft²	96ft²
Sprinkler	81	23.13	19.20	8.2	7.957	0.241gpm/ft²	96ft²
Sprinkler	82	23.71	19.20	8.2	8.358	0.247gpm/ft²	96ft²
Sprinkler	83	24.46	19.20	8.2	8.898	0.255gpm/ft²	96ft²
Sprinkler	84	25.42	19.20	8.2	9.608	0.265gpm/ft²	96ft²
Sprinkler	85	22.22	19.60	8.2	7.346	0.227gpm/ft²	98ft²
Sprinkler	86	22.24	19.60	8.2	7.353	0.227gpm/ft²	98ft²
Sprinkler	87	22.29	19.60	8.2	7.391	0.227gpm/ft²	98ft²
Sprinkler	88	22.42	19.20	8.2	7.473	0.234gpm/ft²	96ft²
Sprinkler	89	22.63	19.20	8.2	7.616	0.236gpm/ft²	96ft²
Sprinkler	90	28.19	19.20	8.2	11.818	0.294gpm/ft²	96ft²

Most Demanding Sprinkler Data

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @ Flow (gpm)		Available (psi) @ Total Demand (gpm)		Required Pressure (psi)
1	Water Supply	100.000	80.000	1353.00	77.283	1449.43	35.065

Node Analysis

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
1	-4'-6"	Supply	35.065	949.43	
50	33'-9½"	Sprinkler	7.000	21.70	Density: 0.221gpm/ft² Coverage: 98ft²
51	33'-5½"	Sprinkler	7.163	21.95	Density: 0.224gpm/ft² Coverage: 98ft²
52	33'-1½"	Sprinkler	7.374	22.27	Density: 0.227gpm/ft² Coverage: 98ft²
53	32'-9"	Sprinkler	7.662	22.70	Density: 0.232gpm/ft² Coverage: 98ft²
54	32'-5"	Sprinkler	8.054	23.27	Density: 0.237gpm/ft² Coverage: 98ft²
55	32'-1"	Sprinkler	8.580	24.02	Density: 0.245gpm/ft² Coverage: 98ft²
56	31'-9"	Sprinkler	9.271	24.97	Density: 0.255gpm/ft² Coverage: 98ft²
57	33'-9½"	Sprinkler	7.008	21.71	Density: 0.221gpm/ft² Coverage: 98ft²
58	33'-5½"	Sprinkler	7.171	21.96	Density: 0.224gpm/ft² Coverage: 98ft²
59	33'-1½"	Sprinkler	7.382	22.28	Density: 0.227gpm/ft² Coverage: 98ft²
60	32'-9"	Sprinkler	7.670	22.71	Density: 0.232gpm/ft² Coverage: 98ft²
61	32'-5"	Sprinkler	8.062	23.28	Density: 0.238gpm/ft² Coverage: 98ft²
62	32'-1"	Sprinkler	8.588	24.03	Density: 0.245gpm/ft² Coverage: 98ft²
63	31'-9"	Sprinkler	9.280	24.98	Density: 0.255gpm/ft² Coverage: 98ft²
64	33'-9½"	Sprinkler	7.047	21.77	Density: 0.222gpm/ft² Coverage: 98ft²
65	33'-5½"	Sprinkler	7.210	22.02	Density: 0.225gpm/ft² Coverage: 98ft²
66	33'-1½"	Sprinkler	7.422	22.34	Density: 0.228gpm/ft² Coverage: 98ft²
67	32'-9"	Sprinkler	7.711	22.77	Density: 0.232gpm/ft² Coverage: 98ft²

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
68	32'-5"	Sprinkler	8.104	23.34	Density: 0.238gpm/ft² Coverage: 98ft²
69	32'-1"	Sprinkler	8.633	24.09	Density: 0.246gpm/ft² Coverage: 98ft²
70	31'-9"	Sprinkler	9.327	25.04	Density: 0.256gpm/ft² Coverage: 98ft²
71	33'-9½"	Sprinkler	7.135	21.90	Density: 0.228gpm/ft² Coverage: 96ft²
72	33'-5½"	Sprinkler	7.298	22.15	Density: 0.231gpm/ft² Coverage: 96ft²
73	33'-1½"	Sprinkler	7.511	22.47	Density: 0.234gpm/ft² Coverage: 96ft²
74	32'-9"	Sprinkler	7.801	22.90	Density: 0.239gpm/ft² Coverage: 96ft²
75	32'-5"	Sprinkler	8.197	23.48	Density: 0.245gpm/ft² Coverage: 96ft²
76	32'-1"	Sprinkler	8.730	24.23	Density: 0.252gpm/ft² Coverage: 96ft²
77	31'-9"	Sprinkler	9.430	25.18	Density: 0.262gpm/ft² Coverage: 96ft²
78	33'-9½"	Sprinkler	7.287	22.13	Density: 0.231gpm/ft² Coverage: 96ft²
79	33'-5½"	Sprinkler	7.450	22.38	Density: 0.233gpm/ft² Coverage: 96ft²
80	33'-1½"	Sprinkler	7.664	22.70	Density: 0.236gpm/ft² Coverage: 96ft²
81	32'-9"	Sprinkler	7.957	23.13	Density: 0.241gpm/ft² Coverage: 96ft²
82	32'-5"	Sprinkler	8.358	23.71	Density: 0.247gpm/ft² Coverage: 96ft²
83	32'-1"	Sprinkler	8.898	24.46	Density: 0.255gpm/ft² Coverage: 96ft²
84	31'-9"	Sprinkler	9.608	25.42	Density: 0.265gpm/ft² Coverage: 96ft²
85	31'-5½"	Sprinkler	7.346	22.22	Density: 0.227gpm/ft² Coverage: 98ft²
86	31'-5½"	Sprinkler	7.353	22.24	Density: 0.227gpm/ft² Coverage: 98ft²
87	31'-5½"	Sprinkler	7.391	22.29	Density: 0.227gpm/ft² Coverage: 98ft²
88	31'-5½"	Sprinkler	7.473	22.42	Density: 0.234gpm/ft² Coverage: 96ft²
89	31'-5½"	Sprinkler	7.616	22.63	Density: 0.236gpm/ft² Coverage: 96ft²
90	33'-9½"	Sprinkler	11.818	28.19	Density: 0.294gpm/ft² Coverage: 96ft²

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
2	33'-9½"	Sprinkler	18.310	Sprinkler	Density: Coverage:
3	33'-5½"	Sprinkler	18.452	Sprinkler	Density: Coverage:
4	33'-1½"	Sprinkler	18.595	Sprinkler	Density: Coverage:
5	-4'-6"		34.902	Sprinkler	
6	32'-9½"	Sprinkler	18.737	Sprinkler	Density: Coverage:
7	32'-5½"	Sprinkler	18.879	Sprinkler	Density: Coverage:
8	0'-0"		32.951	Sprinkler	
10	0'-0"		31.587	Sprinkler	
11	32'-1½"	Sprinkler	19.022	Sprinkler	Density: Coverage:
12	31'-9½"	Sprinkler	19.164	Sprinkler	Density: Coverage:
13	33'-9½"	Sprinkler	18.310	Sprinkler	Density: Coverage:
14	33'-5½"	Sprinkler	18.452	Sprinkler	Density: Coverage:
15	33'-1½"	Sprinkler	18.595	Sprinkler	Density: Coverage:
16	32'-9½"	Sprinkler	18.737	Sprinkler	Density: Coverage:
17	32'-5½"	Sprinkler	18.879	Sprinkler	Density: Coverage:
18	32'-1½"	Sprinkler	19.022	Sprinkler	Density: Coverage:
19	31'-9½"	Sprinkler	19.164	Sprinkler	Density: Coverage:
20	33'-9½"	Sprinkler	18.310	Sprinkler	Density: Coverage:
21	33'-5½"	Sprinkler	18.452	Sprinkler	Density: Coverage:
22	33'-1½"	Sprinkler	18.595	Sprinkler	Density: Coverage:
23	32'-9½"	Sprinkler	18.737	Sprinkler	Density: Coverage:
24	32'-5½"	Sprinkler	18.879	Sprinkler	Density: Coverage:
25	32'-1½"	Sprinkler	19.022	Sprinkler	Density: Coverage:

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
26	31'-9½"	Sprinkler	19.164	Sprinkler	Density: Coverage:
27	33'-9½"	Sprinkler	18.310	Sprinkler	Density: Coverage:
28	33'-5½"	Sprinkler	18.452	Sprinkler	Density: Coverage:
29	33'-1½"	Sprinkler	18.595	Sprinkler	Density: Coverage:
30	32'-9½"	Sprinkler	18.737	Sprinkler	Density: Coverage:
31	32'-5½"	Sprinkler	18.879	Sprinkler	Density: Coverage:
32	32'-1½"	Sprinkler	19.022	Sprinkler	Density: Coverage:
33	31'-9½"	Sprinkler	19.164	Sprinkler	Density: Coverage:
34	33'-9½"	Sprinkler	18.310	Sprinkler	Density: Coverage:
35	33'-5½"	Sprinkler	18.452	Sprinkler	Density: Coverage:
36	33'-1½"	Sprinkler	18.595	Sprinkler	Density: Coverage:
37	32'-9½"	Sprinkler	18.737	Sprinkler	Density: Coverage:
38	32'-5½"	Sprinkler	18.879	Sprinkler	Density: Coverage:
39	32'-1½"	Sprinkler	19.022	Sprinkler	Density: Coverage:
40	31'-9½"	Sprinkler	19.164	Sprinkler	Density: Coverage:
46	33'-9½"	Sprinkler	18.310	Sprinkler	Density: Coverage:
47	33'-5½"	Sprinkler	18.452	Sprinkler	Density: Coverage:
48	33'-1½"	Sprinkler	18.595	Sprinkler	Density: Coverage:
91	33'-5½"	Sprinkler	11.992	Sprinkler	Density: Coverage:
300	30'-6½"		19.703	Sprinkler	
301	27'-10"		20.891	Sprinkler	
302	27'-9"		20.912	Sprinkler	
303	27'-8½"		20.934	Sprinkler	

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
304	27'-8"		20.955	Sprinkler	
305	27'-7½"		20.976	Sprinkler	
306	27'-7"		20.997	Sprinkler	
307	30'-6½"		19.703	Sprinkler	
308	30'-6½"		19.703	Sprinkler	
309	30'-6½"		19.703	Sprinkler	
310	30'-6½"		19.703	Sprinkler	
316	1'-7"		32.265	Sprinkler	
317	1'-7"		32.265	Sprinkler	
400	30'-6½"		10.867	Sprinkler	
401	27'-10"		13.830	Sprinkler	
402	27'-9½"		13.876	Sprinkler	
403	27'-8½"		13.970	Sprinkler	
404	27'-8"		14.137	Sprinkler	
405	27'-7"		14.402	Sprinkler	
406	27'-6½"		14.798	Sprinkler	
407	30'-6½"		10.877	Sprinkler	
408	30'-6½"		10.929	Sprinkler	
409	30'-6½"		11.045	Sprinkler	
410	30'-6½"		11.244	Sprinkler	
459	1'-9"		30.611	Sprinkler	
505	1'-9"		30.817	Sprinkler	
506	-4'-6"		34.213	Sprinkler	

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
507	-4'-6"		34.825	Sprinkler	
508	-4'-6"		34.880	Sprinkler	
509	-4'-6"		35.023	Sprinkler	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes
50	33'-9½"	8.2	21.70	2½	(See Notes)	7'-10"	120	7.000	• • • • • Route 1 • • • • •
							0.002341	0.145	Sprinkler
51	33'-5½"		21.70	2.47		7'-10"		0.018	
51	33'-5½"	8.2	21.95	2½	(See Notes)	7'-10"	120	7.163	Sprinkler
							0.008529	0.145	
52	33'-1½"		43.64	2.47		7'-10"		0.067	
52	33'-1½"	8.2	22.27	2½	(See Notes)	7'-10"	120	7.374	Sprinkler
							0.018286	0.145	
53	32'-9"		65.91	2.47		7'-10"		0.143	
53	32'-9"	8.2	22.70	2½	(See Notes)	7'-10"	120	7.662	Sprinkler
							0.031615	0.145	
54	32'-5"		88.61	2.47		7'-10"		0.248	
54	32'-5"	8.2	23.27	2½	(See Notes)	7'-10"	120	8.054	Sprinkler
							0.048670	0.145	
55	32'-1"		111.88	2.47		7'-10"		0.381	
55	32'-1"	8.2	24.02	2½	(See Notes)	7'-10"	120	8.580	Sprinkler
							0.069746	0.145	
56	31'-9"		135.90	2.47		7'-10"		0.546	
56	31'-9"	8.2	24.97	2½	(See Notes)	7'-0"	120	9.271	Sprinkler,
						4'-3"	0.095287	0.525	E(4'-3")
400	30'-6½"		160.87	2.47		11'-3"		1.071	
400	30'-6½"		22.22	2½	(See Notes)	2'-8½"	120	10.867	Flow (q) from Route 6
						12'-0"	0.121062	1.181	PO(12'-0")
401	27'-10"		183.09	2.47		14'-8½"		1.783	
401	27'-10"			6		12'-6"	120	13.830	
							0.001521	0.026	
402	27'-9½"		183.09	6.07		12'-6"		0.019	
402	27'-9½"		183.18	6		12'-5½"	120	13.876	Flow (q) from Route 2
							0.005487	0.026	
403	27'-8½"		366.27	6.07		12'-5½"		0.068	
403	27'-8½"		183.67	6		12'-2"	120	13.970	Flow (q) from Route 3
							0.011637	0.025	
404	27'-8"		549.94	6.07		12'-2"		0.142	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
404	27'-8"		184.73	6		12'-1"	120	14.137	Flow (q) from Route 4
							0.019886	0.025	
405	27'-7"		734.67	6.07		12'-1"		0.240	
405	27'-7"		186.56	6		12'-3"	120	14.402	Flow (q) from Route 5
							0.030224	0.025	
406	27'-6½"		921.24	6.07		12'-3"		0.370	
406	27'-6½"		28.19	6	(See Notes)	94'-11½"	120	14.798	Flow (q) from Route 11
						50'-0"	0.031957	11.181	
459	1'-9"		949.43	6.07		144'-11½"		4.633	fT(25'-0"), E(10'-0"), DPV(6'-0"), LtE(9'-0")
459	1'-9"			8	(See Notes)	5'-6½"	120	30.611	
						19'-0"	0.008393	0.000	
505	1'-9"		949.43	7.98		24'-6½"		0.206	BFP(6'-0"), LtE(13'-0")
505	1'-9"			8		1'-9"	140	30.817	
							0.006311	0.759	
10	0'-0"		949.43	7.98		1'-9"		0.011	
10	0'-0"			8	(See Notes)	36'-4½"	140	31.587	
						100'-1"	0.004947	1.951	
506	-4'-6"		949.43	8.39		136'-6"		0.675	E(30'-6½"), PIV(10'-2"), T(59'-4½")
506	-4'-6"			8	(See Notes)	249'-5"	140	34.213	
						15'-3"	0.002314		
507	-4'-6"		629.55	8.39		264'-8"		0.612	EE(15'-3")
507	-4'-6"			8	(See Notes)	8'-2"	140	34.825	
						15'-3"	0.002314		
508	-4'-6"		629.55	8.39		23'-5"		0.054	EE(15'-3")
508	-4'-6"			8	(See Notes)	2'-7½"	140	34.880	
						59'-4½"	0.002314		
509	-4'-6"		629.55	8.39		62'-0"		0.143	T(59'-4½")
509	-4'-6"		319.88	8	(See Notes)	8'-4½"	140	35.023	Flow (q) from Route 12
							0.004947		
1	-4'-6"		949.43	8.39		8'-4½"		0.041	S
			500.00					35.065	Hose Allowance At Source
1			1449.43						Total(Pt) Route 1

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
57	33'-9½"	8.2	21.71	2½	(See Notes)	7'-10"	120	7.008	• • • • • **Route 2** • • • • •
									Sprinkler
58	33'-5½"		21.71	2.47		7'-10"	0.002343	0.145 0.018	
58	33'-5½"	8.2	21.96	2½	(See Notes)	7'-10"	120	7.171	Sprinkler
59	33'-1½"		43.66	2.47		7'-10"	0.008537	0.145 0.067	
59	33'-1½"	8.2	22.28	2½	(See Notes)	7'-10"	120	7.382	Sprinkler
60	32'-9"		65.94	2.47		7'-10"	0.018304	0.145 0.143	
60	32'-9"	8.2	22.71	2½	(See Notes)	7'-10"	120	7.670	Sprinkler
61	32'-5"		88.65	2.47		7'-10"	0.031646	0.145 0.248	
61	32'-5"	8.2	23.28	2½	(See Notes)	7'-10"	120	8.062	Sprinkler
62	32'-1"		111.94	2.47		7'-10"	0.048716	0.145 0.381	
62	32'-1"	8.2	24.03	2½	(See Notes)	7'-10"	120	8.588	Sprinkler
63	31'-9"		135.97	2.47		7'-10"	0.069812	0.145 0.547	
63	31'-9"	8.2	24.98	2½	(See Notes)	7'-0"	120	9.280	Sprinkler,
407	30'-6½"		160.95	2.47		4'-3" 11'-3"	0.095376	0.525 1.072	E(4'-3")
407	30'-6½"		22.24	2½	(See Notes)	2'-9½"	120	10.877	Flow (q) from Route 7
402	27'-9½"		183.18	2.47		12'-0" 14'-9½"	0.121175	1.207 1.792	PO(12'-0")
								13.876	Total(Pt) Route 2
64	33'-9½"	8.2	21.77	2½	(See Notes)	7'-10"	120	7.047	• • • • • **Route 3** • • • • •
									Sprinkler
65	33'-5½"		21.77	2.47		7'-10"	0.002355	0.145 0.018	
65	33'-5½"	8.2	22.02	2½	(See Notes)	7'-10"	120	7.210	Sprinkler
66	33'-1½"		43.79	2.47		7'-10"	0.008581	0.145 0.067	
66	33'-1½"	8.2	22.34	2½	(See Notes)	7'-10"	120	7.422	Sprinkler
67	32'-9"		66.13	2.47		7'-10"	0.018398	0.145 0.144	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
67	32'-9"	8.2	22.77	2½	(See Notes)	7'-10"	120	7.711	Sprinkler
68	32'-5"		88.90	2.47		7'-10"	0.031806	0.145 0.249	
68	32'-5"	8.2	23.34	2½	(See Notes)	7'-10"	120	8.104	Sprinkler
69	32'-1"		112.24	2.47		7'-10"	0.048961	0.145 0.383	
69	32'-1"	8.2	24.09	2½	(See Notes)	7'-10"	120	8.633	Sprinkler
70	31'-9"		136.33	2.47		7'-10"	0.070160	0.145 0.549	
70	31'-9"	8.2	25.04	2½	(See Notes)	7'-0"	120	9.327	Sprinkler,
408	30'-6½"		161.38	2.47		4'-3" 11'-3"	0.095846	0.525 1.078	E(4'-3")
408	30'-6½"		22.29	2½	(See Notes)	2'-10"	120	10.929	Flow (q) from Route 8
403	27'-8½"		183.67	2.47		12'-0" 14'-10"	0.121769	1.233 1.808	PO(12'-0")
								13.970	Total(Pt) Route 3
71	33'-9½"	8.2	21.90	2½	(See Notes)	7'-10"	120	7.135	• • • • • **Route 4** • • • • • Sprinkler
72	33'-5½"		21.90	2.47		7'-10"	0.002382	0.145 0.019	
72	33'-5½"	8.2	22.15	2½	(See Notes)	7'-10"	120	7.298	Sprinkler
73	33'-1½"		44.06	2.47		7'-10"	0.008679	0.145 0.068	
73	33'-1½"	8.2	22.47	2½	(See Notes)	7'-10"	120	7.511	Sprinkler
74	32'-9"		66.53	2.47		7'-10"	0.018605	0.145 0.146	
74	32'-9"	8.2	22.90	2½	(See Notes)	7'-10"	120	7.801	Sprinkler
75	32'-5"		89.43	2.47		7'-10"	0.032160	0.145 0.252	
75	32'-5"	8.2	23.48	2½	(See Notes)	7'-10"	120	8.197	Sprinkler
76	32'-1"		112.91	2.47		7'-10"	0.049501	0.145 0.388	
76	32'-1"	8.2	24.23	2½	(See Notes)	7'-10"	120	8.730	Sprinkler
77	31'-9"		137.14	2.47		7'-10"	0.070925	0.145 0.555	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
77	31'-9"	8.2	25.18	2½	(See Notes)	7'-0"	120	9.430	Sprinkler,
409	30'-6½"		162.32	2.47		4'-3"	0.096882	0.525	E(4'-3")
						11'-3"		1.090	
409	30'-6½"		22.42	2½	(See Notes)	2'-11"	120	11.045	Flow (q) from Route 9
404	27'-8"		184.73	2.47		12'-0"	0.123078	1.258	PO(12'-0")
						14'-11"		1.834	
								14.137	Total(Pt) Route 4
78	33'-9½"	8.2	22.13	2½	(See Notes)	7'-10"	120	7.287	• • • • • **Route 5** • • • • • Sprinkler
79	33'-5½"		22.13	2.47			0.002429	0.145	
						7'-10"		0.019	
79	33'-5½"	8.2	22.38	2½	(See Notes)	7'-10"	120	7.450	Sprinkler
80	33'-1½"		44.52	2.47			0.008848	0.145	
						7'-10"		0.069	
80	33'-1½"	8.2	22.70	2½	(See Notes)	7'-10"	120	7.664	Sprinkler
81	32'-9"		67.22	2.47			0.018963	0.145	
						7'-10"		0.148	
81	32'-9"	8.2	23.13	2½	(See Notes)	7'-10"	120	7.957	Sprinkler
82	32'-5"		90.35	2.47			0.032774	0.145	
						7'-10"		0.257	
82	32'-5"	8.2	23.71	2½	(See Notes)	7'-10"	120	8.358	Sprinkler
83	32'-1"		114.06	2.47			0.050436	0.145	
						7'-10"		0.395	
83	32'-1"	8.2	24.46	2½	(See Notes)	7'-10"	120	8.898	Sprinkler
84	31'-9"		138.52	2.47			0.072252	0.145	
						7'-10"		0.566	
84	31'-9"	8.2	25.42	2½	(See Notes)	7'-0"	120	9.608	Sprinkler,
410	30'-6½"		163.93	2.47		4'-3"	0.098676	0.525	E(4'-3")
						11'-3"		1.110	
410	30'-6½"		22.63	2½	(See Notes)	2'-11½"	120	11.244	Flow (q) from Route 10
405	27'-7"		186.56	2.47		12'-0"	0.125345	1.283	PO(12'-0")
						14'-11½"		1.875	
								14.402	Total(Pt) Route 5

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
85	31'-5½"	8.2	22.22	1	(See Notes)	3'-9"	120	7.346	• • • • • **Route 6** • • • • •
400	30'-6½"		22.22	1.05		16'-0" 19'-9"	0.158168	0.397 3.124	Sprinkler, 3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.867	Total(Pt) Route 6
86	31'-5½"	8.2	22.24	1	(See Notes)	3'-9"	120	7.353	• • • • • **Route 7** • • • • •
407	30'-6½"		22.24	1.05		16'-0" 19'-9"	0.158313	0.397 3.127	Sprinkler, 3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.877	Total(Pt) Route 7
87	31'-5½"	8.2	22.29	1	(See Notes)	3'-9"	120	7.391	• • • • • **Route 8** • • • • •
408	30'-6½"		22.29	1.05		16'-0" 19'-9"	0.159061	0.397 3.141	Sprinkler, 3E(2'-0"), PO(5'-0"), mecT(5'-0")
								10.929	Total(Pt) Route 8
88	31'-5½"	8.2	22.42	1	(See Notes)	3'-9"	120	7.473	• • • • • **Route 9** • • • • •
409	30'-6½"		22.42	1.05		16'-0" 19'-9"	0.160704	0.397 3.174	Sprinkler, 3E(2'-0"), PO(5'-0"), mecT(5'-0")
								11.045	Total(Pt) Route 9
89	31'-5½"	8.2	22.63	1	(See Notes)	3'-9"	120	7.616	• • • • • **Route 10** • • • • •
410	30'-6½"		22.63	1.05		16'-0" 19'-9"	0.163548	0.397 3.230	Sprinkler, 3E(2'-0"), PO(5'-0"), mecT(5'-0")
								11.244	Total(Pt) Route 10
90	33'-9½"	8.2	28.19	2½	(See Notes)	7'-10"	120	11.818	• • • • • **Route 11** • • • • •
91	33'-5½"		28.19	2.47		 7'-10"	0.003800	0.145 0.030	Sprinkler
91	33'-5½"	8.2		2½	(See Notes)	49'-2"	120	11.992	
406	27'-6½"		28.19	2.47		16'-3" 65'-5"	0.003800	2.557 0.249	E(4'-3"), PO(12'-0")
								14.798	Total(Pt) Route 11
506	-4'-6"		629.55	8	(See Notes)	937'-2½"	140	34.213	• • • • • **Route 12** • • • • •
5	-4'-6"		319.88	8.39		105'-2" 1042'-5"	0.000661	 0.689	Flow (q) from Route 1 E(30'-6½"), EE(15'-3"), T(59'-4½")

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
5	-4'-6"			8	(See Notes)	123'-3½"	140	34.902	
509	-4'-6"		319.88	8.39		59'-4½" / 182'-8½"	0.000661	0.121	T(59'-4½")
								35.023	Total(Pt) Route 12

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV	Pressure Reducing Valve	red	Reducer/Adapter	S	Supply
sCV	Swing Check Valve	SFx	Seismic Flex	Spr	Sprinkler
St	Strainer	T	Tee Flow Turn 90°	Tr	Tee Run
U	Union	WirF	Wirsbo	WMV	Water Meter Valve
Z	Cap				

Hydraulic Calculations

for

Project Name: Rockland Green Facility Improvment
Location: 420 Torne Valley Road,, Hillburn, NY 10931,
Drawing Name: 1054-0014595 Rockland Green Zone 5 Tipping Calculation Date: 5/5/2021

Design

Remote Area Number:	5
Occupancy Classification:	Ordinary Group II
Density	0.200gpm/ft²
Area of Application:	1500ft² (Actual 3937ft²)
Coverage per Sprinkler:	100ft²
Type of sprinklers calculated:	Upright
No. of sprinklers calculated:	44
No. of nozzles calculated:	0

In-rack Demand:	N/A gpm	at Node:	N/A		
Hose Streams:	500.00	at Node:	1	Type:	Allowance at Source

Total Water Required (including Hose Streams where applicable):

From Water Supply at Node 1:	1529.64 @ 50.466	(Safety Margin = 24.437 psi)
Type of System:	Dry	
Volume of Dry or PreAction System:	609.58 gal	

Name of Contractor: W & M Fire Protection Services
Address: 50 Broadway, Hawthorne, NY 10532
Phone Number: (914) 741-2222
Name of designer: Ion Ionita
Authority Having Jurisdiction:

Notes:

Hydraulic Overview

Job Number: 1054-0014595
Report Description: Ordinary Group II (5)

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	Phone:	FAX:
Address 1: 420 Torne Valley Road,	State Certification/License Number:
Address 2: Hillburn, NY 10931	AHJ:
Address 3:	Job Site/Building:

System

Density: 0.200gpm/ft²	Area of Application: 1500ft² (Actual 3937ft²)
Most Demanding Sprinkler Data: 8.2 K-Factor 21.70 at 7.000	Hose Streams: 500.00
Coverage Per Sprinkler: 100ft²	Number Of Sprinklers Calculated: 44 / Number Of Sprinklers Calculated: 0
System Pressure Demand: 50.466	System Flow Demand: 1029.64
Total Demand: 1529.64 @ 50.466	Pressure Result: +24.437 (32.6%)

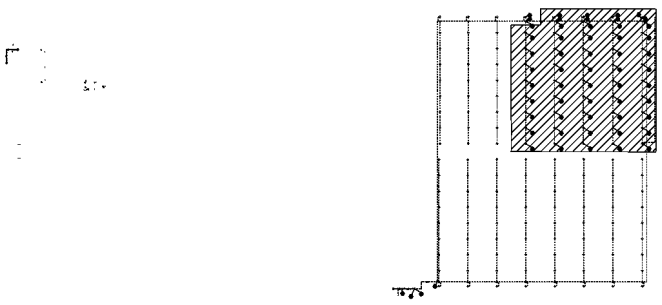
Supplies

Node	Name	Flow(gpm)	Hose Flow(gpm)	Static(psi)	Residual(psi)
1	Water Supply	1353.00	500.00	100.000	80.000

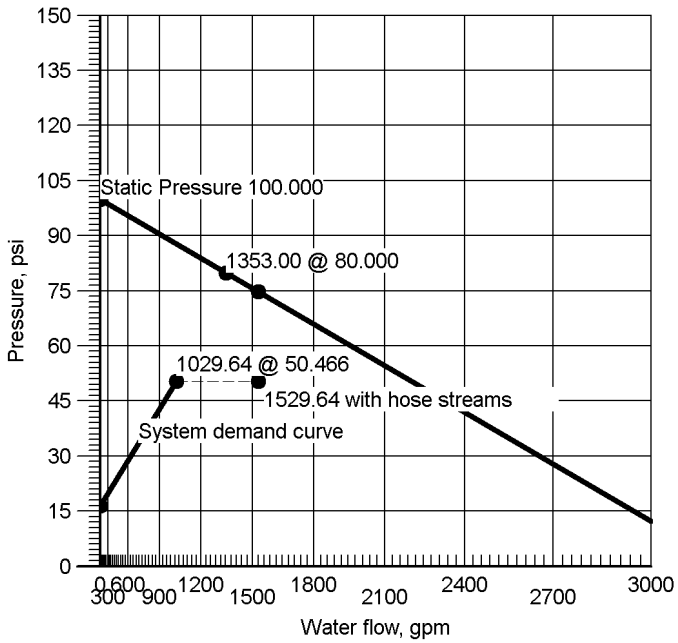
Check Point Gauges

Identifier	Pressure(psi)	K-Factor(K)	Flow(gpm)

1054-0014595 Rockland Green_Zone 5_Tipping



Supply at Node 1 (1353.00, 0.00, 100.000, 80.000)



Hydraulic Summary

Job

Job Number: 1054-0014595	Design Engineer: Ion Ionita
Job Name: Rockland Green Facility Improvment	State Certification/License Number:
Address 1: 420 Torne Valley Road,	AHJ:
Address 2: Hillburn, NY 10931	Job Site/Building:
Address 3:	Drawing Name: 1054-0014595 Rockland Green_Zone 5_Tipping

System

Most Demanding Sprinkler Data: 8.2 K-Factor 21.70 at 7.000

Hose Allowance At Source: 500.00

Additional Hose Supplies

Node	Flow(gpm)

Total Hose Streams: 500.00

System Flow Demand	Total Water Required (Including Hose Allowance)
1029.64	1529.64

Maximum Pressure Unbalance In Loops: 0.000

Maximum Velocity Above Ground: 14.14 between nodes 511 and 513

Maximum Velocity Under Ground	
6.60 between nodes 56 and 57	

Volume capacity of Wet Pipes	Volume capacity of Dry Pipes
	609.58 gal

Remote Area(s)

Occupancy	Job Suffix
Ordinary Group II	

Density	Area of Application
0.200gpm/ft²	1500ft² (Actual 3937ft²)

Number Of Sprinklers Calculated	Number Of Nozzles Calculated	Coverage Per Sprinkler
44	0	100ft²

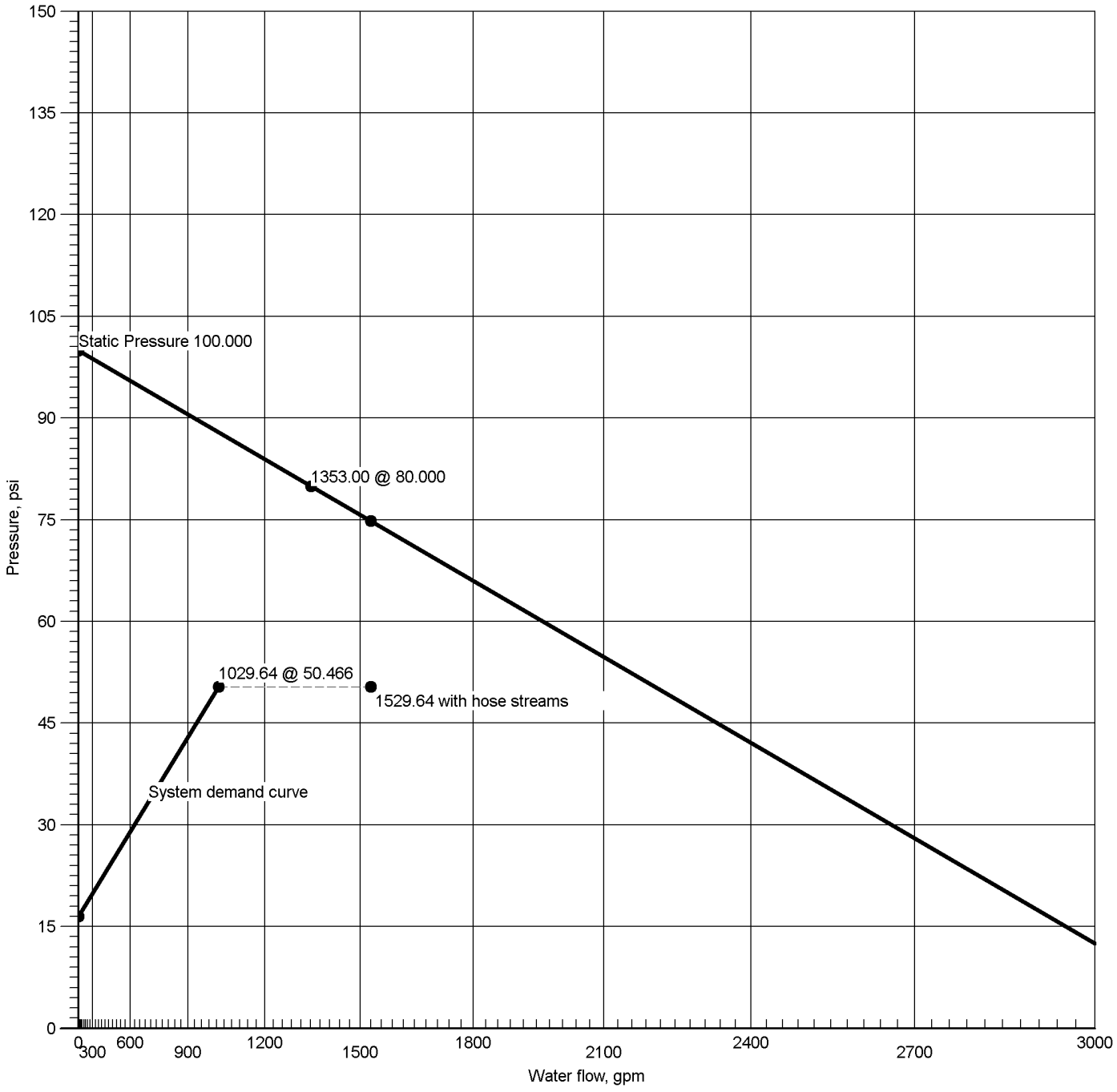
Supplies

Node	Name	Hose Flow (gpm)	Static (psi)	Residual (psi) @ Flow (gpm)	Available (psi) @ Total Demand (gpm)	Required (psi)	Safety Margin (psi)
1	Water Supply	500.00	100.000	80.000 @ 1353.00	74.903 @ 1529.64	50.466	24.437

Contractor

Contractor Number: 52		Contact Name: Hank Munier	Contact Title: President
Name of Contractor: W & M Fire Protection Services		Phone: (914) 741-2222	Extension:
Address 1: 50 Broadway		FAX:	
Address 2: Hawthorne, NY 10532		E-mail:	
Address 3:		Web-Site: www.wmsprinkler.com	

Supply at Node 1



Hydraulic Graph	Supply at Node 1
Static: Pressure	100.000
Residual: Pressure	80.000 @ 1353.00
Available Pressure at Time of Test	74.903 @ 1529.64
System Demand	50.466 @ 1029.64
System Demand (Including Hose Allowance at Source)	50.466 @ 1529.64

Summary Of Outflowing Devices

Job Number: 1054-0014595
Report Description: Ordinary Group II (5)

Device	Actual Flow (gpm)	Minimum Flow (gpm)	K-Factor (K)	Pressure (psi)	Density (gpmpft2)	Coverage (Foot)
Sprinkler 2	**21.70**	**18.20**	**8.2**	**7.000**	**0.238gpm/ft²**	91ft²
Sprinkler 3	21.92	18.20	8.2	7.144	0.241gpm/ft²	91ft²
Sprinkler 4	22.20	18.20	8.2	7.331	0.244gpm/ft²	91ft²
Sprinkler 6	23.10	18.20	8.2	7.934	0.254gpm/ft²	91ft²
Sprinkler 7	23.77	18.20	8.2	8.401	0.261gpm/ft²	91ft²
Sprinkler 11	25.67	18.20	8.2	9.800	0.282gpm/ft²	91ft²
Sprinkler 12	21.73	18.20	8.2	7.020	0.239gpm/ft²	91ft²
Sprinkler 13	21.95	18.20	8.2	7.164	0.241gpm/ft²	91ft²
Sprinkler 14	22.23	18.20	8.2	7.351	0.244gpm/ft²	91ft²
Sprinkler 15	22.62	18.20	8.2	7.606	0.249gpm/ft²	91ft²
Sprinkler 16	23.13	18.20	8.2	7.955	0.254gpm/ft²	91ft²
Sprinkler 17	23.80	18.20	8.2	8.422	0.262gpm/ft²	91ft²
Sprinkler 18	24.65	18.20	8.2	9.035	0.271gpm/ft²	91ft²
Sprinkler 19	25.70	18.20	8.2	9.824	0.282gpm/ft²	91ft²
Sprinkler 20	21.74	18.00	8.2	7.029	0.242gpm/ft²	90ft²
Sprinkler 21	21.96	18.00	8.2	7.173	0.244gpm/ft²	90ft²
Sprinkler 22	22.25	18.00	8.2	7.361	0.247gpm/ft²	90ft²
Sprinkler 23	22.63	18.00	8.2	7.616	0.251gpm/ft²	90ft²
Sprinkler 24	23.14	18.00	8.2	7.965	0.257gpm/ft²	90ft²
Sprinkler 25	23.81	18.00	8.2	8.433	0.265gpm/ft²	90ft²
Sprinkler 26	24.66	18.00	8.2	9.046	0.274gpm/ft²	90ft²
Sprinkler 27	25.72	18.00	8.2	9.836	0.286gpm/ft²	90ft²
Sprinkler 28	21.96	18.20	8.2	7.169	0.241gpm/ft²	91ft²
Sprinkler 29	22.18	18.20	8.2	7.314	0.244gpm/ft²	91ft²
Sprinkler 30	22.46	18.20	8.2	7.502	0.247gpm/ft²	91ft²
Sprinkler 31	22.84	18.20	8.2	7.760	0.251gpm/ft²	91ft²
Sprinkler 32	23.36	18.20	8.2	8.113	0.257gpm/ft²	91ft²
Sprinkler 33	24.03	18.20	8.2	8.587	0.264gpm/ft²	91ft²
Sprinkler 34	24.88	18.20	8.2	9.209	0.273gpm/ft²	91ft²
Sprinkler 35	25.94	18.20	8.2	10.010	0.285gpm/ft²	91ft²
Sprinkler 36	22.47	18.00	8.2	7.506	0.250gpm/ft²	90ft²
Sprinkler 37	22.68	18.00	8.2	7.651	0.252gpm/ft²	90ft²
Sprinkler 38	22.96	18.00	8.2	7.842	0.255gpm/ft²	90ft²
Sprinkler 39	23.35	18.00	8.2	8.106	0.259gpm/ft²	90ft²
Sprinkler 40	23.86	18.00	8.2	8.468	0.265gpm/ft²	90ft²
Sprinkler 41	24.54	18.00	8.2	8.957	0.273gpm/ft²	90ft²
Sprinkler 42	25.41	18.00	8.2	9.599	0.282gpm/ft²	90ft²
Sprinkler 43	26.48	18.00	8.2	10.429	0.294gpm/ft²	90ft²
Sprinkler 44	23.17	18.20	8.2	7.982	0.255gpm/ft²	91ft²
Sprinkler 45	23.21	18.00	8.2	8.008	0.258gpm/ft²	90ft²
Sprinkler 46	23.20	18.20	8.2	8.001	0.255gpm/ft²	91ft²
Sprinkler 47	23.42	18.20	8.2	8.154	0.257gpm/ft²	91ft²
Sprinkler 49	22.59	18.20	8.2	7.586	0.248gpm/ft²	91ft²
Sprinkler 730	24.62	18.20	8.2	9.012	0.271gpm/ft²	91ft²

Most Demanding Sprinkler Data

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @ Flow (gpm)		Available (psi) @ Total Demand (gpm)		Required Pressure (psi)
1	Water Supply	100.000	80.000	1353.00	74.903	1529.64	50.466

Node Analysis

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
1	-4'-6"	Supply	50.466	1029.64	
2	33'-9½"	Sprinkler	7.000	21.70	Density: 0.238gpm/ft² Coverage: 91ft²
3	33'-6"	Sprinkler	7.144	21.92	Density: 0.241gpm/ft² Coverage: 91ft²
4	33'-2½"	Sprinkler	7.331	22.20	Density: 0.244gpm/ft² Coverage: 91ft²
6	32'-7½"	Sprinkler	7.934	23.10	Density: 0.254gpm/ft² Coverage: 91ft²
7	32'-4"	Sprinkler	8.401	23.77	Density: 0.261gpm/ft² Coverage: 91ft²
11	31'-9"	Sprinkler	9.800	25.67	Density: 0.282gpm/ft² Coverage: 91ft²
12	33'-9½"	Sprinkler	7.020	21.73	Density: 0.239gpm/ft² Coverage: 91ft²
13	33'-6"	Sprinkler	7.164	21.95	Density: 0.241gpm/ft² Coverage: 91ft²
14	33'-2½"	Sprinkler	7.351	22.23	Density: 0.244gpm/ft² Coverage: 91ft²
15	32'-11"	Sprinkler	7.606	22.62	Density: 0.249gpm/ft² Coverage: 91ft²
16	32'-7½"	Sprinkler	7.955	23.13	Density: 0.254gpm/ft² Coverage: 91ft²
17	32'-4"	Sprinkler	8.422	23.80	Density: 0.262gpm/ft² Coverage: 91ft²
18	32'-0½"	Sprinkler	9.035	24.65	Density: 0.271gpm/ft² Coverage: 91ft²
19	31'-9"	Sprinkler	9.824	25.70	Density: 0.282gpm/ft² Coverage: 91ft²
20	33'-9½"	Sprinkler	7.029	21.74	Density: 0.242gpm/ft² Coverage: 90ft²
21	33'-6"	Sprinkler	7.173	21.96	Density: 0.244gpm/ft² Coverage: 90ft²
22	33'-2½"	Sprinkler	7.361	22.25	Density: 0.247gpm/ft² Coverage: 90ft²
23	32'-11"	Sprinkler	7.616	22.63	Density: 0.251gpm/ft² Coverage: 90ft²

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
24	32'-7½"	Sprinkler	7.965	23.14	Density: 0.257gpm/ft² Coverage: 90ft²
25	32'-4"	Sprinkler	8.433	23.81	Density: 0.265gpm/ft² Coverage: 90ft²
26	32'-0½"	Sprinkler	9.046	24.66	Density: 0.274gpm/ft² Coverage: 90ft²
27	31'-9"	Sprinkler	9.836	25.72	Density: 0.286gpm/ft² Coverage: 90ft²
28	33'-9½"	Sprinkler	7.169	21.96	Density: 0.241gpm/ft² Coverage: 91ft²
29	33'-6"	Sprinkler	7.314	22.18	Density: 0.244gpm/ft² Coverage: 91ft²
30	33'-2½"	Sprinkler	7.502	22.46	Density: 0.247gpm/ft² Coverage: 91ft²
31	32'-11"	Sprinkler	7.760	22.84	Density: 0.251gpm/ft² Coverage: 91ft²
32	32'-7½"	Sprinkler	8.113	23.36	Density: 0.257gpm/ft² Coverage: 91ft²
33	32'-4"	Sprinkler	8.587	24.03	Density: 0.264gpm/ft² Coverage: 91ft²
34	32'-0½"	Sprinkler	9.209	24.88	Density: 0.273gpm/ft² Coverage: 91ft²
35	31'-9"	Sprinkler	10.010	25.94	Density: 0.285gpm/ft² Coverage: 91ft²
36	33'-9½"	Sprinkler	7.506	22.47	Density: 0.250gpm/ft² Coverage: 90ft²
37	33'-6"	Sprinkler	7.651	22.68	Density: 0.252gpm/ft² Coverage: 90ft²
38	33'-2½"	Sprinkler	7.842	22.96	Density: 0.255gpm/ft² Coverage: 90ft²
39	32'-11"	Sprinkler	8.106	23.35	Density: 0.259gpm/ft² Coverage: 90ft²
40	32'-7½"	Sprinkler	8.468	23.86	Density: 0.265gpm/ft² Coverage: 90ft²
41	32'-4"	Sprinkler	8.957	24.54	Density: 0.273gpm/ft² Coverage: 90ft²
42	32'-0½"	Sprinkler	9.599	25.41	Density: 0.282gpm/ft² Coverage: 90ft²
43	31'-9"	Sprinkler	10.429	26.48	Density: 0.294gpm/ft² Coverage: 90ft²
44	31'-5½"	Sprinkler	7.982	23.17	Density: 0.255gpm/ft² Coverage: 91ft²
45	31'-5½"	Sprinkler	8.008	23.21	Density: 0.258gpm/ft² Coverage: 90ft²
46	31'-5½"	Sprinkler	8.001	23.20	Density: 0.255gpm/ft² Coverage: 91ft²

Node Number	Elevation (Foot)	Node Type	Pressure at Node (psi)	Discharge at Node (gpm)	Notes
47	31'-5½"	Sprinkler	8.154	23.42	Density: 0.257gpm/ft² Coverage: 91ft²
49	32'-11"	Sprinkler	7.586	22.59	Density: 0.248gpm/ft² Coverage: 91ft²
730	32'-0½"	Sprinkler	9.012	24.62	Density: 0.271gpm/ft² Coverage: 91ft²
5	-4'-6"		50.277		
56	0'-0"		46.741		
57	1'-9"		45.965		
500	30'-6½"		11.826		
501	28'-1½"		15.096		
502	28'-0½"		15.202		
503	27'-11½"		15.605		
504	26'-11½"		29.154		
506	-4'-6"		49.476		
507	-4'-6"		50.188		
508	-4'-6"		50.251		
509	-4'-6"		50.418		
510	28'-3"		15.072		
511	28'-4"		15.269		
512	30'-6½"		11.868		
513	30'-6½"		12.067		
514	30'-6"		12.575		
515	30'-6½"		11.853		
676	1'-9"		45.726		

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes: Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
2	33'-9½"	8.2	21.70	2½	(See Notes)	7'-0"	120	7.000	• • • • • Route 1 • • • • • Sprinkler
3	33'-6"		21.70	2.47		7'-0"	0.002341	0.127 0.016	
3	33'-6"	8.2	21.92	2½	(See Notes)	7'-0"	120	7.144	Sprinkler
4	33'-2½"		43.61	2.47		7'-0"	0.008518	0.127 0.060	
4	33'-2½"	8.2	22.20	2½	(See Notes)	7'-0"	120	7.331	Sprinkler
49	32'-11"		65.81	2.47		7'-0"	0.018238	0.127 0.128	
49	32'-11"	8.2	22.59	2½	(See Notes)	7'-0"	120	7.586	Sprinkler
6	32'-7½"		88.40	2.47		7'-0"	0.031478	0.127 0.221	
6	32'-7½"	8.2	23.10	2½	(See Notes)	7'-0"	120	7.934	Sprinkler
7	32'-4"		111.50	2.47		7'-0"	0.048363	0.127 0.339	
7	32'-4"	8.2	23.77	2½	(See Notes)	7'-0"	120	8.401	Sprinkler
730	32'-0½"		135.26	2.47		7'-0"	0.069145	0.127 0.484	
730	32'-0½"	8.2	24.62	2½	(See Notes)	7'-0"	120	9.012	Sprinkler
11	31'-9"		159.88	2.47		7'-0"	0.094210	0.127 0.660	
11	31'-9"	8.2	25.67	2½	(See Notes)	6'-2½"	120	9.800	Sprinkler,
500	30'-6½"		185.55	2.47		6'-0" 12'-2½"	0.124088	0.510 1.516	E(6'-0")
500	30'-6½"		23.17	2½	(See Notes)	2'-5"	120	11.826	Flow (q) from Route 6
501	28'-1½"		208.72	2.47		12'-0" 14'-5"	0.154262	1.046 2.224	PO(12'-0")
501	28'-1½"			4		12'-8"	120	15.096	
502	28'-0½"		139.79	4.26		12'-8"	0.005159	0.041 0.065	
502	28'-0½"		209.12	4		12'-11"	120	15.202	Flow (q) from Route 3
503	27'-11½"		348.91	4.26		12'-11"	0.028018	0.042 0.362	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
503	27'-11½"		191.75	4	(See Notes)	154'-2½"	120	15.605	Flow (q) from Route 5
504	26'-11½"		540.65	4.26		54'-0"	0.062998	0.434	
						208'-2"		13.115	E(13'-2"), fT(32'-11"), cplg(7'-11")
504	26'-11½"		488.98	6	(See Notes)	46'-1"	120	29.154	Flow (q) from Route 2
676	1'-9"		1029.64	6.07		106'-0"	0.037131	10.925	
						152'-1"		5.647	5E(14'-0"), DPV(6'-0"), T(30'-0")
676	1'-9"			8	(See Notes)	5'-6½"	120	45.726	
57	1'-9"		1029.64	7.98		19'-0"	0.009752	0.000	
						24'-6½"		0.239	BFP(6'-0"), LtE(13'-0")
57	1'-9"			8		1'-9"	120	45.965	
56	0'-0"		1029.64	7.98			0.009752	0.759	
						1'-9"		0.017	
56	0'-0"			8	(See Notes)	36'-4½"	140	46.741	
506	-4'-6"		1029.64	8.39		100'-1"	0.005748	1.951	
						136'-6"		0.785	E(30'-6½"), PIV(10'-2"), T(59'-4½")
506	-4'-6"			8	(See Notes)	249'-5"	140	49.476	
507	-4'-6"		682.74	8.39		15'-3"	0.002688		
						264'-8"		0.711	EE(15'-3")
507	-4'-6"			8	(See Notes)	8'-2"	140	50.188	
508	-4'-6"		682.74	8.39		15'-3"	0.002688		
						23'-5"		0.063	EE(15'-3")
508	-4'-6"			8	(See Notes)	2'-7½"	140	50.251	
509	-4'-6"		682.74	8.39		59'-4½"	0.002688		
						62'-0"		0.167	T(59'-4½")
509	-4'-6"		346.90	8	(See Notes)	8'-4½"	140	50.418	Flow (q) from Route 10
1	-4'-6"		1029.64	8.39			0.005748		
						8'-4½"		0.048	S
			500.00					50.466	Hose Allowance At Source
1			1529.64						Total(Pt) Route 1
12	33'-9½"	8.2	21.73	2½	(See Notes)	7'-0"	120	7.020	• • • • • **Route 2** • • • • •
13	33'-6"		21.73	2.47			0.002347	0.127	Sprinkler
						7'-0"		0.016	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
13	33'-6"	8.2	21.95	2½	(See Notes)	7'-0"	120	7.164	Sprinkler
14	33'-2½"		43.67	2.47		7'-0"	0.008540	0.127 0.060	
14	33'-2½"	8.2	22.23	2½	(See Notes)	7'-0"	120	7.351	Sprinkler
15	32'-11"		65.91	2.47		7'-0"	0.018284	0.127 0.128	
15	32'-11"	8.2	22.62	2½	(See Notes)	7'-0"	120	7.606	Sprinkler
16	32'-7½"		88.52	2.47		7'-0"	0.031558	0.127 0.221	
16	32'-7½"	8.2	23.13	2½	(See Notes)	7'-0"	120	7.955	Sprinkler
17	32'-4"		111.65	2.47		7'-0"	0.048484	0.127 0.340	
17	32'-4"	8.2	23.80	2½	(See Notes)	7'-0"	120	8.422	Sprinkler
18	32'-0½"		135.45	2.47		7'-0"	0.069317	0.127 0.486	
18	32'-0½"	8.2	24.65	2½	(See Notes)	7'-0"	120	9.035	Sprinkler
19	31'-9"		160.09	2.47		7'-0"	0.094442	0.127 0.662	
19	31'-9"	8.2	25.70	2½	(See Notes)	6'-2½"	120	9.824	Sprinkler,
515	30'-6½"		185.80	2.47		6'-0" 12'-2½"	0.124391	0.510 1.519	E(6'-0")
515	30'-6½"		23.20	2½	(See Notes)	2'-4"	120	11.853	Flow (q) from Route 7
510	28'-3"		208.99	2.47		12'-0" 14'-4"	0.154635	1.004 2.214	PO(12'-0")
510	28'-3"		68.93	4		13'-0"	120	15.072	Flow (q) from Route 11
511	28'-4"		277.92	4.26		13'-0"	0.018394	-0.042 0.239	
511	28'-4"		211.06	4	(See Notes)	209'-8½"	120	15.269	Flow (q) from Route 4
504	26'-11½"		488.98	4.26		44'-3" 253'-11½"	0.052315	0.601 13.285	2E(13'-2"), cplg(7'-11"), Tr(10'-0")
								29.154	Total(Pt) Route 2
20	33'-9½"	8.2	21.74	2½	(See Notes)	7'-0"	120	7.029	• • • • • **Route 3** • • • • • Sprinkler
21	33'-6"		21.74	2.47		7'-0"	0.002350	0.127 0.016	

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
21	33'-6"	8.2	21.96	2½	(See Notes)	7'-0"	120	7.173	Sprinkler
							0.008551	0.127	
22	33'-2½"		43.70	2.47		7'-0"		0.060	
22	33'-2½"	8.2	22.25	2½	(See Notes)	7'-0"	120	7.361	Sprinkler
							0.018307	0.127	
23	32'-11"		65.95	2.47		7'-0"		0.128	
23	32'-11"	8.2	22.63	2½	(See Notes)	7'-0"	120	7.616	Sprinkler
							0.031597	0.127	
24	32'-7½"		88.58	2.47		7'-0"		0.221	
24	32'-7½"	8.2	23.14	2½	(See Notes)	7'-0"	120	7.965	Sprinkler
							0.048544	0.127	
25	32'-4"		111.72	2.47		7'-0"		0.340	
25	32'-4"	8.2	23.81	2½	(See Notes)	7'-0"	120	8.433	Sprinkler
							0.069401	0.127	
26	32'-0½"		135.53	2.47		7'-0"		0.486	
26	32'-0½"	8.2	24.66	2½	(See Notes)	7'-0"	120	9.046	Sprinkler
							0.094556	0.127	
27	31'-9"		160.20	2.47		7'-0"		0.662	
27	31'-9"	8.2	25.72	2½	(See Notes)	6'-2½"	120	9.836	Sprinkler,
						6'-0"	0.124540	0.510	E(6'-0")
512	30'-6½"		185.92	2.47		12'-2½"		1.522	
512	30'-6½"		23.21	2½	(See Notes)	2'-6"	120	11.868	Flow (q) from Route 8
						12'-0"	0.154813	1.087	PO(12'-0")
502	28'-0½"		209.12	2.47		14'-6"		2.247	
								15.202	Total(Pt) Route 3
28	33'-9½"	8.2	21.96	2½	(See Notes)	7'-0"	120	7.169	• • • • • **Route 4** • • • • • Sprinkler
							0.002393	0.127	
29	33'-6"		21.96	2.47		7'-0"		0.017	
29	33'-6"	8.2	22.18	2½	(See Notes)	7'-0"	120	7.314	Sprinkler
							0.008707	0.127	
30	33'-2½"		44.13	2.47		7'-0"		0.061	
30	33'-2½"	8.2	22.46	2½	(See Notes)	7'-0"	120	7.502	Sprinkler
							0.018638	0.127	
31	32'-11"		66.59	2.47		7'-0"		0.131	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
31	32'-11"	8.2	22.84	2½	(See Notes)	7'-0"	120	7.760	Sprinkler
32	32'-7½"		89.43	2.47		7'-0"	0.032163	0.127 0.225	
32	32'-7½"	8.2	23.36	2½	(See Notes)	7'-0"	120	8.113	Sprinkler
33	32'-4"		112.79	2.47		7'-0"	0.049407	0.127 0.346	
33	32'-4"	8.2	24.03	2½	(See Notes)	7'-0"	120	8.587	Sprinkler
34	32'-0½"		136.82	2.47		7'-0"	0.070624	0.127 0.495	
34	32'-0½"	8.2	24.88	2½	(See Notes)	7'-0"	120	9.209	Sprinkler
35	31'-9"		161.70	2.47		7'-0"	0.096207	0.127 0.674	
35	31'-9"	8.2	25.94	2½	(See Notes)	6'-2½"	120	10.010	Sprinkler,
513	30'-6½"		187.65	2.47		6'-0" 12'-2½"	0.126695	0.510 1.546	E(6'-0")
513	30'-6½"		23.42	2½	(See Notes)	2'-2½"	120	12.067	Flow (q) from Route 9
511	28'-4"		211.06	2.47		12'-0" 14'-2½"	0.157484	0.962 2.240	PO(12'-0")
								15.269	Total(Pt) Route 4
36	33'-9½"	8.2	22.47	2½	(See Notes)	7'-0"	120	7.506	• • • • • **Route 5** • • • • • Sprinkler
37	33'-6"		22.47	2.47		7'-0"	0.002497	0.127 0.017	
37	33'-6"	8.2	22.68	2½	(See Notes)	7'-0"	120	7.651	Sprinkler
38	33'-2½"		45.15	2.47		7'-0"	0.009082	0.127 0.064	
38	33'-2½"	8.2	22.96	2½	(See Notes)	7'-0"	120	7.842	Sprinkler
39	32'-11"		68.11	2.47		7'-0"	0.019433	0.127 0.136	
39	32'-11"	8.2	23.35	2½	(See Notes)	7'-0"	120	8.106	Sprinkler
40	32'-7½"		91.46	2.47		7'-0"	0.033523	0.127 0.235	
40	32'-7½"	8.2	23.86	2½	(See Notes)	7'-0"	120	8.468	Sprinkler
41	32'-4"		115.32	2.47		7'-0"	0.051476	0.127 0.361	

Pipe Information

Node 1 / Node 2	Elev 1 (Foot) / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
41	32'-4"	8.2	24.54	2½	(See Notes)	7'-0"	120	8.957	Sprinkler
42	32'-0½"		139.86	2.47		7'-0"	0.073556	0.127 0.515	
42	32'-0½"	8.2	25.41	2½	(See Notes)	7'-0"	120	9.599	Sprinkler
43	31'-9"		165.27	2.47		7'-0"	0.100166	0.127 0.702	
43	31'-9"	8.2	26.48	2½	(See Notes)	6'-3"	120	10.429	Sprinkler,
514	30'-6"		191.75	2.47		6'-0" 12'-3"	0.131864	0.529 1.617	E(6'-0")
514	30'-6"			2½	(See Notes)	2'-6½"	120	12.575	
503	27'-11½"		191.75	2.47		12'-0" 14'-6½"	0.131864	1.110 1.920	PO(12'-0")
								15.605	Total(Pt) Route 5
44	31'-5½"	8.2	23.17	1	(See Notes)	4'-2"	120	7.982	• • • • • **Route 6** • • • • • Sprinkler,
500	30'-6½"		23.17	1.05		16'-0" 20'-2"	0.170792	0.398 3.446	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								11.826	Total(Pt) Route 6
46	31'-5½"	8.2	23.20	1	(See Notes)	4'-2"	120	8.001	• • • • • **Route 7** • • • • • Sprinkler,
515	30'-6½"		23.20	1.05		16'-0" 20'-2"	0.171181	0.398 3.454	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								11.853	Total(Pt) Route 7
45	31'-5½"	8.2	23.21	1	(See Notes)	4'-2½"	120	8.008	• • • • • **Route 8** • • • • • Sprinkler,
512	30'-6½"		23.21	1.05		16'-0" 20'-2½"	0.171319	0.398 3.462	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								11.868	Total(Pt) Route 8
47	31'-5½"	8.2	23.42	1	(See Notes)	4'-2"	120	8.154	• • • • • **Route 9** • • • • • Sprinkler,
513	30'-6½"		23.42	1.05		16'-0" 20'-2"	0.174200	0.398 3.515	3E(2'-0"), PO(5'-0"), mecT(5'-0")
								12.067	Total(Pt) Route 9
506	-4'-6"		682.74	8	(See Notes)	937'-2½"	140	49.476	• • • • • **Route 10** • • • • • Flow (q) from Route 1
5	-4'-6"		346.90	8.39		105'-2" 1042'-5"	0.000768	0.801	E(30'-6½"), EE(15'-3"), T(59'-4½")

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 (Foot)	K-Factor	Flow added this step (q) / Total Flow (Q)	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length (Foot)	Length (Foot) / Fitting (Foot) / Total (Foot)	C Factor / Pf Friction Loss Per Unit (psi)	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes
									Fitting/Device (Equivalent Length) Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
5	-4'-6"			8	(See Notes)	123'-3½"	140	50.277	
509	-4'-6"		346.90	8.39		59'-4½" / 182'-8½"	0.000768	0.140	T(59'-4½")
								50.418	Total(Pt) Route 10
501	28'-1½"		139.79	4		12'-11½"	120	15.096	• • • • • **Route 11** • • • • • Flow (q) from Route 1
510	28'-3"		68.93	4.26		12'-11½"	0.001395	-0.042 / 0.018	
								15.072	Total(Pt) Route 11

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Fittings Legend

ALV	Alarm Valve	AngV	Angle Valve	b	Bushing
BalV	Ball Valve	BFP	Backflow Preventer	BV	Butterfly Valve
C	Cross Flow Turn 90°	cplg	Coupling	Cr	Cross Run
CV	Check Valve	DelV	Deluge Valve	DPV	Dry Pipe Valve
E	90° Elbow	EE	45° Elbow	Ee1	11¼° Elbow
Ee2	22½° Elbow	f	Flow Device	fd	Flex Drop
FDC	Fire Department Connection	fE	90° FireLock(TM) Elbow	fEE	45° FireLock(TM) Elbow
flg	Flange	FN	Floating Node	fT	FireLock(TM) Tee
g	Gauge	GloV	Globe Valve	GV	Gate Valve
Ho	Hose	Hose	Hose	HV	Hose Valve
Hyd	Hydrant	LtE	Long Turn Elbow	mecT	Mechanical Tee
Noz	Nozzle	P1	Pump In	P2	Pump Out
PIV	Post Indicating Valve	PO	Pipe Outlet	PrV	Pressure Relief Valve
PRV	Pressure Reducing Valve	red	Reducer/Adapter	S	Supply
sCV	Swing Check Valve	SFx	Seismic Flex	Spr	Sprinkler
St	Strainer	T	Tee Flow Turn 90°	Tr	Tee Run
U	Union	WirF	Wirsbo	WMV	Water Meter Valve
Z	Cap				

APPENDIX D8

Hydrant Flow Test and Locations

(24 pages)

Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #1
5-1/4 METROPOLITAN
1997

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County SOLID WASTE	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**	
Corp. Name:			
Property Contact:	Name: Title:		
Property Contact Information: mgmt. co. - *or* - prop. owner	420 JOHN VALLEY RD Address: HILLBURN N.Y. 10931 Phone: 845-753-2200 x31 Fax: 845-753-2281	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)	Rockland County Solid Waste Parking Lot F/H#1

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 08:00 AM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 90 Residual Pressure Reading: 70	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): RED/WHITE	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
J Murry	J. Murry	03/23/2021

Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

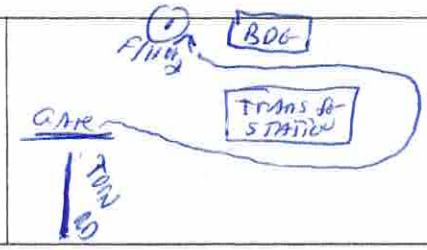
F/N #2

5 1/4 Metropolitan

1997

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**	
Corp. Name:			
Property Contact:	Name: Ronald Ludwig Title: Ops Mgr.		
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd. Address: Hillburn NY 10931 Phone: 845-753-2200 x 71 Fax: 845-671-9399	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)	

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 08:30 AM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 90 Residual Pressure Reading: 70	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/White	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?			

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☒ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
Tim May	Tim May	03/23/2021

Annual Private Fire Hydrant ● Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #3
5-1/4 Mordeplcim
1994

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid WASTE	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**	
Corp. Name:			
Property Contact:	Name: Ronnie Ludwig Title: OPS MGR		
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY Phone: 845-753-2200 x711 Fax: 845-671-9399	**Location of Hydrant on Property:** draw map: show bldg #, driveway, etc.	F/H #3 BLDG FRONT GATE

		YES	NO	N/A
01	Day of Week Tested: Tuesday ~~09:30 AM~~	✓		
02	Time of Day Tested: 09:30 AM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 85 Residual Pressure Reading: 55	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (~~✓~~) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/White	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	T. Murphy	03/23/2021

Annual Private Fire Hydrant • Test Report Form

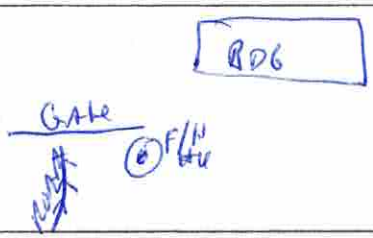
Have Inspecting Company Complete and Return To: (mail or fax)

F/H #4
5 1/4 Metropolitan
2016

Date: 03/23/2024

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County WWSTP	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:		
Property Contact:	Name: Ronnie Ludwig Title: OPS Mgr	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torne Valley Rd. Address: Hillburn NY Phone: 845-753-2200 x717 Fax: 845-671-9399	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)



		YES	NO	N/A
01	Day of Week Tested: Tuesday 10:00AM	✓		
02	Time of Day Tested:	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 85 Residual Pressure Reading: 35	✓		
13	Pitot Reading: 55 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 1251	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground: Re	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
[signature]	J. Murphy	03/23/2024

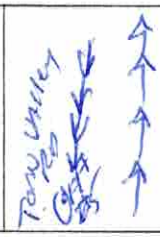
Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #5
5'1/4 Metropolitan
1996

Date: 03/23/2024

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Wash	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland Green	
Property Contact:	Name: Ronnie LoDuca Title: ops Mgr	
Property Contact Information: mgmt. co. - *or* - prop. owner	Address: 420 Torn Valley Rd Hillburn NY Phone: 845-753-2200 x117 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.) 

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 10:40am	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 100 Residual Pressure Reading: 80	✓		
13	Pitot Reading: 35 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 998	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (yellow ~~barrel w/ silver top~~): Red w/ White	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	J. Murphy	03/23/2024

Annual Private Fire Hydrant • Test Report Form

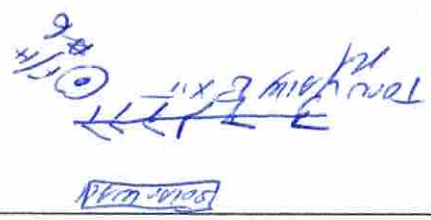
Have Inspecting Company Complete and Return To: (mail or fax)

F/H #6
5 1/4 Metropolitan
1996

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland County	
Property Contact:	Name: Rollie Ludwig Title: OPS Mgr	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY Phone: 845-753-8200 x717 Fax: 845-671-9399	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)



		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 10:55 AM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 90 Residual Pressure Reading: 45	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (2) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/White	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
J. Murphy	J. Murphy	03/23/2021

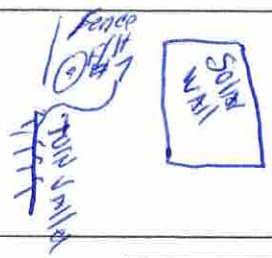
Annual Private Fire Hydrant ● Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #7
5 1/4 Metropolitan
1996

Date: 08/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**	
Corp. Name:	Rockland Green		
Property Contact:	Name: Ronnie Ludwig Title: Ops Mgr		
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY Phone: 845-753-2200 x717 Fax: 845-671-9399	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)	

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 11:15 AM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 100 Residual Pressure Reading: 58	✓		
13	Pitot Reading: 40 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 1067	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/White	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	T. Murphy	08/23/2021

Annual Private Fire Hydrant ● Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #8

5 1/4 Metropolitan
1996

Date: 03/22/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland Green	
Property Contact:	Name: Ronnie Ludwig Title: Ops Mgr	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn N Phone: 845-753-2200 x117 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.) Solar Wall Front F/H #8

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 11:40pm	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 100 Residual Pressure Reading: 55	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (4 – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (yellow barrel w/ silver top):	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?		✓	

Recommendations or corrective action taken / needed: Need Snow Marker Install

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature | Technician Name (printed) | Date

Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #9
5 1/4 Metropolitan
1997

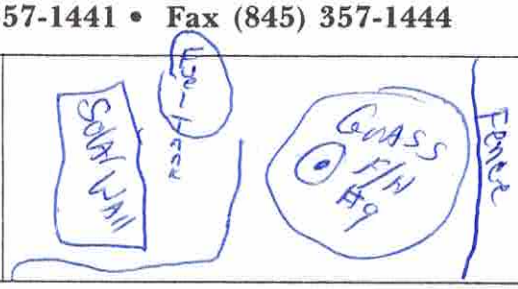
Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste
Corp. Name:	Rockland Green
Property Contact:	Name: Ronnie Lodwick Title: OPS MGR
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd. Address: Hillburn NY Phone: 845-753-2200 x717 Fax: 845-358-4210

CAMPBELL FIRE PROTECTION
FIRE PROTECTION INC.
P.O. Box 389 • 43 Chestnut Street
Suffern, New York 10901
(845) 357-1441 • Fax (845) 357-1444

Location of Hydrant on Property: (draw map: show bldg #, driveway, etc.)



		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 12:00 PM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 100 Residual Pressure Reading: 50	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (2) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/Grn	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?		✓	

Recommendations or corrective action taken / needed: Snow marker should be installed

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	T. Murphy	03/23/2021

Annual Private Fire Hydrant ● Test Report Form

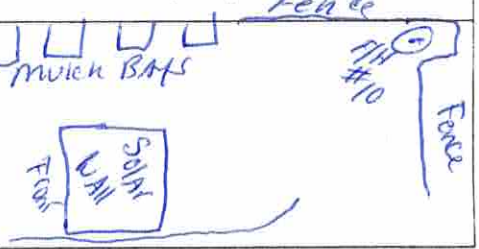
Have Inspecting Company Complete and Return To: (mail or fax)

F/H #10
5 1/4 Metropolitan
1996

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland County	
Property Contact:	Name: Lonnie Ludwig Title:	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY 10931 Phone: 845-753-2200 x 717 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)



		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 12:15 pm	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 100 Residual Pressure Reading: 55	✓		
13	Pitot Reading: 40 Size & # of Outlets Used: ( ) – 4-1/2" (4) – 2-1/2"	✓		
14	Flow Test (record GPM): 1067	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/GPM	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ___ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: Should Install Silver Marker

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☒ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
J. Murphy	J. Murphy	03/23/2021

Annual Private Fire Hydrant ● Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #11

5 1/4 Metropolitan 1996

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland Green	
Property Contact:	Name: Ronnie Ludwig Title: OPS MGR	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Tom Valley Rd. Address: Hillburn NY Phone: 845-753-2200 x 717 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.) Pumphouse ⊙ F/H #11 Tom Valley RD

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 12:30 pm	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 140 Residual Pressure Reading: 45	✓		
13	Pitot Reading: ~~80~~ 70 Size & # of Outlets Used: ( ) – 4-1/2" (~~1~~ 2) – 2-1/2"	✓		
14	Flow Test (record GPM): 1411	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (yellow barrel w/ silver top):	✓		
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?		✓	

Recommendations or corrective action taken / needed: Need Snow Marker Installed

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	J. Murphy	03/23/2021

Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #12
5 1/4 Mueller
1999

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland County	
Property Contact:	Name: Louise Ludwig Title: Ops Mgr	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Hillburn NY Phone: 845-753-2200 x717 Fax: 845 358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 1300 pm	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 130 Residual Pressure Reading: 45	✓		
13	Pitot Reading: 70 Size & # of Outlets Used: ( ) – 4-1/2" (4) – 2-1/2"	✓		
14	Flow Test (record GPM): 1411	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/White			
17	Hydrant Opens: ✓ Clockwise (to left) ____ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		✓

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	J. Murphy	03/23/2021

Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #13
5-1/4 Mueller
2000

Date: 03/23/2024

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**	
Corp. Name:	Rockland Green		
Property Contact:	Name: Ronnie Ludwig Title: OPS Mgr		
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd. Address: Hillburn NY Phone: 845-753-2200 x717 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)	Texas Rd Station Gate F/H #13 Pistol Range

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 1315 pm	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 100 Residual Pressure Reading: 30	✓		
13	Pitot Reading: 40 Size & # of Outlets Used: ( ) – 4-1/2" (4) – 2-1/2"	✓		
14	Flow Test (record GPM): 1067	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/Red	✓		
17	Hydrant Opens: ____ Clockwise (to left) ✓ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Tim Murphy — Tim Murphy — 03/23/2024

Technician Signature — Technician Name (printed) — Date

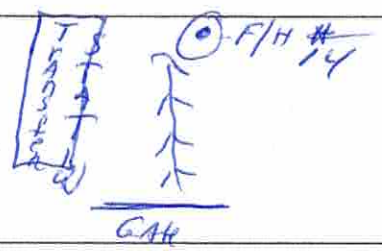
Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #14
5¼ Mueller
2000

Date: 03/23/2024

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland Green	
Property Contact:	Name: Ronnie Ludwig Title: OPS Mgr	
Property Contact Information: mgmt. co. - *or* - prop. owner	Address: 420 Torn Valley Rd Hillburn NY Phone: 845-753-2200 x717 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.) 

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 13:35 pm	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 90 Residual Pressure Reading: 70	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): Red/Red	✓		
17	Hydrant Opens: ____ Clockwise (to left) ✓ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

J. Murphy — Technician Signature

J. Murphy — Technician Name (printed)

03/23/2024 — Date

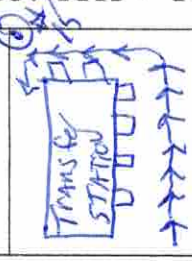
Annual Private Fire Hydrant • Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H # 15
5 1/4 Mueller
2000

Date: 03/23/2024

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland Green	
Property Contact:	Name: Ronnie Lodwig Title: OPS MGR	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY Phone: 845-753-2200 x 717 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.) 

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 1350 pm.	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 90 Residual Pressure Reading: 70	✓		
13	Pitot Reading: 45 Size & # of Outlets Used: ( ) – 4-1/2" ( ) – 2-1/2"	✓		
14	Flow Test (record GPM): 1131	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): NO	✓		
17	Hydrant Opens: _____ Clockwise (to left) ___✓___ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
	T Murphy	03/23/2024

Annual Private Fire Hydrant ● Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H # 16
5 1/4 Mueller
2000

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**
Corp. Name:	Rockland Green	
Property Contact:	Name: Ronnie Ludwig Title: OPS MGR	
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY Phone: 845-753-2200 x 117 Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.) Torn Valley Rd →→→→ ⊙ F/H #16 Scale Head

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 14:20 PM	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: 120 Residual Pressure Reading: 45	✓		
13	Pitot Reading: 35 Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM): 998	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (yellow barrel w/ silver top):	✓		
17	Hydrant Opens: ____ Clockwise (to left) ✓ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
[signature]	J. Murphy	03/23/21

Annual Private Fire Hydrant ● Test Report Form

Have Inspecting Company Complete and Return To: (mail or fax)

F/H #17
5¼ Mueller
2000

Date: 03/23/2021

***** USE SEPARATE FORM FOR EACH HYDRANT *****

Property Name: (known as)	Rockland County Solid Waste	**CAMPBELL FIRE PROTECTION** **FIRE PROTECTION INC.** **P.O. Box 389 • 43 Chestnut Street** **Suffern, New York 10901** **(845) 357-1441 • Fax (845) 357-1444**	
Corp. Name:	Rockland Green		
Property Contact:	Name: Ronnie Ludwig Title: Ops Mgr		
Property Contact Information: mgmt. co. - *or* - prop. owner	420 Torn Valley Rd Address: Hillburn NY 845-753-8200 x717 Phone: Fax: 845-358-4210	**Location of Hydrant on Property:** (draw map: show bldg #, driveway, etc.)	Winery Entrance F/H #17 Torn Valley Rd

		YES	NO	N/A
01	Day of Week Tested: Tuesday	✓		
02	Time of Day Tested: 1445	✓		
03	Access For Connecting:	✓		
04	Outlets Face Proper Direction:	✓		
05	Caps Are Easily Removed With Wrench:	✓		
06	Cap Chains Spin Easily on Caps (lubricate chains):	✓		
07	All Outlet Threads (lubricated):	✓		
08	All Outlet Threads In Good Condition (not damaged or loose):	✓		
09	Top Operating Nut Functional and Not Rounded:	✓		
10	Hydrant Flushed (5 turns):	✓		
11	Hydrant Drains Properly:	✓		
12	Static Pressure Reading: Residual Pressure Reading:	✓		
13	Pitot Reading: Size & # of Outlets Used: ( ) – 4-1/2" (✓) – 2-1/2"	✓		
14	Flow Test (record GPM):	✓		
15	Large 4-1/2" Outlet – center of outlet 18" above ground:	✓		
16	Hydrant Painted As Per Local Law (~~yellow barrel w/ silver top~~): (Red/Red)	✓		
17	Hydrant Opens: ____ Clockwise (to left) ✓ Counter Clockwise (to right)	✓		
18	Hydrant Marker (for snow) In Place?	✓		

Recommendations or corrective action taken / needed: _____

CERTIFICATION OF HYDRANT OPERATION

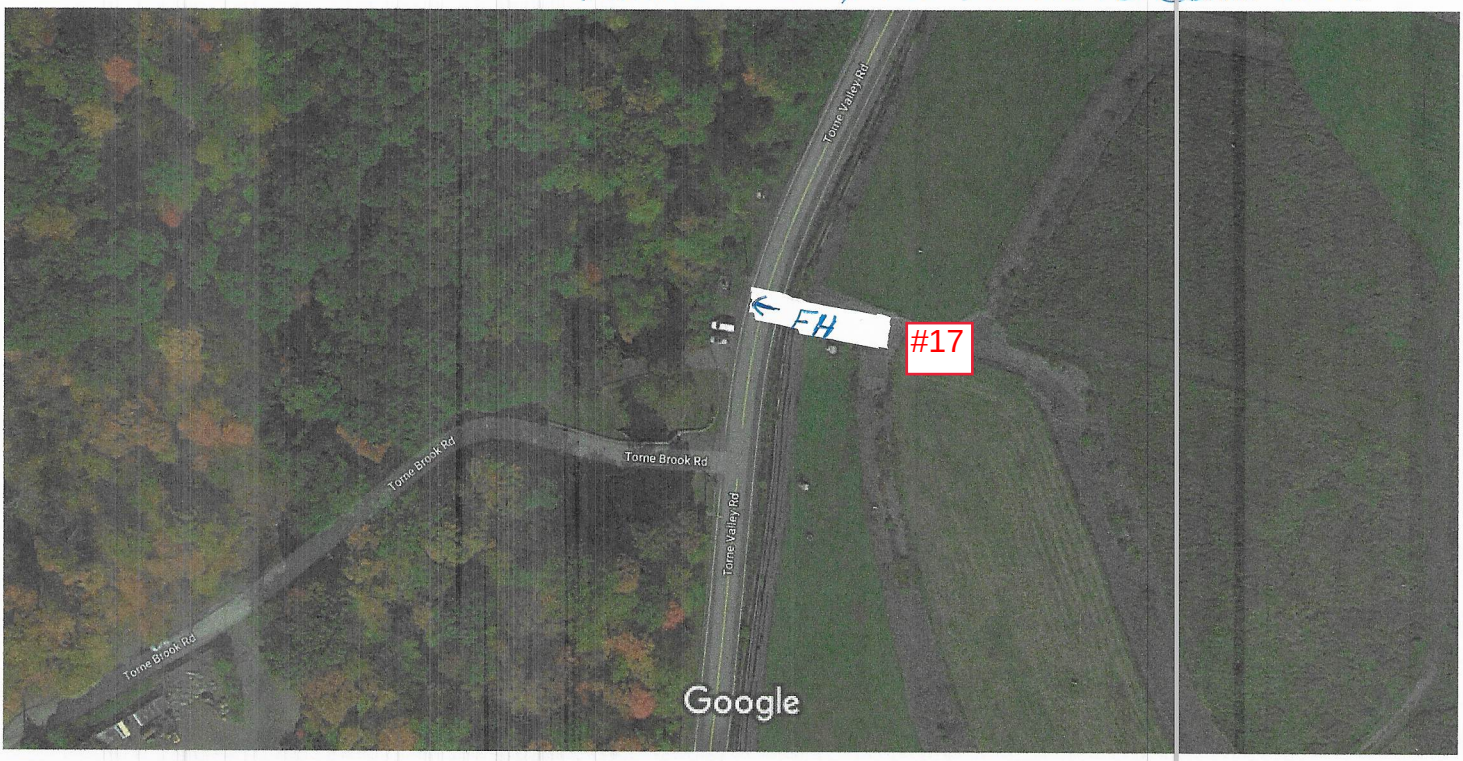
I hereby acknowledge that the above tests were performed and or conditions indicated were found upon physical inspection. As a result of the inspection and tests conducted today: (check one)

☑ Hydrant now found to be operating properly ☐ Hydrant **NOT** found to be operating properly (see above)

Technician Signature	Technician Name (printed)	Date
T. Murphy	T. Murphy	03/23/2021

Google Maps

TORNE VALLEY RD PRIOR TO SCHOOLHOUSE



Imagery ©2021 Google, Imagery ©2021 Maxar Technologies, New York GIS, Map data ©2021 50 ft

pin drop

Home
Set location

Work
Set location

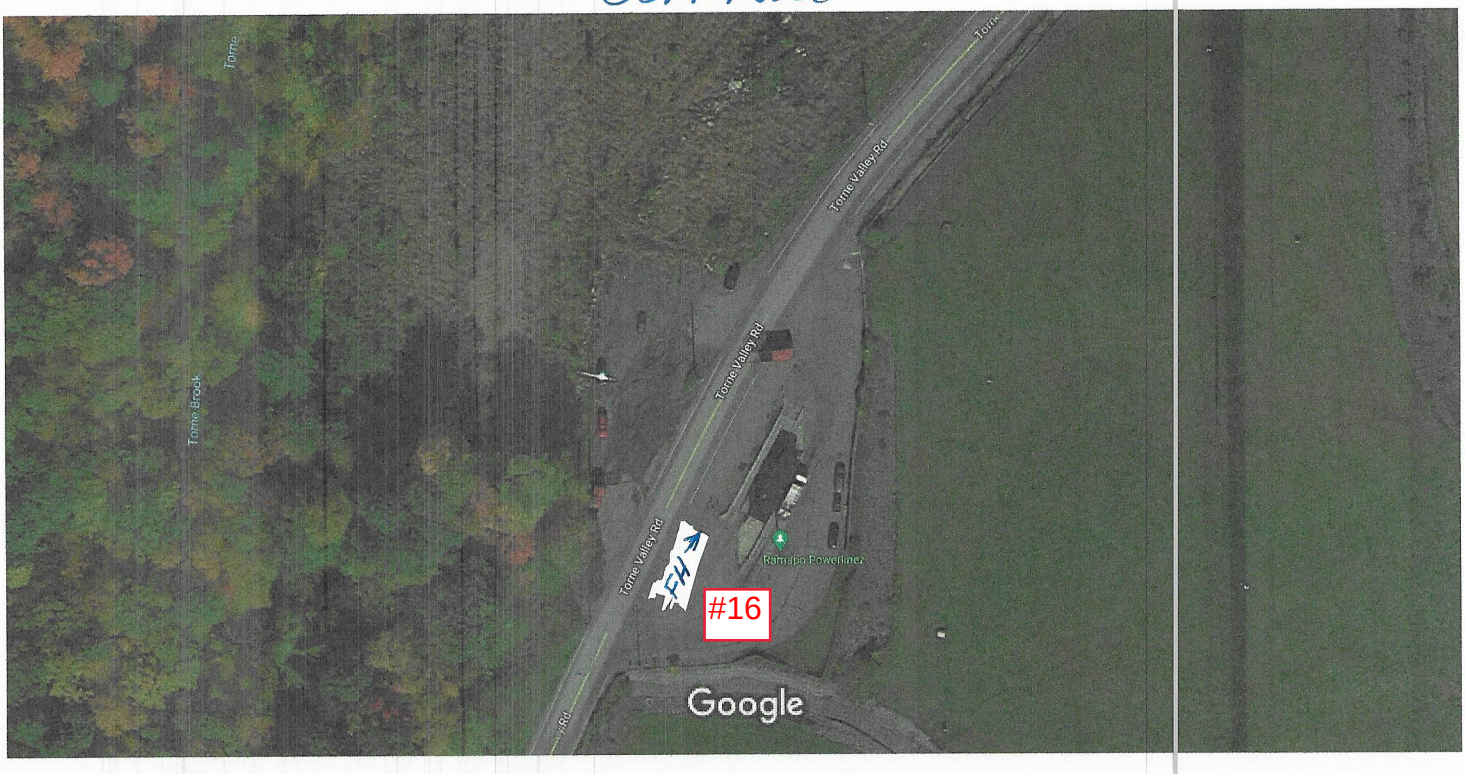
No traffic information to display

Search this area 66°

Groceries Restaurants Takeout Hotels More

250 Torne Valley Rd
Scalehouse

Google Maps



Imagery ©2021 Google, Imagery ©2021 Maxar Technologies, New York GIS, Map data ©202 50 ft

Your places

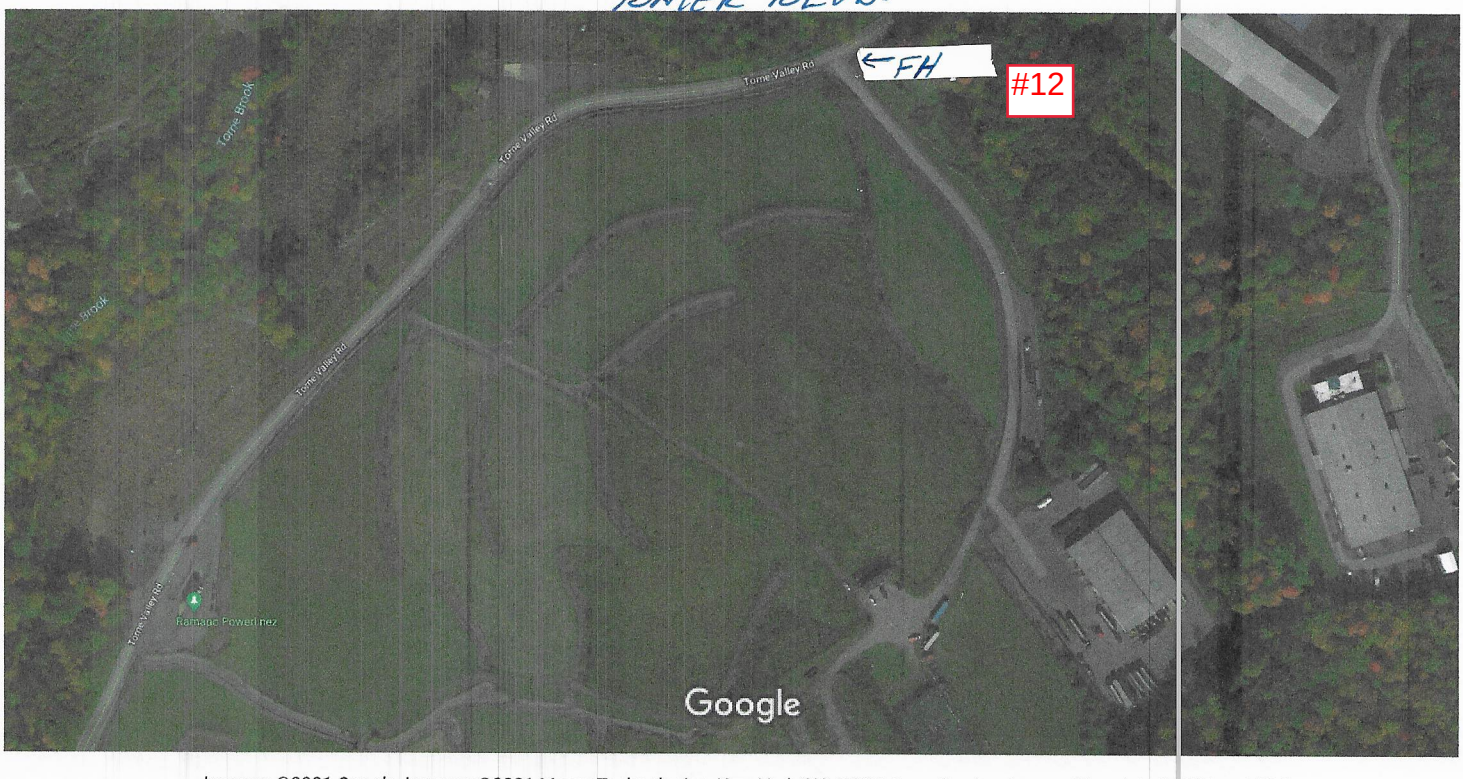
LABELED SAVED VISITED MAPS

Home
Set your home address

Work
Set your work address

Google Maps

BAILEY BLVD.



Imagery ©2021 Google, Imagery ©2021 Maxar Technologies, New York GIS, USDA Farm Service Agency, Map data ©2021 100 ft

Your places

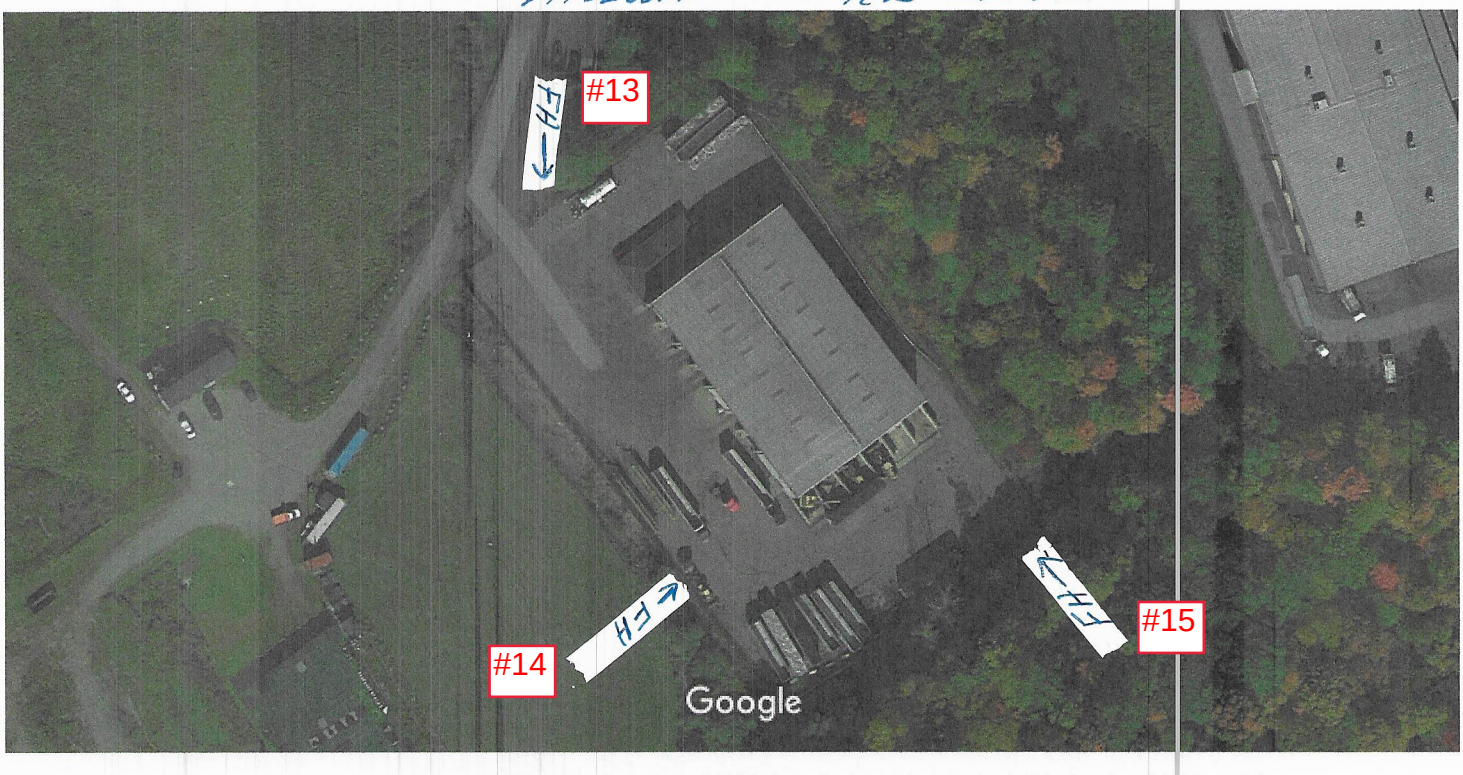
LABELED SAVED VISITED MAPS

Home
Set your home address

Work
Set your work address

50 BAIRD BLVD
HILLBURN TRANS FER STATION

Google Maps



Imagery ©2021 Google, Imagery ©2021 Maxar Technologies, New York GIS, Map data ©2021 50 ft

Your places

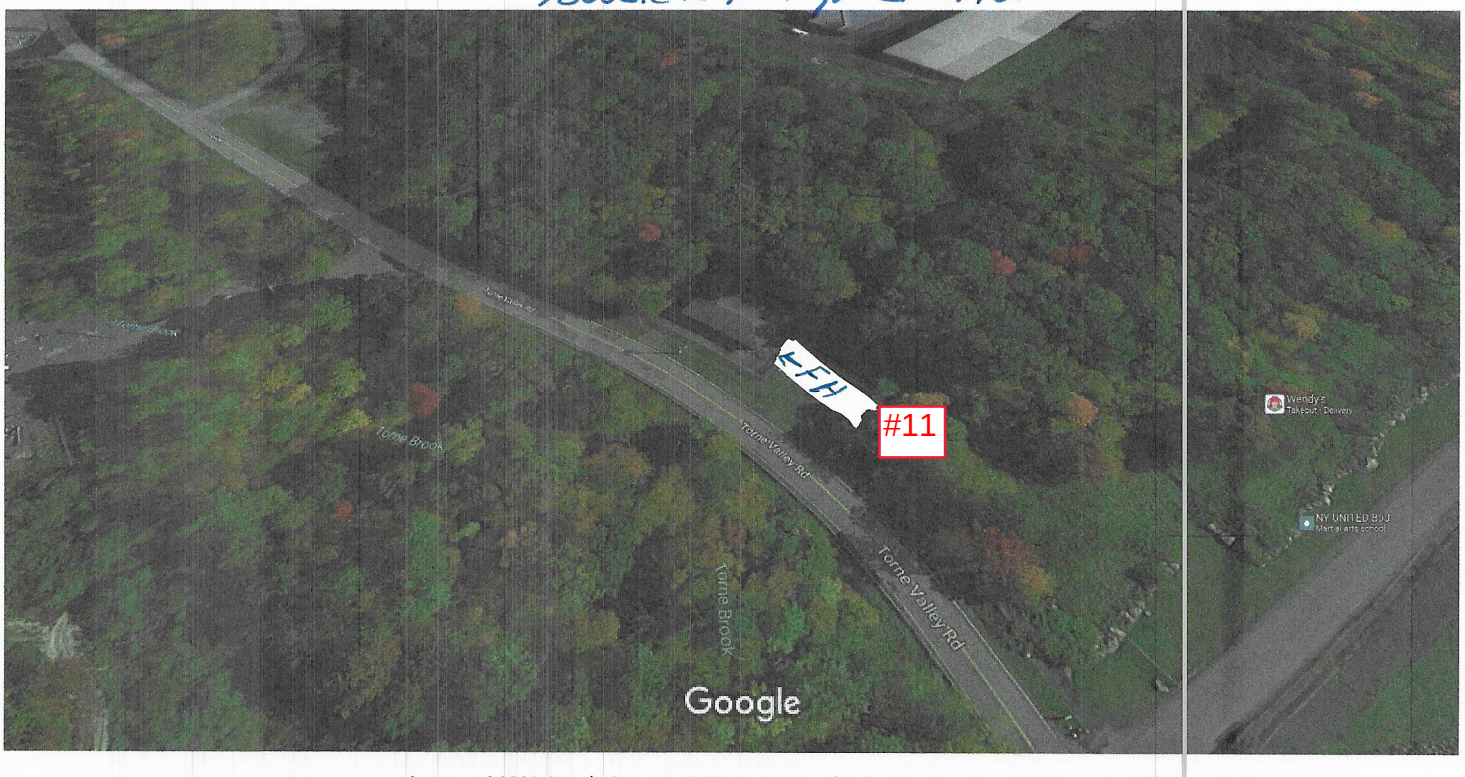
LABELED SAVED VISITED MAPS

Home
Set your home address

Work
Set your work address

Google Maps

BOOSTER PUMP STATION



Imagery ©2021 Google, Imagery ©2021 Maxar Technologies, New York GIS, Map data ©2021 50 ft

Your places

LABELED SAVED VISITED MAPS

Home
Set your home address

Work
Set your work address

Google Maps

400 Torne Valley Rd

Imagery ©2021 Google, Imagery ©2021 Maxar Technologies, New York GIS, USDA Farm Service Agency, Map data ©2021 100 ft

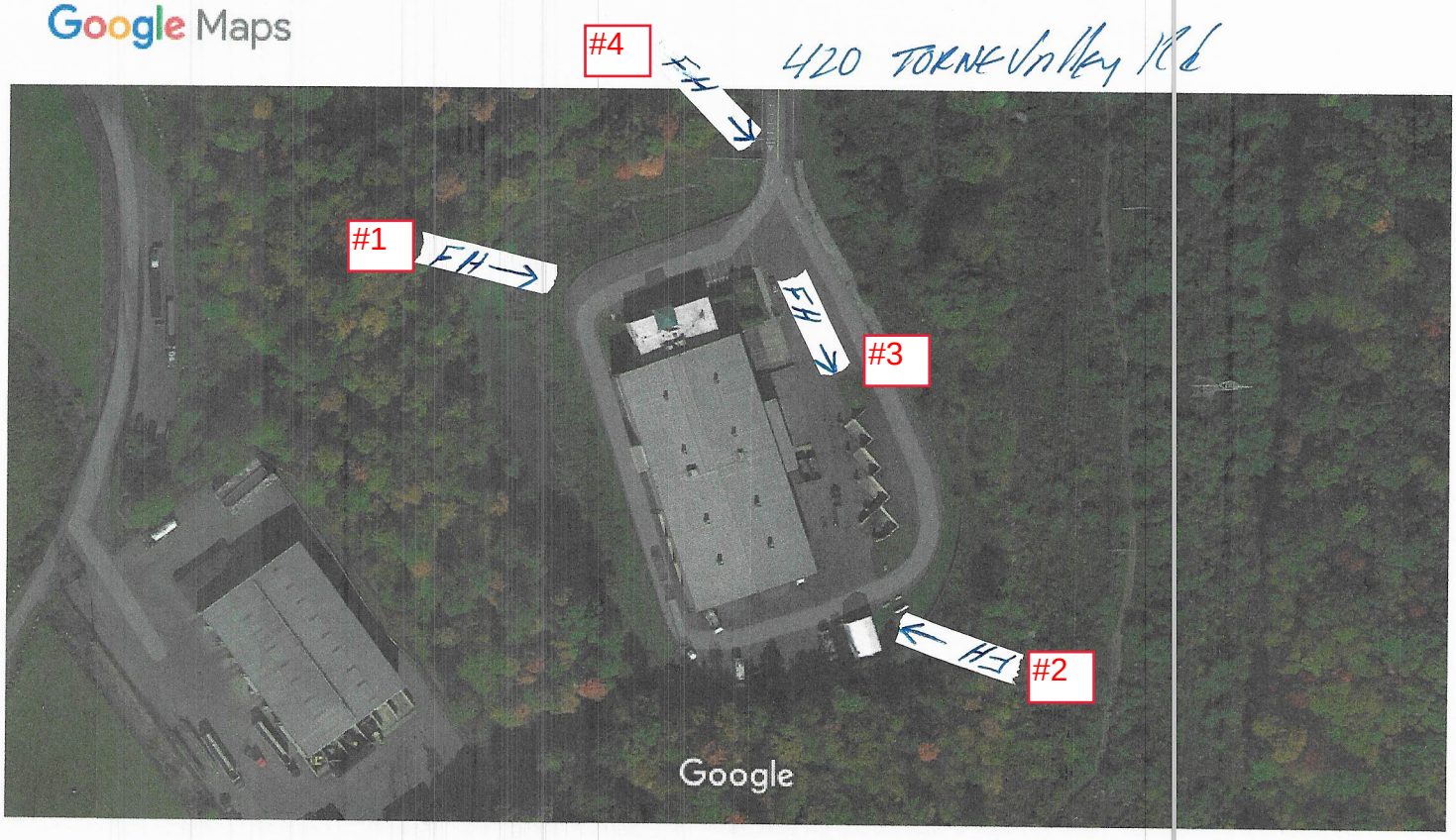
Your places

LABELED SAVED VISITED MAPS

Home
Set your home address

Work
Set your work address

Google Maps



Your places

LABELED SAVED VISITED MAPS

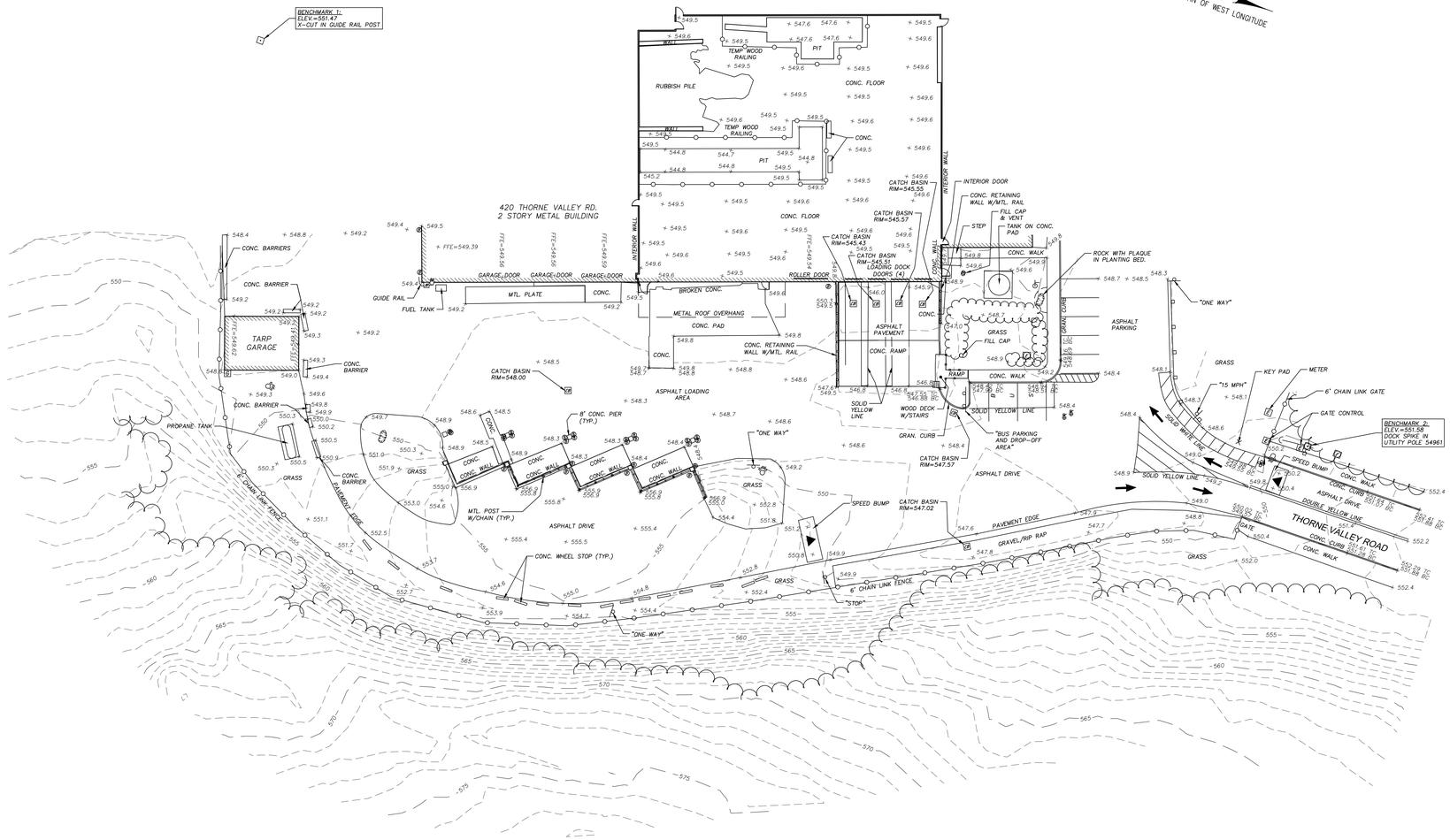
Home
Set a home address

Work
Set a work address

APPENDIX D9

Topographic and Utility Survey

(1 sheet)



GENERAL NOTES:

1. *NORTH IS ORIENTED TO GRID NORTH USING NYSNET RTN GPS OBSERVATION.*
2. *THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).*
3. *THE HORIZONTAL DATUM IS ON NORTH AMERICAN DATUM OF 1983, NEW YORK STATE PLANE EAST ZONE 3101.*
4. *CONTOUR INTERVAL = 1 FOOT.*
5. *INFORMATION SHOWN HEREON IS FROM A PARTIAL FIELD SURVEY COMPLETED BY M.J. ENGINEERING AND LAND SURVEYING, P.C. ON JUNE 28, 2021. INTERIOR BUILDING LOCATIONS EXTRACTED FROM STATIC HIGH DEFINITION LASER SCANS. TOPOGRAPHY OUTSIDE OF THE FENCE LIMITS WAS GENERATED FROM 2011 LIDAR DATA DOWNLOADED FROM NEW YORK STATE GIS CLEARINGHOUSE.*
6. *UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON SURFACE EVIDENCE ONLY. THIS MAPPING DOES NOT PURPORT TO SHOW ALL UNDERGROUND UTILITIES ON SITE AND IS SUBJECT TO FIELD VERIFICATION.*
7. *UNAUTHORIZED ALTERATIONS OR ADDITION TO THIS SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH INK SHALL NOT BE CONSIDERED TO BE VALID COPIES.*

LEGEND

BENCHMARK	⊡
CATCH BASIN	CB
FIRE HYDRANT	
DECIDUOUS TREE	
SINGLE POST SIGN	
DOUBLE POST SIGN	
METAL POST	○
BOLLARD	⊛
FLAG POLE	
ROCK	
DOOR	
GUY WIRE	
UNKNOWN VALVE	
UNKNOWN VENT	⊗
UNKNOWN FILL CAP	○
JUNCTION BOX	JB
ROOF DRAIN	RD
ELECTRICAL JUNCTION BOX	EJB
ELECTRIC METER	EM
GAS METER	GM
UTILITY POLE WITH LIGHT	
BUILDING LINE	
SPOT ELEVATION	+90.0
MINOR CONTOUR	91
MAJOR CONTOUR	90
WOODS LINE	
CHAIN LINK FENCE	
GUIDERAIL	
RAILING	

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

SUBMITTAL / REVISIONS					
No.	DATE	DESCRIPTION	BY	REVIEWED BY:	DATE
1					
.					
.					
.					
.					
.					
.					

PROJ. MANAGER:	GG
CHIEF DESIGNER:	
DESIGNED BY:	
DRAWN BY:	BM
CHECKED BY:	PM

DATE

DATE

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

STERLING ENVIRONMENTAL ENGINEERING, P.C.

TOPOGRAPHIC SURVEY
420 THORNE VALLEY ROAD
ROCKLAND GREEN FACILITY

VILLAGE OF HILLBURN

ROCKLAND COUNTY NEW YORK

SCALE: 1" = 30'
CONTRACT No.:
MJ PROJ. No.: MJ1568.01
DATE: 7/14/2021

1 OF 1

File Name: G:\MJ1568.01 Rockland Green - 420 Thorne Valley Rd\Cad\MJ1568.01_XSRVY.dwg (Layout: Layout1)
Date: Wed, Jul 14, 2021 - 2:11 PM (Name: pmiller)

APPENDIX D10

Area 3 Lead, Mold and Asbestos Survey and Specifications

Rockland Green retained the service of QuES&T to test for the presence of asbestos, lead, and mold in Area 3. The tests concluded there is no presence of asbestos, lead, or mold in the administrative areas or roof. The report is available for review upon Proposer's request.

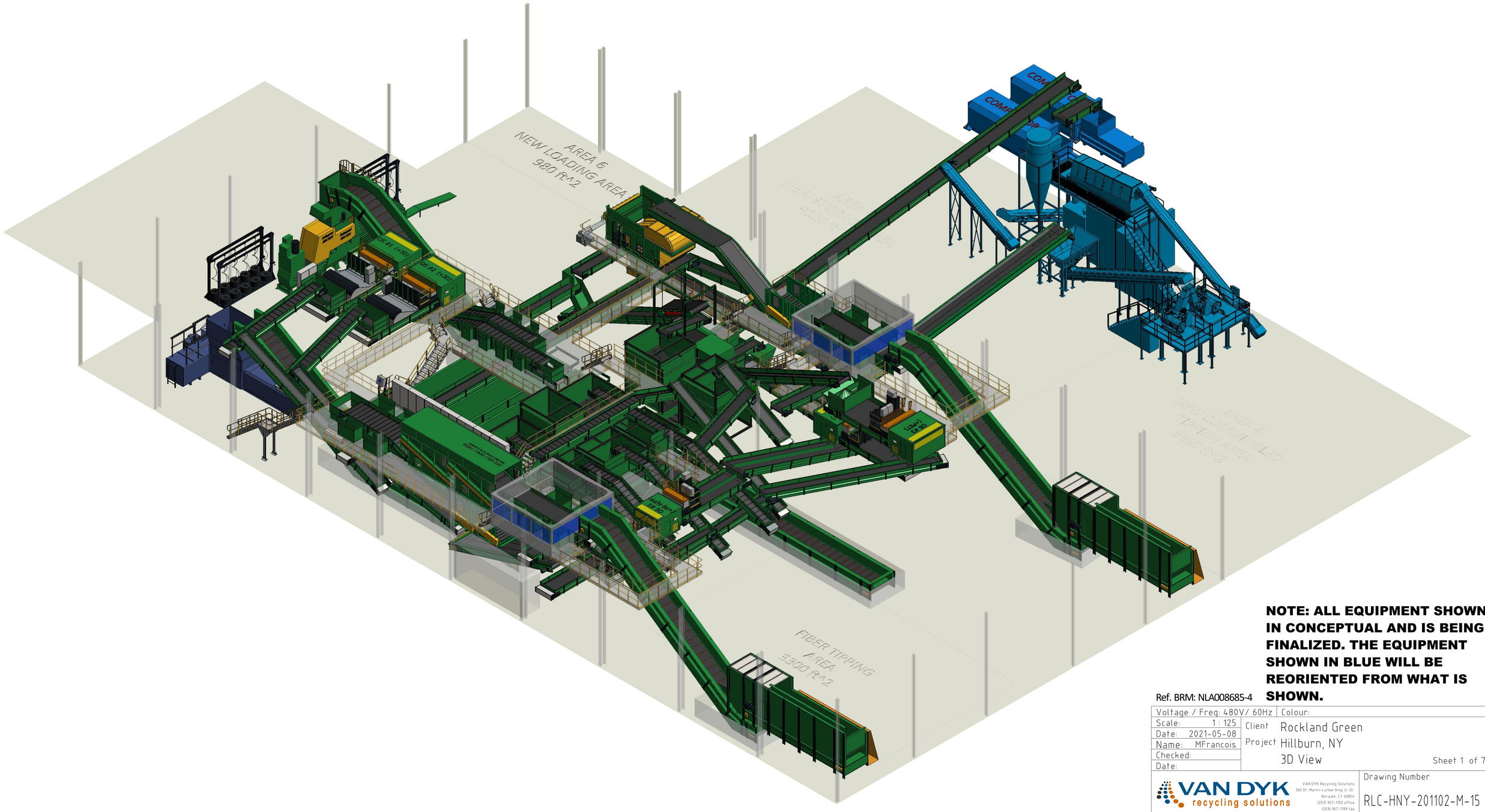
APPENDIX D11

Contract 1 Processing Equipment Preliminary Drawings

Appendix D11 are the preliminary and conceptual drawings for Contract No. 1 Processing Equipment. The drawings are provided for reference only to assist the Proposer to understand the intent of the scope of work for the facility improvements under Contracts No. 2-6. Final drawings will be provided to the Proposer as soon as they are available. Any conflicts and inconsistencies should be addressed by the Proposer through an RFI submission to the Engineer.

APPENDIX D11 CONTRACT No. 1 DRAWINGS

PRELIMINARY



NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

Voltage / Freq: 480V/ 60Hz	Colour:
Scale: 1 : 125	Client Rockland Green
Date: 2021-05-08	Project Hillburn, NY
Name: MFrancois	3D View
Checked:	Sheet 1 of 7
Date:	

VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
(203) 967-1199 fax

Drawing Number

RLC-HNY-201102-M-15

Size D

PRELIMINARY

COMPACTOR

COMPACTOR

Approximate
power drop location

AREA 5
NEW STORAGE AREA
9120 ft^2

AREA 4
NEW COMMINGLED
TIPPING AREA
6560 ft^2

AREA 6
NEW LOADING AREA
980 ft^2

FINES SCREEN

CONTAINER PRESORT

ELLIPTICAL SCREEN

DRUMFEEDER

OS #3 (+PET)

OPTICAL #3 (PET)

OPTICAL #4 (PE)

HBC BALER

OPTICAL #2 (3D)

OPTICAL #1 (3D)

FIBER QC

MAGNET

ECS

OS #1 (+3D)

OS #2 (+3D)

MANUAL CONTAINER RECOVERY

Approximate
power drop location

FIBER TIPPING
AREA
3300 ft^2

OS #5 (+PE-N/PP)

OPTICAL #5 (PE-N/PP)

DRUMFEEDER

2RAM BALER

OCC QC

OCC SCREEN - FINES SCREEN (UNDER)

FIBER PRESORT

NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

Voltage / Freq: 480V/ 60Hz	Colour:
Scale: 1 : 150	Client Rockland Green
Date: 2021-05-08	Project Hillburn, NY
Name: MFrancois	Key Plan
Checked:	Sheet 2 of 7
Date:	

VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
(203) 967-1199 fax

Drawing Number

RLC-HNY-201102-M-15

Size D

PRELIMINARY

AREA 5
NEW STORAGE AREA
9120 ft^2

AREA 4
NEW COMMINGLED
TIPPING AREA
6560 ft^2

AREA 6
NEW LOADING AREA
980 ft^2

FIBER TIPPING
AREA
3300 ft^2

[28169]
92'-5"

NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

Voltage / Freq: 480V/ 60Hz	Colour:		
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Date: 2021-05-08	Project	Hillburn, NY	
Name: MFrancois		Project Scope	Sheet 3 of 7
Checked:			
Date:			

VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
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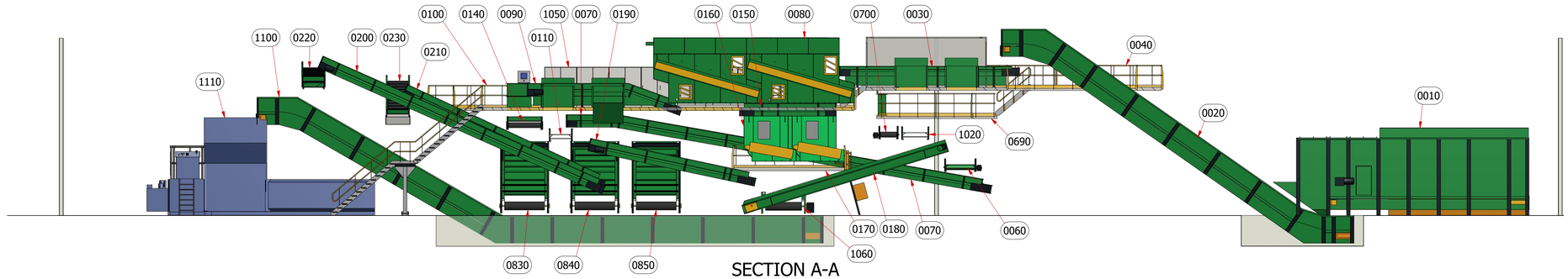
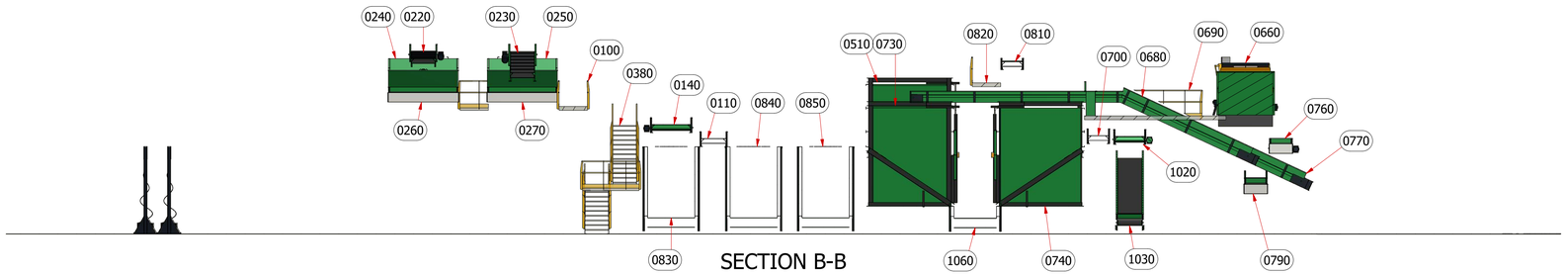
Drawing Number
RLC-HNY-201102-M-15

Size D

PRELIMINARY



SECTION A-A



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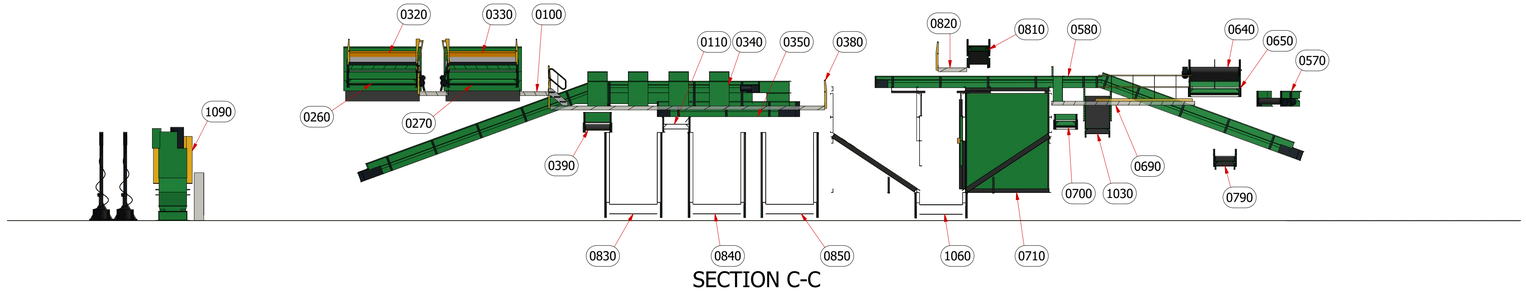

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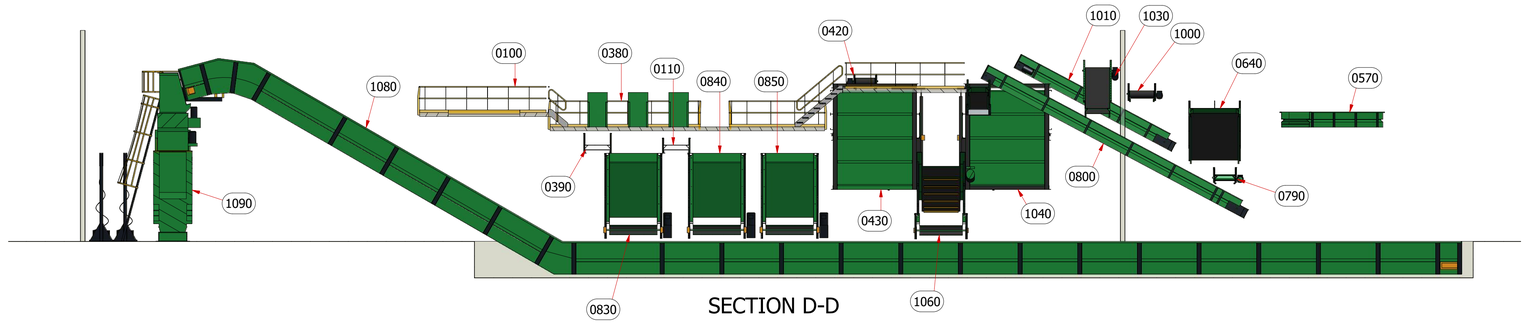

SECTION D-D

NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

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Scale: 1 : 125	Client Rockland Green
Date: 2021-05-08	Project Hillburn, NY
Name: MFrancois	Elevation views
Checked:	Sheet 4 of 7
Date:	

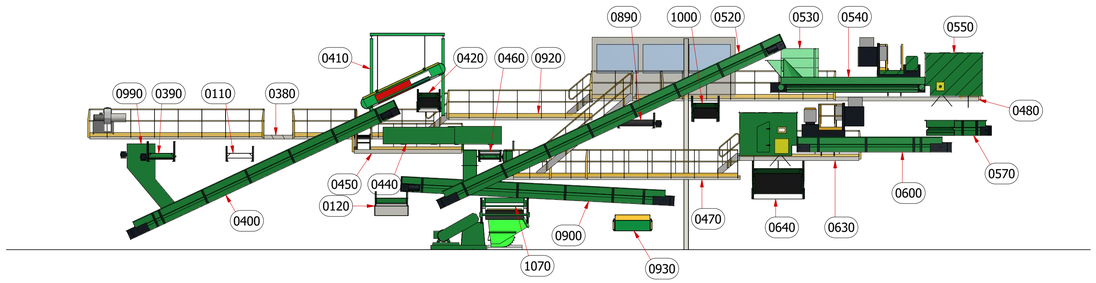
VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
(203) 967-1199 fax

Drawing Number

RLC-HNY-201102-M-15

Size D

PRELIMINARY



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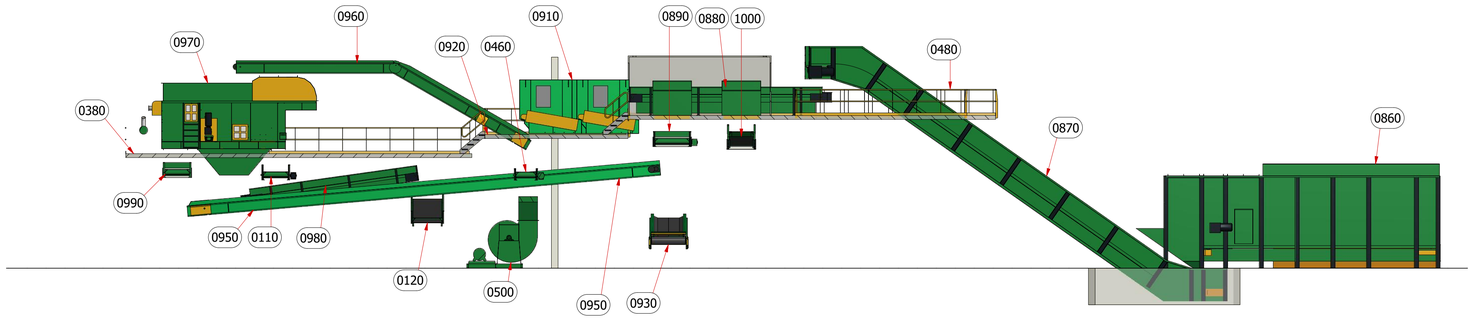


SECTION F-F

NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

Voltage / Freq: 480V/ 60Hz	Colour:
Scale: 1 : 125	Client Rockland Green
Date: 2021-05-08	Project Hillburn, NY
Name: MFrancois	Elevation views
Checked:	Sheet 5 of 7
Date:	

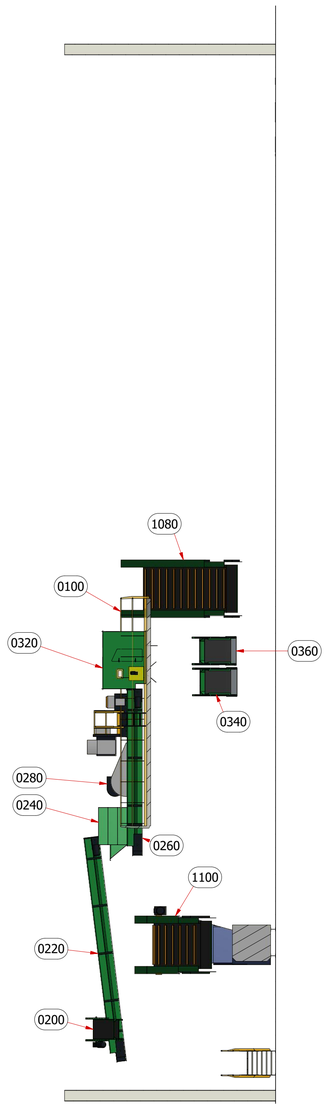
VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
(203) 967-1199 fax

Drawing Number

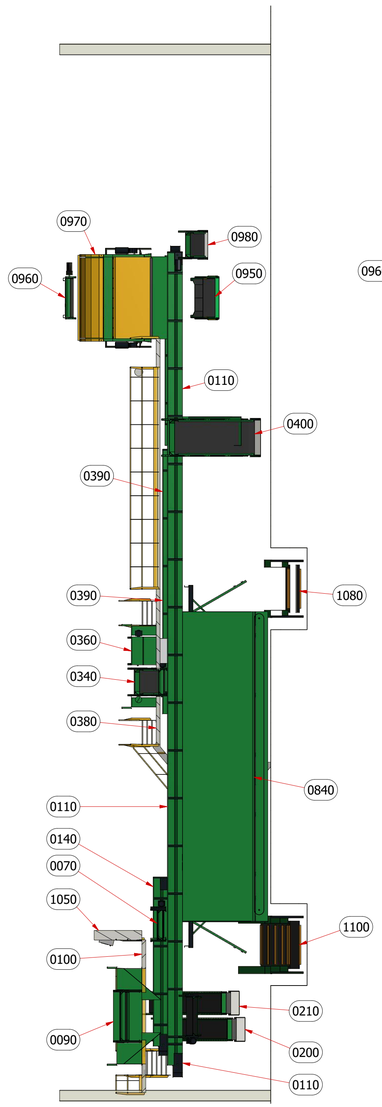
RLC-HNY-201102-M-15

Size D

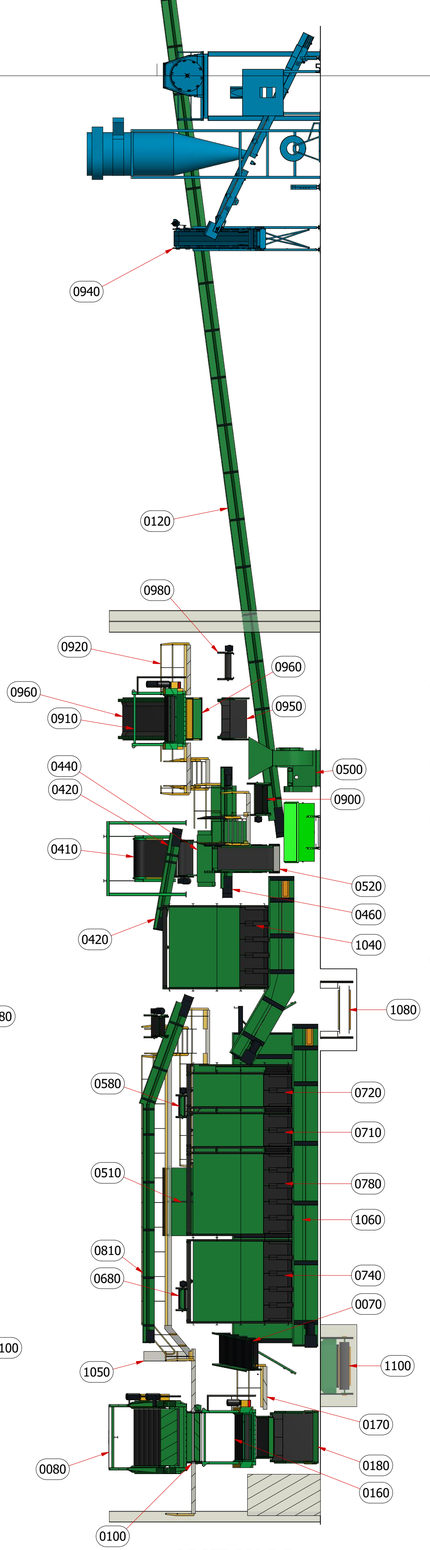
PRELIMINARY



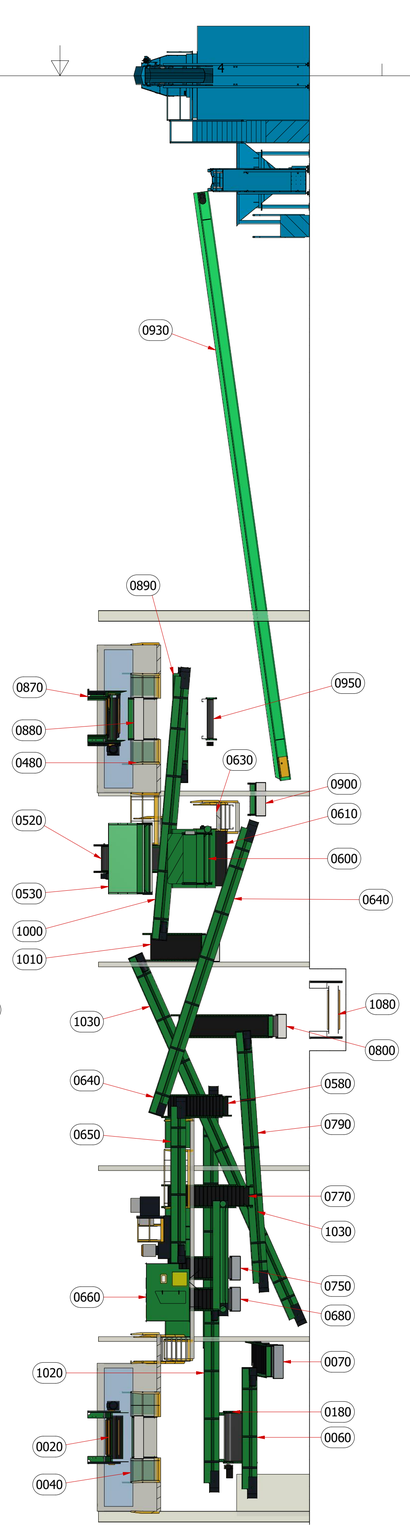
SECTION G-G



SECTION H-H



SECTION J-J



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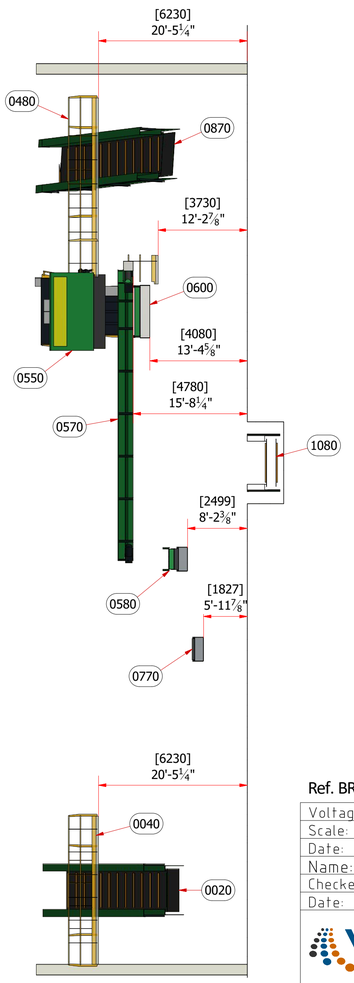

SECTION L-L

NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

Voltage / Freq: 480V / 60Hz	Colour:
Scale: 1 : 125	Client: Rockland Green
Date: 2021-05-08	Project: Hillburn, NY
Name: MFrancois	Section views
Checked:	Sheet 6 of 7
Date:	

VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
(203) 967-1199 fax

Drawing Number: RLC-HNY-201102-M-15

Size: D

PARTS LIST		
ITEM	TITLE	DIMENSIONS
0010	Drumfeeder	W2000xL10090xH2000/3000
0020	Chain conveyor	W1800xL2400@0°/L16200@35°/L1900@0°
0030	Presort conveyor	W1600xL8400@0°
0040	Presort Patform	
0050	Sorting Cabin Fiber Presort	W6000xL6200xH2500
0060	Transfer conveyor	W1400xL4900@0°
0070	Transfer conveyor	W1200xL18425@10º/L2325@0º
0080	OCC 660	W2540xL10000
0090	OCC QC conveyor	W2000xL2415@20º/L4835@0º
0100	Platforms	
0110	Transfer conveyor	W1000xL33900@0°
0120	Transfer conveyor	W1200xL37400@7.5°
0130	Transfer conveyor	W1200xL2900@0°
0140	Transfer conveyor	W1600xL6900@0°
0150	Transfer conveyor	W2000xL4400@0°
0160	GB/Fines screen	W2040xL5000@0°
0170	Maintenance Platform	
0180	Transfer conveyor	W2000xL10000@17°
0190	Transfer conveyor	W1600xL7900@12°
0200	Transfer conveyor	W800xL14900@24°
0210	Transfer conveyor	W800xL10400@25°
0220	Transfer conveyor	W1000xL8900@7°
0230	Transfer conveyor	W1000xL7900@20°
0240	Spreading cone	W2800
0250	Spreading cone	W2800
0260	Speedup conveyor	W2800xL6400@0°
0270	Speedup conveyor	W2800xL6400@0°
0280	Air Booster	W2800
0290	Air Booster	W2800
0300	Support and Construction AS4/AS5	
0310	Support and Construction AS4/AS5	
0320	OS #1 (+3D)	W2800
0330	OS #2 (+3D)	W2800
0340	QC conveyor	W1000xL10415@20º/L6335@0º
0350	Transfer conveyor	W1000xL5400@0°
0360	QC conveyor	W1000xL10415@20º/L3835@0º
0370	Bypass Flap	
0380	QC Platform (Fiber)	
0390	Transfer conveyor	W1000xL10900@0°
0400	Transfer conveyor	W1400xL11900@25°
0410	Overbelt Magnet	W1540xL3500@25°
0420	Transfer conveyor	W800xL3900@10°
0430	Fixed bin - FE	W3665xL3660xH4433 - Vol: 33.51 m^3
0440	ECS	W1500
0450	Platform	
0460	QC conveyor	W800xL4900@0°
0470	Platform	
0480	Patforms	
0490	Sorting Cabin 3D Presort	W6000xL6200xH2500
0500	AL Blower	
0510	Fixed bin - AL	W3000xL3660xH5433 - Vol: 36.34 m^3
0520	Transfer conveyor	W1000xL15400@25°
0530	Spreading cone	W2800
0540	Speedup conveyor	W2800xL5900@0°
0550	OS #3 (+PET)	W2800
0560	Support and Construction AS4/AS5	
0570	QC conveyor	W1000xL12900@0°
0580	QC conveyor	W800xL8415@20º/L9335@0º
0590	Fixed bin - PET	W4330xL3660xH4433 - Vol: 40.14 m^3
0600	Speedup conveyor	W2000xL5900@0°
0610	OS #4 (+PE)	W2000
0620	Support and Construction AS4/AS5	
0630	Maintenance Platform	
0640	Transfer conveyor	W2000xL12400@18°
0650	Speedup conveyor	W2000xL6400@0°

PARTS LIST		
ITEM	TITLE	DIMENSIONS
0660	OS #5 (+PE-N/PP)	W2000
0670	Support and Construction AS4/AS5	
0680	QC conveyor	W800xL5910@25º/L8840@0º
0690	QC Platform (Plastics)	
0700	Transfer conveyor	W800xL10400@0°
0710	Fixed bin - #3-7	W1670xL3660xH4433 - Vol: 13.64 m^3
0720	Fixed bin - Asep	W1670xL3660xH4433 - Vol: 13.64 m^3
0730	Fixed bin - PE-N	W3665xL3660xH4433 - Vol: 33.51 m^3
0740	Fixed bin - PE-C	W3665xL3660xH4433 - Vol: 33.51 m^3
0750	QC conveyor	W800xL5910@25º/L2840@0º
0760	Transfer conveyor	W800xL4400@0°
0770	QC conveyor	W800xL8410@25º/L2840@0º
0780	Fixed bin - PP	W3665xL3660xH4433 - Vol: 33.51 m^3
0790	Transfer conveyor	W800xL10400@4°
0800	Transfer conveyor	W800xL11900@28°
0810	QC conveyor	W800xL4415@20º/L9835@0º
0820	Recovery QC Platform	
0830	Bunker - OCC	W2000xL13000xH3000 - Vol: 73.32 m^3
0840	Bunker - Hardpack	W2000xL13000xH3000 - Vol: 73.32 m^3
0850	Bunker - News	W2000xL13000xH3000 - Vol: 73.32 m^3
0860	Drumfeeder	W2000xL10090xH2000/3000
0870	Chain conveyor	W1800xL2400@0°/L16200@35°/L1900@0°
0880	Presort conveyor	W1600xL7900@0°
0890	Transfer conveyor	W1400xL4400@0°
0900	Transfer conveyor	W1200xL10900@3°
0910	GB/Fines screen	W2040xL5000@0°
0920	Maintenance Platform	
0930	Transfer conveyor	W1400xL24000@8°
0940	Glass Cleanup System	
0950	Transfer conveyor	W1600xL19000@5°
0960	Transfer conveyor	W1600xL6000@30º/L6500@0º
0970	Elliptical screen	W3430xL6500@25°
0980	Transfer conveyor	W1000xL6900@8°
0990	Transfer conveyor	W1000xL6900@0°
1000	Transfer conveyor	W1000xL10900@5°
1010	Transfer conveyor	W1000xL6900@28°
1020	Transfer conveyor	W1200xL7400@0°
1030	Transfer conveyor	W1000xL16400@24°
1040	Fixed bin - MRP	W3665xL3660xH4433 - Vol: 33.51 m^3
1050	Switch box	
1060	Chain conveyor	W1800xL13500@0°
1070	Bypass conveyor	W1600xL4750@30°/L3450@0°
1080	Baler feed conveyor	W2000xL37950@0°/L15600@30°/L2150@-15°
1090	HBC 120S Baler	
1100	Baler feed conveyor	W2000xL16250@0°/L11800@30°/L1750@0°
1110	Harris Baler	

PRELIMINARY

NOTE: ALL EQUIPMENT SHOWN IN CONCEPTUAL AND IS BEING FINALIZED. THE EQUIPMENT SHOWN IN BLUE WILL BE REORIENTED FROM WHAT IS SHOWN.

Ref. BRM: NLA008685-4

Voltage / Freq: 480V/ 60Hz | Colour:

Scale:

Date: 2021-05-08

Name: MFrancois

Checked:

Date:

Client Rockland Green

Project Hillburn, NY

Parts List

Sheet 7 of 7

VAN DYK recycling solutions
VAN DYK Recycling Solutions
360 Dr. Martin Luther King Jr. Dr.
Norwalk, CT 06854
(203) 967-1100 office
(203) 967-1199 fax

Drawing Number

RLC-HNY-201102-M-15

Size C

APPENDIX E

SUPPLEMENTAL CONDITIONS

APPENDIX E

SUPPLEMENTAL CONDITIONS

1. The Proposer shall provide Additional Submittals at the time of submittal of the Proposal as requested in Appendix F of this RFP. These Additional Submittals are considered part of the Proposal and, as such, will be considered in the evaluation of the Proposal and selection of the successful Proposer.

2. The Statement of Work provided in Appendix O of this RFP and the Additional Information provided in Appendix D of this RFP shall be used for intent as described below:
   2.1. The Statement of Work set forth in Appendix O shall be used to understand the different scopes of work included under the separate contracts for the Facility Improvements. This is not an all-inclusive description, and shall not be limited to, but shall include the items listed.
   2.2. The Division of Responsibility (DOR) set forth in Appendix D shall be used as a project management tool to guide the Project Team in the planning of the Work and the general allocation of responsibilities between the parties.
   2.3. The Butler drawings set forth in Appendix D for existing Areas 1, 2, 3 and canopy shall be used as a reference for existing building conditions. However, the Contractor is responsible for all layout, field verification of existing conditions, new elevations, establishing control points, and coordination with other trades related to its Work.
   2.4. The Geotechnical Report set forth in Appendix D shall be studied and used to understand subsurface and site conditions for site preparation and earthwork. Civil and structural design have accounted for the geotechnical information.
   2.5. The Roof Inspection Report set forth in Appendix D shall be studied and used to understand existing roof conditions and shall aid the proposed price for associated roof work.
   2.6. The Existing Sprinkler Drawings and Hydraulic calculation set forth in Appendix D shall be used to understand the installed system and used as reference for the design of the new system.
   2.7. The Hydrant Flow Test and Locations set forth in Appendix D shall be used as a reference for the design of the new sprinkler system.
   2.8. The topographic and utility survey set forth in Appendix D shall be studied and used to understand existing grading and utilities conditions of the Site, existing floor elevations in Area 2 and the fixed working reference point for the entire project.
   2.9. The Lead, Mold, and Asbestos survey concluded that there is no presence of lead, mold or asbestos in Area 3 and its roof.

3. The Contractor shall be aware that there are outstanding items to be confirmed as related to Contract No.1 Processing Equipment, including floor loading diagram, equipment pit locations and sizes, pit edge details, equipment interfaced wall opening locations and sizes, power requirements and power drop locations. The Contract Drawings provide the basis for pricing and Work to then proceed after these outstanding items are released by the Engineer. Price adjustments are to be made based on unit pricing. The Contractor shall include unit pricing on the Price Proposal Form set forth on Proposal form 16 of Appendix I. No price adjustments will be made if items listed above are to be approved as submitted and already accurately reflected on the Contract Drawings and Specifications. Price

adjustments are recommended on a basis with the allowances of potential equipment layout change as follows:

3.1. For Area 2 gas lines and connections to gas-fired roof-hung unit heats, Contractor shall allow for potential location change within 20 feet in any directions horizontally from what's shown on the Contract Drawings, in order to avoid interference with processing equipment.

3.2. For Area 2 gas lines and connections to infrared heaters, Contractor shall allow for potential location change within 10 feet in any directions horizontally from what's shown on the Contract Drawings, in order to avoid interference with processing equipment.

4. Phasing Notes:

4.1. Work shall commence on the exterior and in the Areas 1 and 2 for its Substantial Completion to be achieved prior to the start of delivery and installation of the Dual Stream Recyclables Processing System, which is scheduled to early December 2021. It shall include all Work as defined in the Contract Drawings, Specifications, and RFP Appendices. It shall also include all rough-ins associated with Mechanical, Electrical, Plumbing, and Fire Protection Equipment. All final connections of Mechanical, Electrical, Plumbing and Fire Protection (including equipment fire sprinkler system) in Areas 1 and 2 shall be completed prior to the startup of processing equipment.

4.2. Work in Area 3 shall be sequenced to allow sufficient access and use of existing space for Contractors on-site as approved by the Engineer and the Contractors for Contract Nos. 2-6 shall achieve Substantial Completion prior to the required date for the Operator to mobilizing on-site and have partial occupancy and use of Area 3. Additionally, any Work by Contract Nos. 1 and 3-6 related to all other Areas 1, 2, 4-6 and the site work/exterior shall progress and be completed to support and not delay the overall Project Schedule.

4.3. Contract Nos. 2-6 Work in Areas 4 – 6 shall be sequenced by each applicable Contractor to make the most use and access of working space where the building erection is complete, so the work of Contract No. 1 can proceed efficiently. All work to be coordinated between the Contractors.

5. Project Coordination, Means and Methods:

5.1. The Contractor shall be responsible for all means and methods for the Work.

5.2. The Contractor shall be responsible for coordinating the work performed on the Site among the Facility Improvements Contractors and the Equipment Contractor for Contracts 1-6.

APPENDIX F

CONTRACT 4 – ADDITIONAL SUBMITTALS REQUIRED WITH PROPOSAL

APPENDIX F

ADDITIONAL SUBMITTALS REQUIRED WITH PROPOSAL

1. Contractor shall provide the following preliminary submittals at the time of submitting the Proposal:
   1.1. Preliminary submittals including cutsheets for all plumbing fixtures/equipment and gas distribution piping, if different than specified;
   1.2. Approach of coordination with Lead Contractor and other Prime Contractors; and
   1.3. Approach of completing all overhead work in Areas 1 and 2 by early December 2021.

APPENDIX G

SECURITY INSTRUMENTS

FORM OF PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS, that we [NAME OF PROPOSER], as Principal (hereinafter the "Proposer") and [NAME OF SURETY], a [Corporation, Partnership, LLC, etc.] duly organized under the laws of the State of [_____], as Surety, are held and firmly bound unto the Rockland County Solid Waste Management Authority d/b/a Rockland Green, Rockland County, New York (hereinafter "Rockland Green"), as Obligee, in the sum of [_____] Dollars ($_____) lawful money of the United States of America to be paid to Rockland Green, its successors or assigns, for which payment, well and truly to be made, we bind ourselves, our successors and assigns, jointly and severally, firmly by these presents; and

WHEREAS, the above-named Proposer has submitted or is about to submit to Rockland Green a Proposal in response to the Request for Proposals for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY (RFP 2021-14), dated July 30, 2021 (the "RFP"), issued by Rockland Green and covered by the Proposal submitted by the Proposer in response thereto, which Proposal is made a part hereof.

NOW, THEREFORE, the Surety hereby understands that if the above-referenced Proposer is selected by Rockland Green as a preferred Proposer, then the Proposer will enter into a Contract and the surety bonds acceptable to Rockland Green ensuring faithful performance of the Contract will be delivered to Rockland Green within the time specified in the RFP, or any extension thereof agreed to in writing by Rockland Green. Surety hereby agrees that if the Proposer shall fail to do so, Surety will pay to Rockland Green, as liquidated damages, the full amount of this bond within thirty (30) calendar days after receipt by Proposer and Surety of written notice of such failure from Rockland Green, which notice shall be given with reasonable promptness, identifying this bond and including a statement of the amount due. Upon execution of the Contract and delivery of the performance bond, this bond shall thereafter become null and void, otherwise to remain in full force and effect unless terminated as hereinafter provided.

It is agreed that this bond shall become effective on the date the Proposal is submitted and will continue in full force and effect for one hundred eighty (180) days from such date of submittal (unless extended for up to an additional one hundred eighty (180) days) or until terminated as hereinafter provided.

If the Proposal is not accepted within the time specified in the RFP, or any extension thereof agreed to in writing by Rockland Green, then after written notice by Rockland Green of such non-acceptance, this bond may be terminated by the Surety or Proposer upon written notice to each other and to Rockland Green by registered mail at least ten (10) days prior to the termination date specified in such notice. Upon the giving of such notice, Surety shall be discharged from all liability under this bond for any act or omission of the Proposer occurring after the date of the notice of non-acceptance.

Any suit or action under this bond shall be commenced only in a court of competent jurisdiction located in the State of New York.

IN WITNESS WHEREOF, Surety and Proposer, intending to be legally bound hereby, do each cause this Proposal bond to be duly executed on its behalf by its authorized officers, agent or representative.

Signed and sealed this _____ day of _____, ____.

SURETY	PROPOSER
[NAME OF SURETY]	[NAME OF PROPOSER]
Name: _____	Name: _____
Signature: _____	Signature: _____
Title: _____	Title: _____

FORM OF PERFORMANCE BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENT, that we _____ with a place of business at _____ as principal (the "Principal"), and _____, a [_____] qualified to do business in the State of New York, with a place of business at _____ as Surety (the "Surety"), are held and firmly bound unto the Rockland County Solid Waste Management Authority d/b/a Rockland Green as Obligee (the "Obligee"), in the sum of *[insert amount and spell out bond penal sum]* lawful money of the United States of America, to be paid to the Obligee, for which payment, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, the Principal has assumed and made a contract with the Obligee, bearing the date of _____, and entitled Contract for Facility Improvements - Plumbing at the Materials Recovery Facility in Hillburn, NY (the "Contract").

NOW THE CONDITIONS of this obligation are such that if the Principal and all Subcontractors or suppliers under said Contract shall well and truly keep and perform all the undertakings, covenants, agreement, terms, and conditions of said Contract on its part to be kept and performed during the original term of said Contract and any extensions thereof that may be granted by the Obligee, with or without notice to the Surety, and during the life and including any guarantee required under the Contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations, changes or additions, the obligations of the Surety set forth herein shall become null and void; otherwise such obligations shall remain in full force and virtue.

WHENEVER the Principal shall be declared by the Obligee to be in default under the Contract, the Obligee having performed the Obligee's material obligations thereunder, the Surety may promptly remedy the default whatever it may be or shall promptly perform the Contract in accordance with all of its terms and conditions. To the extent that the Surety elects to not remedy the default nor promptly perform the Contract, the Surety shall make payment to the Obligee up to the Penal Sum of this instrument.

IN THE EVENT the Contract is abandoned by the Principal, or is terminated by the Obligee under the applicable provisions of the Contract, the Surety hereby further agrees that the Surety shall, if requested in writing by the Obligee, promptly take all such actions as are necessary to complete said Contract in accordance with its terms and conditions. To the extent that the Surety elects not to take all such actions as are necessary to complete said Contract, the Surety shall make payment to the Obligee up to the Penal Sum of this instrument.

IN WITNESS WHEREFORE, the Principal and Surety have hereto set their hands and seals this _____ day of _____, 2021
PRINCIPAL SURETY

_____ _____

_____ _____
[Name and Seal] [Attorney-In-Fact][Seal]
_____ _____
[Title] [Address]
_____
[Phone]
Attest:_____ Attest:_____
The rate for this Bond is _____% of the first $_____ and _____% for the next $_____.
The total premium for this Bond is $_____.

[*END OF PERFORMANCE BOND*]

FORM OF LABOR AND MATERIALS PAYMENT BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENT, that we [ ] with a place of business at as principal (the "Principal"), and _____, a [_____ _____] qualified to do business in the State of New York, with a place of business at _____ as Surety (the "Surety"), are held and firmly bound unto Rockland County Solid Waste Management Authority d/b/a Rockland Green as Obligee (the "Obligee"), in the sum of [Dollars ($)] lawful money of the United States of America, to be paid to the Obligee, for which payment, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, the Principal has assumed and made a contract with the Obligee, bearing the date of [_____], and entitled Contract for Facility Improvements - Plumbing at the Materials Recovery Facility in Hillburn, NY (the "Contract").

NOW, THE CONDITIONS of this obligation are such that if the Principal and all Subcontractors under said Contract shall promptly pay for all labor performed or furnished and for all materials and equipment used or employed in said Contract (including any amendments or modifications thereto), notice to the Surety of such amendments or modifications being hereby waived, and defends, indemnifies and holds harmless the Obligee from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in performance of the Contract, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue.

The Surety's obligation to the Obligee under this Bond shall arise after the Obligee provides notice to the Principal and Surety of claims, demands, liens or suits against the Obligee or the Obligee's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Contract

The Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Obligee against any duly tendered claim, demand, lien or suit against the Obligee or the Obligee's property.

IN WITNESS WHEREFORE, the Principal and Surety have hereto set their hands and seals this _____ day of _____, 2021.

PRINCIPAL	SURETY
_____	_____
_____	_____
[Name and Seal]	[Name and Seal]
_____	_____
[Title]	[Title]
_____	_____

[Address]	[Address]
_____	_____
[Phone]	[Phone]
Attest:_____	Attest:_____

The rate of the Bond is _____% of the first $_____ and _____% for the next $_____. The total premium for this Bond is $_____.

APPENDIX H

SITE VISIT PROTOCOL

APPENDIX H

SITE VISIT PROTOCOL

I. The Rockland County Solid Waste Management Authority (hereinafter "Rockland Green") is soliciting Proposals for Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY, RFP 2021-14 (the "RFP"). Rockland Green has established a date for a mandatory Site visit and will accommodate Proposers' reasonable requests for access to the Site. All Proposers, including any representative, agent, consultant, Subcontractor, affiliate or interested party, is required to comply with this Site Visit Protocol during access to and inspection of the Site. Failure to do so may result in the rejection of a Proposal.

II. Protocol:

- The mandatory Site visit and meeting will take place on the date and time indicated in Section III of the RFP.

- Potential Proposers must notify Dee Louis, Engineer II at dlouis@rocklandgreen.com in writing prior to the mandatory Site visit and meeting to indicate the total number of individuals representing such potential Proposer that will be in attendance at the Site visit and meeting and their names.

- Any individuals representing the Proposer at the Site visit and meeting must be employees or principals of the Proposer. A Proposer may not use a surrogate as its representative at the mandatory Site visit and meeting.

- All representatives from a Proposer must attend the same Site visit.

- Rockland Green will designate specific individuals to conduct a tour of the facility and answer questions.

- The Proposer, including any member of the team, representative, agent, consultant, Subcontractor, affiliate or interested party, shall not engage in any communication concerning this RFP with a member of Rockland Green, except the individuals specifically identified by Rockland Green as allowed to guide Site visits and answer questions from the Proposer.

- The Proposer's team members must be dressed appropriately for Site visits, including correct footwear and hard hats. Any additional safety equipment required would be supplied by Rockland Green.

- Any request for information and clarifications regarding the RFP shall be submitted in writing. No oral information given by a Rockland Green team member during a Site visit shall be binding. Rockland Green is not responsible for any oral explanation given during a Site visit.

- Proposers must comply with any Rockland Green, Rockland County Board of Health or other applicable policies or orders with regard to COVID-19 protocols required during Site visits.

III. Acknowledgement

The Proposer acknowledges that this Site Visit Protocol is part of the procurement process. The Proposer understands that failure to comply with the requirements may result in rejection of the Proposal.

_____
Name of Proposer

_____
Authorized Representative

_____
Title

_____
Signature

APPENDIX I

PROPOSAL FORMS

PROPOSAL FORM 1
SIGNATURE PAGE

To the Rockland County Solid Waste Management Authority d/b/a Rockland Green:

The Proposer, in compliance with your Request for Proposals for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY, having examined the Proposal documents and being familiar with all conditions surrounding the project, including the Site, materials, labor and equipment required, hereby proposes to furnish all labor, equipment, materials and supplies necessary to meet the obligations of the Proposal in accordance with the solicitation, within the time and prices set forth therein.

Proposer understands that Rockland Green reserves the right to reject any or all Proposals and to accept any item or items in any one Proposal and to waive any informalities in the RFP process.

Respectfully Submitted:

_____
Name of Proposer

_____
Printed Name / Signature

_____
Date

PROPOSAL FORM 2
ADDENDA ACKNOWLEDGEMENT FORM

The undersigned hereby acknowledges receipt of the following Addenda (if any) to the Request for Proposals for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY:

Addendum No.	Dated
_____	_____
_____	_____
_____	_____

Person, firm or corporation making this Proposal:

_____
Proposer

_____
Signature

_____
Title

_____
Date

PROPOSAL FORM 3
PROPOSER QUALIFICATIONS

This form must be completed by each member of Proposer team

A. General Information

1. Firm: _____

2. Address: _____

3. Telephone: _____

4. Contact Person: _____

Contact person's contact information:

Title: _____

Telephone Number: _____

Fax Number: _____

Email address: _____

5. Type of Organization (e.g., a corporation; limited liability company; joint venture; partnership; and individual): _____

6. Name of Parent Company, if any: _____

7. Name of Affiliate Companies, if any: _____

8. Identity of Joint Venture Partners, if any: _____

9. Financial References: _____

10. New York Surety: _____

11. Signature of person duly authorized to submit on behalf of the Proposer

_____
Signature

_____
Title

PROPOSAL FORM 3 (Continued)
PROPOSER QUALIFICATIONS

B. Business Information

1. Brief history of Company(ies) involved in the Proposal (attach additional sheets as necessary):

2. Name and address of all partners, key shareholders, principals and/or owners:

3. Has Proposer ever failed to complete any contract awarded to it? _____

4. If so, where and why: _____

5. Has any officer or partner of Proposer ever been an officer or partner of some other organization that failed to complete a contract? _____

6. If yes to #5, state name of individual, other organization, reason, and bonding company: _____

7. In what other lines of business is Proposer directly or indirectly involved? _____

PROPOSAL FORM 3 (Continued)
PROPOSER QUALIFICATIONS

8. With what individual or entities have you been associated as partner or otherwise during the past five (5) years? _____

_____

9. Describe the principal and any secondary nature of your current business: _____

_____

10. State the length of time you have been in that business under your present name and identify all other names under which you have done business: _____

_____

11. Has any individual, partner, shareholder, principal, owner or affiliate of your firm been the subject of administrative or judicial action for an alleged violation of state or federal laws or regulations? If so state the details and disposition. _____

_____

12. Are you, your partners, joint venturers, parent corporation or subsidiaries a party to any legal actions that may be relevant to your performance of the obligations described in your Proposal? If so, identify these actions: _____

_____

13. Have you, any partner, key shareholder, principal, owner or affiliate of your firm been the subject of any criminal conviction(s) indictment(s) or investigation(s)? If so, state the details. _____

_____

PROPOSAL FORM 3 (Continued)
PROPOSER QUALIFICATIONS

14. List any and all civil penalties, judgments, consent decrees or other sanctions within the last five (5) years, as a result of a violation of any law, rule, regulation or ordinance in connection with its business activities, by the Proposer, any affiliate of the Proposer, or any key shareholder, officer or director of the Proposer or any affiliate thereof. _____

15. List any and all current investigations, indictments or pending litigation by any Federal, State or local jurisdiction of the Proposer, any affiliate of the Proposer or any key shareholder, officer or director of the Proposer or any affiliate thereof. _____

16. List any and all actions occurring within the last five (5) years which have resulted in revocation or suspension of any permit or authority to do business in any Federal, State or local jurisdiction, by the Proposer, any affiliate of the Proposer, or any key shareholder, officer or director of the Proposer or any affiliate thereof. _____

17. List any and all actions occurring in the past five (5) years that have resulted in the barring from public bidding by the Proposer, any affiliate of the Proposer, or any key shareholder, officer or director of the Proposer or any affiliate thereof. _____

18. List any bankruptcy proceedings in the past five (5) years by the Proposer, any affiliate of the Proposer, or any shareholder, officer or director of the Proposer or any affiliate thereof. _____

19. List the names, addresses, and telephone numbers, and contact name of municipalities, government or other organizations, which have utilized your services: _____

PROPOSAL FORM 3 (Continued)
PROPOSER QUALIFICATIONS

20. List the names, addresses and telephone numbers, and contact name of municipalities, government or other organizations for whom you have performed a design/build project: _____

_____

21. Please attach a description of the services you provide(d) for each municipality, government or other, including the term of your agreement with each such municipality: _____

C. Financial Information (To be signed before a Notary Public)

Attach financial statements, prepared on an accrual basis, in a form which clearly indicates the Proposer's assets, liabilities and net worth over the most recent three (3) year period or as many years as your firm has been in business if less than three (3) years.

Dates of financial statements: _____

Name(s) of firms(s) preparing statements: _____

Dated this ___ day of _____, 20___

_____
(Print or Type Name of Proposer)

By:_____

Title:_____

_____ being duly sworn, deposes and says that the financial statement(s) referenced above are a true and accurate statement of Proposer's financial condition as of the date hereof; and all of the foregoing qualification information is true, complete and accurate.

Sworn to before me this ____ day of _____, _____

_____
Notary Public

PROPOSAL FORM 4
AFFIDAVIT OF NON COLLUSION

NAME OF PROPOSER: _____ PHONE NO.: _____ EXT: _____

BUSINESS ADDRESS: _____ TELEFAX NO.: _____

E-MAIL ADDRESS: _____

CERTIFICATION AND SIGNATURE FORM

I hereby attest that I am the person responsible within my firm for the final decision as to the prices(s) and amount of this Proposal or, if not, that I have written authorization, enclosed herewith, from that person to make the statements set out below on his or her behalf and on behalf of my firm.

I further attest that:

1. The price(s) and amount of this proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition with any other contractor, proposer or potential proposer.
2. Neither the price(s), nor the amount of this proposal, have been disclosed to any other firm or person who is a proposer or potential proposer on this project, and will not be so disclosed prior to proposal opening.
3. No attempt has been made or will be made to solicit, cause or induce any firm or person to refrain from proposing on this project, or to submit a proposal higher than the proposal of this firm, or any intentionally high or non-competitive proposal or other form of complementary proposal.
4. The proposal of my firm 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 proposal.
5. My firm has not offered or entered into a subcontract or agreement regarding the purchase of materials or services from any other firm or person, or offered, promised or paid cash or anything of value to any firm or person, whether in connection with this or any other project, in consideration for an agreement or promise by an firm or person to refrain from proposing or to submit a complementary proposal on this project.
6. My firm has not accepted or been promised any subcontract or agreement regarding the sale of materials or services to any firm or person, and has not been promised or paid cash or anything of value by any firm or person, whether in connection with this or any project, in consideration for my firm's submitting a complementary proposal, or agreeing to do so, on this project.
7. I have made a diligent inquiry of all members, officers, employees, and agents of my firm with responsibilities relating to the preparation, approval or submission of my firm's proposal on this project and have been advised by each of them that he or she has not participated in any communication, consultation, discussion, agreement, collusion, act or other conduct inconsistent with any of the statements and representations made in this affidavit.

The person signing this proposal, under the penalties of perjury, affirms the truth thereof.

_____ SWORN TO BEFORE ME THIS
Signature

_____ _____ DAY OF _____ 20____
Name & Company Position

_____ _____
Company Name NOTARY PUBLIC

_____
Date Signed

PROPOSAL FORM 5
DISCLOSURE AFFIDAVIT

(Proposer must sign this form before a Notary Public)

STATE OF NEW YORK)

) ss

COUNTY OF _____)

I, _____Design_____, _____
(NAME) (TITLE - Officer, Partner or Principal)

being duly sworn depose and swear under the penalties of perjury:

1. That, in connection with the Proposal in response to the Request for Proposals for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY no other person will have any direct or indirect interest in this Proposal except:

   _____

   _____

   (In case of corporations, all officers of the corporation and stockholders owning more than 5% of the corporation stock must be listed. Use attached sheet if necessary.)

2. That _____ related to any officer
   (I am not) (none of the officers or stockholders are)

   or employee of Rockland Green except _____

3. There is not any state or local officer or employee or a member of Rockland Green interested in such application.

_____
Signature and Title

Sworn to before me this _____ day of _____, _____

_____
Notary Public

PROPOSAL FORM 6
AFFIRMATIVE ACTION PLAN

STATE OF NEW YORK)

) ss:

COUNTY OF ROCKLAND)

_____ being duly sworn, deposes and says that he/she is the _____ of the _____ corporation. That *I do (do not) employ fifteen (15) employees and *I do (do not do) a minimum of $50,000 per annum business with the Rockland County Solid Waste Management Authority d/b/a Rockland Green.

Based on the above information (check one, and provide Plan if required):

[ ] attached hereto is an Affirmative Action Plan, or

[ ] because of the above, no Affirmative Action Plan is necessary.

_____
(SIGNATURE AND TITLE)

Sworn to before me this _____ day of _____, ____.

Notary Public, _____ County

* strike out non-applicable information.

PROPOSAL FORM 7
EXCEPTIONS TAKEN TO THIS REQUEST FOR PROPOSALS AND CONTRACT

Exceptions taken to the Request for Proposals

_____ No exceptions taken.

_____ Exceptions taken.

Please provide a mark-up of the relevant language of the RFP where exceptions have been taken.

Exceptions and/or Mark-ups to the Contract

_____ No exceptions taken.

_____ Exceptions taken and/or mark-ups made.

Please provide a mark-up of the relevant language of the contract where exceptions have been taken.

_____
Proposer

_____
Printed Name/Signature

_____
Title

_____
Date

PROPOSAL FORM 8
DISCLOSURE OF PROPOSER RESPONSIBILITY STATEMENT

1. List any convictions of any person, subsidiary or Affiliate of the company, arising out of obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of such contract or subcontract. _____

2. List any convictions or ongoing investigations of any person, subsidiary, or Affiliate of this company for offenses such as embezzlement, theft, fraudulent schemes, etc. or any other offense indicating a lack of business integrity or business honesty which affect the responsibility of the Proposer. _____

3. List any convictions or civil judgments under state or federal antitrust statutes. _____

4. List any violations of contract provisions such as knowingly (without good cause) to perform, or unsatisfactory performance, in accordance with the specification of a contract. _____

5. List any prior suspensions or debarments by any government agency. _____

6. List any contracts not completed on time. _____

PROPOSAL FORM 9
CONSENT OF SURETY
FOR
PERFORMANCE BOND AND LABOR AND MATERIALS PAYMENT BOND

Mr. Gerard M. Damiani, Jr.
Executive Director
Rockland County Solid Waste Management Authority
d/b/a Rockland Green
172 Main Street
Nanuet, NY 10954

Dear Mr. Damiani:

_____ (the "Proposer") has submitted herewith a Proposal in response to the Request for Proposals for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY (RFP 2021-14) (the "RFP"). The RFP requires the selected Proposer to enter into an agreement to perform improvements at the Materials Recovery Facility in order to prepare the building to house a new state of the art dual stream recyclables processing system (the "Contract").

The Surety has reviewed the Proposer's Proposal which will form the basis of the Contract. The Surety hereby certifies that it intends to issue on behalf of the Proposer, as security under the Contract, (1) a performance bond and (2) a labor and materials payment bond for the benefit of Proposer, with Rockland Green as co-beneficiary, in the event the Proposer is selected for final negotiations and execution of the Contract.

_____
Name of Surety

_____
Name and Title of Authorized Signatory

_____
Signature

PROPOSAL FORM 10
FOIL ACKNOWLEDGEMENT FORM

The Proposer hereby acknowledges and recognizes that the New York State Freedom of Information Law, Public Officers Law, Article 6, Section 84-90 provides for public access to government records. However, Proposals may contain trade secrets and other technical, financial, or administrative data whose public disclosure could cause substantial injury to the Proposer's competitive position.

Please indicate whether your Proposal contains trade secrets and other technical, financial or administrative data whose public disclosure could cause substantial injury to your competitive position by marking the applicable below.

_____ The Proposal DOES contain trade secrets and other technical, financial or administrative data whose public disclosure could cause substantial injury to our competitive position, and we have clearly marked pages in our Proposal containing such information.

_____ The Proposal DOES NOT contain trade secrets and other technical, financial or administrative data whose public disclosure could cause substantial injury to your competitive position.

Person, firm or corporation making this Proposal:

_____
Proposer

_____
Signature

_____
Title

_____
Date

PROPOSAL FORM 11
STATEMENT OF PREVAILING WAGE LAW VIOLATIONS

Please indicate below whether the Proposer has ever been investigated for and/or found to be in violation of the Prevailing Wage Law in New York State or any similar law in any other jurisdiction:

No: _____

Yes: _____

If you marked "Yes", please provide the following information for **each** notice of violation received in connection with the payment of prevailing wages (whether such event occurred within the State or any other jurisdiction):

1. Date of Notice of Violation: _____

2. Location/Jurisdiction of Violation: _____

3. Description of Violation: _____

_____

_____

4. Disposition of Violation (include relevant dates): _____

_____

_____

5. Additional Comments: _____

_____

_____

To the extent additional space is required, Proposers may attach additional pages.

PROPOSAL FORM 12
SUBCONTRACTORS QUALIFICATION FORM

All Subcontractors must complete the Subcontractor Qualifications Form in its entirety. Failure to complete and submit this Qualifications Form may result in the Subcontractor being deemed non-responsive and, consequently, not eligible to participate further.

Company Name:_____
Address:_____

_____

Phone:_____ Fax:_____ Email:_____

SAFETY

1. Workers Compensation Employer Modification Rate for current year and three previous years.

   _____ 2021 _____ 2020 _____ 2019 _____ 2018

2. If you keep OSHA 300 logs, please attach a copy of the three most recent years.

3. Total Recordable Incident Rate (TRIR Rate) for current year and three previous years.

   _____ 2021 _____ 2020 _____ 2019 _____ 2018

4. Company Safety Contract:_____

5. Has your company been cited with any regulatory (EPA, OSHA, MSHA, DOH, etc.) citations, violations, or fines within the past three years? (If Yes, then include a copy of the actual citation and provide a detailed explanation of violation with final findings. Attach additional pages as needed.) † Yes † No

6. Do you have a Health & Safety Orientation Program for new hires? † Yes † N o

7. Do you hold daily/weekly Health & Safety meetings?

   † Yes † No

8. Do you have a Substance Abuse and Firearms Policy in effect? † Yes † No

   If Yes, please attach copies.

9. If you use a subcontractor are they required to adhere to your company's safety policies and practices? † Yes † No

10. Does your company meet the attached Project Insurance Requirements? † Yes † No

If No, then why not? _____

_____

BUSINESS INFORMATION

11. Number of Years in Business:_____Years

12. Annual Value of contracting work (Range): $_____

13. Value of contracts normally accepted: Minimum _____ Maximum _____

14. Current Backlog: _____

15. Number of Employees (Range). _____

16. Type of work (approximate): Industrial _____% Commercial _____% Residential _____%

17. Are you a Licensed Electrical, Plumbing, and/or Demolition Contractor (as the subject work requires) † Yes † No † N/A

18. Labor relations: Open Union - If Union, local or national agreement? _____

REFERENCES

19. References of recent projects involving contracting services for similar type and nature.

	Contact Name	Company	Telephone	Date of Work
a.				
b.				
c.				

CLAIMS AND SUITS

20. Have you ever failed to complete work awarded to you? † Yes † No

If so, where and why?_____

21. Are there any judgments, claims, arbitration proceedings or suits pending, current, or outstanding against your organization or its officers? † Yes † No

22. Has your organization filed any lawsuits or requested arbitration with regard to construction contracts within the last five years? † Yes † No

The undersigned warrants the truth and accuracy of all statements and answers herein contained. Include additional sheets if necessary.

_____ _____
Authorized Signature Date

_____ _____
Name & Title Phone

PROPOSAL FORM 13
CERTIFICATION OF SITE CONDITIONS

By submission of this Proposal, the undersigned hereby accepts and acknowledges that it is familiar with the Site, its limits and constraints. The undersigned hereby agrees to waive all claims based on ignorance or misunderstanding of the Site's conditions that exist or difficulties that may be encountered in the execution of the services under the Contract as a result of failure to make the necessary examinations and inspections, nor will the same be accepted as a basis for any claims whatsoever for extra compensation.

Signature of person duly authorized to submit on behalf of the Proposer.

_____
Proposer Name

_____
Printed Name / Signature

_____
Title

_____
Date

PROPOSAL FORM 14
INSURANCE LETTER OF INTENT

Mr. Gerard Damiani, Jr.
Executive Director
Rockland County Solid Waste Management Authority
d/b/a Rockland Green
172 Main Street
Nanuet, NY 10954

Dear Mr. Damiani:

_____ (the "Proposer") has submitted herewith a Proposal in response to the Request for Proposals for Contract No. 4-Facility Improvements, Plumbing at the Materials Recovery Facility in Hillburn, NY (RFP 2021-14) (the "RFP"). The RFP requires the selected Proposer to enter into an agreement to perform improvements to the Materials Recovery Facility in order to prepare the building to house a new state of art dual stream recyclables processing system(the "Contract").

The Insurance Company has reviewed the Proposer's Proposal which will form the basis of the Contract. The Insurance Company hereby certifies that it intends to provide all Required Insurance set forth in the RFP in the event the Proposer is selected for final negotiations and execution of the Contract.

_____
Name of Insurance Company

_____
Name and Title of Authorized Signatory

_____
Signature

PROPOSAL FORM 15
PAST AND PRESENT PERFORMANCE INFORMATION FORM

***Include information for a minimum of (5) five references**

NAME OF PROPOSER: _____

Provide the information requested on this form for each contract/program being described as a reference. Provide frank, concise comments regarding your performance on the contracts you identify. Provide a separate completed form for each contract/program submitted. Limit the number of past efforts submitted and the length of each submission to the limitations, if any, set forth in specifications.

Name of Contracting Entity: _____

Contract Name/Title: _____

Term of Contract: _____

Original Contract Value: _____

Current or Final Contract Value: _____

Original Completion Date: _____

Current or Final Completion Date: _____

A. Brief Description of the project or work performed. Identify whether you were a Prime or Subcontractor. _____

B. Number of Change Orders (if any): _____

   Primary Causes or Reasons of Change: _____

   _____

   _____

C. Primary Point of Contact: _____

NOTE: CONFIRM CONTACT INFORMATION PROVIDED IS CURRENT PRIOR TO SUBMISSION.

Name: _____

Address: _____

Telephone: _____ E-mail: _____

If subcontractors were used, identify the names of the subcontractors and the percentage of the contract the subcontractor was responsible for. _____

PROPOSAL FORM 16
PRICE PROPOSAL FORM

Proposer Name: _____
Address: _____
_____
_____
_____

Contract Person: _____
Email: _____
Phone: _____
Fax: _____
Cell: _____

THE CONTRACTOR SHALL STATE BELOW ITS PROPOSAL PRICE FOR THE CONTRACT SERVICES. ADDITIONALLY, THE CONTRACTOR SHALL STATE THE PROPOSED VALUE, WHICH IS INCLUDED IN THE PROPOSED PRICE, BUT CAN BE ATTRIBUTED TO EACH OF THE FOLLOWING WORK ITEMS. THE WORK ITEM BREAKOUT SHALL BE USED FOR INFORMATIONAL REVIEW OF THE PROPOSALS IN ORDER TO VERIFY COMPLETENESS AND AS THE BASIS FOR SCHEDULE OF VALUES PAYMENT.

BASE PRICING	
WORK ITEM	**$ VALUE**
1. **Civil/Sitework**	
1.1. Clear, Strip and Soil Erosion Control	**N.I.C.**
1.2. Exterior Demolition	**N.I.C.**
1.3. Rough Grade, Excavation and Regrade	**N.I.C.**
1.4. Water Line Modifications and Stormwater Improvements	**N.I.C.**
1.5. Loading Dock Ramp, Retaining Walls and Trench Drain	**N.I.C.**
1.6. Fencing	**N.I.C.**
1.7. Paving	**N.I.C.**
1.8. Landscaping/Hardscaping	**N.I.C.**
1.9. East Side Retaining Wall (along the east fence line)	**N.I.C.**
1.10. Signage, Striping	**N.I.C.**
1.11. Others/Misc.	**N.I.C.**
2. **Concrete Work**	
2.1. Foundations Areas 4-6 & Loading Dock	**N.I.C.**

2.2. Slab-on-Grade Areas 4-6	**N.I.C.**
2.3. Pit P1 Construction	**N.I.C.**
2.4. Pit P2 Construction	**N.I.C.**
2.5. Pit P3 Construction	**N.I.C.**
2.6. Pit P4 Construction	**N.I.C.**
2.7. Dock Pits Area 6	**N.I.C.**
2.8. Concrete Bunkers/Pushwall including Footings	**N.I.C.**
2.9. Four (4) Existing Pits Fill / Partial Fill & Integration with New Pits	**N.I.C.**
2.10. Exterior Concrete Pads for Fire Rover Containers and Switchboard	**N.I.C.**
2.11. Trench Drains, Piping & Holding Tank Area 4	**N.I.C.**
2.12. Sump & Piping Area 2	**N.I.C.**
2.13. Others/Misc.	**N.I.C.**
3. **Demolition and Buildout Areas 1 and 2**	
3.1. Demolition of Concrete Pushwalls and Environmental Wall	**N.I.C.**
3.2. Demolition of Guardrails, Building Wall Panel and/or Steel Framing and Canopies	**N.I.C.**
3.3. Overhead Doors and Personnel Doors Framing	**N.I.C.**
3.4. Column and Building Reinforcing and Brace Relocations	**N.I.C.**
4. **Demolition, Buildout & Reconstruct Area 3**	
4.1. Demolition of Interior Walls, Ceilings, Finishes & Fixtures	**N.I.C.**
4.2. Structural Modifications & Wall Openings	**N.I.C.**
4.3. Carpentry & Drywall	**N.I.C.**
4.4. Ceilings	**N.I.C.**
4.5. Millwork	**N.I.C.**
4.6. Interior Doors & Windows	**N.I.C.**
4.7. Finishes (complete)	**N.I.C.**
4.8. Restroom Accessories	**N.I.C.**

4.9. Misc/Other (including entrance canopy)	**N.I.C.**
5. **PEMB and Associated Work Areas 4 – 6** **5.1. PEMB Addition** (Proposer to choose its proposed method approach and insert the pricing for the method chosen. Proposer to indicate "N/A" for the method not chosen.)	
Method 1: PEMB Addition Framed into the Existing Column Line 1	
a. Engineering, Design, Fabrication and Delivery of PEMB	**N.I.C.**
b. Erection of PEMB	**N.I.C.**
Method 2: Stand-alone PEMB addition Self-Supported	
a. Engineering, Design, Fabrication and Delivery of PEMB	**N.I.C.**
b. Erection of PEMB	**N.I.C.**
5.2. Building Structure Grounding	**N.I.C.**
5.3. Fire Service Room in Area 5 (complete)	**N.I.C.**
5.4. Gutters & Leaders	**N.I.C.**
6. **Roof Work**	
6.1. Metal Roof Recoat/Repair and Repair/Replacement of Damaged Roof Insulation Areas 1 and 2	**N.I.C.**
6.2. Roof and Insulation Full Replacement Area 3	**N.I.C.**
6.3. Roof Reinforcement for MEP/F as needed	**N.I.C.**
6.4. Roof Interface Work between Area 2 &3 and between Areas 1 &2 and the new PEMB addition for Areas 4-6	**N.I.C.**
7. **Loading Dock Equipment (complete)**	**N.I.C.**
8. **Overhead Doors**	
8.1. Structural Framing (as required)	**N.I.C.**
8.2. Overhead Doors (complete)	**N.I.C.**
9. **Personnel Doors and Hardware (complete) including Breakroom North Door & All other Doors to the Exterior**	**N.I.C.**
10. **Miscellaneous Construction**	
10.1. Environmental Wall – Insulated Metal Panel between Areas 1 &2 and between Areas 5 &6	**N.I.C.**
10.2. Bollards	**N.I.C.**

10.3. Floor Damage Repairs (Area 2)	**N.I.C.**
10.4. Electrical Disconnect (Make Safe) for Demo	**N.I.C.**
10.5. Cleaning / Blowdown of Areas 1 & 2 (Walls & Roof Underside)	**N.I.C.**
10.6. Allowance for providing waste disposal containers & hauling to Rockland Green's Transfer Station for waste generated from Contract Nos. 3-6	**N.I.C.**
11. **General Conditions & Insurance – Contract 2**	**N.I.C.**
12. **Bonds – Contract 2**	**N.I.C.**
13. **Mechanical/HVAC**	
13.1. Exhaust Fans All Areas	**N.I.C.**
13.2. Gas-fired and Infrared Heating Areas 2 and 5	**N.I.C.**
13.3. Gas-fired Rooftop Unit and Ductwork to Two (2) Equipment Sort Rooms Area 2	**N.I.C.**
13.4. Ductwork Area 3	**N.I.C.**
13.5. Gas-fired Rooftop Unit and VAV system Area 3	**N.I.C.**
13.6. Dedicated Cooling for IT Closet Area 3	**N.I.C.**
13.7. Heating and Ventilation (including Louvers) for Compressor Room Area 3	**N.I.C.**
13.8. Air Intake and Venting for Gas-fired Water Heater for Mechanical Room Area 3	**N.I.C.**
13.9. Controls for All Mechanical Equipment	**N.I.C.**
13.10. Balancing for All Mechanical Equipment	**N.I.C.**
14. **General Conditions & Insurance – Contract 3**	**N.I.C.**
15. **Bonds – Contract 3**	**N.I.C.**
16. **Plumbing**	
16.1. Sump Discharge System for Baler Area 2	
16.2. Water, Sanitary and Vent Piping for Emergency Showers and Eyewash Stations Area 2	
16.3. Water, Sanitary and Vent Piping for all Plumbing Fixtures Area 3	
16.4. Floor Drain for Compressor Room Area 3	
16.5. Water Heater Area 3	
16.6. Gas Distribution Piping & Connections All Areas	
17. **General Conditions & Insurance – Contract 4**	

18. **Bonds – Contract 4**	
19. **Electrical**	
19.1. Service Upgrade	**N.I.C.**
19.2. Electrical System Grounding	**N.I.C.**
19.3. Power Drops for Contract No. 1 to Areas 2, 5 and Compressor Room	**N.I.C.**
19.4. Area 3 Electrical	**N.I.C.**
19.5. Areas 1,2,4,5 & 6 Interior Lighting	**N.I.C.**
19.6. Miscellaneous Power and Wiring for all OH Doors, Mechanical Equipment, Dock Equipment, Exit Lights, Emergency Lights, Task & Supplemental Lights & Fire Protection Equipment	**N.I.C.**
19.7. Exterior Lighting	**N.I.C.**
19.8. IT/Communications for Processing Equipment, Fire Rover Units, Security Camera System and Sleeves for Operator Phone and Internet	**N.I.C.**
20. **General Conditions & Insurance – Contract 5**	**N.I.C.**
21. **Bonds – Contract 5**	**N.I.C.**
22. **Fire Protection Systems**	
22.1. Fire Alarm Systems All Areas	**N.I.C.**
22.2. Fire Alarm Panel Area 3	**N.I.C.**
22.3. Fire Sprinkler Systems All Areas including Fire Sprinklers Under Processing Equipment Platforms	**N.I.C.**
22.4. Backflow Prevention Fire Water Service Area 5	**N.I.C.**
23. **General Conditions & Insurance – Contract 6**	**N.I.C.**
24. **Bonds – Contract 6**	**N.I.C.**
TOTAL PROPOSED PRICE:	$

WRITTEN IN WORDS:

_____

_____

ALTERNATE PRICING	**$ VALUE**
25. ALTERNATE 1: Area 1 and 2 Roof Work: Full removal and replacement for metal roof and roof insulation	**N.I.C.**
26. ALTERNATE 2: Environmental Wall between Areas 1&2 and between Areas 4&5 supplied and constructed as an insulated PEMB wall partition instead of IMP wall panels	**N.I.C.**
27. ALTERNATE 3: Extend the East Side Retaining Wall (along the east fence line) the additional length plus the additional paving. Insert here the net additional price to Item 1.9 for this additional Work.	**N.I.C.**
28. ALTERNATE 4: For Area 1, in lieu of removing only portions of the existing concrete floor for replacement, provide the net additional price to remove the entire floor area and replace with a new floor with the same specifications of new floor for Area 4.	**N.I.C.**
29. ALTERNATE 5: Complete removal and replacement of existing metal roof and insulation for Areas 1&2 with same specifications for Areas 4-6.	**N.I.C.**
30. ALTERNATE 6: Deduct scope for ductwork from Two (2) RTUs to the Two (2) Sort Rooms. Revise the two (2) RTUs for heating and ventilating only with ductwork to a diffuser directly below the roof.	**N.I.C.**

VOLUNTARY ALTERNATE PRICING (Identify) Contractors are encouraged (but are not required) to offer any beneficial Voluntary Alternates for review and consideration by Rockland Green and its Engineer's. Provide detailed description for each, attach additional sheets as needed.	**VALUE**
31.	
32.	
33.	

NOTES:

1. Work Item Values **shall not** include disposal fees at the Rockland Green facilities for waste or for concrete recycling.
2. Any associated removal costs of lead, mold or asbestos are not to be included in the price.

UNIT PRICING & SUPPLEMENTAL REQUIRED INFORMATION

No unit pricing is required for this RFP.

Authorized Signature

Date

Name & Title

APPENDIX J

REQUIRED INSURANCE

APPENDIX J
REQUIRED INSURANCE

Prior to the Contract commencement and throughout the term of the Contract, the Contractor shall maintain insurance issued by an insurance carrier satisfactory to Rockland Green to protect the parties hereto from and against any and all claims, demands, actions, judgments, costs, expenses and liabilities of every kind and nature which may arise or result, directly or indirectly, from or by reason of such loss, injury, including injury to the applicable Contractor's employees or employees of such Contractor's Subcontractors, or damage. Such insurance shall be maintained at the Contractor's sole expense.

The Contractor shall obtain and maintain throughout the term of the Contract the following types and minimum amounts, not including deductible, of insurance:

- Commercial general liability and property damage insurance with broad form blanket contractual liability and products and completed operations coverage, shall be not less than $4,000,000 per occurrence and $4,000,000 general aggregate limit;
    - The aggregate must be applicable on a per project basis.
    - No Labor Law or Third Party Action Over Exclusions;
- Commercial comprehensive automobile liability endorsed for any automobile (owned, non-owned and hired vehicles) with minimum limits for combined property damage and bodily injury of $4,000,000 per occurrence;
- Worker's compensation coverage in the statutory amounts required by New York State Law;
- Employer's liability insurance required by New York State law covering all of the employees of the Contractor at Rockland Green 's facility;
- Excess liability above the commercial general liability, automobile liability and employers liability shall not be less than $5,000,000 per occurrence and $5,000,000 general aggregate; and
- Pollution liability, if applicable, shall not be less than $1,000,000.

1. The commercial general liability, excess liability and pollution liability shall be kept in force for a period of one (1) year following the end of the contract period.

2. Additional Insureds. The Contractor will name Rockland Green, the County, the Engineer, and their officers, agents, employees, and consultants as additional named insureds on a primary, non-

contributory basis (the "Additional Insureds") for Ongoing and Completed Operations on all insurance policies required herein, other than workers' compensation and employer liability coverage. Such coverage must be provided using the 07/04 versions of ISO Form CG 20 10 and CG 20 37 or equivalent. The Contractor will waive the subrogation rights of its various insurance carriers in favor of Rockland Green via CG 20 04.

3. Insurance Certificates and Policies. Insurance and any renewals thereof will be evidenced by certificates of insurance (the "Certificates") and copies of all insurance policies and endorsements issued or countersigned by a duly authorized representative of the issuer and delivered to Rockland Green for its approval thirty (30) days prior to the Contract commencement. The Certificates will require thirty (30) days written notice to Rockland Green, of cancellation, intent not to renew, or reduction in its coverage by the insurance company for all policies. The Certificates will require ten (10) days written notice to Rockland Green for non-payment of premium.

4. Non-Recourse Provision. All insurance policies will provide that the insurers will have no recourse against the Additional Insureds for payment of any premium or assessment and will contain a severability of interest provision in regard to mutual coverage liability policies. The coverages will be the primary source of any restitution or other recovery for any injuries to, or death of persons, or loss or damage to property incurred as a result of an action or inaction of the Contractor or its Subcontractors, of their respective suppliers, employees, agents, representatives, or invitees, that fall within these coverages and also within the coverages of any liability insurance or self-insurance program maintained by Rockland Green.

5. Deductibles. Deductibles shall not exceed $10,000.

6. Subcontractors. The Contractor will be responsible for ensuring that all Subcontractors which are working at the Site secure and maintain all insurance coverages hereunder and other financial sureties required by Applicable Law in connection with their presence and the performance of their duties at or concerning the Contract Services. The Contractors will furnish Rockland Green with Subcontractors' Certificates and policies for review and approval prior to beginning.

7. Specific Provisions for Comprehensive General Liability Insurance. Comprehensive General Liability insurance, as required hereunder, will include premises-operations, blanket contractual, products and completed operations, personal injury, host liquor liability, explosion, collapse, underground

hazards, and broad form property damage, including completed operations and independent contractor's coverages.

8. Specific Provisions for Worker's Compensation Coverage. Worker's Compensation insurance must be in accordance with the requirements of New York law, as amended from time to time. The required worker's compensation insurance will include other State's coverage, voluntary compensation coverage, and federal longshoreman and harbor worker's coverage.

9. Changes in Insurance Coverage. The insurance listed herein are the minimum coverages permitted, except that Rockland Green may decrease or omit the coverages specified at any time in its sole discretion. If Rockland Green decreases such coverage, any cost savings will be credited to the benefit of Rockland Green.

10. Qualifications of Insurers. The Contractor is required to obtain the insurance set forth in this Appendix with insurance companies that carry a Best's "A" or equivalent rating. In addition, insurance must be obtained and maintained with insurers authorized to do business in the State of New York.

APPENDIX K

PREVAILING WAGE RATES

Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

RC Solid Waste Management Auth

Dee Louis, Engineer II
172 Main Street
Nanuet NY 10954

Schedule Year	2021
Date Requested	07/27/2021
PRC#	2021007859

Location	Hillburn Materials Recovery Fa
Project ID#	RFP-2021-14
Project Type	Plumbing improvements to the MRF building

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2021 through June 2022. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "Request for a dispensation to work overtime" form (PW30) and "4 Day / 10 Hour Work Schedule" form (PW 30.1).

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12240; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website www.labor.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemperaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid

or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment.Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

RC Solid Waste Management Auth

Dee Louis, Engineer II
172 Main Street
Nanuet NY 10954

Schedule Year 2021
Date Requested 07/27/2021
PRC# 2021007859

Location Hillburn Materials Recovery Fa
Project ID# RFP-2021-14
Project Type Plumbing improvements to the MRF building

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information
All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:
[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, www.labor.ny.gov. https://labor.ny.gov/formsdocs/ui/IA999.pdf
If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.ny.gov* or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

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1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

NEW YORK STATE OF OPPORTUNITY. Department of Labor

Required Notice under Article 25-B of the Labor Law

Attention All Employees, Contractors and Subcontractors: You are Covered by the Construction Industry Fair Play Act

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor**, you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

- **Civil Penalty** — First offense: Up to $2,500 per employee

  Subsequent offense(s): Up to $5,000 per employee

- **Criminal Penalty** — First offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing public work for up to one year.

  Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a $50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)

New York State Department of Labor
Bureau of Public Work

Attention Employees

THIS IS A:

PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at: www.labor.ny.gov

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5156		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is $250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training “prior to the performing any work on the project.”

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.)*
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is $3 million in Bronx, Kings, New York, Queens and, Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirement s on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Payrolls and Payroll Records

Contractors and subcontractors are required to establish, maintain, and preserve for not less that six (6) years, contemporaneous, true, and accurate payroll records.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury.

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Rockland County General Construction

Boilermaker — 07/01/2021

JOB DESCRIPTION Boilermaker **DISTRICT** 4

ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per Hour:	07/01/2021
Boilermaker	$ 63.38
Repairs & Renovations	63.38

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2021
Boilermaker	32% of hourly
Repair $ Renovations	Wage Paid + $ 25.38

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay.

Repairs & Renovation Includes replacement of parts and repairs & renovation of existing unit.

OVERTIME PAY
See (D, O) on OVERTIME PAGE
Repairs & Renovation see (B,E,Q)

HOLIDAY
Paid: See (8, 16, 23, 24) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 12, 15, 16, 22, 23, 24, 25) on HOLIDAY PAGE
NOTE: *Employee must work in pay week to receive Holiday Pay.
**Employee gets 4 times the hourly wage rate for working Labor Day.

REGISTERED APPRENTICES
Wage per hour:
(1/2) Year Terms at the following pecentage of Boilermaker's Wage

1st	2nd	3rd	4th	5th	6th	7th
65%	70%	75%	80%	85%	90%	95%

Supplemental Benefits Per Hour:

Apprentice(s)	07/01/2021 32% of Hourly Wage Paid Plus Amount Below
1st Term	$ 19.41
2nd Term	20.26
3rd Term	21.11
4th Term	21.96
5th Term	22.82
6th Term	23.68
7th Term	24.52

NOTE: "Hourly Wage Paid" shall include any and all premium(s)

4-5

Carpenter — 07/01/2021

JOB DESCRIPTION Carpenter **DISTRICT** 8

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2021
Piledriver	$ 56.93
Dockbuilder	$ 56.93

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 53.33

OVERTIME PAY
See (B, E2, O) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.
Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
Wages per hour
(1)year terms:

1st	2nd	3rd	4th
$23.37	$28.97	$37.35	$45.74

Supplemental benefits per hour:

All Terms: $ 35.33

8-1556 Db

Carpenter **07/01/2021**

JOB DESCRIPTION Carpenter **DISTRICT** 8

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES
Per hour: 07/01/2021

Carpet/Resilient
Floor Coverer $ 54.75

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

SUPPLEMENTAL BENEFITS
Per hour:
$ 46.97

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (18, 19) on HOLIDAY PAGE.

Paid for 1st & 2nd yr.
Apprentices See (5,6,11,13,16,18,19,25)
Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
Wage per hour - (1) year terms:

1st	2nd	3rd	4th
$ 24.55	$ 27.55	$ 31.80	$ 39.68

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 16.19	$ 17.69	$ 21.29	$ 23.29

8-2287

Carpenter **07/01/2021**

JOB DESCRIPTION Carpenter **DISTRICT** 8

ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES
Per Hour: 07/01/2021

Marine Construction:

Marine Diver	$ 71.80
Marine Tender	51.04

SUPPLEMENTAL BENEFITS
Per Hour:

Journeyworker	$ 53.33

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (18, 19) on HOLIDAY PAGE
Overtime: See (5, 6, 10, 11, 13, 16, 18, 19) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:
One (1) year terms.

1st year	$ 23.37
2nd year	28.97
3rd year	37.35
4th year	45.74

Supplemental Benefits
Per Hour:

All terms	$ 35.33

8-1456MC

Carpenter — 07/01/2021

JOB DESCRIPTION Carpenter **DISTRICT** 8

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES
Per hour: 07/01/2021

Building
Millwright $ 57.00

SUPPLEMENTAL BENEFITS
Per hour:

Millwright $ 54.60

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (18,19) on HOLIDAY PAGE.

Overtime See (5,6,8,11,13,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
Wages per hour:
One (1) year terms:

1st.	2nd.	3rd.	4th.
$30.74	$36.19	$41.64	$52.54

Supplemental benefits per hour:
One (1) year terms:

1st.	2nd.	3rd.	4th.

	$35.03	$38.73	$43.08	$49.84

8-740.1

Carpenter — 07/01/2021

JOB DESCRIPTION Carpenter **DISTRICT** 8

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Westchester

PARTIAL COUNTIES
Orange: South of but including the following, Waterloo Mills, Slate Hill, New Hampton, Goshen, Blooming Grove, Mountainville, east to the Hudson River.
Putnam: South of but including the following, Cold Spring, TompkinsCorner, Mahopac, Croton Falls, east to Connecticut border.
Suffolk: West of Port Jefferson and Patchogue Road to Route 112 to the Atlantic Ocean.

WAGES

Per hour:	07/01/2021	10/18/2021
Core Drilling:		
Driller	$ 41.74	$ 42.27
Driller Helper	32.92	33.47

Note: Hazardous Waste Pay Differential:
For Level C, an additional 10% above wage rate per hour
For Level B, an additional 10% above wage rate per hour
For Level A, an additional 10% above wage rate per hour
Note: When required to work on water: an additional $ 0.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour:		
Driller and Helper	$ 29.40	$ 30.60

OVERTIME PAY
OVERTIME: See (B,E,K*,P,R**) on OVERTIME PAGE.

HOLIDAY
Paid: See (5,6) on HOLIDAY PAGE.
Overtime: * See (5,6) on HOLIDAY PAGE.
** See (8,10,11,13) on HOLIDAY PAGE.

8-1536-CoreDriller

Carpenter - Building / Heavy&Highway — 07/01/2021

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT** 11

ENTIRE COUNTIES
Putnam, Rockland, Westchester

WAGES
WAGES:(per hour)

	07/01/2021
BUILDING/HEAVY & HIGHWAY/TUNNEL:	
Carpenter	
Base Wage	$ 37.69
	+ $7.63*

*For all hours paid straight or premium.

SHIFT DIFFERENTIAL: When it is mandated by a Government Agency irregular or off shift can be worked. The Carpenter shall receive an additional fifteen percent (15%) of wage plus applicable benefits.
NOTE:Carpenters employed in the removal or abatement of asbestos or any toxic or hazardous material or required to work near asbestos or any toxic or hazardous material and required to wear protective equipment shall receive two (2) hours extra pay per day, plus applicable supplemental benefits.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 31.91

OVERTIME PAY
BUILDING:
See (B, E, Q) on OVERTIME PAGE.

HEAVY&HIGHWAY/TUNNEL:
See (B, E, P, *R, **T, X) on OVERTIME PAGE.
*R applies to Heavy&Highway/Tunnel Overtime Holiday Code 25 with benefits at straight time rate.
**T applies to Heavy&Highway/Tunnel Overtime Holiday Codes 5 & 6 with benefits at straight time rate.

HOLIDAY
BUILDING:
Paid: See (1) on HOLIDAY PAGE.
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE.
Holidays that fall on Sunday will be observed Monday.

HEAVY&HIGHWAY/TUNNEL:
Paid: See (5, 6, 25) on HOLIDAY PAGE including benefits.
Overtime: See (5, 6, 25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
1 year terms at the following wage rates:

Indentured before July 1 2016

1st	2nd	3rd	4th
$ 18.85	$ 22.61	$ 26.38	$ 30.15
+3.57*	+3.57*	+3.57*	+3.57*

Indentured after July 1 2016

1st	2nd	3rd	4th	5th
$ 18.85	$ 22.61	$ 24.50	$ 26.38	$ 30.15
+3.57*	+3.57*	+3.57*	+3.57*	+3.57*

*For all hours paid straight or premium

SUPPLEMENTAL BENEFITS per hour:

All terms $ 16.28

11-279.1B/HH

Electrician — 07/01/2021

JOB DESCRIPTION Electrician **DISTRICT** 11

ENTIRE COUNTIES
Orange, Putnam, Rockland

PARTIAL COUNTIES
Dutchess: Towns of Fishkill, East Fishkill, and Beacon.

WAGES
Per hour:

	07/01/2021
Electrician Wireman/Technician	$ 47.00
	+8.50*

SHIFT DIFFERENTIAL: On Public Work in New York State when shift work is mandated either in the job specifications or by the contracting agency, the following rates apply:

Shift worked between 4:30pm & 12:30am	$ 55.15
	+8.50*
Shift worked between 12:30am & 8:30am	$ 61.77
	+8.50*

*For all hours paid straight or premium.

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (subject to overtime premiums):
- On jobs where employees are required to work from boatswain chairs, swinging scaffolds, etc.,forty (40) feet or more above the ground, or under compressed air, using Scottair packs, gas masks or in shafts or tunnels, they shall receive an additional $2.00 per hour above the regular straight time rate.
- Journeyman Wireman when performing welding or cable splicing: $2.00 above the Journeyman Wireman rate of pay.
- Journeyman Wireman required to have a NYS Asbestos Certificate: $2.00 above the Journeyman Wireman rate of pay.
- Journeyman Wireman required to have a CDL: $2.00 above the Journeyman Wireman rate of pay.

SUPPLEMENTAL BENEFITS
Per hour:

	07/01/2021
Journeyman	$ 26.19 plus 3% of straight or premium wage

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 13, 15, 16, 25) on HOLIDAY PAGE
When the holiday falls on a Saturday it is observed the Friday before. When the holiday falls on a Sunday it is observed on the Monday after.

REGISTERED APPRENTICES
WAGES:
(1)year terms at the following rates

07/01/2021	1st	2nd	3rd	4th	5th	6th
1st Shift	$ 13.50	$ 18.00	$ 22.50	$ 27.00	$ 31.50	$ 33.75
	+1.00*	+1.00*	+1.50*	+2.00*	+2.50*	+2.50*
2nd Shift	15.84	21.12	26.40	31.68	36.96	39.61
	+1.00*	+1.00*	+1.50*	+2.00*	+2.50*	+2.50*
3rd Shift	17.75	23.66	29.58	35.49	41.41	44.35
	+1.00*	+1.00*	+1.50*	+2.00*	+2.50*	+2.50*

*For all hours paid straight or premium.

SUPPLEMENTAL BENEFITS per hour:

07/01/2021	
1st term	$ 15.31 plus 3% of straight or premium wage
2nd term	$ 15.81 plus 3% of straight or premium wage
3rd term	$ 17.31 plus 3% of straight or premium wage
4th term	$ 18.31 plus 3% of straight or premium wage
5th term	$ 19.81 plus 3% of straight or premium wage
6th term	$ 19.81 plus 3% of straight or premium wage

11-363/1

Elevator Constructor — 07/01/2021

JOB DESCRIPTION Elevator Constructor **DISTRICT** 4

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

PARTIAL COUNTIES
Rockland: Entire County except for the Township of Stony Point
Westchester: Entire County except for the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES
Per hour:

	07/01/2021	03/17/2022
Elevator Constructor	$ 72.29	$ 75.14
Modernization & Service/Repair	56.77	59.09

Four(4), ten(10) hour days may be worked at straight time during a week, Monday thru Friday.

NOTE- In order to use the '4 Day/10 Hour Work Schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 IS NOT SUBMITTED you will be liable for overtime payments for work over the allotted hours per day listed.

SUPPLEMENTAL BENEFITS
Per Hour:

Elevator Constructor	$ 41.92	$ 43.914
Modernization & Service/Repairs	41.082	42.787

OVERTIME PAY
Constructor See (D, M, T) on OVERTIME PAGE.

Modern/Service See (B, F, S) on OVERTIME PAGE.

HOLIDAY
Paid: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES PER HOUR:
*Note:1st Term is based on Average wage of Constructor & Modernization.
Terms 2 thru 4 Based on Journeymans wage of classification Working in.

1 YEAR TERMS:

1st Term*	2nd Term	3rd Term	4th Term
50%	55%	65%	75%

SUPPLEMENTAL BENEFITS

Elevator Constructor		
1st Term	$ 34.05	$ 34.772
2nd Term	34.91	35.606
3rd Term	36.30	37.052
4th Term	37.70	38.497

Modernization & Service/Repair		
1st Term	$ 34.00	$ 34.672
2nd Term	34.50	35.195
3rd Term	35.83	36.571
4th Term	37.15	37.938

Elevator Constructor — 07/01/2021

JOB DESCRIPTION Elevator Constructor **DISTRICT** 1

ENTIRE COUNTIES
Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster

PARTIAL COUNTIES
Delaware: Towns of Andes, Bovina, Colchester, Davenport, Delhi, Harpersfield, Hemdon, Kortright, Meredith, Middletown, Roxbury, Hancock & Stamford
Rockland: Only the Township of Stony Point.
Westchester: Only the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

Per Hour	07/01/2021	01/01/2022
Mechanic	$ 62.51	$ 64.63
Helper	70% of Mechanic Wage Rate	70% of Mechanic Wage Rate

Four (4), ten (10) hour days may be worked for New Construction and Modernization Work at straight time during a week, Monday thru Thursday or Tuesday thru Friday.

***Four (4), ten (10) hour days are not permitted for Contract Work/Repair Work

NOTE - In order to use the '4 Day/10 Hour Work Schedule' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule', form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS
Per hour

	07/01/2021	01/01/2022
Journeyperson/Helper	$ 35.825*	$ 36.885*

(*)Plus 6% of regular hourly if less than 5 years of service. Plus 8% of regular hourly rate if more than 5 years of service.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE
Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
Wages per hour:

0-6 mo*	6-12 mo	2nd yr	3rd yr	4th yr
50 %	55 %	65 %	70 %	80 %

(*)Plus 6% of the hourly rate, no additional supplemental benefits.

Supplemental Benefits per hour worked:

Same as Journeyperson/Helper

1-138

Glazier 07/01/2021

JOB DESCRIPTION Glazier **DISTRICT** 8

ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per hour:	7/01/2021	11/01/2021
Glazier	$ 58.60	+ $1.25
*Scaffolding	59.55	
Glass Tinting & Window Film	29.60	
**Repair & Maintenance	29.60	

*Scaffolding includes swing scaffold, mechanical equipment, scissor jacks, man lifts, booms & buckets 24' or more, but not pipe scaffolding.

**Repair & Maintenance- All repair & maintenance work on a particular building,whenever performed, where the total cumulative contract value is under $148,837. All Glass tinting, window film, regardless of material or intended use, and all affixing of decals to windows or glass.

SUPPLEMENTAL BENEFITS

Per hour:	7/01/2021
Journeyworker	$ 36.04
Glass tinting & Window Film	21.19
Repair & Maintenance	21.19

OVERTIME PAY
See (B,H,V) on OVERTIME PAGE.
For 'Repair & Maintenance' and 'Glass Tinting & Window Film' see (B, B2, I, S) on overtime page.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6, 16, 25) on HOLIDAY PAGE
For 'Repair & Maintenance' and 'Glass Tinting & Window Film' Only
Paid: See(5, 6, 16, 25)
Overtime: See(5, 6, 16, 25)

REGISTERED APPRENTICES
Wage per hour:
(1) year terms at the following wage rates:

	7/01/2021
1st term	$ 20.72
2nd term	28.66
3rd term	34.67
4th term	46.62

Supplemental Benefits:

(Per hour)	
1st term	$ 16.58
2nd term	23.57
3rd term	26.09
4th term	30.91

8-1087 (DC9 NYC)

Insulator - Heat & Frost 07/01/2021

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT** 8

ENTIRE COUNTIES
Dutchess, Orange, Putnam, Rockland, Westchester

WAGES

Per hour:	07/01/2021	05/31/2022
Insulator	$ 56.25	+ $ 2.00
Discomfort & Additional Training**	59.22	+ $ 2.00
Fire Stop Work*	30.07	+ $ 2.00

* Applies on all exclusive Fire Stop Work (When contract is for Fire Stop work only). No apprentices on these contracts only.

**Applies to work requiring; garb or equipment worn against the body not customarily worn by insulators;psychological evaluation;special training, including but not limited to "Yellow Badge" radiation training

Note: Additional $0.50 per hour for work 30 feet or more above floor or ground level.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 35.10
Discomfort & Additional Training	37.06
Fire Stop Work:	
Journeyworker	17.90

OVERTIME PAY
See (B, E, E2, Q, *T) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See (2*, 4, 6, 16, 25) on HOLIDAY PAGE.
*Note: Labor Day triple time if worked.

REGISTERED APPRENTICES
(1) year terms:

Insulator Apprentices:

1st	2nd	3rd	4th
$ 30.07	$ 35.30	$ 40.54	$ 45.78

Discomfort & Additional Training Apprentices:

1st	2nd	3rd	4th
$ 31.55	$ 37.08	$ 42.61	$ 48.16

Supplemental Benefits paid per hour:

Insulator Apprentices:

1st term	$ 17.90
2nd term	21.35
3rd term	24.79
4th term	28.23

Discomfort & Additional Training Apprentices:

1st term	$ 18.89
2nd term	22.52
3rd term	26.16
4th term	29.80

8-91

Ironworker **07/01/2021**

JOB DESCRIPTION Ironworker **DISTRICT** 4

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES
Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

WAGES

Per hour:	07/01/2021
Reinforcing & Metal Lathing	$ 56.25
"Base" Wage	$ 54.70 plus $ 1.55

"Base" Wage is used to calculate overtime hours only.

SUPPLEMENTAL BENEFITS

Per hour:	
Reinforcing & Metal Lathing	$ 38.30

OVERTIME PAY
See (B, E, Q, *X) on OVERTIME PAGE
*Only $22.00 per Hour for non worked hours

Supplemental Benefit Premiums for Overtime Hours worked:

Time & One Half	$ 45.08
Double Time	$ 51.33

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 11, 13, 18, 19, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
(1) year terms at the following wage rates:

1st term	2nd term	3rd term	4th Term
Wage Per Hour:			
$ 22.55	$ 28.38	$ 34.68	$ 37.18
"Base" Wage			
$ 21.00 plus $1.55	$ 26.80 plus $1.58	$ 33.10 plus $1.58	$ 35.60 plus $1.58

"Base" Wage is used to calculate overtime hours ONLY.

SUPPLEMENTAL BENIFITS
Per Hour:

1st term	2nd term	3rd term	4th Term
$ 18.17	$ 21.34	$ 22.00	$ 20.50

4-46Reinf

Ironworker **07/01/2021**

JOB DESCRIPTION Ironworker **DISTRICT** 11

ENTIRE COUNTIES
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster

WAGES

Per hour:

	07/01/2021	07/01/2022 Additional	07/01/2023 Additional
Structural	$ 50.18	$ 2.33	$ 2.34
Reinforcing*	50.18	2.33	2.34
Ornamental	50.18	2.33	2.34
Chain Link Fence	50.18	2.33	2.34

*NOTE: For Reinforcing classification ONLY, Ironworker 4-46Reinf rates apply in Rockland County's southern section (south of Convent Road and east of Blue Hills Road).

On Government Mandated Irregular Work Days or Shift Work, the following wage will be paid:

1st Shift	$ 50.18
2nd Shift	64.04
3rd Shift	68.66

**Note- Any shift that works past 12:00 midnight shall receive the 3rd shift differential.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	$ 40.90

OVERTIME PAY

See (B1, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

If a holiday falls on Saturday, it will be observed Friday. If a holiday falls on Sunday, it will be observed Monday.

REGISTERED APPRENTICES

Wages:

(1) year terms at the following wage:

	1st yr	2nd yr	3rd yr	4th yr
1st Shift	$ 25.09	$ 30.11	$ 35.13	$ 40.14
2nd Shift	34.31	40.25	46.20	52.14
3rd Shift	37.38	43.64	49.89	56.14

Supplemental Benefits per hour:

1st year	$ 35.05
2nd year	36.22
3rd year	37.39
4th year	38.56

11-417

Laborer - Building — 07/01/2021

JOB DESCRIPTION Laborer - Building **DISTRICT** 11

ENTIRE COUNTIES

Rockland

WAGES

GROUP C: Liners, joint setters.

GROUP D: Air track operators.

GROUP E: Sealers, power buggy operators, mixer men, brush king, jack hammer, pavement breakers, vibrator men, powder men, torchmen, cement spray men.

GROUP F: Hazardous Waste Handler, Asbestos Removal, Mold Removal, Lead Removal and Bio Remediation where protective gear is needed.

GROUP H: Mason tender, rip rap and dry stone layers, concrete laborer, pipe layers, signal men, gabion basket assemblers, asphalt men, wrecking and demolition men.

GROUP I: Landscaping, flagmen, pitmen, dump men, temporary heat, building laborer (clean up).

WAGES: (per hour)	07/01/2021	05/01/2022 Additional
GROUP C	$ 43.10	$ 2.10
GROUP D	43.65	2.10
GROUP E	42.80	2.10
GROUP F	44.80	2.10
GROUP H	42.56	2.10
GROUP I	39.55	2.10

SHIFT DIFFERENTIAL: On all Governmental mandated or irregular or off shift work, an additional 20% of the wage will be paid hourly.

NOTE: All work five feet or more outside the building foundation line shall be deemed Heavy & Highway

SUPPLEMENTAL BENEFITS
Per Hour:

Journeyman	$ 26.88

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE.
Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
(1000) hour terms at the following wages.

1st	2nd	3rd	4th
$ 21.45	$ 25.35	$ 29.25	$ 33.15

Supplemental Benefits per hour:
All Terms $ 26.15

11-754B

Laborer - Heavy&Highway 07/01/2021

JOB DESCRIPTION Laborer - Heavy&Highway **DISTRICT** 11

ENTIRE COUNTIES
Rockland

WAGES
CLASS 1: Flagperson, gateperson.

CLASS 2: General laborer, chuck tender, nipper,powder carrier, magazine tender, concrete men, vibrator men, mason tender, mortar men, traffic control, custodial work, temporary heat, pump men, pit men, dump men, asphalt men, joint setter, signalman, pipe men, riprap, dry stone layers, jack hammer, bush hammer, pavement breaker, gunnite nozzle, men on mulching & seeding machines, all seeding & sod laying, landscape work, walk behind self-propelled power saws, grinder, groover, walk behind rollers and tampers of all types, burner men, filling and wiring of baskets for gabion walls, chain saw operator, railroad track laborers, power buggy & pumpcrete opers., plaster & acoustic pump, power brush cutter, retention liners, walk behind surface planer, chipping hammer, manhole, catch basin or inlet installing, mortar mixer, laser men. *Micropaving and crack sealing.

CLASS 3: Asbestos, toxic, bio remediation and phyto remediation, lead or hazardous materials abatement when certification or license is required, Drilling Equipment Only Where a Separate Air Compressor Unit Supplies Power.

CLASS 4: Asphalt screedman, blaster, all laborers involved in pipejacking and boring operations not exceeding more than 10 feet into pipe, boring or drilled area.

WAGES: (per hour)	07/01/2021	06/01/2022 Additional	06/01/2023 Additional	06/01/2024 Additional
Class 1	$ 40.40	$ 2.50	$ 2.15	$ 2.25
Class 2	43.90	2.50	2.25	2.35
Class 3	48.20	2.35	2.40	2.45
Class 4	49.50	3.15	3.70	4.10

* When laborers are performing micro paving, crack sealing or slurry application when not part of asphalt prep operations laborers shall receive an additional $2.50 per hour over rate.

SHIFT DIFFERENTIAL: Night work and irregular shift require 20% increase on wages for all Government mandated night and irregular shift work.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyman	$ 28.08
Shift Differential	33.33

OVERTIME PAY

See (B, E, P, *R, **S, ***T, X) on OVERTIME PAGE
*For Mon-Fri Holidays, Double Benefits to be paid for all hours worked.
**For Saturday Holidays, Two and one Half Benefits for all hours worked.
***For Sunday Holidays, Triple Benefits for all hours worked.

HOLIDAY

Paid:	See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime:	See (5, 6, 15, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1000) hour terms at the following wages.

	07/01/2021	06/01/2022
1st term	$ 21.45	$ 22.22
2nd term	25.35	26.26
3rd term	29.25	30.30
4th term	33.15	34.34
Supplemental Benefits per hour:		
All Terms Regular	$ 26.15	$ 27.20
All Terms Shift Rate	31.10	TBD

11-754H/H

Laborer - Tunnel — 07/01/2021

JOB DESCRIPTION Laborer - Tunnel **DISTRICT** 11

ENTIRE COUNTIES

Columbia, Dutchess, Greene, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

PARTIAL COUNTIES

Chenango: Townships of Columbus, Sherburne and New Berlin.
Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.

WAGES

Class 1: All support laborers/sandhogs working above the shaft or tunnel.

Class 2: All laborers/sandhogs working in the shaft or tunnel.

Class 4: Safety Miners

Class 5: Site work related to Shaft/Tunnel

WAGES: (per hour)

	07/01/2021	07/01/2022
Class 1	$ 51.95	$ 53.45
Class 2	54.10	55.60
Class 4	60.50	62.00
Class 5	43.50	44.80

Toxic and hazardous waste, lead abatement and asbestos abatement work will be paid an additional $ 3.00 an hour.

SHIFT DIFFERENTIAL...On all Government mandated irregular shift work:
- Employee shall be paid at time and one half the regular rate Monday through Friday.
- Saturday shall be paid at 1.65 times the regular rate.
- Sunday shall be paid at 2.15 times the regular rate.

SUPPLEMENTAL BENEFITS

Per hour:

Benefit 1	$ 33.25	$ 34.45
Benefit 2	49.81	51.60

Benefit 3	66.35	68.75

Benefit 1 applies to straight time hours, paid holidays not worked.
Benefit 2 applies to over 8 hours in a day (M-F), irregular shift work hours worked, and Saturday hours worked.
Benefit 3 applies to Sunday and Holiday hours worked.

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE
When a recognized Holidays falls on Saturday or Sunday, holidays falling on Saturday shall be recognized or observed on Friday and holidays falling on Sunday shall be recognized or observed on Monday. Employees ordered to work on the Saturday or Sunday of the holiday or on the recognized or the observed Friday or Monday for those holidays falling on Saturday or Sunday shall receive double time the established rate and benefits for the holiday.

REGISTERED APPRENTICES
FOR APPRENTICE RATES, refer to the appropriate Laborer Heavy & Highway wage rate contained in the wage schedule for the County and location where the work is to be performed.

11-17/60/235/754Tun

Lineman Electrician — 07/01/2021

JOB DESCRIPTION Lineman Electrician **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour:

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines

Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. (Ref #14.01.01)

	07/01/2021	05/02/2022	05/01/2023	05/06/2024
Lineman, Technician	$ 54.70	$ 56.00	$ 57.40	$ 58.90
Crane, Crawler Backhoe	54.70	56.00	57.40	58.90
Welder, Cable Splicer	54.70	56.00	57.40	58.90
Digging Mach. Operator	49.23	50.40	51.66	53.01
Tractor Trailer Driver	46.50	47.60	48.79	50.07
Groundman, Truck Driver	43.76	44.80	45.92	47.12
Equipment Mechanic	43.76	44.80	45.92	47.12
Flagman	32.82	33.60	34.44	35.34

Additional $1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work". (Ref #14.02.01-A)

Lineman, Technician	$ 54.70	$ 56.00	$ 57.40	$ 58.90
Crane, Crawler Backhoe	54.70	56.00	57.40	58.90
Cable Splicer	60.17	61.60	63.14	64.79
Certified Welder - Pipe Type Cable	57.44	58.80	60.27	61.85
Digging Mach. Operator	49.23	50.40	51.66	53.01
Tractor Trailer Driver	46.50	47.60	48.79	50.07
Groundman, Truck Driver	43.76	44.80	45.92	47.12
Equipment Mechanic	43.76	44.80	45.92	47.12
Flagman	32.82	33.60	34.44	35.34

Additional $1.00 per hour for entire crew when a helicopter is used.

Below rates apply on switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. (Ref #14.02.01-B)

Lineman, Tech, Welder	$ 56.02	$ 57.32	$ 58.72	$ 60.22
Crane, Crawler Backhoe	56.02	57.32	58.72	60.22
Cable Splicer	61.62	63.05	64.59	66.24
Certified Welder - Pipe Type Cable	58.82	60.19	61.66	63.23
Digging Mach. Operator	50.42	51.59	52.85	54.20
Tractor Trailer Driver	47.62	48.72	49.91	51.19
Groundman, Truck Driver	44.82	45.86	46.98	48.18
Equipment Mechanic	44.82	45.86	46.98	48.18
Flagman	33.61	34.39	35.23	36.13

Additional $1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. (Ref #14.03.01)

Lineman, Tech, Welder	$ 57.21	$ 58.51	$ 59.91	$ 61.41
Crane, Crawler Backhoe	57.21	58.51	59.91	61.41
Cable Splicer	57.21	58.51	59.91	61.41
Digging Mach. Operator	51.49	52.66	53.92	55.27
Tractor Trailer Driver	48.63	49.73	50.92	52.20
Groundman, Truck Driver	45.77	46.81	47.93	49.13
Equipment Mechanic	45.77	46.81	47.93	49.13
Flagman	34.33	35.11	35.95	36.85

Additional $1.00 per hour for entire crew when a helicopter is used.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.
NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS
Per hour worked (but also required on non-worked holidays):

	$25.40 *plus 7% of hourly Wage	$ 25.90 *plus 7% of hourly wage	$ 26.40 *plus 7% of hourly wage	$ 26.90 *plus 7% of hourly wage
Journeyman Lineman or Equipment Operators with Crane License	$ 26.40 *plus 7% of hourly wage	$ 27.90 *plus 7% of hourly wage	$ 29.40 *plus 7% of hourly wage	$ 30.90 *plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY
See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction.
NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES
WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th

60% 65% 70% 75% 80% 85% 90%

SUPPLEMENTAL BENEFITS per hour:

07/01/2021	05/02/2022	05/01/2023	05/06/2024
$25.40 *plus 7% of hourly Wage	$ 25.90 *plus 7% of hourly wage	$ 26.40 *plus 7% of hourly wage	$ 26.90 *plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249a

Lineman Electrician - Teledata — 07/01/2021

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per hour:

For outside work, stopping at first point of attachment (demarcation).

	07/01/2021
Cable Splicer	$ 34.78
Installer, Repairman	$ 33.01
Teledata Lineman	$ 33.01
Tech., Equip. Operator	$ 33.01
Groundman	$ 17.50

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 5.14 *plus 3% of wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting — 07/01/2021

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting **DISTRICT** 6

ENTIRE COUNTIES
Columbia, Dutchess, Orange, Putnam, Rockland, Ulster

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.
(Ref #14.01.02)

Per hour:	07/01/2021	05/02/2022	05/01/2023	05/06/2024
Lineman, Technician	$ 48.43	$ 49.47	$ 50.60	$ 51.82
Crane, Crawler Backhoe	48.43	49.47	50.60	51.82
Certified Welder	50.85	51.94	53.13	54.41
Digging Machine	43.59	44.52	45.54	46.64
Tractor Trailer Driver	41.17	42.05	43.01	44.05
Groundman, Truck Driver	38.74	39.58	40.48	41.46
Equipment Mechanic	38.74	39.58	40.48	41.46
Flagman	29.06	29.68	30.36	31.09

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4%

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.
NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS
Per hour worked (but also required on non-worked holidays):

	$25.40 *plus 7% of hourly Wage	$ 25.90 *plus 7% of hourly wage	$ 26.40 *plus 7% of hourly wage	$ 26.90 *plus 7% of hourly wage
Journeyman Lineman or Equipment Operators with Crane License	$ 26.40 *plus 7% of hourly wage	$ 27.90 *plus 7% of hourly wage	$ 29.40 *plus 7% of hourly wage	$ 30.90 *plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction.
NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (5, 6, 8, 13, 25) on HOLIDAY PAGE and Governor of NYS Election Day.
Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE and Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES
WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

07/01/2021	05/02/2022	05/01/2023	05/06/2024
$25.40 *plus 7% of hourly Wage	$ 25.90 *plus 7% of hourly wage	$ 26.40 *plus 7% of hourly wage	$ 26.90 *plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249aReg8LT

Lineman Electrician - Tree Trimmer — 07/01/2021

JOB DESCRIPTION Lineman Electrician - Tree Trimmer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

Per hour:	07/01/2021	01/02/2022	12/31/2023
Tree Trimmer	$ 27.36	$ 28.25	$ 29.80
Equipment Operator	24.19	24.98	26.35
Equipment Mechanic	24.19	24.98	26.35
Truck Driver	20.15	20.80	21.94
Groundman	16.59	17.13	18.07
Flag person	12.50*	12.50*	13.03*

*NOTE: Subject to change due to any minimum wage increases.

SUPPLEMENTAL BENEFITS
Per hour worked (but also required on non-worked holidays):

Journeyman	$ 9.98 *plus 3% of hourly wage	$ 10.23 *plus 3% of hourly wage	$ 10.48 *plus 3% of hourly wage

* The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (5, 6, 8, 15) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday.
All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building — 07/01/2021

JOB DESCRIPTION Mason - Building **DISTRICT** 9

ENTIRE COUNTIES
Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2021	12/06/2021	06/06/2022

		Additional	Additional
Tile Finisher	$ 46.89	$ 0.39	$ 0.58

SUPPLEMENTAL BENEFITS
Per Hour:

$ 21.91*
+ $9.84

*This portion of benefits subject to same premium rate as shown for overtime wages

OVERTIME PAY
See (B, E, Q, *V) on OVERTIME PAGE
Work beyond 10 hours on a Saturday shall be paid at double the hourly wage rate.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

9-7/88A-tf

Mason - Building — 07/01/2021

JOB DESCRIPTION Mason - Building **DISTRICT** 9

ENTIRE COUNTIES
Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2021	12/06/2021 Additional	06/06/2022 Additional
Tile Setters	$ 61.07	$ 0.48	$ 0.72

SUPPLEMENTAL BENEFITS
Per Hour:

$ 24.91*
+ $10.01

* This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY
See (B, E, Q, V) on OVERTIME PAGE
Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wage per hour:

Tile Setters:
(750 hour) term at the following wage rate:

Term: 1st 1-750	2nd 751-1500	3rd 1501-2250	4th 2251-3000	5th 3001-3750	6th 3751-4500	7th 4501-5250	8th 5251-6000	9th 6001-6750	10th 6501-7000
07/01/2021									
$20.84	$25.66	$32.68	$37.50	$40.99	$44.30	$47.82	$52.63	$55.35	$59.34

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$12.55* +$.66	$12.55* +$.71	$15.16* +$.81	$15.16* +$.85	$16.16* +$1.23	$17.66* +$1.28	$18.66* +$1.63	$18.66* +$1.68	$16.66* +$5.83	$21.91* +$6.32

* This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/52A

Mason - Building — 07/01/2021

JOB DESCRIPTION Mason - Building **DISTRICT** 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

PARTIAL COUNTIES
Orange: Only the Township of Tuxedo.

WAGES
Per hour:

	07/01/2021	06/01/2022 Additional	06/01/2023 Additional
Bricklayer	$ 43.35	$ 2.39	$ 2.05
Cement Mason	43.35	2.39	2.05
Plasterer/Stone Mason	43.35	2.39	2.05
Pointer/Caulker	43.35	2.39	2.05

Additional $1.00 per hour for power saw work
Additional $0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental agency contracts, the following premiums apply:
Irregular work day requires 15% premium
Second shift an additional 15% of wage plus benefits to be paid
Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 36.05.

OVERTIME PAY
OVERTIME:
Cement Mason See (B, E, Q, W) on OVERTIME PAGE.
All Others See (B, E, Q) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5wp-b

Mason - Building 07/01/2021

JOB DESCRIPTION Mason - Building **DISTRICT** 9

ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Wages:	07/01/2021	01/03/2022 Additional
Marble Cutters & Setters	$ 61.73	$ 0.95

SUPPLEMENTAL BENEFITS
Per Hour:

Journeyworker $ 37.76

OVERTIME PAY
See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wage Per Hour:

750 hour terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001-6751	6751-7500
$ 24.70	$ 27.77	$ 30.87	$ 33.94	$ 37.03	$ 40.11	$ 43.20	$ 46.29	$ 52.46	$ 58.64

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 20.01	$ 21.43	$ 22.83	$ 24.25	$ 25.65	$ 27.07	$ 28.47	$ 29.88	$ 32.70	$ 35.51

9-7/4

Mason - Heavy&Highway 07/01/2021

JOB DESCRIPTION Mason - Heavy&Highway **DISTRICT** 11

ENTIRE COUNTIES
Putnam, Rockland, Westchester

PARTIAL COUNTIES
Orange: Only the Township of Tuxedo.

WAGES
Per hour:

	07/01/2021	06/01/2022 Additional	06/01/2023 Additional
Bricklayer	$ 43.85	$ 2.39	$ 2.05
Cement Mason	43.85	2.39	2.05
Marble/Stone Mason	43.85	2.39	2.05
Plasterer	43.85	2.39	2.05
Pointer/Caulker	43.85	2.39	2.05

Additional $1.00 per hour for power saw work
Additional $0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental contracts, the following rates apply:
Irregular work day requires 15% premium
Second shift an additional 15% of wage plus benefits to be paid
Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 36.05

OVERTIME PAY
Cement Mason See (B, E, Q, W, X)
All Others See (B, E, Q, X)

HOLIDAY
Paid: See (5, 6, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5WP-H/H

Operating Engineer - Building / Heavy&Highway **07/01/2021**

JOB DESCRIPTION Operating Engineer - Building / Heavy&Highway **DISTRICT** 11

ENTIRE COUNTIES
Delaware, Orange, Rockland, Sullivan, Ulster

WAGES
CLASS A5: Cranes, Derricks and Pile Drivers 100 tons or more and Tower Cranes, with 140ft boom and over.
CLASS A4: Cranes, Derricks and Pile Drivers 100 tons or more and Tower Cranes, with 100ft to 139ft boom.
CLASS A3: Cranes, Derricks and Pile Drivers 100 tons or more and Tower Cranes with a boom under 100ft.
CLASS A2: Cranes, Derricks and Pile Drivers less than 100 tons with 140ft boom and over.
CLASS A1: Cranes, Derricks and Piler Drivers less than 100 tons with a 100ft to 139ft boom.

CLASS A: Cranes, Derricks and Pile Drivers less than 100 tons with a boom under 100ft.; Autograde Combn. Subgrader, Base Material Spreader and Base Trimmer (CMI and Similar Types); Autograde Pavement profiler (CMI and Similar Types); Autograde Pavement Profiler and Recycle type (CMI and Similar Type); Autograde Placer-Trimmer-Spreader Comb. (CMI & Similar types); Autograde Slipform Paver (CMI & Similar Types); Central Power Plants (all types); Chief of Party; Concrete Paving Machines; Drill (Baur, AMI and Similar Types); Drillmaster, Quarrymaster (Down the Hole Drill), Rotary Drill, Self-Propelled Hydraulic Drill, Self-Powered Drill; Draglines; Elevator Graders; Excavator; Front End Loaders (5 yds.and over); Gradalls; Grader-Rago; Helicopters (Co-Pilot); Helicopters (Communications Engineer);Juntann Pile Driver; Locomotive (Large); Mucking Machines; Pavement & Concrete Breaker, i.e., Superhammer & Hoe Ram; Roadway Surface Grinder; Prentice Truck; Scooper (Loader and Shovel); Shovels; Tree Chopper with Boom; Trench Machines (Cable Plow); Tunnel Boring Machine; Vacuum Truck

CLASS B: "A" Frame; Backhoe (Combination); Boom Attachment on Loaders (Rate based on size of Bucket) not applicable to Pipehook; Boring and Drilling Machines; Brush Chopper, Shredder and Tree Shredder, Tree Shearer; Bulldozer(Fine Grade); Cableways; Carryalls; Concrete Pump; Concrete Pumping System, Pump Concrete and Similar Types; Conveyors (125 ft. and over); Drill Doctor (duties incl. Dust Collector Maintenance); Front End Loaders (2 yds. but less than 5 yds.); Graders (Finish); Groove Cutting Machine (Ride on Type); Heater Planer; Hoists (all type Hoists, shall also include Steam, Gas, Diesel, Electric, Air Hydraulic, Single and Double Drum, Concrete, Brick Shaft Caisson, Snorkel Roof, and/or any other Similar Type Hoisting Machines, portable or stationary, except Chicago Boom Type); Long Boom Rate to be applied if Hoist is "Outside Material Tower Hoist"**; Hydraulic Cranes-10 tons and under; Hydraulic Dredge; Hydro-Axe; Hydro Blaster; Jacks-Screw Air Hydraulic Power Operated Unit or Console Type (not hand Jack or Pile Load Test Type); Log Skidder; Pans; Pavers (all) concrete; Plate and Frame Filter Press; Pumpcrete Machines,Squeeze-crete & Concrete Pumping (regardless of size); Scrapers; Side Booms; "Straddle"Carrier-Ross and similar types; Winch Trucks (Hoisting); Whip Hammer

CLASS C: Asphalt Curbing Machine; Asphalt Plant Engineer; Asphalt Spreader; Autograde Tube Finisher and Texturing Machine (CMI & Similar types); Autograde Curecrete Machine (CMI & Similar Types); Autograde Curb Trimmer & Sidewalk, Shoulder, Slipform (CMI & Similar Types); Bar Bending Machines (Power); Batchers, Batching Plant and Crusher on Site; Belt Conveyor Systems; Boom Type Skimmer Machines; Bridge Deck Finisher; Bulldozer(except fine grade); Car Dumpers (Railroad); Compressor and Blower Type Units (used independently or mounted on dual purpose Trucks, on Job Site or in conjunction with jobsite, in Loading and Unloading of Concrete, Cement, Fly Ash, Instacrete, or Similar Type Materials); Compressors (2 or 3 in Battery); Concrete Finishing Machines; Concrete cleaning decontamination machine operator; Concrete Saws and Cutters (Ride-on type); Concrete Spreaders (Hetzel, Rexomatic and Similar Types); Concrete Vibrators; Conveyors (under 125 feet); Crushing Machines; Directional Boring Machines; Ditching Machine-small (Ditch-witch, Vermeer, or Similar type); Dope Pots (Mechanical with or without pump); Dumpsters; Elevator; Fireman; Fork Lifts (Economobile, Lull and Similar Types of Equipment); Front End Loaders (1 yd.and over but under 2 yds.); Generators (2 or 3 in Battery); Giraffe Grinders; Grout Pump; Gunnite Machines (excluding nozzle); Hammer Vibrator (in conjunction with Generator); Heavy Equipment Robotics Operator Technician; Hoists-Roof, Tugger, Aerial Platform Hoist & House Cars; Hoppers; Hopper Doors (power operated); Hydro Blaster; Hydralic Jacking Trailer; Ladders (motorized); Laddervator; Locomotive-dinky type; Maintenance -Utility Man; Master Environmental Maintenance Technician; Mechanics; Mixers (Excepting Paving Mixers); Motor Patrols; Pavement Breakers (small self propelled ride on type-also maintains compressor hydraulic unit); Pavement Breaker-truck mounted; Pipe Bending Machine (Power); Pitch Pump; Plaster Pump (regardless of size); Post Hole Digger (Post Pounder & Auger); Rod Bending Machines (Power); Roller-Black Top; Scales (Power); Seaman pulverizing mixer; Shoulder widener; Silos; Skidsteer (all attachments); Skimmer Machines (boom-type); Steel Cutting Machine (service & maintain); Tam Rock Drill; Tractors; Transfer Machine; Captain (Power Boats); Tug Master (powerboats); Ultra High Pressure Waterjet Cutting Tool System operator/maintenance technician; Vacuum Blasting Machine; Vibrating Plants (used in conjunction with unloading); Welder and Repair Mechanics

CLASS D: Brooms and Sweepers; Chippers; Compressor (single); Concrete Spreaders (small type); Conveyor Loaders (not including Elevator Graders); Engines-large diesel (1620 HP) and Staging Pump; Farm Tractors; Fertilizing Equipment (Operation & Maint. of); Fine Grade Machine (small type); Form Line Graders (small type); Front End Loader (under 1 yard); Generator (single); Grease, Gas, Fuel and Oil supply trucks; Heaters (Nelson or other type incl. Propane, Natural Gas or Flowtype Units); Lights, Portable Generating Light Plants; Mixers (Concrete, small); Mulching Equipment (Operation and Maintenance of); Pumps (2 or less than 4 inch suction); Pumps (4 inch suction and over incl. submersible pumps); Pumps (Diesel Engine and Hydraulic-immaterial of power); Road Finishing Machines (small type); Rollers-grade, fill or stone base; Seeding Equip. (Operation and Maintenance of); Sprinkler & Water Pump Trucks (used on jobsite or in conjunction with jobsite); Steam Jennies and Boilers-irrespective of use; Stone Spreader; Tamping Machines, Vibrating Ride-on; Temporary Heating Plant (Nelson or other type, incl. Propane, Natural Gas or Flow Type Units); Water & Sprinkler Trucks (used on or in conjunction with jobsite); Welding Machines (Gas, Diesel, and/or Electric Converters of any type, single, two, or three in a battery); Wellpoint Systems (including installation by Bull Gang and Maintenance of)

CLASS E: Assistant Engineer/Oiler; Drillers Helper; Maintenance Apprentice (Deck Hand); Maintenance Apprentice (Oiler); Mechanics' Helper; Tire Repair and Maintenance; Transit/Instrument Man

WAGES:(per hour)

	07/01/2021	07/01/2022 Additional
Class A5	$ 62.52 plus 3.00*	$ 2.25
Class A4	61.52 plus 3.00*	
Class A3	60.52 plus 3.00*	
Class A2	58.02 plus 3.00*	
Class A1	57.02 plus 3.00*	
Class A	56.02 plus 3.00*	
Class B	54.43 plus 3.00*	
Class C	52.52 plus 3.00*	
Class D	50.89 plus 3.00*	
Class E	49.18 plus 3.00*	
Safety Engineer	56.76 plus 3.00*	
Helicopter:		
Pilot/Engineer	57.84 plus 3.00*	
Co Pilot	56.02 plus 3.00*	
Communications Engineer	56.02 plus 3.00*	
Surveying:		
Chief of Party	56.02 plus 3.00*	
Transit/Instrument Man	49.18 plus 3.00*	
Rod/Chainman	46.60 plus 3.00*	

Additional $0.75 for Survey work Tunnel under compressed air.
Additional $0.50 for Hydrographic work.

*The $3.00 is added to the Class Base Wage for all hours worked. Additionally, the $3.00 is subject to the V-Code listed on the OVERTIME CODE Sheet.

**Outside Material Hoist (Class B) receives additional $ 1.00 per hour on 110 feet up to 199 feet total height, $ 2.00 per hour on 200 feet and over total height.

- SHIFT WORK: On all Government mandated irregular or off shift work, an additional 15% on straight time hours.

- On HAZARDOUS WASTE REMOVAL or ASBESTOS REMOVAL work, or any state or federally DESIGNATED HAZARDOUS WASTE SITE:

For projects bid on or before April 1, 2020...Where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection, the Operating Engineer shall receive the hourly wage plus an additional twenty percent (20%) of that wage for the entire shift.

For projects bid after April 1, 2020...On hazardous waste removal work of any kind, including state or federally designated site where the operating engineer is required to wear level A, B, or C personal protection the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour. An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $ 1.00 per hour. This shall also apply to sites where the level D personal protection is required.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 32.45

SHIFT WORK: On all Government mandated irregular or off shift work, an additional 15% on straight time hours.

OVERTIME PAY
See (B, E, Q, *V, X) on OVERTIME PAGE
*15% premium is also required on shift work benefits

HOLIDAY
Paid: See (5, 6, 10, 13, 15) on HOLIDAY PAGE
Overtime: See (5, 6, 10, 13, 15) on HOLIDAY PAGE
Holidays falling on Sunday will be celebrated on Monday.

REGISTERED APPRENTICES
(1) year terms at the following percentage of journeyman's wage.

1st year	60% of Class wage plus $3.00*
2nd year	70% of Class wage plus $3.00*
3rd year	80% of Class wage plus $3.00*
4th year	90% of Class wage plus $3.00*

*The $3.00 is added to the Class Base Wage for all hours worked. Additionally, the $3.00 is subject to the V-Code listed on the OVERTIME CODE Sheet.

Supplemental Benefits per hour:

Apprentices	$ 32.45

11-825

Operating Engineer - Marine Dredging — 07/01/2021

JOB DESCRIPTION Operating Engineer - Marine Dredging **DISTRICT** 4

ENTIRE COUNTIES
Albany, Bronx, Cayuga, Clinton, Columbia, Dutchess, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Orange, Oswego, Putnam, Queens, Rensselaer, Richmond, Rockland, St. Lawrence, Suffolk, Ulster, Washington, Wayne, Westchester

WAGES
These wages do not apply to Operating Engineers on land based construction projects. For those projects, please see the Operating Engineer Heavy/Highway Rates. The wage rates below for all equipment and operators are only for marine dredging work in navigable waters found in the counties listed above.

Per Hour:	07/01/2021	10/01/2021
CLASS A1 Deck Captain, Leverman Mechanical Dredge Operator Licensed Tug Operator 1000HP or more.	$ 41.42	$ 41.42
CLASS A2 Crane Operator (360 swing)	36.91	36.91
CLASS B Dozer,Front Loader Operator on Land	To conform to Operating Engineer Prevailing Wage in locality where work is being performed including benefits.	
CLASS B1 Derrick Operator (180 swing) Spider/Spill Barge Operator Operator II, Fill Placer, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer Licensed Boat, Crew Boat Operator	35.82	35.82
CLASS B2 Certified Welder	33.72	33.72
CLASS C1 Drag Barge Operator, Steward, Mate, Assistant Fill Placer	32.80	32.80
CLASS C2	30.89	31.74

Boat Operator

CLASS D Shoreman, Deckhand, Oiler, Rodman, Scowman, Cook, Messman, Porter/Janitor	25.66	26.37

SUPPLEMENTAL BENEFITS
Per Hour:
THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

	07/01/2021	10/01/2021
All Classes A & B	$11.98 plus 8% of straight time wage, Overtime hours add $ 0.63	$11.98 plus 8% of straight time wage, Overtime hours add $ 0.63
All Class C	$11.68 plus 8% of straight time wage, Overtime hours add $ 0.48	11.68 plus 8% of straight time wage, Overtime hours add $ 0.48
All Class D	$11.38 plus 8% of straight time wage, Overtime hours add $ 0.33	11.38 plus 8% of straight time wage, Overtime hours add $ 0.33

OVERTIME PAY
See (B2, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarDredge

Operating Engineer - Steel Erectors — 07/01/2021

JOB DESCRIPTION Operating Engineer - Steel Erectors **DISTRICT** 11

ENTIRE COUNTIES
Delaware, Orange, Rockland, Sullivan, Ulster

WAGES
CLASS A3: Cranes, Derricks and Pile Drivers 100 tons or more and Tower Cranes, with a 140 ft. boom and over.

CLASS A2: Cranes, Derricks and Pile Drivers 100 tons or more and Tower Cranes, with up to a 139 ft. boom and under.

CLASS A1: Cranes, Derricks and Pile Drivers less than 100 tons with a 140 ft. boom and over.

CLASS A: Cranes, Derricks and Pile Drivers less than 100 tons with up to a 139 ft. boom and under.

CLASS B: "A" Frame; Cherry Pickers(10 tons and under); Hoists (all type Hoists, shall also include Steam, Gas, Diesel, Electric, Air Hydraulic, Single and Double Drum, Concrete, Brick Shaft Caisson, Snorkel Roof, and/or any other Similar Type Hoisting Machines, portable or stationary, except Chicago Boom Type); Jacks-Screw Air Hydraulic Power Operated Unit or Console Type (not hand Jack or Pile Load Test Type); Side Booms; Straddle Carrier

CLASS C: Aerial Platform used as Hoist; Compressors (2 or 3 in Battery); Concrete cleaning/ decontamination machine operator; Directional Boring Machines; Elevator or House Cars; Conveyers and Tugger Hoists; Fireman; Fork Lifts; Generators (2 or 3 in Battery); Heavy Equipment Robotics Operator/Technician; Master Environmental Maintenance Technician; Maintenance -Utility Man; Rod Bending Machines (Power); Captain(powerboat); Tug Master; Ultra High Pressure Waterjet Cutting Tool System; Vacuum Blasting Machine; Welding Machines(gas or electric,2 or 3 in battery, including diesels); Transfer Machine; Apprentice Engineer/Oiler with either one compressor or one welding machine when used for decontamination and remediation

CLASS D: Compressor (single); Welding Machines (Gas, Diesel, and/or Electric Converters of any type); Welding System Multiple (Recitifier Transformer type)

CLASS E: Assistant Engineer/Oiler; Maintenance Apprentice (Deck Hand);Drillers Helper; Maintenance Apprentice (Oiler); Mechanics' Helper; Transit/Instrument Man

WAGES:(per hour)

	07/01/2021	07/01/2022 Additional
Class A3	$ 64.54 plus 3.00*	$ 2.25
Class A2	62.88 plus 3.00*	
Class A1	60.04 plus 3.00*	
Class A	58.38 plus 3.00*	
Class B	55.59 plus 3.00*	
Class C	52.93 plus 3.00*	
Class D	51.40 plus 3.00*	
Class E	49.64 plus 3.00*	
Vacuum Truck	56.35 plus 3.00*	
Safety Engineer	57.21 plus 3.00*	
Helicopter:		
Pilot/Engineer	60.04 plus 3.00*	
Co Pilot	59.65 plus 3.00*	
Communications Engineer	59.65 plus 3.00*	
Surveying:		
Chief of Party	56.35 plus 3.00*	
Transit/Instrument man	49.64 plus 3.00*	
Rod/Chainman	46.60 plus 3.00*	

Additional $0.75 for Survey work Tunnels under compressed air.
Additional $0.50 for Hydrographic work.

*The $3.00 is added to the Class Base Wage for all hours worked. Additionally, the $3.00 is subject to the V-Code listed on the OVERTIME CODE Sheet.

- SHIFT WORK: On all Government mandated irregular or off shift work, an additional 15% on straight time hours.
- On HAZARDOUS WASTE REMOVAL or ASBESTOS REMOVAL work, or any state or federally DESIGNATED HAZARDOUS WASTE SITE:

For projects bid on or before April 1, 2020...Where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection, the Operating Engineer shall receive the hourly wage plus an additional twenty percent (20%) of that wage for the entire shift.

For projects bid after April 1, 2020...On hazardous waste removal work of any kind, including state or federally designated site where the operating engineer is required to wear level A, B, or C personal protection the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour. An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $ 1.00 per hour. This shall also apply to sites where the level D personal protection is required.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 32.45

OVERTIME PAY
See (B, E, Q, *V, X) on OVERTIME PAGE
*15% premium is also required on shift work benefits

HOLIDAY
Paid: See (5, 6, 10, 13, 15) on HOLIDAY PAGE
Overtime: See (5, 6, 10, 13, 15) on HOLIDAY PAGE
Holidays falling on Sunday will be celebrated on Monday.

REGISTERED APPRENTICES
(1) year terms at the following percentage of journeyman's wage.

1st year	60% of Class wage plus $3.00*
2nd year	70% of Class wage plus $3.00*
3rd year	80% of Class wage plus $3.00*
4th year	90% of Class wage plus $3.00*

*The $3.00 is added to the Class Base Wage for all hours worked. Additionally, the $3.00 is subject to the V-Code listed on the OVERTIME CODE Sheet.

Supplemental Benefits per hour:

Apprentices	$ 32.45

11-825SE

Painter — 07/01/2021

JOB DESCRIPTION Painter **DISTRICT** 1

ENTIRE COUNTIES
Rockland

WAGES
Wages per hour

	07/01/2021	05/01/2022 Additional
Brush/Paper Hanger	$ 39.14	$ 1.65
Dry Wall finisher	39.14	
Sandblaster-Painter	39.14	
Lead Abatement	39.14	
Spray Rate	40.14	

See Bridge Painters rates for the following work:
Structural Steel, all work performed on tanks, ALL BRIDGES, towers, smoke stacks, flag poles. Rate shall apply to all of said areas from the ground up.

SUPPLEMENTAL BENEFITS
Per hour

Journeyperson	$ 24.79

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE
THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED SHIFT(S) OR SINGULAR IRREGULAR SHIFT OF AT LEAST A FIVE (5) DAY DURATION (MONDAY THROUGH FRIDAY), WHEN THE SHIFT STARTS BETWEEN THE HOURS LISTED BELOW:

4:00 PM to 6:30 AM	REGULAR RATE PLUS 15%**

OVERTIME ON MULTIPLE SHIFT WORK AND SINGULAR IRREGULAR SHIFT THE SHIFT RATE IS THE BASE RATE
**SHIFT RATE STOPS AFTER 6:30AM

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour

Six (6) month terms at the following percentage of Journeyperson's wage

1st	2nd	3rd	4th	5th	6th
40%	50%	60%	70%	80%	90%

Supplemental Benefits per hour worked

1st term	$ 10.89
All others	$ 24.79

1-155ROC

Painter - Bridge & Structural Steel — 07/01/2021

JOB DESCRIPTION Painter - Bridge & Structural Steel **DISTRICT** 8

ENTIRE COUNTIES
Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES
Per Hour:

STEEL:

Bridge Painting:	07/01/2021	10/01/2021
	$ 51.50	$ 53.00
	+ 8.63*	+ 9.63*

ADDITIONAL $6.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

NOTE: All premium wages are to be calculated on base rate per hour only.

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

NOTE: Generally, for Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

SHIFT WORK:

When directly specified in public agency or authority contract documents for an employer to work a second shift and works the second shift with employees other than from the first shift, all employees who work the second shift will be paid 10% of the base wage shift differential in lieu of overtime for the first eight (8) hours worked after which the employees shall be paid at time and one half of the regular wage rate. When a single irregular work shift is mandated in the job specifications or by the contracting agency, wages shall be paid at time and one half for single shifts between the hours of 3pm-11pm or 11pm-7am.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:	07/01/2021	10/01/2021
	$ 10.90	$ 10.90
	+ 30.00*	+ 30.60*

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage - Per hour:

Apprentices: (1) year terms

	07/01/2021	10/01/2021
1st year	$ 20.60	$ 21.20
	+ 3.45*	+ 3.86*
2nd year	$ 30.90	$ 31.80
	+ 5.18*	+ 5.78*
3rd year	$ 41.20	$ 42.40
	+ 6.90*	+ 7.70*

Supplemental Benefits - Per hour:

1st year	$ .25	$ .25
	+ 12.00*	+ 12.24*
2nd year	$ 10.90	$ 10.90
	+ 18.00*	+ 18.36*
3rd year	$ 10.20	$ 10.90
	+ 24.00*	+ 24.48*

NOTE: All premium wages are to be calculated on base rate per hour only.

Painter - Line Striping — 07/01/2021

JOB DESCRIPTION Painter - Line Striping **DISTRICT** 8

ENTIRE COUNTIES
Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES
Per hour:

	07/01/2021	07/01/2022
Painter (Striping-Highway):		
Striping-Machine Operator*	$ 30.32	$ 31.53
Linerman Thermoplastic	36.93	38.34

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour paid:	07/01/2021	07/01/2022
Journeyworker:		
Striping Machine Operator:	$ 10.03	$ 10.03
Linerman Thermoplastic:	10.03	10.03

OVERTIME PAY
See (B, B2, E2, F, S) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 20) on HOLIDAY PAGE
Overtime: See (5, 20) on HOLIDAY PAGE

REGISTERED APPRENTICES
One (1) year terms at the following wage rates:

	07/01/2021	07/01/2022
1st Term:	$ 12.50	$ 12.61
2nd Term:	18.19	18.92
3rd Term:	24.26	25.22

Supplemental Benefits per hour:

1st term:	$ 9.16	$ 10.03
2nd Term:	9.16	10.03
3rd Term:	9.16	10.03

8-1456-LS

Painter - Metal Polisher — 07/01/2021

JOB DESCRIPTION Painter - Metal Polisher **DISTRICT** 8

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2021
Metal Polisher	$ 37.13
Metal Polisher*	38.23
Metal Polisher**	41.13

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS
Per Hour: 07/01/2021

Journeyworker:
All classification $ 10.64

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:
One (1) year term at the following wage rates:

	07/01/2021
1st year	$ 16.00
2nd year	17.00
3rd year	18.00
1st year*	$ 16.39
2nd year*	17.44
3rd year*	18.54
1st year**	$ 18.50
2nd year**	19.50
3rd year**	20.50

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year	$ 7.39
2nd year	7.39
3rd year	7.39

8-8A/28A-MP

Plumber 07/01/2021

JOB DESCRIPTION Plumber **DISTRICT** 11

ENTIRE COUNTIES
Orange, Rockland, Sullivan

PARTIAL COUNTIES
Ulster: Only the Townships of Plattekill, Marlboro, Wawarsing, and Shawangunk (except for Wallkill and Shawangunk Prisons).

WAGES
REFRIGERATION:For commercial and industrial refrigeration which means service, maintenance, and installation work where the combined compressor tonnage does not exceed 40 tons.
AIR CONDITIONING:Air conditioning to be installed that is water cooled shall not exceed 25 tons. This will include the piping of the component system and erection of water tower. Air conditioning that is air cooled shall not exceed 50 tons.

WAGES: (per hour)

	07/01/2021
Plumber	$ 35.59

Star Certification: an additional $ 1.00 per hour over scale will be paid to all those who have Star Certification.

Shift Differential: When mandated by the governmental agency, an additional 15% premium will be paid for irregular work day or for 2nd and 3rd shift.

SUPPLEMENTAL BENEFITS
Per hour:
Journeyman
$ 34.07*

*For overtime or shift differential work, $0.10 is paid at straight time, the remaining balance is paid at the same premium as the wages.

OVERTIME PAY
See (B, G, P, *V) on OVERTIME PAGE
* A portion of the benefit amount is subject to the V code for overtime and shift differential work.

HOLIDAY
Paid: See (5, 6, 13, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 13, 15, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
(1)year terms at the following wage.

	07/01/2021
1st term	$ 16.02
2nd term	17.80
3rd term	19.58
4th term	23.14
5th term	28.48

Supplemental Benefits per hour:
Apprentices

1st term	$ 15.42*
2nd term	17.09*
3rd term	18.81*
4th term	22.20*
5th term	27.29*

*For overtime or shift differential work, $0.10 is paid at straight time, the remaining balance is paid at the same premium as the wages.

11-373 Refrig

Plumber **07/01/2021**

JOB DESCRIPTION Plumber **DISTRICT** 11

ENTIRE COUNTIES
Orange, Rockland, Sullivan

PARTIAL COUNTIES
Ulster: Only the Townships of Plattekill, Marlboro, Wawarsing, and Shawangunk (except for Wallkill and Shawangunk Prisons).

WAGES

WAGES:(per hour)	07/01/2021
Plumber/Steamfitter	$ 47.45

Note: For all work 40-60 feet above ground add $ 0.25 per hour, over 60 feet add $ 0.50 per hour.

Shift Differential: When mandated by the governmental agency, an additional 15% premium will be paid for irregular work day or for 2nd and 3rd shift.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 42.32*

*For overtime or shift differential work, $0.10 is paid at straight time, the remaining balance is paid at the same premium as the wages.

OVERTIME PAY
See (B, E, Q, *V) on OVERTIME PAGE
* A portion of the benefit amount is subject to the V code for overtime and shift differential work.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE
When a holiday falls on a Saturday, the day prior shall be considered and recognized as the holiday. When a holiday falls on a Sunday, the day proceeding shall be considered and recognized as the holiday to be observed.

REGISTERED APPRENTICES
(1) year terms at the following wages.

	07/01/2021
1st term	$ 16.61
2nd term	21.36
3rd term	26.10

4th term	30.85
5th term	37.96

Supplemental Benefits per hour:

1st term	$ 14.90*
2nd term	19.11*
3rd term	23.33*
4th term	27.55*
5th term	33.87*

*For overtime or shift differential work, $0.10 is paid at straight time, the remaining balance is paid at the same premium as the wages.

11-373 SF

Roofer — 07/01/2021

JOB DESCRIPTION Roofer **DISTRICT** 9

ENTIRE COUNTIES
Bronx, Dutchess, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Sullivan, Ulster, Westchester

WAGES

Per Hour:	07/01/2021
Roofer/Waterproofer	$ 45.25
	+ $7.00*

* This portion is not subjected to overtime premiums.

Note: Abatement/Removal of Asbestos containing roofs and roofing material is classified as Roofer.

SUPPLEMENTAL BENEFITS
Per Hour: $ 28.62

OVERTIME PAY
See (B, H) on OVERTIME PAGE
Note: An observed holiday that falls on a Sunday will be observed the following Monday.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
(1) year term

1st	2nd	3rd	4th
$ 15.84	$ 22.63	$ 27.15	$ 33.94
	+ 3.50*	+ 4.20*	+ 5.26*

Supplements:

1st	2nd	3rd	4th
$ 3.72	$ 14.47	$ 17.84	$ 21.55

9-8R

Sheetmetal Worker — 07/01/2021

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 8

ENTIRE COUNTIES
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

	07/01/2021
SheetMetal Worker	$ 44.15
	+ 3.37*

*This portion is not subject to overtime premiums.

SHIFT WORK
For all NYS D.O.T. and other Governmental mandated off-shift work:
10% increase for additional shifts for a minimum of five (5) days

SUPPLEMENTAL BENEFITS
Journeyworker $ 44.20

OVERTIME PAY
OVERTIME:.. See (B, E, Q,) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 16.36 + 1.35*	$ 18.41 + 1.52*	$ 20.46 + 1.69*	$ 22.51 + 1.85*	$ 24.54 + 2.02*	$ 26.60 + 2.19*	$ 29.12 + 2.36*	$ 31.65 + 2.53*

*This portion is not subject to overtime premiums.

Supplemental Benefits per hour:

Apprentices	
1st term	$ 18.96
2nd term	21.34
3rd term	23.71
4th term	26.11
5th term	28.46
6th term	30.82
7th term	32.72
8th term	34.64

8-38

Sheetmetal Worker — 07/01/2021

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 4

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour:	07/01/2021	8/01/2021
Sign Erector	$ 52.29	$ 53.97

NOTE: Structurally Supported Overhead Highway Signs(See STRUCTURAL IRON WORKER CLASS)

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2021	8/01/2021
Sign Erector	$ 51.26	$ 53.15

OVERTIME PAY
See (A, F, S) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
Per Hour:
6 month Terms at the following percentage of Sign Erectors wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
35%	40%	45%	50%	55%	60%	65%	70%	75%	80%

SUPPLEMENTAL BENEFITS
Per Hour:

07/01/2021

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 14.34	$ 16.26	$ 18.17	$ 20.10	$ 28.02	$ 30.47	$ 33.72	$ 36.27	$ 38.77	$ 41.29

8/01/2021

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ TBD	$ TBD	$ TBD	$ TBD	$ TBD	$ TBD	$ TBD	$ TBD	$ TBD	$ TBD

4-137-SE

Sprinkler Fitter — 07/01/2021

JOB DESCRIPTION Sprinkler Fitter **DISTRICT** 1

ENTIRE COUNTIES
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES
Per hour

	07/01/2021
Sprinkler Fitter	$ 47.19

SUPPLEMENTAL BENEFITS
Per hour

Journeyperson	$ 28.09

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES
Wages per hour

One Half Year terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 22.67	$ 25.19	$ 27.46	$ 29.98	$ 32.50	$ 35.02	$ 37.54	$ 40.05	$ 42.57	$ 45.09

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 8.27	$ 8.27	$ 19.22	$ 19.22	$ 19.47	$ 19.47	$ 19.47	$ 19.47	$ 19.47	$ 19.47

1-669.2

Teamster - Building / Heavy&Highway — 07/01/2021

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT** 11

ENTIRE COUNTIES
Dutchess, Orange, Rockland, Sullivan, Ulster

WAGES
GROUP 1: LeTourneau Tractors, Double Barrel Euclids, Athney Wagons and similar equipment (except when hooked to scrapers), I-Beam and Pole Trailers, Tire Trucks, Tractor and Trailers with 5 axles and over, Articulated Back Dumps and Road Oil Distributors, Articulated Water Trucks and Fuel Trucks/Trailers, positions requiring a HAZMAT CDL endorsement.

GROUP 1A: Drivers on detachable Gooseneck Low Bed Trailers rated over 35 tons.

GROUP 2: All equipment 25 yards and up to and including 30 yard bodies and cable Dump Trailers and Powder and Dynamite Trucks.

GROUP 3: All Equipment up to and including 24-yard bodies, Mixer Trucks, Dump Crete Trucks and similar types of equipment, Fuel Trucks, Batch Trucks and all other Tractor Trailers, Hi-Rail Truck.

GROUP 4: Tri-Axles, Ten Wheelers, Grease Trucks, Tillerman, Pattern Trucks, Attenuator Trucks, Water Trucks, Bus.

GROUP 5: Straight Trucks.

GROUP 6: Pick-up Trucks for hauling materials and parts, and Escort Man over-the-road.

WAGES: (per hour)	07/01/2021	05/01/2022	05/01/2023
GROUP 1	$ 33.91	$ 34.28	$ 34.58
GROUP 1A	35.05	35.42	35.72
GROUP 2	33.35	33.72	34.02
GROUP 3	33.13	33.50	33.80
GROUP 4	33.02	33.39	33.69
GROUP 5	32.90	33.27	33.57
GROUP 6	32.90	33.27	33.57

NOTE ADDITIONAL PREMIUMS:
- On projects requiring an irregular shift a premium of 10% will be paid on wages. The premium will be paid for off-shift or irregular shift work when mandated by Governmental Agency.
- Employees engaged in hazardous/toxic waste removal, on a State or Federally designated hazardous/toxic waste site, where the employee comes in contact with hazardous/toxic waste material and when personal protective equipment is required for respiratory, skin, or eye protection, the employee shall receive an additional 20% premium above the hourly wage.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:

First 40 hours	$ 39.90	$ 42.16	$ 44.59
Over 40 hours	32.40	34.46	36.69

OVERTIME PAY

See (*B, E, **E2, ***P, X) on OVERTIME PAGE
*Holidays worked Monday through Friday receive Double Time (2x) after 8 hours.
**Makeup day limited to the employees who were working on the site that week.
***Sunday Holidays are paid at a rate of double time and one half (2.5x) for all hours worked.

HOLIDAY

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (*1) on HOLIDAY PAGE
*See OVERTIME PAY section for when additional premium is applicable on Holiday hours worked.

11-445B/HH

Welder 07/01/2021

JOB DESCRIPTION Welder **DISTRICT** 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2021

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

(AA)	Time and one half of the hourly rate after 7 and one half hours per day
(A)	Time and one half of the hourly rate after 7 hours per day
(B)	Time and one half of the hourly rate after 8 hours per day
(B1)	Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
(B2)	Time and one half of the hourly rate after 40 hours per week
(C)	Double the hourly rate after 7 hours per day
(C1)	Double the hourly rate after 7 and one half hours per day
(D)	Double the hourly rate after 8 hours per day
(D1)	Double the hourly rate after 9 hours per day
(E)	Time and one half of the hourly rate on Saturday
(E1)	Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
(E2)	Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E3)	Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
(E4)	Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E5)	Double time after 8 hours on Saturdays
(F)	Time and one half of the hourly rate on Saturday and Sunday
(G)	Time and one half of the hourly rate on Saturday and Holidays
(H)	Time and one half of the hourly rate on Saturday, Sunday, and Holidays
(I)	Time and one half of the hourly rate on Sunday
(J)	Time and one half of the hourly rate on Sunday and Holidays
(K)	Time and one half of the hourly rate on Holidays
(L)	Double the hourly rate on Saturday
(M)	Double the hourly rate on Saturday and Sunday
(N)	Double the hourly rate on Saturday and Holidays
(O)	Double the hourly rate on Saturday, Sunday, and Holidays
(P)	Double the hourly rate on Sunday
(Q)	Double the hourly rate on Sunday and Holidays
(R)	Double the hourly rate on Holidays
(S)	Two and one half times the hourly rate for Holidays

(S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.

(T) Triple the hourly rate for Holidays

(U) Four times the hourly rate for Holidays

(V) Including benefits at SAME PREMIUM as shown for overtime

(W) Time and one half for benefits on all overtime hours.

(X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

(1)	None
(2)	Labor Day
(3)	Memorial Day and Labor Day
(4)	Memorial Day and July 4th
(5)	Memorial Day, July 4th, and Labor Day
(6)	New Year's, Thanksgiving, and Christmas
(7)	Lincoln's Birthday, Washington's Birthday, and Veterans Day
(8)	Good Friday
(9)	Lincoln's Birthday
(10)	Washington's Birthday
(11)	Columbus Day
(12)	Election Day
(13)	Presidential Election Day
(14)	1/2 Day on Presidential Election Day
(15)	Veterans Day
(16)	Day after Thanksgiving
(17)	July 4th
(18)	1/2 Day before Christmas
(19)	1/2 Day before New Years
(20)	Thanksgiving
(21)	New Year's Day
(22)	Christmas
(23)	Day before Christmas
(24)	Day before New Year's
(25)	Presidents' Day
(26)	Martin Luther King, Jr. Day
(27)	Memorial Day
(28)	Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12240

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone: ( ) Fax: ( )
E-Mail:

2. NY State Units (see Item 5)

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO ☐ check if new or change)
Name and complete address:

Telephone:( ) Fax: ( )
E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

- ☐ New Schedule of Wages and Supplements.
  APPROXIMATE BID DATE :
- ☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: https://applications.labor.ny.gov/EDList/searchPage.do

For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322

NYSDOL Bureau of Public Work Debarment List 06/28/2021

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	NYC	*****9839	A.J.S. PROJECT MANAGEMENT, INC.		149 FIFTH AVENUE NEW YORK NY 10010	12/29/2016	12/29/2021
DOL	DOL	*****4018	ADIRONDACK BUILDING RESTORATION INC.		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	AG	*****1812	ADVANCED BUILDERS & LAND DEVELOPMENT, INC.		400 OSER AVE #2300HAUPPAUGE NY 11788	09/11/2019	09/11/2024
DOL	DOL	*****1687	ADVANCED SAFETY SPRINKLER INC		261 MILL ROAD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	NYC	*****6775	ADVENTURE MASONRY CORP.		1535 RICHMOND AVENUE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	NYC		AGOSTINHO TOME		405 BARRETTO ST BRONX NY 10474	05/31/2018	05/31/2023
DOL	DOL		AJ TORCHIA		10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	DOL		AMADEO J TORCHIA	TORCHIA'S HOME IMPROVEMENT	10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	NYC		AMJAD NAZIR		2366 61ST ST BROOKLYN NY 11204	12/15/2016	12/15/2021
DOL	NYC		AMJED PARVEZ		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		ANITA SALERNO		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	NYC		ANTHONY J SCLAFANI		149 FIFTH AVE NEW YORK NY 10010	12/29/2016	12/29/2021
DOL	DOL		ANTHONY PERGOLA		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10323	01/23/2017	01/23/2022
DOL	DOL		ANTONIO ESTIVEZ		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		ARNOLD A. PAOLINI		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	NYC		ARSHAD MEHMOOD		168-42 88TH AVENUE JAMAICA NY 11432	11/20/2019	11/20/2024
DOL	DOL		ARVINDER ATWAL		65 KENNETH PLACE NEW HYDE PARK NY 11040	07/19/2017	07/19/2022
DOL	NYC	*****6683	ATLAS RESTORATION CORP.		35-12 19TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	NYC	*****5532	ATWAL MECHANICALS, INC		65 KENNETH PLACE NEW HYDE PARK NY 11040	07/19/2017	07/19/2022
DOL	NYC	*****2591	AVI 212 INC.		260 CROPSEY AVENUE APT 11GBROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	NYC		AZIDABEGUM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	NYC		BALWINDER SINGH		421 HUDSON ST SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	NYC	*****8416	BEAM CONSTRUCTION, INC.		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	NYC	*****2113	BHW CONTRACTING, INC.		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL		BIAGIO CANTISANI			06/12/2018	06/12/2023
DOL	DOL	*****4512	BOB BRUNO EXCAVATING, INC		5 MORNINGSIDE DR AUBURN NY 13021	05/28/2019	05/28/2024
DOL	DOL		BOGDAN MARKOVSKI		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL		BRADLEY J SCHUKA		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	DOL	*****8551	BRANDY'S MASONRY		216 WESTBROOK STREET P O BOX 304SAYRE PA 18840	08/09/2016	08/09/2021
DOL	DOL	*****1449	BRRESTORATION NY INC		140 ARCADIA AVENUE OSWEGO NY 13126	09/12/2016	09/12/2021
DOL	DOL		BRUCE P. NASH JR.		5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	*****0225	C&D LAFACE CONSTRUCTION, INC.		8531 OSWEGO RD BALDWINSVILLE NY 13027	02/03/2020	01/09/2023

NYSDOL Bureau of Public Work Debarment List 06/28/2021

Article 8

DOL	DOL	*****8809	C.B.E. CONTRACTING CORPORATION		310 MCGUINESS BLVD GREENPOINT NY 11222	03/07/2017	03/07/2022
DOL	DOL	*****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL	*****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****5161	CALADRI DEVELOPMENT CORP.		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	*****3391	CALI ENTERPRISES, INC.		1223 PARK STREET PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		CALVIN WALTERS		465 EAST THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
DOL	DOL		CANTISANI & ASSOCIATES LTD		442 ARMONK RD MOUNT KISCSO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CANTISANI HOLDING LLC			06/12/2018	06/12/2023
DOL	DOL		CARMEN RACHETTA		8531 OSWEGO RD BALDWINSVILLE NY 13027	02/03/2020	02/03/2025
DOL	DOL		CARMENA RACHETTA		8531 OSWEGO ROAD BALDWINSVILLE NY 13027	02/03/2020	01/09/2023
DOL	DOL	*****3812	CARMODY "2" INC			06/12/2018	06/12/2023
DOL	DOL	*****1143	CARMODY BUILDING CORP	CARMODY CONTRACTIN G AND CARMODY CONTRACTIN G CORP.	442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY CONCRETE CORPORATION			06/12/2018	06/12/2023
DOL	DOL		CARMODY ENTERPRISES, LTD.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY INC		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****3812	CARMODY INDUSTRIES INC			06/12/2018	06/12/2023
DOL	DOL		CARMODY MAINTENANCE CORPORATION		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY MASONRY CORP		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****8809	CBE CONTRACTING CORP		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	AG		CESAR J. AGUDELO		81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	DOL	*****0026	CHANTICLEER CONSTRUCTION LLC		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	DOL		CHARLES ZIMMER JR		216 WESTBROOK STREET P O BOX 304SAYRE PA 18840	08/09/2016	08/09/2021
DOL	DOL		CHRISTOPHER J MAINI		19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		CHRISTOPHER PAPASTEFANOU A/K/A CHRIS PAPASTEFANOU		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	*****1927	CONSTRUCTION PARTS WAREHOUSE, INC.	CPW	5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	*****2524	CSI ELECTRICAL & MECHANICAL INC		42-32 235TH ST DOUGLASTON NY 11363	01/14/2019	01/14/2024
DOL	NYC		DALJIT KAUR BOPARAI		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	DOL		DANICA IVANOSKI		61 WILLETT ST. PASSAIC NJ 07503	10/26/2016	10/26/2021
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	NYC		DAVID WEINER		14 NEW DROP LANE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
DOL	DOL		DEBBIE STURDEVANT		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	AG		DEBRA MARTINEZ		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		DELPHI PAINTING & DECORATING CO INC		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024

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DOL	DOL		DENNIS SCHWANDTNER		C/O YES SERVICE AND REPAI 145 LODGE AVEHUNTINGTON STATION NY 11476	08/09/2016	08/09/2021
DOL	DOL		DF CONTRACTORS OF ROCHESTER, INC.		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DF CONTRACTORS, INC.		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	NYC		DIMITRIOS TSOUMAS		35-12 19TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	DOL		DOMENICO LAFACE		8531 OSWEGO RD BALDWINSVILLE NY 13027	02/03/2020	01/09/2023
DOL	DOL	*****3242	DONALD R. FORSAY	DF LAWN SERVICE	1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DONALD R. FORSAY		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	NYC		DUARTE LOPES		66-05 WOODHAVEN BLVD. STE 2REGO PARK NY 11374	04/20/2017	04/20/2022
DOL	DOL	*****5175	EAGLE MECHANICAL AND GENERAL CONSTRUCTION LLC		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
DOL	DOL		EAST COAST PAVING		2238 BAKER RD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	NYC	*****4269	EAST PORT EXCAVATION & UTILITIES		601 PORTION RD RONKONKOMA NY 11779	11/18/2016	11/18/2021
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	NYC	*****5917	EPOCH ELECTRICAL, INC		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2024
DOL	DOL	*****7403	F & B PAINTING CONTRACTING INC		2 PARKVIEW AVENUE HARRISON NY 10604	09/26/2016	09/26/2021
DOL	DOL		FAIGY LOWINGER		11 MOUNTAIN RD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL		FRANK BENEDETTO		19 CATLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		FRANK BENEDETTO		C/O F & B PAINTING CONTRA 2 PARKVIEW AVENUEHARRISON NY 10604	09/26/2016	09/26/2021
DOL	DOL	*****4722	FRANK BENEDETTO AND CHRISTOPHER J MAINI	B & M CONCRETE	19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	NYC		FRANK MAINI		1766 FRONT ST YORKTOWN HEIGHTS NY 10598	01/17/2018	01/17/2023
DOL	NYC	*****6616	G & G MECHANICAL ENTERPRISES, LLC.		1936 HEMPSTEAD TURNPIKE EAST MEDOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		GABRIEL FRASSETTI			04/10/2019	04/10/2024
DOL	DOL		GEOFF CORLETT		415 FLAGGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GIGI SCHNECKENBURGER		261 MILL RD EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		GIOVANNI LAFACE		8531 OSWEGO RD BALDWINSVILLE NY 13027	02/03/2020	01/09/2023
DOL	NYC	*****3164	GLOBE GATES INC	GLOBAL OVERHEAD DOORS	405 BARRETTO ST BRONX NY 10474	05/31/2018	05/31/2023
DOL	NYC		GREAT ESTATE CONSTRUCTION, INC.		327 STAGG ST BROOKLYN NY 11206	10/10/2017	10/10/2022
DOL	DOL		GREGORY S. OLSON		P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		HANS RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	NYC	*****3228	HEIGHTS ELEVATOR CORP.		1766 FRONT ST YORKTOWN HEIGHTS NY 10598	01/17/2018	01/17/2023
DOL	DOL	*****5131	INTEGRITY MASONRY, INC.	M&R CONCRETE	722 8TH AVE WATERVLIET NY 12189	06/05/2018	06/05/2023
DOL	DOL		IRENE KASELIS		32 PENNINGTON AVE WALDWICK NJ 07463	05/30/2019	05/30/2024
DOL	DOL	*****9211	J. WASE CONSTRUCTION CORP.		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026

DOL	DOL		J.A. HIRES CADWALLADER		P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		JAMES C. DELGIACCO		722 8TH AVE WATERVLIET NY 12189	06/05/2018	06/05/2023
DOL	DOL		JAMES LIACONE		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JAMES RACHEL		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL	*****5368	JCH MASONRY & LANDSCAPING INC.		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	NYC		JENNIFER GUERRERO		1936 HEMPSTEAD TURNPIKE EAST MEADOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		JESSICA WHITESIDE		C/O BRRESTORATION NY INC 140 ARCADIA AVENUEOSWEGO NY 13126	09/12/2016	09/12/2021
DOL	AG		JOHN ANTHONY MASSINO		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JOHN F. CADWALLADER		200 LATTA BROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL	*****4612	JOHN F. CADWALLADER, INC.	THE GLASS COMPANY	P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		JOHN GOCEK		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL		JOHN WASE		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	AG	*****0600	JOHNCO CONTRACTING, INC.		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JON E DEYOUNG		261 MILL RD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		JORI PEDERSEN		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		JOSE CHUCHUCA		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	NYC		JOSEPH FOLEY		66-05 WOODHAVEN BLVD. STE 2REGO PARK NY 11374	04/20/2017	04/20/2022
DOL	DOL	*****9273	JOSEPH M LOVETRO		P O BOX 812 BUFFALO NY 14220	08/09/2016	08/09/2021
DOL	NYC		JOSEPH MARTINO		1535 RICHMOND AVENUE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	DOL		JOY MARTIN		2404 DELAWARE AVE NIGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL	*****5062	K R F SITE DEVELOPMENT INC		375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579	01/23/2017	01/23/2022
DOL	NYC		K.S. CONTRACTING CORP.		29 PHILLIP DRIVE PARSIPPANY NJ 07054	02/13/2017	02/13/2022
DOL	DOL		KARIN MANGIN		796 PHELPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	DOL		KATE E. CONNOR		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KATIE BURDICK		2238 BAKER RD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL	*****2959	KELC DEVELOPMENT, INC		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KENNETH FIORENTINO		375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579	01/23/2017	01/23/2022
DOL	DOL	*****3490	L & M CONSTRUCTION/DRYWALL INC.		1079 YONKERS AVE YONKERS NY 10704	08/07/2018	08/07/2023
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****4505	LARAPINTA ASSOCIATES INC		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	DOL		LAVERN GLAVE		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	06/24/2016	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	06/24/2016	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022

DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	08/14/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	08/14/2017	08/14/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
DOL	DA	*****4460	LONG ISLAND GLASS & STOREFRONTS, LLC		4 MANHASSET TRL RIDGE NY 11961	09/06/2018	09/06/2023
DOL	AG	*****4216	LOTUS-C CORP.		81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	DOL		LOUIS A. CALICCHIA		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		LUBOMIR PETER SVOBODA		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	NYC		M & L STEEL & ORNAMENTAL IRON CORP.		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	DOL		M ANVER BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL		M. ANVER BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL	*****1784	MADISON AVE CONSTRUCTION CORP		39 PENNY STREET WEST ISLIP NY 11795	11/02/2016	11/02/2021
DOL	DOL	*****2196	MAINSTREAM SPECIALTIES, INC.		11 OLD TOWN RD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	NYC		MAREK FABIJANOWSKI		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	NYC		MARTINE ALTER		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	DOL		MARVIN A STURDEVANT		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	DOL		MASONRY CONSTRUCTION, INC.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****3333	MASONRY INDUSTRIES, INC.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	NYC		MATINA KARAGIANNIS		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2023
DOL	DOL		MATTHEW P. KILGORE		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	DOL		MAURICE GAWENO		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****6416	MCCALL MASONRY		P O BOX 304 SAYRE PA 18840	08/09/2016	08/09/2021
DOL	DOL		MCLEAN "MIKKI BEANE"		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MCLEAN "MIKKI" DRAKE		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MCLEAN M DRAKE-BEANE		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	*****9445	MCLEAN M WALSH	ELITE PROFESSIONAL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022

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DOL	DOL	*****9445	MCLEAN M WALSH	ELITE PROFESSIONAL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MICHAEL LENIHAN		1079 YONKERS AVE UNIT 4YONKERS NY 10704	08/07/2018	08/07/2023
DOL	AG		MICHAEL RIGLIETTI		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL	*****4829	MILESTONE ENVIRONMENTAL CORPORATION		704 GINESI DRIVE SUITE 29MORGANVILLE NJ 07751	04/10/2019	04/10/2024
DOL	NYC	*****9926	MILLENNIUM FIRE PROTECTION, LLC		325 W. 38TH STREET SUITE 204NEW YORK NY 10018	11/14/2019	11/14/2024
DOL	NYC	*****0627	MILLENNIUM FIRE SERVICES, LLC		14 NEW DROP LNE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
DOL	NYC	*****3826	MOVING MAVEN OF NY, INC.		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	NYC	*****3550	MOVING MAVEN, INC		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	AG		MSR ELECTRICAL CONSTRUCTION CORP.		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		MUHAMMAD BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL		MUHAMMAD BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	NYC		MUHAMMED A. HASHEM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DA	*****9786	NATIONAL INSULATION & GC CORP		180 MILLER PLACE HICKSVILLE NY 11801	12/12/2018	12/12/2023
DOL	NYC		NICHOLAS FILIPAKIS		7113 FORT HAMILTON PARKWA BROOKLYN NY 11228	12/09/2016	12/09/2021
DOL	DOL	*****7429	NICOLAE I. BARBIR	BESTUCCO CONSTRUCTION, INC.	444 SCHANTZ ROAD ALLENTOWN PA 18104	09/17/2020	09/17/2025
DOL	DOL	*****6966	NORTH COUNTRY DRYWALL AND PAINT		23167 COUNTY ROUTE 59 DEXTER NY 13634	10/24/2016	10/24/2021
DOL	DOL	*****0065	NORTHEAST LANDSCAPE AND MASONRY ASSOC		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL	*****1845	OC ERECTERS, LLC A/K/A OC ERECTERS OF NY INC.		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	NYC	*****0818	ONE TEN RESTORATION, INC.		2366 61ST ST BROOKLYN NY 11204	12/15/2016	12/15/2021
DOL	NYC		PARESH SHAH		29 PHILLIP DRIVE PARSIPPANY NJ 07054	02/13/2017	02/13/2022
DOL	DOL		PAULINE CHAHALES		935 S LAKE BLVD MAHOPAC NY 10541	03/02/2021	03/02/2026
DOL	NYC	*****9422	PELIUM CONSTRUCTION, INC.		22-33 35TH ST. ASTORIA NY 11105	12/30/2016	12/30/2021
DOL	DOL		PETER M PERGOLA		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL		PETER STEVENS		11 OLD TOWN ROAD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DOL		PIERRE LAPORT		224 COUNTY HIGHWAY 138 BROADALBIN NY 12025	03/07/2017	03/07/2022
DOL	DOL	*****1543	PJ LAPORT FLOORING INC		224 COUNTY HIGHWAY 138 BROADALBIN NY 12025	03/07/2017	03/07/2022
DOL	NYC	*****5771	PMJ ELECTRICAL CORP		7113 FORT HAMILTON PARKWA BROOKLYN NY 11228	12/09/2016	12/09/2021
DOL	DOL	*****0466	PRECISION BUILT FENCES, INC.		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	NYC	*****4532	PROFESSIONAL PAVERS CORP.		66-05 WOODHAVEN BLVD. REGO PARK NY 11374	04/20/2017	04/20/2022
DOL	DA	*****6817	QUADRANT METAL BUILDINGS LLC		2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990	08/25/2016	08/25/2021
DOL	NYC		RASHEL CONSTRUCTION CORP		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DOL	*****1068	RATH MECHANICAL CONTRACTORS, INC.		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP		3 PARK CIRCLE MIDDLETOWN NY 10940	01/30/2018	01/30/2023

NYSDOL Bureau of Public Work Debarment List 06/28/2021

Article 8

DOL	AG	*****7015	RCM PAINTING INC.		69-06 GRAND AVENUE 2ND FLOORMASPETH NY 11378	02/07/2018	02/07/2023
DOL	DOL		REGINALD WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DA		RIANN MULLER		2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990	08/25/2016	08/25/2021
DOL	DOL	*****9148	RICH T CONSTRUCTION		107 WILLOW WOOD LANE CAMILLUS NY 13031	11/13/2018	11/13/2023
DOL	DOL		RICHARD MACONE		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL		RICHARD REGGIO		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	DOL	*****9148	RICHARD TIMIAN	RICH T CONSTRUCTION	108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	11/13/2018	11/13/2023
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT A. VALERINO		3841 LANYARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL		ROBERT BRUNO		3 GAYLORD ST AUBURN NY 13021	11/15/2016	11/15/2021
DOL	DOL		ROBERT BRUNO		5 MORNINGSIDE DRIVE AUBURN NY 13021	05/28/2019	05/28/2024
DOL	NYC		ROBERT HOHMAN		149 FIFTH AVE NEW YORK NY 10010	12/29/2016	12/29/2021
DOL	DOL		RODERICK PUGH		404 OAK ST SUITE 101SYRACUSE NY 13203	07/23/2018	07/23/2023
DOL	DOL	*****4880	RODERICK PUGH CONSTRUCTION INC.		404 OAK ST SUITE 101SYRACUSE NY 13203	07/23/2018	07/23/2023
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL		RONALD MESSEN		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL		ROSEANNE CANTISANI			06/12/2018	06/12/2023
DOL	DOL		RYAN ALBIE		21 S HOWELLS POINT ROAD BELLPORT NY 11713	02/21/2017	02/21/2022
DOL	DOL	*****3347	RYAN ALBIE CONTRACTING INC		21 S HOWELLS POINT ROAD BELLPORT NY 11713	02/21/2017	02/21/2022
DOL	DOL	*****1365	S & L PAINTING, INC.		11 MOUNTAIN ROAD P.O BOX 408MONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL	*****7730	S C MARTIN GROUP INC.		2404 DELAWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL		SALVATORE A FRESINA			08/26/2016	08/26/2021
DOL	DOL		SAM FRESINA			08/26/2016	08/26/2021
DOL	NYC	*****0349	SAM WATERPROOFING INC		168-42 88TH AVENUE APT.1 AJAMAICA NY 11432	11/20/2019	11/20/2024
DOL	NYC		SANDEEP BOPARAI		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	DOL	*****9751	SCW CONSTRUCTION		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022
DOL	NYC	*****6597	SHAIRA CONSTRUCTION CORP.		421 HUDSON STREET SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	DOL	*****1961	SHANE BURDICK	CENTRAL TRAFFIC CONTROL, LLC.	2238 BAKER ROAD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE BURDICK		2238 BAKER ROAD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE NOLAN		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		SHULEM LOWINGER		11 MOUNTAIN ROAD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024

DOL	DOL	*****0816	SOLAR ARRAY SOLUTIONS, LLC		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL	*****2221	SOUTH BUFFALO ELECTRIC, INC.		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	*****6844	STEAM PLANT AND CHX SYSTEMS INC.		14B COMMERCIAL AVENUE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL	*****9933	STEED GENERAL CONTRACTORS, INC.		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL		STEFANOS PAPASTEFANOU, JR. A/K/A STEVE PAPASTEFANOU, JR.		256 WEST SADDLE RIVER RD UPPER SADDLE RIVER NJ 07458	05/30/2019	05/30/2024
DOL	DOL	*****9751	STEPHEN C WAGAR		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022
DOL	DOL		STEVE TATE		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	NYC		STEVEN GOVERNALE		601 PORTION RD RONKONKOMA NY 11779	11/18/2016	11/18/2021
DOL	DOL		STEVEN MARTIN		2404 DELWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL		STEVEN TESTA		50 SALEM STREET - BLDG B LYNNFIELD MA 01940	01/23/2017	01/23/2022
DOL	NYC	*****5863	SUKHMANY CONSTRUCTION, INC.		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	DOL	*****1060	SUNN ENTERPRISES GROUP, LLC		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL	*****8209	SYRACUSE SCALES, INC.		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL		TALAILA OCAMPA		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	DOL		TERRY THOMPSON		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
DOL	DOL		TEST		P.O BOX 123 ALBANY NY 12204	05/20/2020	05/20/2025
DOL	DOL	*****6789	TEST1000		P.O BOX 123 ALBANY NY 12044	03/01/2021	03/01/2026
DOL	DOL	*****5570	TESTA CORP		50 SALEM STREET - BLDG B LYNNFIELD MA 01940	01/23/2017	01/23/2022
DOL	DOL	*****5766	THE COKER CORPORATION	COKER CORPORATIO N	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****5766	THE COKER CORPORATION	COKER CORPORATIO N	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL	*****3453	TORCHIA'S HOME IMPROVEMENT		10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	DOL	*****8311	TRIPLE B FABRICATING, INC.		61 WILLETT ST. PASSAIC NJ 07503	10/26/2016	10/26/2021
DOL	DOL	*****6392	V.M.K CORP.		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL	*****6418	VALHALLA CONSTRUCTION, LLC.		796 PHLEPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	NYC	*****7361	VIABLE HOLDINGS, INC.	MOVING MAVEN	1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	DOL		VICTOR ALICANTI		42-32 235TH ST DOUGLASTON NY 11363	01/14/2019	01/14/2024
DOL	NYC		VIKTAR PATONICH		2630 CROPSEY AVE BROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	DOL		VIKTORIA RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	NYC		VITO GARGANO		1535 RICHMOND AVE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	NYC	*****3673	WALTERS AND WALTERS, INC.		465 EAST AND THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
DOL	DOL		WAYNE LIVINGSTON JR	NORTH COUNTRY DRYWALL AND PAINT	23167 COUNTY ROUTE 59 DEXTER NY 13634	10/24/2016	10/24/2021
DOL	DOL	*****3296	WESTERN NEW YORK CONTRACTORS, INC.		3841 LAYNARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL		WHITE PLAINS CARPENTRY CORP		442 ARMONK RD	06/12/2018	06/12/2023
DOL	DOL		WILLIAM C WATKINS		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022

NYSDOL Bureau of Public Work Debarment List 06/28/2021

Article 8

DOL	DOL		WILLIAM DEAK		C/O MADISON AVE CONSTR CO 39 PENNY STREETWEST ISLIP NY 11795	11/02/2016	11/02/2021
DOL	DOL	*****4043	WINDSHIELD INSTALLATION NETWORK, INC.		200 LATTA BROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL	*****4730	XGD SYSTEMS, LLC	TDI GOLF	415 GLAGE AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL	*****7345	YES SERVICE AND REPAIRS CORPORATION		145 LODGE AVE HUNTINGTON STATION NY 11476	08/09/2016	08/09/2021
DOL	NYC		ZAKIR NASEEM		30 MEADOW ST BROOKLYN NY 11206	10/10/2017	10/10/2022
DOL	NYC	*****8277	ZHN CONTRACTING CORP		30 MEADOW ST BROOKLYN NY 11206	10/10/2017	10/10/2022

APPENDIX L

PROCUREMENT SCHEDULE

In accordance with Section III (a) hereof, the following sets forth the procurement schedule for this RFP:

Activity	**Date**
Issue RFP	July 30, 2021
Mandatory Meeting & Site Visit*****	August 9, 2021 (10:00 a.m.) or August 11, 2021 (10:00 a.m.)
Last date for submission of questions concerning the RFP	August 20, 2021
Latest date Rockland Green will provide responses to questions concerning the RFP	August 26, 2021
Proposal Submission Date	September 13, 2021
Proposal Evaluation Period	September 14, 2021- September 22, 2021
Contract Award	September 30, 2021

***** As noted in Section III (b) hereof, attendance at one of the two pre-proposal meetings and Site visit is mandatory for any entity wishing to submit a Proposal. A failure to attend one of the two offered pre-proposal meetings and Site visits may preclude a company from proposing on the Contract. Any and all are welcome to attend the mandatory pre-proposal meeting and Site visit at the MRF located at 420 Torne Valley Road, Hillburn, NY.

In the event a qualified representative of the Proposer is unable to attend the mandatory pre-proposal meeting and Site visit, it may submit to Rockland Green for its consideration documentation supporting the reason for missing the pre-proposal meeting and Site visit.

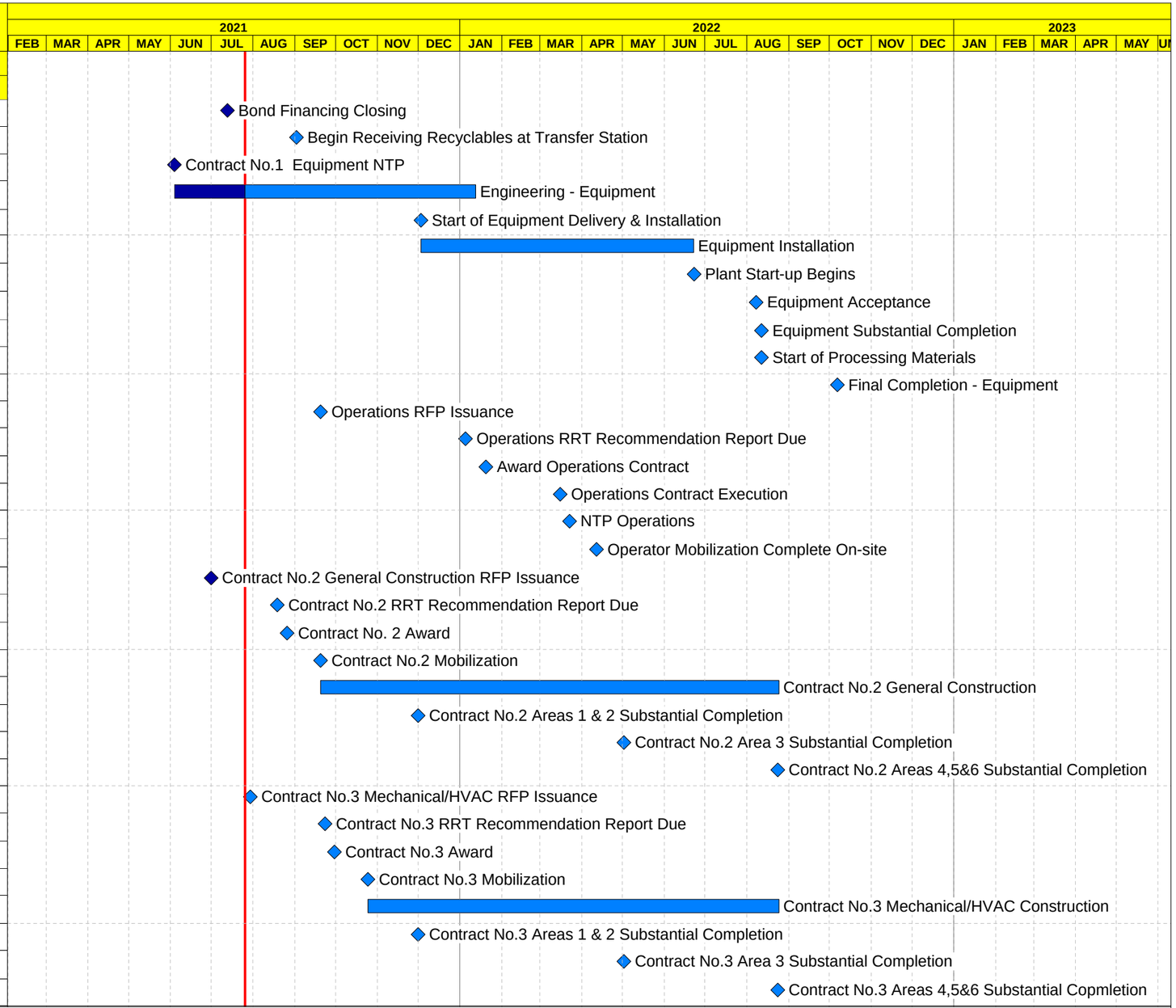
For planning purposes, each potential Proposer must notify Dee Louis, Engineer II at dlouis@rocklandgreen.com in writing three (3) days prior to the mandatory pre-proposal meeting and Site visit it elects to attend to indicate the total number of individuals representing such potential Proposer that will be in attendance at that pre-proposal meeting and Site visit.

Any individuals representing the Proposer at the pre-proposal meeting and Site Visit must be employees or principals of the Proposer. (A Proposer may not use a surrogate as its representative at the Pre-Proposal Meeting and Site Visit.)

APPENDIX M

PROJECT SCHEDULE

Activity ID	Description	Rem Dur	Early Start	Early Finish
MILESTONES				
0010	Bond Financing Closing	0	13JUL21 A	
0020	Begin Receiving Recyclables at Transfer Station	0	02SEP21	
0030	Contract No.1 Equipment NTP	0	04JUN21 A	
0040	Engineering - Equipment	117	04JUN21 A	12JAN22
0050	Start of Equipment Delivery & Installation	0	03DEC21	
0060	Equipment Installation	140	03DEC21	22JUN22
0070	Plant Start-up Begins	0	23JUN22	
0080	Equipment Acceptance	0	08AUG22	
0090	Equipment Substantial Completion	0	12AUG22	
0100	Start of Processing Materials	0	12AUG22	
0110	Final Completion - Equipment	0	07OCT22	
0120	Operations RFP Issuance	0	20SEP21	
0125	Operations RRT Recommendation Report Due	0	05JAN22	
0130	Award Operations Contract	0	20JAN22	
0140	Operations Contract Execution	0	16MAR22	
0145	NTP Operations	0	23MAR22	
0150	Operator Mobilization Complete On-site	0	12APR22	
0160	Contract No.2 General Construction RFP Issuance	0	01JUL21 A	
0165	Contract No.2 RRT Recommendation Report Due	0	19AUG21	
0170	Contract No. 2 Award	0	26AUG21	
0180	Contract No.2 Mobilization	0	20SEP21	
0190	Contract No.2 General Construction	235	20SEP21	24AUG22
0200	Contract No.2 Areas 1 & 2 Substantial Completion	0	01DEC21	
0210	Contract No.2 Area 3 Substantial Completion	0	02MAY22	
0220	Contract No.2 Areas 4,5&6 Substantial Completion	0	24AUG22	
0230	Contract No.3 Mechanical/HVAC RFP Issuance	0	30JUL21	
0235	Contract No.3 RRT Recommendation Report Due	0	23SEP21	
0240	Contract No.3 Award	0	30SEP21	
0250	Contract No.3 Mobilization	0	25OCT21	
0260	Contract No.3 Mechanical/HVAC Construction	211	25OCT21	24AUG22
0270	Contract No.3 Areas 1 & 2 Substantial Completion	0	01DEC21	
0280	Contract No.3 Area 3 Substantial Completion	0	02MAY22	
0290	Contract No.3 Areas 4,5&6 Substantial Copmletion	0	24AUG22	



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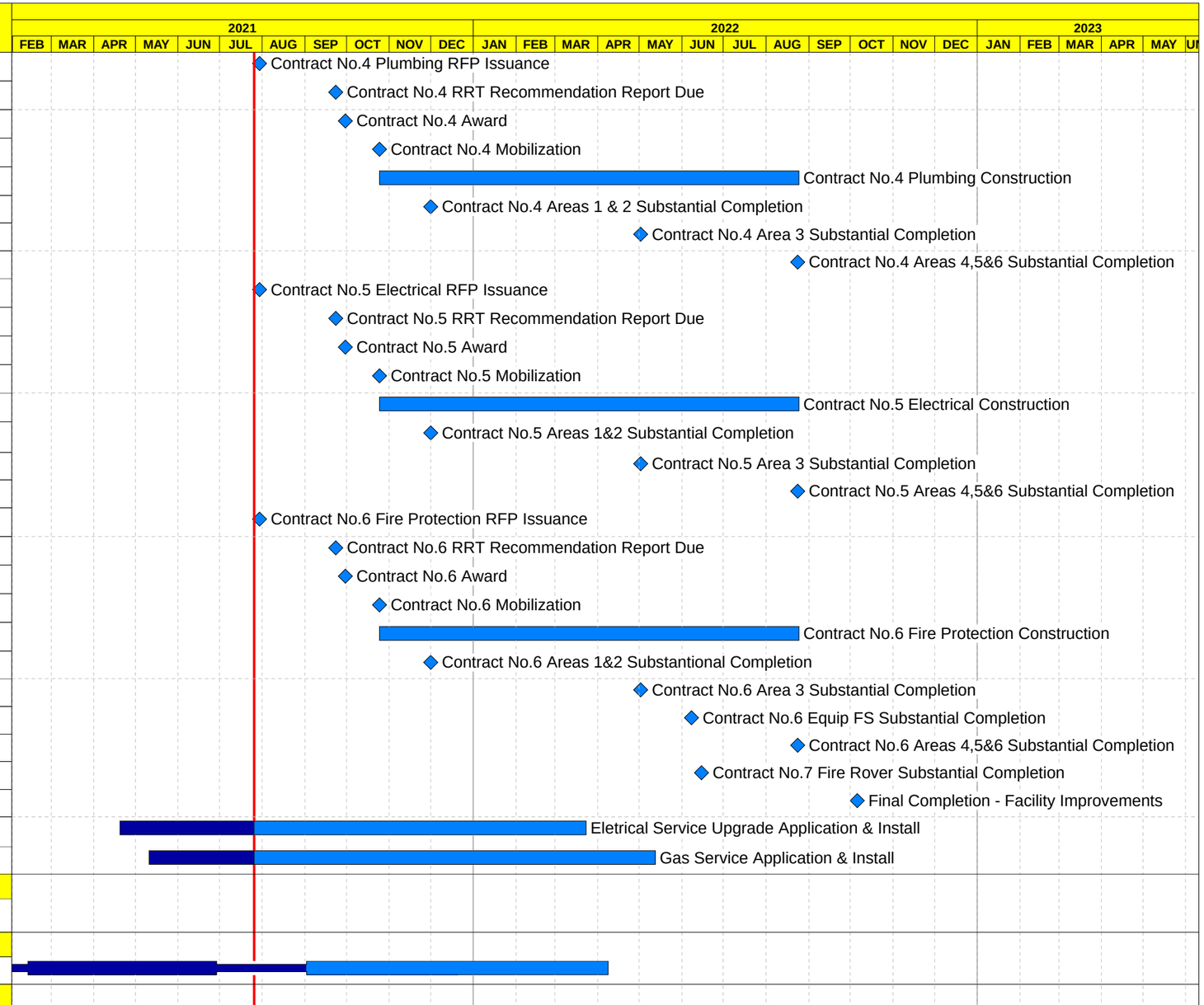
- Summary point
- Start milestone point
- Finish milestone point

ROCKLAND COUNTY SOLID WASTE MANAGEMENT AUTHORITY
MATERIALS RECOVERY FACILITY
SUMMARY SCHEDULE

Start date	03JAN20
Finish date	06OCT22
Data date	26JUL21
Run date	27JUL21
Page number	1A
Number/Version	1

Activity ID	Description	Rem Dur	Early Start	Early Finish
0300	Contract No.4 Plumbing RFP Issuance	0	30JUL21	
0305	Contract No.4 RRT Recommendation Report Due	0	23SEP21	
0310	Contract No.4 Award	0	30SEP21	
0320	Contract No.4 Mobilization	0	25OCT21	
0330	Contract No.4 Plumbing Construction	211	25OCT21	24AUG22
0340	Contract No.4 Areas 1 & 2 Substantial Completion	0	01DEC21	
0350	Contract No.4 Area 3 Substantial Completion	0	02MAY22	
0360	Contract No.4 Areas 4,5&6 Substantial Completion	0	24AUG22	
0370	Contract No.5 Electrical RFP Issuance	0	30JUL21	
0375	Contract No.5 RRT Recommendation Report Due	0	23SEP21	
0380	Contract No.5 Award	0	30SEP21	
0390	Contract No.5 Mobilization	0	25OCT21	
0400	Contract No.5 Electrical Construction	211	25OCT21	24AUG22
0410	Contract No.5 Areas 1&2 Substantial Completion	0	01DEC21	
0420	Contract No.5 Area 3 Substantial Completion	0	02MAY22	
0430	Contract No.5 Areas 4,5&6 Substantial Completion	0	24AUG22	
0440	Contract No.6 Fire Protection RFP Issuance	0	30JUL21	
0445	Contract No.6 RRT Recommendation Report Due	0	23SEP21	
0450	Contract No.6 Award	0	30SEP21	
0460	Contract No.6 Mobilization	0	25OCT21	
0470	Contract No.6 Fire Protection Construction	211	25OCT21	24AUG22
0480	Contract No.6 Areas 1&2 Substantional Completion	0	01DEC21	
0490	Contract No.6 Area 3 Substantial Completion	0	02MAY22	
0500	Contract No.6 Equip FS Substantial Completion	0	08JUN22	
0510	Contract No.6 Areas 4,5&6 Substantial Completion	0	24AUG22	
0520	Contract No.7 Fire Rover Substantial Completion	0	15JUN22	
0530	Final Completion - Facility Improvements	0	06OCT22	
0540	Eletrical Service Upgrade Application & Install	166	20APR21 A	23MAR22
0550	Gas Service Application & Install	202	11MAY21 A	12MAY22
+DEMOLITION AND RELATED WORK				
		0	03JAN20 A	29JUL20 A
+TRANSFER STATION MODIFICATION & OPERATION				
		150	30SEP20 A	08APR22
+CONTRACT NO.1 DESIGN-BUILD EQUIPMENT				



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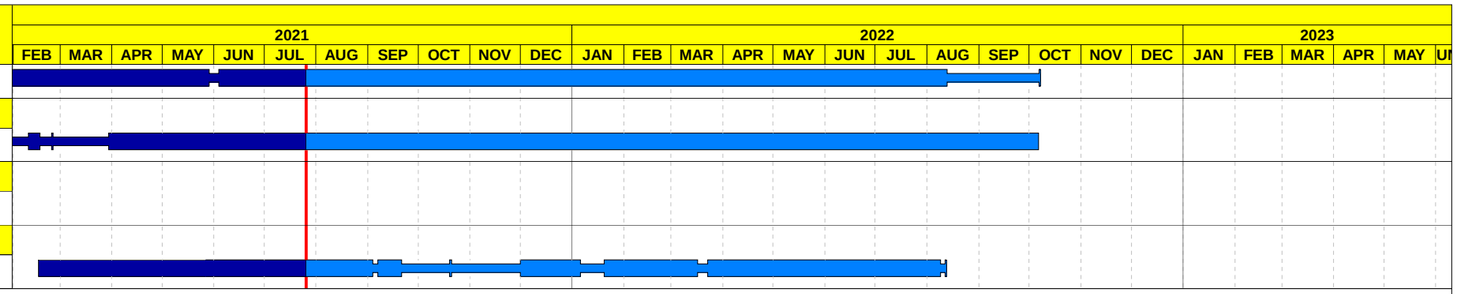
- Summary point
- Start milestone point
- Finish milestone point

ROCKLAND COUNTY SOLID WASTE MANAGEMENT AUTHORITY
MATERIALS RECOVERY FACILITY
SUMMARY SCHEDULE

Start date	03JAN20
Finish date	06OCT22
Data date	26JUL21
Run date	27JUL21
Page number	2A
Number/Version	1

Activity ID	Description	Rem Dur	Early Start	Early Finish
		304	20JAN20 A	07OCT22
+FACILITY IMPROVEMENTS				
		304	23NOV20 A	06OCT22
+OPERATIONS RFEI				
		0	01JUL20 A	29SEP20 A
+OPERATIONS PROCUREMENT				
		265	16FEB21 A	12AUG22



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ROCKLAND COUNTY SOLID WASTE MANAGEMENT AUTHORITY
MATERIALS RECOVERY FACILITY
SUMMARY SCHEDULE

Start date	03JAN20
Finish date	06OCT22
Data date	26JUL21
Run date	27JUL21
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APPENDIX N

CONTRACT

[*to be issued by addendum*]

APPENDIX O

STATEMENT OF WORK

Area Designations

Area 1	Existing Tipping Area
Area 2	Existing Processing Area
Area 3	Existing Administration Area
Area 4	New Commingled Tipping Area
Area 5	New Storage & Glass Processing Area
Area 6	New Truck Dock Area

Contract No. 2: Facility Improvements – General Construction (Not In Contract)

Scope of Work will include, but is not limited to:

- Civil/Site work associated with the entire site, including but not limited to:
  - Clear, strip and soil erosion control
  - Rough grade
  - Site demolition
  - Excavation
  - Grading and drainage
  - Northwest concrete curb revisions to allow for additional paved turning area
  - Water line relocation
  - Fire water service connection to Area 5
  - Paving and fencing
  - Retaining wall
  - Landscaping/Hardscaping
  - Storm water improvements
  - Traffic signage and stripping
- Architectural work associated with all areas, including but not limited to:
  - Interior demolition and buildout in Area 3, including office structure/layout modifications, mill work, doors & hardware, finishes and modifications of one (1) window
  - Pre-Engineered Metal Building (Areas 4-6)
  - Loading dock equipment with accessories in Area 6
  - Overhead doors and personnel doors
  - Roof interface work
  - Roof and insulation repair for Areas 1 and 2
  - Roof replacement for Area 3
  - Cleaning associated with Area 1 and 2
  - Fire service room in Area 5
  - Building grounding for Areas 4-6
- Structural work associated with all areas, including but not limited to:

  - Interior demolition and buildout in Areas 1 and 2, including demolition and modifications of concrete pushwalls, environmental wall, guardrails, building wall panel and/or steel framing
  - Fill existing pits
  - Excavate and construct pits associated with the processing equipment
  - Loading dock pits
  - Overhead and personnel doors framing for all areas
  - Foundations
  - Concrete Bunkers
  - Concrete pads for Fire Rover system and proposed switchboard
  - Pushwall and environmental wall
  - Column and building reinforcing and brace relocations in Area 1 and 2
  - MEP/F roof reinforcements
- Miscellaneous work associated with all areas, including but not limited to:
  - Floor damage repair
  - Bollards
  - Area 3 structural modifications required for the installation of an air compressor system.

Contract No. 3: Facility Improvements – Mechanical/HVAC (Not In Contract)

Scope of Work will include, but is not limited to:

- Mechanical/HVAC work associated with all areas, including but not limited to:
  - Exhaust fans in all areas.
  - Gas fired and infrared heating for Area 2 and 5
  - Gas fired rooftop unit and associated ductwork to equipment sort rooms in Area 2
  - Gas fired rooftop unit and vav system for Area 3.
  - Dedicated cooling for Area 3 IT closet
  - Heating, and ventilation associated with the air compressor system
  - Louvers associated with the air compressor system
  - Controls associated with all mechanical equipment
  - Combustion air intake and venting for gas fired water heater.

Contract No. 4: Facility Improvements – Plumbing

Scope of Work will include, but is not limited to:

- Plumbing work associated with all Areas, including but not limited to:
  - Sump drain for baler in Area 2
  - Floor drain for the compressor room in Area 3
  - Water, sanitary, and vent piping to Area 2 emergency shower and eye wash.
  - Water, sanitary, and vent piping to all Area 3 plumbing fixtures
  - Water heater for Area 3
- Gas distribution piping and connections after the gas meter in all areas

Contract No. 5: Facility Improvements – Electrical (Not In Contract)

Scope of Work will include, but not limited to:

- Electrical service upgrade, transformer and distribution equipment

- Electrical work associated with all Areas, including but not limited to:
    - Grounding
    - All overhead power drops in Areas 1, 2 and 5 to processing equipment
    - Area 3 electrical
    - Power and wiring associated with all OH doors, mechanical equipment, dock equipment, exit lights, emergency lights, fire protection equipment
    - IT/Communications wiring
    - Processing Equipment IT requirements
    - Fire Rover electrical and IT requirements
    - Security Camera system IT requirements
    - Sleeves for operator phone and internet.

Contract No. 6: Facility Improvements – Fire Protection Systems (Not In Contract)

Scope of Work will include, but is not limited to:

- Fire alarm system for all areas.
- Fire alarm control panel located in Area 3
- Fire sprinkler work associated with all areas, including fire sprinklers under equipment platforms
- Backflow prevention application for Area 5 fire water service

Work by Others / N.I.C (Not In Contract)

- Processing equipment supply and installation
- Furniture, office and vending equipment in Area 3
- Gas service line, meter and connections before the gas meter
- Removal of existing oil tank on-site
- Removal of existing fabric shed and propane tank on-site