



CITY OF ORANGE HISTORIC PRESERVATION COMMISSION

ORANGE CITY HALL

29 North Day Street, Orange, New Jersey 07050

PHONE (973) 952- 6344 FAX (973) 672-6643

**CITY OF ORANGE PRESERVATION COMMISSION
APPLICATION FOR CERTIFICATION OF APPROPRIATENESS**

DATE RECEIVED _____

APPLICATION # _____

APPLICANT(S):

Name of Applicant(s): MOMENTUM SOLAR

Address: 325 HIGH STREET METUCHEN NJ 08840 Email: PERMITS@MOMENTUMSOLAR.COM

Telephone (Day) 732-366-1854 (Eve) _____ (Fax) 848-291-9798

Relationship of Applicant to Property owner:

Owner(s) Lessee Property Under Contract Other (Specify)

Explanation if Other: _____

OWNER(S), IF DIFFERENT THAN APPLICANT:

Name(s) of Owner(s): ZACARIAS MORENO

Address: 177 Reynolds St Email: zacarias80968@gmail.com

Telephone Number: (Day) (917) 640-2723 (Eve) _____

Street Address of the Property that is subject of Application: _____

177 Reynolds St

Tax Block: 4302 Lot: 21

Name of Historic District in which Property lies: _____

Orange Valley Montrose Seven Oaks Park Main Street St. John's

Existing use of the Property:

2 FAMILY RESIDENTIAL

Existing zoning of the Property:

Describe in detail the proposed work to be done at the Property.

ROOFTOP SOLAR INSTALLATION

Explain how you plan to prevent, minimize and mitigate any adverse effects to this Property, to nearby historically significant properties, and to the Historic District?

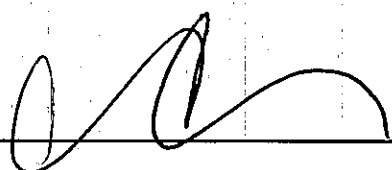
ROOF OF HOME IS FLAT THEREFORE PANELS WILL NOT BE SEEN BY PUBLIC

Each Application must be accompanied by sketches, drawings, photographs, descriptions or other information sufficient to show the proposed alterations, additions, changes or new construction. The Commission may require the subsequent submission of such additional materials as it reasonably requires to make an informed decision. A submission shall include:

- A photograph of each elevation of the structure.
- Fifteen (15) copies of drawings, photographs, material brochures, samples, specifications or information that may be necessary to assist the Commission. Copies may be submitted electronically, or by CD or flash drive.
- Fifteen (15) copies of a survey, or if applicable, a site plan showing the location of new and existing structures on the site and their location with respect to the building line, property line, and the front of those buildings or structures immediately adjacent to each side of the lot to be built upon.
- Fifteen (15) copies of façade elevation(s), if applicable, of the proposed work in sufficient detail to identify the limits and location of the proposed work, and existing and proposed materials to be used.
- \$70.00 Application fee (check or money order made to the City of Orange).

By signing this Application, I hereby certify that the owner of record authorizes the proposed work and I have been authorized by the owner to make this Application as his/her authorized agent. By signing this Application, the owner hereby grants authorization to the Commission members, and its professional and support staff to enter the Property in question for inspection purposes. By signing this application I further agree that the attorney's and professional staff's review of my application is chargeable to me and that I agree to pay for such review separately from the application fee, by depositing an escrow payment of \$ _____.

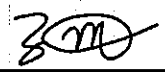
Signature of Applicant(s) _____



(Print Name) ALEXA CATALANO WITH MOMENTUM SOLAR

Date 4/22/2024

Signature of Owner(s) (if different than Applicant) _____



(Print Name) ZACARIAS MORENO

Date 4/22/2024

Submittal of this Application form-properly signed, with the indicated copies of documents and the Application fee will constitute a complete Application. Upon receipt of a complete Application, the Board Secretary will schedule the Application with the Commission. The Applicant delays his/her own Application if all of these required items are not submitted. The Commission shall reach a decision on the Application within forty-five (45) days of submission of a complete Application. The Applicant must appear in front of the Commission in order to present the Application during the public hearing on the scheduled date.

Telephone: 7523 441884 Fax: 848 291 7798 Website: _____

Michael S. Rezk

Engineer-PE

Pro Custom Solar LLC
3096B Hamilton Blvd
South Plainfield, NJ 07080

732-902-6224
April 12, 2024

Re: Proposed Photovoltaic Solar Panel Installation

Zacarias Moreno
177 REYNOLDS ST
ORANGE, NJ 07050

Dear Plan Reviewer:

Certification: I have reviewed the engineering testing reports for the racking and attachments to be used on this project and I certify that the products are capable of supporting the code required loads and are suitable for this installation when installed in strict compliance with the manufacturers printed instructions.

Regarding the solar panel array installation on the above referenced project please note that an inspection was performed by a representative of the Architect/Engineer of Record, and analysis of the existing structure was conducted. There is adequate structural capacity for the installation of the array with the following recommendations:

1. The array will be installed on the existing roof. The roof framing is constructed of 2"x10" wood rafters @16" o.c. spanning 13' 1" with 1/2" plywood sheathing. The new array (See Site map by contractor) will add 2.63 Lb. / Sf. overall to the roof. The existing structure is sufficient to support the new loads associated with the additional weight & wind resistance. No additional structural support is required for the roof structure.

2. The attachment system shall be secured to the roof and shall be in strict compliance with manufacturers printed instructions. The attachment system shall be UL 1703 approved tested. Provide water tight sealant at all penetrations. Attachments shall follow panel rows as specified by the system manufacturer's installation manual. The panel angle shall match the roof slope. Reference summary table below:

Roof Type:	Low Slope	Fastener Max Spacing (in.)		
		Wind Zone 1	Wind Zone 2	Wind Zone 3
Attachment System:	"UNIRAC SM"			
Fastener Info:	min. 5/16" x 4" long stainless-steel lags with a min. embedment of 3" into the rafters	80	72	72

3. Solar Modules shall be UL-1703 rated. Refer to manufacturers specifications sheets.

4. Positive drainage of the system shall be so as not to void the existing roof warranty.

5. All aspects of the installation shall comply with NJUCC, ASCE 7-16, IBC NJ 2021, NEC 2020(NFPA-70), NJ 2021. Please review the attached certifications prepared by the manufacturer.

6. Please refer to the attached structural calculations.

If you have any questions relating to this matter, please contact me at your earliest convenience. Thank you.

Michael S. Rezk, P.E.
NJ. Lic. No. GE56261



RECEIVED
ORANGE CITY CLERK'S OFFICE
2024 MAY 1 P 2:02

Michael S. Rezk

Engineer-PE

Pro Custom Solar LLC
3096B Hamilton Blvd
South Plainfield, NJ 07080

732-902-6224
April 12, 2024

Gravity Load Calculation Criteria

Structural Design Loads per ASCE 7-16

Dead Loads = 10 psf + 2.6 psf (new solar panels) = 12.6 psf

Roof Live Load = 20 psf

Ground Snow Load/Live Load = 25 psf

Wind Load Calculation Criteria

Wind Loads per ASCE 7-16, Ch. 30.4

Design wind pressure determined by Eq. 29.4-7:

Zone 1 = -19.7 psf

Roof Slope = 1 degrees

Roof Mean Height = 15 ft

Zone 2 = -26.5 psf

Basic Wind Speed = 115 mph

Zone 3 = -35.7 psf

Exposure = B

Per section 2.4.1, ASD combo = $D + 0.6W$:

Zone 1 = $2.6 \text{ psf} + 0.6(-19.7 \text{ psf}) = -9.2 \text{ psf}$

Zone 2 = $2.6 \text{ psf} + 0.6(-26.5 \text{ psf}) = -13.3 \text{ psf}$

Zone 3 = $2.6 \text{ psf} + 0.6(-35.7 \text{ psf}) = -18.8 \text{ psf}$

Check Attachment to Wood Rafter

Use 5/16 dia. Lag screw w/ 3" embedment into 2 in. wide roof rafter

Lag Screw Spacing:

Lag Screw Tributary Area:

Zone 1 = 80" o.c. max

Zone 1 = $(80" \text{ o.c. max})^2 / 144 = 44.44 \text{ SF}$

Zone 2 = 72" o.c. max

Zone 2 = $(72" \text{ o.c. max})^2 / 144 = 36 \text{ SF}$

Zone 3 = 72" o.c. max

Zone 3 = $(72" \text{ o.c. max})^2 / 144 = 36 \text{ SF}$

Lag Screw Forces:

Zone 1 = $9.2 \text{ psf} \times 44.44 \text{ SF} = 409 \text{ lb} < W'$, OK

Zone 2 = $13.3 \text{ psf} \times 36 \text{ SF} = 479 \text{ lb} < W'$, OK

Zone 3 = $18.8 \text{ psf} \times 36 \text{ SF} = 677 \text{ lb} < W'$, OK

$W = 266 \text{ lb/in}$ (Table 12.2A, 2015 NDS)

$C_d = 1.6$ (Table 2.3.2, 2015 NDS)

$C_t = 1$ (Table 2.3.3, 2015 NDS)

$W' = W \times \text{embed} \times C_d \times C_t$

$W' = 266 \text{ lb/in} \times 3 \text{ in.} \times 1.6 \times 1 = 1276.8 \text{ lb}$

201720

THIS IS YOUR RECEIPT

DATE 5/1/2024

AMOUNT \$100

MOMENTUM SERVICES
100.117 Pymonts Street

Historic Preservation

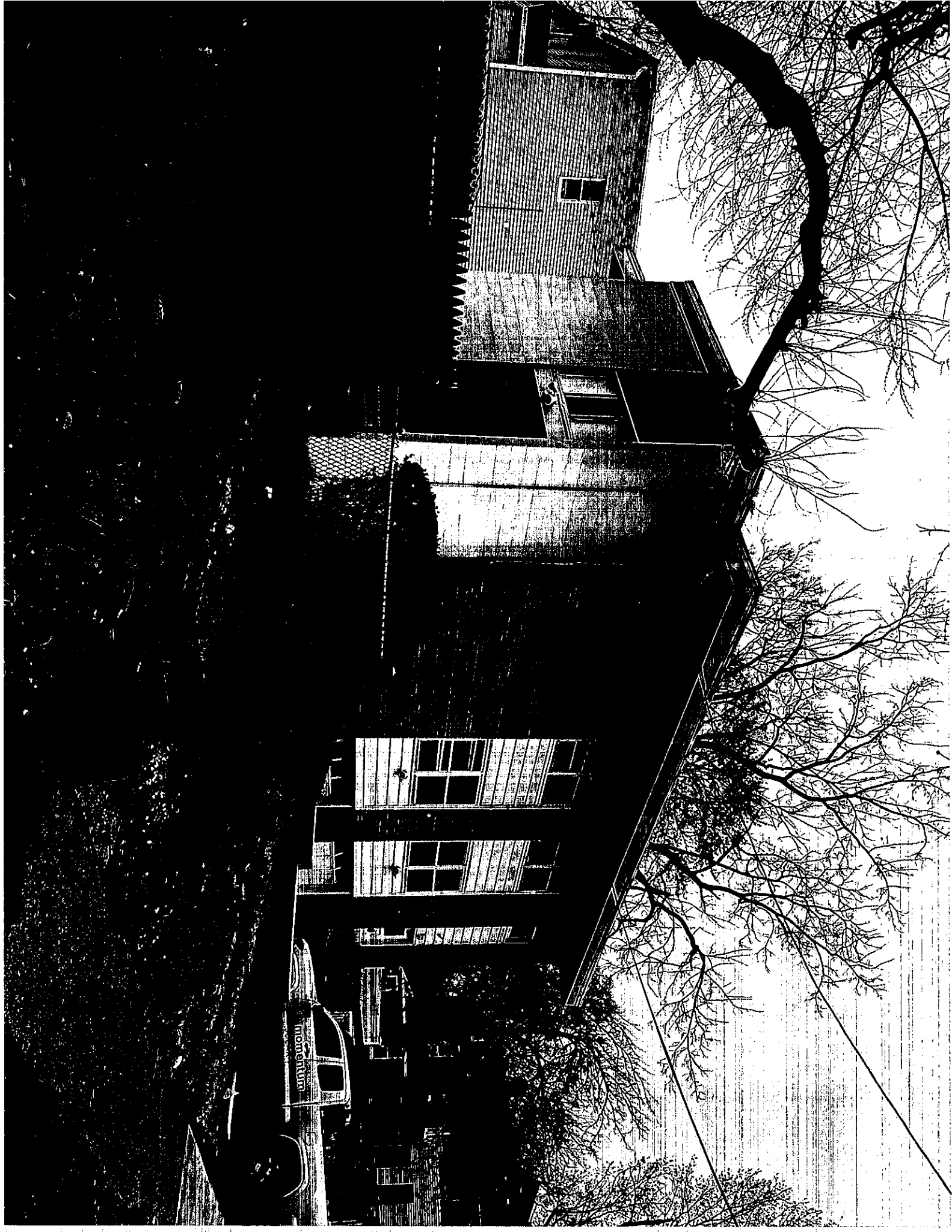
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CLARK'S OFFICE
Gabrielle Sims-Neale

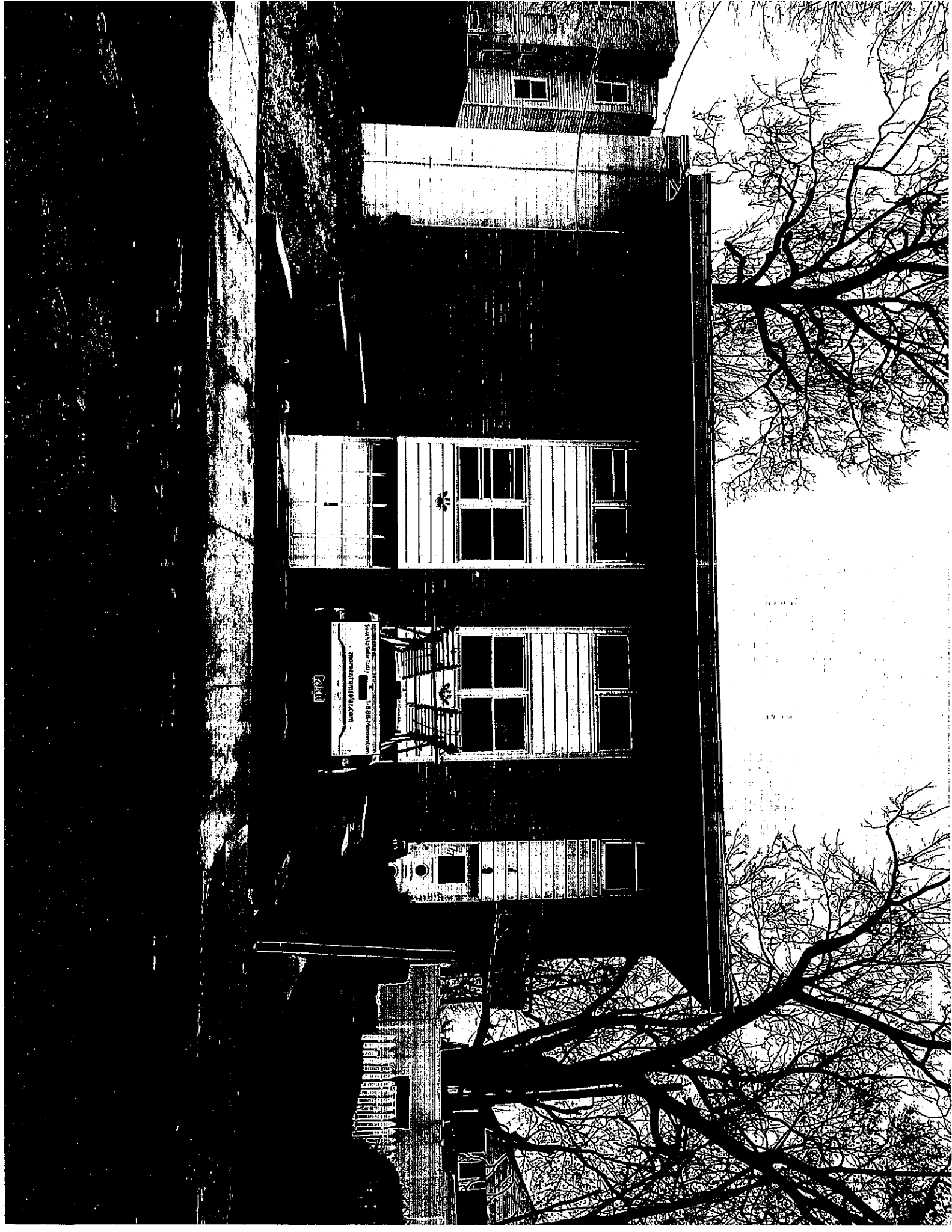
RECEIVED
MAY 01 2024
BY: *[Signature]*

610.1113

Treasurer's Miscellaneous Receipt
City of Orange Township, New Jersey







menestunni.fi.com
1-888-HomeNet