

BLOCK 548 LOT 21 QUALIFICATION CODE _____ ADDRESS (SITE) 43 Drum Point Rd, PERMIT NO. 16-2044



CONSTRUCTION PERMIT APPLICATION

Applicant Completes: Sections I, II, III (optional), IV, VI, and VII

I. IDENTIFICATION

1. Proposed Work Site at: 43 Drum Point Road, Brick, NJ 08724

2. Name of Owner in Fee: Brick Board of Education
 Tel. (732) 785-3000 e-mail _____
 Address 101 Hendrickson Ave, Brick, NJ 08724
 street municipality zip code

3. Ownership in Fee: Public ☒ Private _____

4. Principal Contractor: Altec Building Systems Tel. (732) 903-6264
 Address 904 Atlantic Ave, Pt. Pleasant, NJ 08742 e-mail info@altecbuilding.com
 License No. OR, if new home, Builder Reg. No. 13VH04948600 Exp. Date 3/31/17
 Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____
 Federal Emp. ID No. 223292289 FAX: (732) 903-6298

5. Architect or Engineer: Stantec Contact David Farnas
 Address 1971 Route 34 Wall NJ 07719 e-mail _____
 Tel. (732) 449-0099 FAX: () _____

6. Responsible Person in Charge once Work has Begun Bob Smith
 Tel. (732) 609-1187 FAX: (732) 903-6298

V. FEE SUMMARY (for office use only)

	Update	Update
1. Building	\$	
2. Electrical	\$	
3. Plumbing	\$	
4. Fire Protection	\$	
5. Elevator Devices	\$	
6. Subtotal	\$	
7. Less 20% for State Plan Review	\$	
8. Subtotal	\$	
9. State Permit Surcharge Fee	\$	
10. Subtotal	\$	
11. Cert. of Occupancy	\$	
12. Other	\$	
13. TOTAL	\$	

VI. BUILDING/SITE CHARACTERISTICS

1. Number of Stories	<u>251.16 kw</u>	(office use only)
2. Height of Structure	_____ ft.	
3. Area — Largest Floor	_____ sq. ft.	
4. New Building Area	_____ sq. ft.	
5. Volume of New Structure	_____ cu. ft.	
6. Max. Live Load	_____	
7. Max. Occupancy Load	_____	
8. If Industrialized Building: State Approved _____ HUD _____		
9. Total Land Area Disturbed	_____ sq. ft.	
10. Flood Hazard Zone	_____	
11. Base Flood Elevation	_____ ft.	
12. Wetlands yes _____ no _____		

IIa. PROPOSED WORK

☐ Minor Work ☐ New Building ☐ Addition ☐ Demolition

☐ Repair ☐ Alteration ☐ Renovation ☐ Reconstruction

☐ Asbestos Abat. -Subch. ☐ Lead Hazard Abatement ☐ Radon Remediation ☐ Annual Permit

IIb. SUBCODES (Check all that apply)

	Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Rejection	Re-viewer
☒ Building	<u>4000</u>				<u>06/18/16</u>	<u>KEK</u>			
☒ Electrical	<u>209,486</u>			<u>1</u>	<u>6/11/16</u>	<u>PJE</u>			
☐ Plumbing									
☐ Fire Protection									
☐ Elevator									
TOTAL COST	<u>Eng</u>	<u>Exempt</u>	<u>5/25/16</u>	<u>6/11/16</u>	<u>6/11/16</u>	<u>6/11/16</u>			

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL (primary use)

1. State Specific Use: _____

2. Use Group, Proposed: _____

3. Change in Use Group, Indicate Present: _____

4. No. of dwelling units: Total Units Income restricted

Gained, Sale _____
 Gained, Rental _____
 Lost, Sale _____
 Lost, Rental _____

B. NON-RESIDENTIAL (primary use)

1. State Specific Use: _____

2. Use Group, Proposed: _____

3. Change in Use Group, Indicate Present: E

C. MIXED USE -List secondary use(s): _____

D. Construct. Classification: Present _____ Proposed _____

III. PLAN REVIEW (optional)

DO YOU WANT:

1. ☐ Partial Releases

2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/ Dumbwaiters/Moving Walks	4. ☐ Refrigeration Systems	8. ☐ Smoke Control Systems in Open Wells	12. ☐ Fire Alarm
2. ☐ High Pressure Boilers	5. ☐ Cross-Connections/Backflow Preventers	9. ☐ Underground Storage Tanks	
3. ☐ Pressure Vessels	6. ☐ Hazardous Uses/Places of Assembly	10. ☐ Swimming Pools, Spas and Hot Tubs	
	7. ☐ Sprinklers/Standpipes	11. ☐ LPGas Tanks	

Plans Rolled E

COMMERCIAL

OFFICE DATE RECEIVED: _____

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL		COMMENTS
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	
☒ Zoning Officer	SC	5/24/16	X		X		X		24-16-08746
☐ Planning Board			X		X		X		
☐ Zoning Board			X		X		X		
☐ Sewer Authority			X		X		X		
☐ Water Authority			X		X		X		
☐ Police Department			X		X		X		
☐ Health Department			X		X		X		
☐ Soil Conservation			X		X		X		
☐ N.J. Department of Community Affairs			X		X		X		
☐ N.J. Department of Transportation			X		X		X		
☐ N.J. Department of Environmental Protection			X		X		X		
☐ Utility Dig No.			X		X		X		
☐									
☐									

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition _____

Name of Code & Edition _____

Building _____

Electrical _____

Plumbing _____

Fire Protection _____

Mechanical _____

Energy _____

Barrier Free _____

Flood Hazard _____

As Built Elevation Cert. _____

Other _____

X. CERTIFICATES ISSUED (office use only)

	DATE ISSUED	DATE EXPIRED	DATE REISSUED	DATE EXPIRED
☐ Temporary Certificate of Occupancy	No. _____	_____	_____	_____
☐ Temporary Certificate of Compliance	No. _____	_____	_____	_____
☐ Continued Certificate of Occupancy	No. _____	_____	_____	_____
☐ Certificate of Compliance	No. _____	_____	_____	_____
☐ Certificate of Occupancy	No. _____	_____	_____	_____
☐ Certificate of Approval	No. _____	_____	_____	_____
☐ Lead Abatement Clearance Certificate	No. _____	_____	_____	_____



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 4/13/2017
Control Number C-16-002081
Permit Number 16-2044
Permit Issue Date 6/21/2016
Certificate Number 16-2044

Certificate

Construction Code Division

(Certificate of Approval)

Identification

Work Site Location: 43 DRUM POINT RD. Brick Township, NJ Block: 548 Lot: 21 Qual: _____
Owner in Fee: BRICK TOWNSHIP BOARD OF EDUCATION
Owner Address: 101 HENDRICKSON AVE BRICK NJ 08723
Telephone: (732) 785-3000
Contractor ALTEC BUILDING SYSTEMS CORP
Address 904 Atlantic Ave. Point Pleasant NJ 08742
Telephone: (732) 903-6264 Fax: _____
License Number or Builders Registration Number: 11073 Federal Emp. Number: 22-3292289

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: E Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: SOLAR PANELS ...INSTALL 251.16 kw ROOF MOUNT PHOTOVOLTAIC SOLAR SYSTEM

Certificate Comments:

☐ Certificate of Occupancy

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☒ Certificate of Approval

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ Certificate of Continued Occupancy

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ Temporary Certificate of Compliance

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

☐ Certificate of Clearance - Lead Abatement 5:17

This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 to the following extent.

- ☐ Total removal of lead-based paint hazards in scope of work
☐ Partial or limited time period (years); see file

☐ Certificate of Clearance - Asbestos Abatement

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

- ☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (years); see file

☐ Certificate of Compliance

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☐ Temporary Certificate of Occupancy

The following conditions must be met no later than: or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

Daniel Newman Jr

Construction Official

Fee: \$0.00

Check Number: _____

Collected By: _____



**BUILDING SUBCODE
TECHNICAL SECTION**



Emma Young Elementary

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 548 Lot 43 Qualification Code _____
Work Site Location Drum Point Road

Owner in Fee: Prick Township Board of Education
Tel. 732-785-3000 e-mail _____

Address 101 Henderson Ave, Brick, NJ 08724

Contractor: Attec Building Systems Corp. Tel. 732-903-1004 e-mail info@attcbuilding.com

Address 4051 Atlantic Avenue, Brick, NJ 08723 e-mail info@attcbuilding.com

Contractor License No. or Builder Registration No. 13VHD044800 Exp. Date 3-31-17

Home Improvement Contractor Registration No. or Exemption Reason (if applicable):
Federal Emp. ID No. 2232902851 FAX: 732-903-1009

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial	INSPECTIONS	Dates (Month/Day)			
			Type:	Failure	Failure	Approval	Initial
☐ No Plans Required	<u>06/18/16</u>	<u>Wey</u>	Footings				
☒ All			Footings/Bonding				
☐ Footings/Foundations			Foundation				
☐ Structural/Framework			Slab				
☐ Exterior			Frame				
☐ Interior			Truss Sys./Bracing				
Joint Plan Review Required:			Barrier-Free				
☐ Elec. ☐ Plumb. ☐ Fire ☐ Elevator			Insulation				
SUBCODE APPROVAL FOR PERMIT	<u>06/18/16</u>		Finishes -Base Layer				
Date:			Finishes -Final				
Approved by:	<u>Wey</u>		Energy				
SUBCODE APPROVAL FOR CERTIFICATE			Mechanical				
☐ CO ☐ CCO ☒ CA	<u>04/10/17</u>		TCO				
Date:			Other				
Approved by:	<u>Wey</u>		Final				
			Barrier-Free				

B. BUILDING CHARACTERISTICS

Use Group	Present	Proposed	Constr. Class	Present	Proposed
No. of Stories			If Industrialized Building:		
Height of Structure			State Approved		
Area — Largest Floor			HUD		
New Bldg. Area/All Floors			Est. Cost of Bldg. Work:		
Volume of New Structure			1. New Bldg.		
Max. Live Load			2. Rehabilitation		
Max. Occupancy Load			3. Total (1 + 2)		

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the agent of owner of record and am authorized to make this application.

Sign here:

Print name here: Jones C. Jones

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Roof-top Solar Installation
- RW 051.16
1 concrete transformer pad

TYPE OF WORK:

- ☐ New Building
- ☐ Addition
- ☒ Rehabilitation
- ☐ Roofing
- ☐ Siding
- ☐ Fence
- ☐ Sign
- ☐ Pool
- ☐ Retaining Wall
- ☐ Asbestos Abatement Subchapter 8
- ☐ Lead Haz. Abatement NJAC 5:17
- ☐ Radon Remediation
- ☐ Other
- ☐ Demolition

FEE (Office Use Only)

Administrative Surcharge \$	
Minimum Fee \$	
State Permit Surcharge Fee \$	
TOTAL FEE \$	

COMMERCIAL

6/21/16
16-2044

548/21



Stantec

Stantec Consulting Services Inc.

1971 State Route 34, 2nd Floor, Wall Township NJ 07719-9750

October 20, 2016
File: 192510588

Attention: Pat Callahan
401 Chambersbridge Road
Brick, NJ 08732

Dear Mr. Callahan,

Reference: New transformer for solar at Emma Haven Young Elementary (Permit # 16-2044)

Stantec has reviewed and approved the attached detail for Emma Haven Young Elementary located at 34 Drum Point Rd. Brick, NJ 08732.

Regards,

STANTEC CONSULTING SERVICES INC.

A handwritten signature in black ink, appearing to read 'David Faccas'.

David Faccas
Associate
Phone: 732-449-0099 ext 8212
dave.faccas@stantec.com

Attachment: as noted

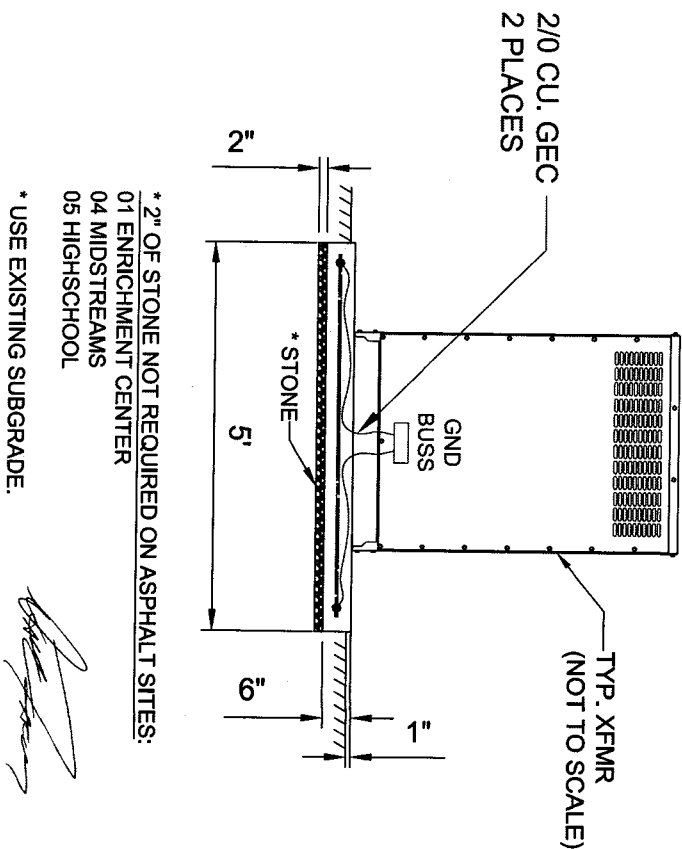
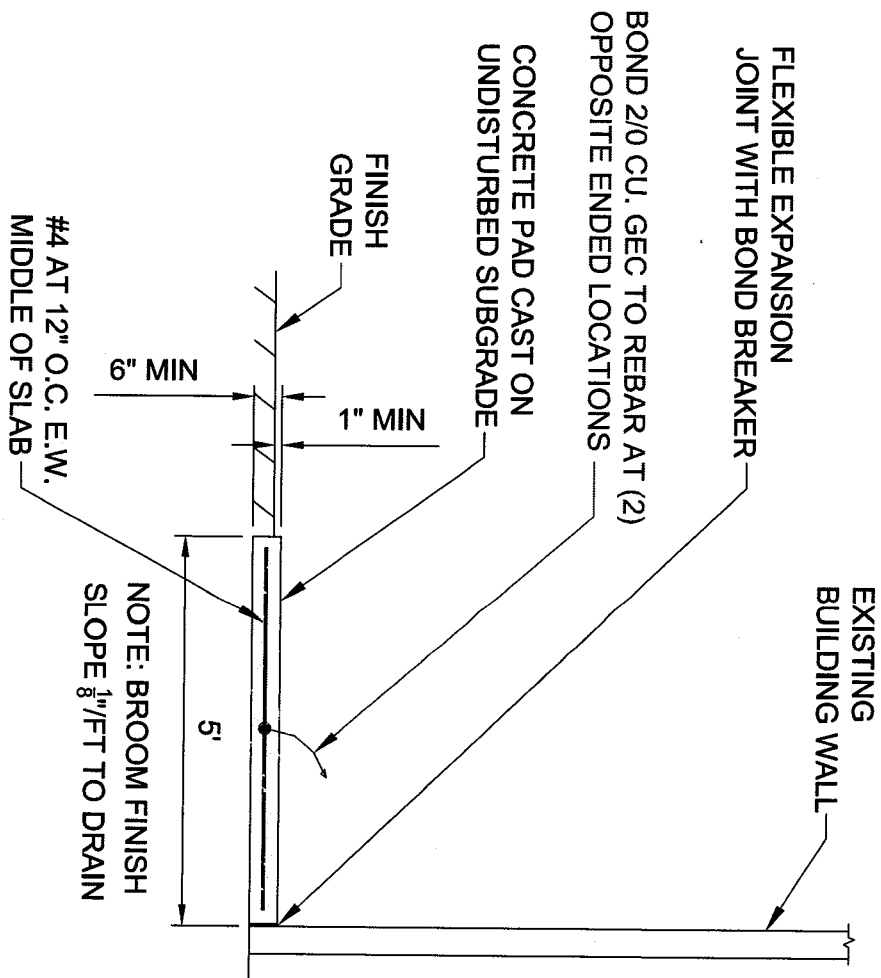
C.

fk u:\192510588\record\submittal_archives\20161020_letter to inspector\20161020_letter to inspector_eec.docx

Approved For use
10-24-16 - JSP

Design with community in mind

GENERAL PAD DETAIL FOR BUILDINGS 01, 04, 05 AND 06





Stantec Consulting Services Inc.
1971 State Route 34, 2nd Floor, Wall Township NJ 07719-9750

October 20, 2016
File: 192510588

Attention: Pat Callahan
401 Chambersbridge Road
Brick, NJ 08732

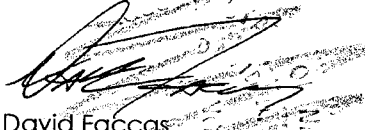
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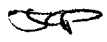


David Faccas
Associate
Phone: 732-449-0098 ext 8212
dave.faccas@stantec.com

Attachment: as noted

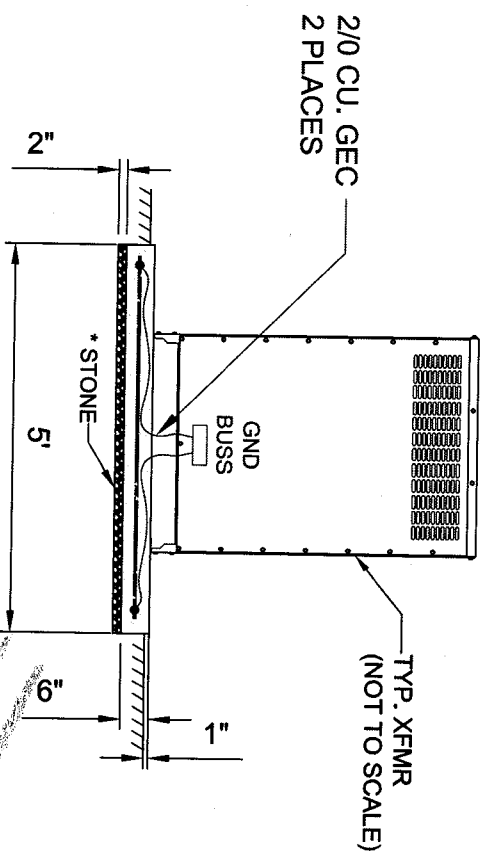
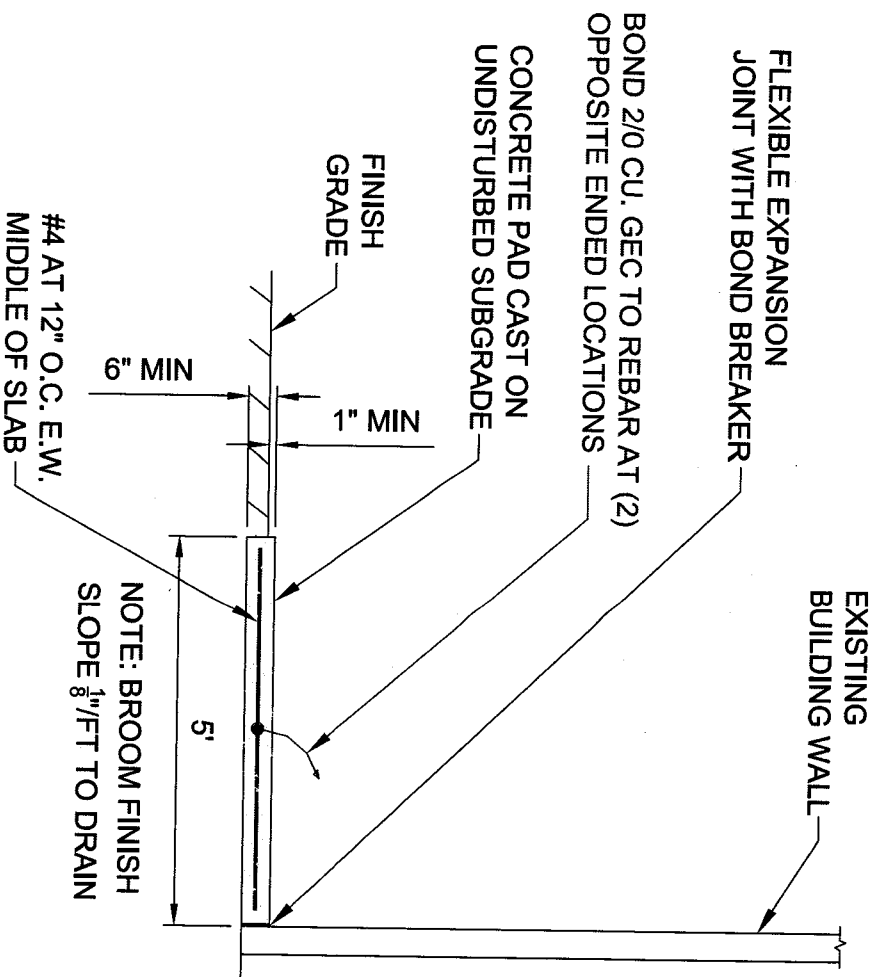
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APPROVED FOR USE
10-24-16 

Design with community in mind

GENERAL PAD DETAIL FOR BUILDINGS 01, 04, 05 AND 06



* 2" OF STONE NOT REQUIRED ON ASPHALT SITES.
01 ENRICHMENT CENTER
04 MIDSTREAMS
05 HIGHSCHOOL
* USE EXISTING SUBGRADE.

*** USE EXISTING SUBGRADE.**

**ELECTRICAL SUBCODE
TECHNICAL SECTION**

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 548 Lot 21 Qualification Code _____
Work Site Location Drum Point Road

Owner in Fee: Brick Township Board of Education
Tel. (732) 785-3000 e-mail _____
Address 101 Hendrickson Ave, Brick, NJ 08723

Contractor: Altec Electrical Corp. zip code 732 (903-6264)
Address 904 Atlantic Avenue e-mail jlawroski@altecbuildingsystems.com
City Pt. Pleasant, NJ 08742

Contractor License No. 11073 Exp. Date 3/31/18
Home Improvement Contractor Registration No. or Exemption Reason (if applicable): 13VH04948600

Federal Emp. ID No. 22-3292289 FAX: (732) 903-6298

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____
[] Pole/Pad # _____ [] Temporary _____ Other _____
Building Occupied as school Utility Co. SPL

Est. Cost of Elec. Work \$ 213,486

JOB SUMMARY (Office Use Only)

PLAN REVIEW
[] No Plans Required
[] Partial - Underslab Utilities Approved

Date: _____ Approved by: _____
[] Electric Plans Approved Date: 6/1/16 Approved by: PSC

Joint Plan Review Required:
[] Bldg. [] Plumb. [] Fire. [] Elev.

SUBCODE APPROVAL FOR PERMIT
Date: 6/1/16 Approved by: PSC

Approved by: PSC

SUBCODE APPROVAL FOR CERTIFICATE
[] CO [] CCO [] CA

Date: 4/20/17 Approved by: PSC

Temp. Cut-In-Card Date Issued _____
Final Cut-In-Card Date Issued _____
Annual Pool Inspection _____
Date of Grounding and Bonding _____
Certification _____

130 B Smith 732-609-1187

Emma Young



DR#337005555

Date Received
Control #
Date Issued
Permit #

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant sign/Contractor sign and seal here:

Print name here: James E. Lawroski Jr.

[X] Licensed Elec. Contractor [] Certif'd Landscape Irrigation Contr'r [] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: Install Solar System 951.16 KW

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	
		Pool Permit/with UW Lights	
		Storable Pool/Spa/Hot Tub	
		KW Elec. Range/Receptacle	
		KW Oven/Surface Unit	
		KW Elec. Water Heater	
		KW Elec. Dryer/Receptacle	
		KW Dishwasher	
		HP Garbage Disposal	
		KW Central A/C Unit	
		HP/KW Space Heater/Air Handler	
		KW Baseboard Heat	
		HP Motors 1/2 HP	
		KW Transformer/Generator	
		AMP Service Disconnect	
		AMP Subpanels	
		AMP Subpanels Center Inverters	
		KW Elec. Sign/Outline Light	
		Modules	
		meter	
		225	
		800	
		400	
		18	
		← 9160	

COMMERCIAL

Administrative Surcharge \$
Minimum Fee \$
State Permit Surcharge Fee \$
TOTAL FEE \$

To order call: ALLEGRA
Marketing • Print • Mail
(609)-390-1400

DO NOT DISPATCH

Brick Township
Building Department (732) 262-1030



DRIVER # 337005555

MUNICIPALITY Brick Township

CUT-IN-CARD

LOCATION 43 DRUM POINT RD.

UTILITY CO JCP&L

Brick Township, NJ

BLK 548

LOT 21

OWNER BRICK TOWNSHIP BOARD OF
EDUCATION

OCCUPANT BRICK TOWNSHIP BOARD OF
EDUCATION

"Installation in the above premises has been inspected and
is in accordance with N.E.C. and DCA requirements."

☒ FINAL

☐ TEMPORARY

This approval void after ____ days

DESCRIPTION OF SERVICE 800 Amp 3 phase

INSTALLED BY ALTEC BUILDING SYSTEMS CORP LICENSE NO 11073

DATE 3/7/2017 PERMIT # 16-2044 INSPECTOR Patrick Callahan

☒ FAXED IN 3/7/2017

Lic. No: 9685

U.C.C. Form F350B equiv. 1 WHITE-UTILITY 2 CANARY-OFFICE/FILE 3 PINK-OFFICE/CONTRACTOR

* * * Communication Result Report (Mar. 7. 2017 7:37AM) * * *

1}

Date/Time: Mar. 7. 2017 7:36AM

File No. Mode	Destination	Pg(s)	Result	Page Not Sent
8677 Memory TX	918889149140	P. 1	OK	

Reason for error

- E. 1) Hang up or line fail
- E. 3) No answer
- E. 5) Exceeded max. E-mail size

- E. 2) Busy
- E. 4) No facsimile connection
- E. 6) Destination does not support IP-Fax

DO NOT DISPATCH

Brick Township
Building Department (732) 982-1030

MUNICIPALITY Brick Township

LOCATION AS DRUM POINT RD. UTILITY CO. ICPA

Brick Township, NJ BLK 548 LOT 21

OWNER BRICK TOWNSHIP BOARD OF EDUCATION OCCUPANT BRICK TOWNSHIP BOARD OF EDUCATION

"Installation in the above premises has been inspected and is in accordance with N.E.C. and DCA requirements."

☒ FINAL ☐ TEMPORARY This approval void after _____ days

DESCRIPTION OF SERVICE 800 Area 3 phone

INSTALLED BY ALTEC BUILDING SYSTEMS CORP. LICENSE NO. 11073

DATE 3/7/2017 PERMIT # 16-2044 INSPECTOR Patrick Callahan

☒ FAXED IN 3/7/2017 Lic. No. 9885

U.E.C. Form 1030B (Rev. 1) WHITE UTILITY 2 CANNOT OFFERABLE 3 PINK OFFER CONTRACTOR

D.R.# 337005555

MUNICIPALITY Brick



CUT-IN-CARD

LOCATION 43 Drum Point Rd UTILITY CO J&PCL

Brick BLK 548 LOT 21

OWNER BTBOE OCCUPANT EMMA HALL'S SCHOOL

"Installation in the above premises has been inspected and is in accordance with N.E.C. and DCA requirements."

☒ FINAL ☐ TEMPORARY This approval void after _____ days

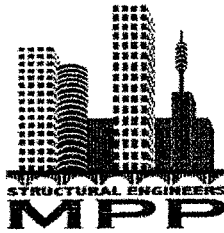
DESCRIPTION OF SERVICE 800 AMP/39/4V/120-208V

INSTALLED BY AUEC Elec. LICENSE NO 11073

DATE 3/4/17 PERMIT # 16-2044 INSPECTOR P. Gallivan

☒ CALLED IN 3/4/17 LIC. NO: 9685

U.C.C. Form F-350B 1 WHITE-UTILITY 2 CANARY-OFFICE/FILE 3 PINK-OFFICE/CONTRACTOR



February 22, 2016

Mr. Michael Ford
Project Manager
GeoPeak Energy
285 Davidson Ave
Somerset, NJ 08873

RE: Brick BOE – Roof Framing Assessment for Solar
Brick, NJ
MPP Project No: 14-0729

Dear Mr. Ford:

Pursuant to your request, MPP Engineers has performed a limited structural evaluation of the roof framing at several additional areas of the Brick Township High School to verify that the roof framing is adequate to support a proposed ballasted photovoltaic (PV) system. This work supplements our previous evaluation of other portions of the High School and other BOE buildings within the district. The new roof areas under evaluation encompass the six areas shown in the attached Figure 1. The new evaluation areas at the High School consist of several different framing systems constructed at different times.

Structural Data and Code Information

Our analysis was performed in accordance with the requirements of the 2015 International Building Code, NJ Edition. It is our understanding that the proposed solar system for flat roofs is anticipated to consist of standard solar modules mounted on an interlocking ballasted racking system to avoid roof penetrations. It is our understanding that the proposed PV arrays will be mounting using the Grid-Lite racking system that imposes a total loading of only about 3.5 to 4 pounds per square foot (PSF) on the existing roof structure.

The pertinent design data is listed below:

Ground Snow Load, Pg:	20 PSF (Brick, NJ)
Importance Factor, I:	1.1 (Occupancy Category III)
Exposure Factor, Ce:	1.0 (Fully Exposed)
Thermal Factor, Ct:	1.0 (Existing) & 1.1 (With Solar Panels)
Basic Wind Speed:	132 MPH Ultimate (Risk Category III)
Exposure:	B (Urban and Suburban Areas)

Minimum Flat Roof Snow Load: 22 PSF (20 PSF * 1.1 Importance Factor)

* Since the solar panels are mounted slightly above the roof line, it is appropriate to consider a thermal factor, Ct of 1.1, treating the panel surface as a cold, ventilated roof, rather than a warm roof.

Brick Township BOE Solar Evaluation Report

Estimated Roof Dead Loads - Dead load based on field observations of existing framing systems and our experience which include hung mechanical loads, roofing, insulation, ceiling, and self-weight of framing. The framing does not include the additional dead load of the proposed photovoltaic system, including the panels, rails, ballast and mounting hardware. The additional weight of the proposed ballasted solar panel system, including the panels, rails, mounting hardware, and the ballast, is estimated to be in the range of 3.5 to 4 pounds per square foot (PSF) and NOT included in the below estimated dead loads. All of the roof sections have built-up roofing with gravel.

Area 1: (Field Surveyed)

□ Wide Flange Beams spaced at approximately 8 feet on center supporting 1-1/2" metal roof deck. At the corridor areas, there appears to be a concrete topping over the metal deck. For these areas, we used a total dead loading of 65 PSF. At the classroom areas on either side of the corridor, it was evident that there was no concrete present. At these areas, we used a total dead load of 24 PSF for our calculations. It should be noted that this roof has several rooftop HVAC units. We suspect that this roof area may have been designed for a future second floor.

Area 2: (Field Surveyed)

□ This area also consists of wide flange beams spaced at approximately 8'-4" on center. The beams are supported by masonry bearing walls and have a cantilever with hung span framing arrangement. The total estimated existing dead loads at this area are 24 PSF.

Area 3: (Field Surveyed)

□ This roof area has the same framing system as Area 1 but the beam sizes were noticeably smaller despite having the same spacing and spans as those members in Area 1. The total estimated dead loads for this roof area are 24 PSF.

Area 4: (Field Surveyed)

□ This is the roof over the gymnasium. The framing consists of custom structural steel trusses spaced at 23' on center that clear span approximately 80 across the width of the gymnasium. The trusses support wide flange beams spaced at 8' on center spanning between the trusses and supported by masonry bearing walls at the end walls. The beams support metal roof deck. The estimated total dead loads at this section of the roof are 16 PSF plus the self weight of the framing.

Area 5: (Field Surveyed)

□ The roof framing over the auxiliary gym consists of 32" open web steel bar joists spaced at 6'-6" on center with a clear span of approximately 50 feet. The joists support a tectum roof deck system with bulb tees. We estimate that the total weight of the existing roof framing to be approximately 20 PSF at this roof area. It should be noted that the roof joists also support two

Area 6: (Field Surveyed)

□ The roof framing over the weight room consists of 22" deep K-Series open web steel joists supporting metal roof deck. We estimate that the total weight of the existing roof framing to be approximately 16 PSF at this roof area.

Brick Township BOE Solar Evaluation Report

Existing Framing and Analysis (Ref Figure 1)

Area 1:

Existing Framing – The framing in this area appears to have been designed for a future second floor loading. Based on the member sizes, this roof appears to have more than enough capacity to support solar panels, even in those areas where existing rooftop mechanical equipment exists.

Analysis Results – Our analysis indicates that the existing roof framing in this area has a minimum reserve capacity of well above 10 PSF and would be more than adequate to support PV arrays. However, as previously mentioned, the ability to utilize much of this space will be hindered by the large number of rooftop HVAC units.

Area 2:

Existing Framing - The framing in this area consists of W14x30 wide flange beams spanning approximately 41 feet between bearing walls and cantilevering 7 feet beyond the wall to support W14x30 hung beams. The beams support conventional 1-1/2" metal roof deck.

Analysis Results – Our analysis indicates that the framing in this area is capable of supporting an additional 8 PSF.

Area 3:

Existing Framing - The framing in this area consists of W12x22 steel beams spaced at 8' on center with a span of 30'-8" supporting conventional 1-1/2" metal roof deck.

Analysis Results – Our calculations indicate that this section of the roof has a reserve capacity of approximately 6 PSF.

Area 4:

Existing Framing – The framing for the gym roof has custom structural steel trusses with an out-to-out depth of 7'-4". The truss chord members consist of 8" T-Sections with double angle chord and web members that vary in size depending on the location. The web members are welded to the chord members. The W12 beams that frame into the trusses are bolted to the vertical angles at the panel point locations which occur every 8 feet on center. The typical beam size appears to be W12x14 members except at the cross bridging between trusses where the beams are larger. In addition, there are two HVAC units hung from the framing at each end of the gym. The beam sizes at these locations suggest that slightly larger W12x19 beams were used to accommodate the additional loading. The steel trusses span 80' clear and are supported by steel columns at each end. The trusses are spaced at 23' on center and support conventional 1-1/2", 16 Gauge metal roof deck.

Analysis Results – Our analysis indicates that the framing has a reserve capacity of 7 PSF based primarily on the capacity of the bottom chord members of the trusses.

Area 5:

Existing Framing – The auxiliary gym framing consists of 32" LH joists spaced at 6'-6" on center. Based on the size of the chord and web members, the joists appear to be 32LH08 members. We conservatively assumed that the joist members are 32LH06 members or perhaps even 32LJ08 members in performing our analyses. It should be noted that there are two mechanical units supported in between the 2nd and 3rd roof

Brick Township BOE Solar Evaluation Report

joists from each end of the gym. The joists at these locations appear to be the same size as the typical joists and have not been reinforced or strengthened to accommodate the additional loading.

Analysis Results – Based on our assumptions the standard joists have a reserve capacity of approximately 8 PSF. Given the unknowns regarding the weight of the existing HVAC units that are supported by the joists, we do not recommend that any solar panels be installed along the length of the joists within an 8 foot strip centered on the mechanical units.

Area 6:

Existing Framing - The framing at the weight room consists of 22K11 joists spaced at 4' on center with a span of 39'-0". The joists are supported by W21x44 and W21x62 beams having 27' +/- and 33' +/- spans, respectively.

Analysis Results – Our analysis indicates that the framing within this roof area conservatively has a reserve capacity of 10 PSF.

Conclusions

The attached Figure 1 shows the available reserve capacity for various areas of the roof along with some limitations with regard to the panels at the auxiliary gym and where low roof sections meet higher roof sections. Provided that the Grid-Lite racking system is used to support the PV arrays, all 6 of the new areas at the High School are generally adequate to support the proposed PV arrays.

Solar panels may not be supported within 5 feet of all existing rooftop mechanical equipment areas and within 14 feet at changes in roof elevations (e.g., between high and low roof areas). These areas typically result in shadow zones and may not be suitable for solar panels anyway.

We have also reviewed the proposed PV array layouts for the other Brick BOE facilities as follows:

1. Midstreams Elementary School
2. Veterans Memorial Elementary School
3. Veterans Memorial Middle School
4. Lake Riviera Middle School
5. Emma Haven Young Elementary School
6. Education Enrichment Center

In all of the zones where panels are proposed on these roofs, we have confirmed that the roof has a minimum reserve capacity of at least 4 PSF and would be capable of supporting the proposed PV arrays installed using the Grid-Lite racking system.

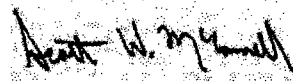
We trust that this evaluation will provide you with the information required to finalize the layout and design of the PV systems. If you have any questions regarding this matter, please feel free to contact my office at 609-489-5511.

Brick Township BOE Solar Evaluation Report

We appreciate the opportunity to assist you with this evaluation.

Sincerely,

MPP Engineers, LLC

A handwritten signature in black ink, appearing to read "Scott W. McConnell", is written over a rectangular area of the document.

Scott W. McConnell

Principal

NJ PE Lic No. 40281

Encl.

Figure 1 – Brick Township High School Roof Reserve Capacity

Appendix A – Proposed PV Roof Layouts and Grid-Lite Racking Information

Scott W. McConnell
NJ Prof. Eng. Lic. No. 40281

CLIENT:
GeoPeak Energy

PROJECT NAME:

Brick BOE
Roof Assessment for Solar
Brick Twp High School
Brick, NJ

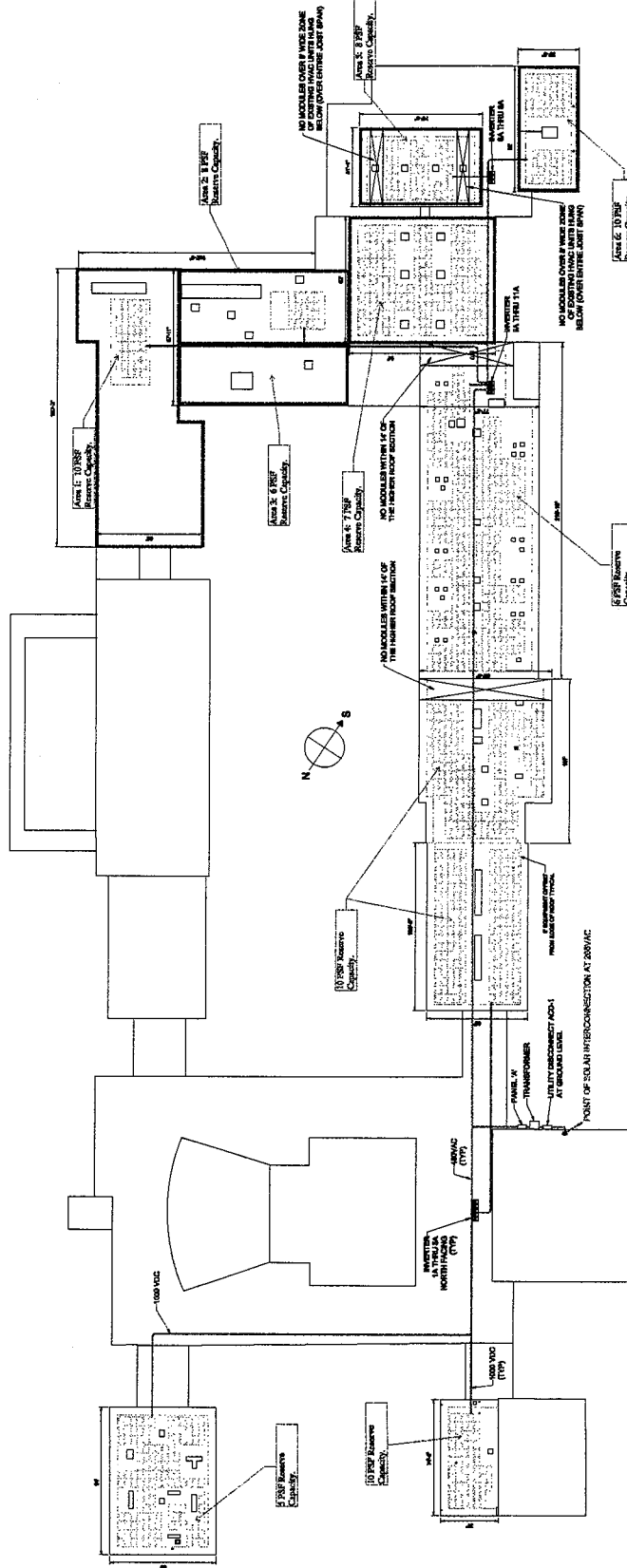
DATE	2/22/16
PLOT SCALE	NONE

<u>DRAWN BY</u>	<u>DESIGNED BY</u>
SWM	SWM

MPP PROJECT NO.
14-0729

SKETCH NO:

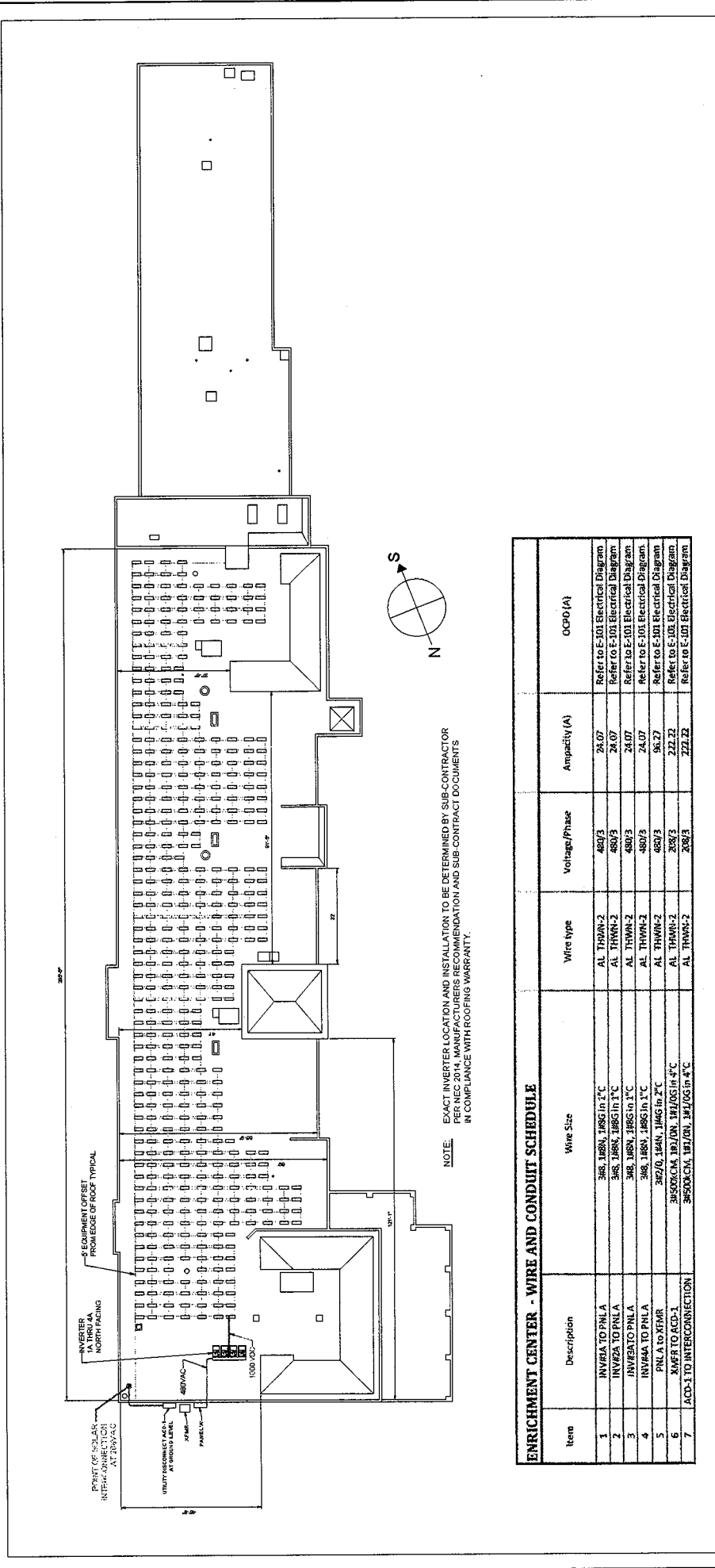
Figure 1





Appendix A

PV Array Layouts & Grid-Lite Racking System Information



NOTE: EXACT INVERTER LOCATION AND INSTALLATION TO BE DETERMINED BY SUB-CONTRACTOR. PERMITTING AND CONSTRUCTION REQUIREMENTS AND SUB-CONTRACT DOCUMENTS IN COMPLIANCE WITH ROOFING WARRANTY.

ENRICHMENT CENTER - WIRE AND CONDUIT SCHEDULE

Item	Description	Wire Size	Wire type	Voltage/Phase	Amperacity (A)	OCPD (A)
1	INVERTER TO PNL A	360, 148N, 148G in 1" C	AL THWN-2	480/3	24.07	Refer to E-101 Electrical Diagram
2	INVERTER TO PNL A	360, 148N, 148G in 1" C	AL THWN-2	480/3	24.07	Refer to E-101 Electrical Diagram
3	INVERTER TO PNL A	360, 148N, 148G in 1" C	AL THWN-2	480/3	24.07	Refer to E-101 Electrical Diagram
4	INVERTER TO PNL A	360, 148N, 148G in 1" C	AL THWN-2	480/3	24.07	Refer to E-101 Electrical Diagram
5	PNL A TO XTRM	360/0, 144N, 144G in 2" C	AL THWN-2	480/3	96.27	Refer to E-101 Electrical Diagram
6	XTRM TO RCD-1	360/0/0N, 147/0N, 147/0G in 4" C	AL THWN-2	208/3	222.22	Refer to E-101 Electrical Diagram
7	RCD-1 TO INTERCONNECTION	360/0/0N, 147/0N, 147/0G in 4" C	AL THWN-2	208/3	222.22	Refer to E-101 Electrical Diagram

1 SOLAR ROOF LAYOUT

SCALE: 1" = 8'

01

DRAWING NAME: SOLAR ROOF LAYOUT AND CONDUIT SCHEDULE	
TOTAL MODULES: 388 (280W PV MODULES)	TOTAL SYSTEM SIZE: 95.68 KW DC
PROJECT NAME: BRICK TNSP SCHOOL ROOF SYSTEM	DRAWING: A-101
PHOTOVOLTAIC CONSTRUCTION PLANS	PROPERTY LOCATION: 101-107 NEWSPRAGON AVENUE, BRICK, NJ 08725
PHOTOVOLTAIC CONSTRUCTIONS (F.T.L.T. 2010/01/01)	SHEET NO: 4 OF 14

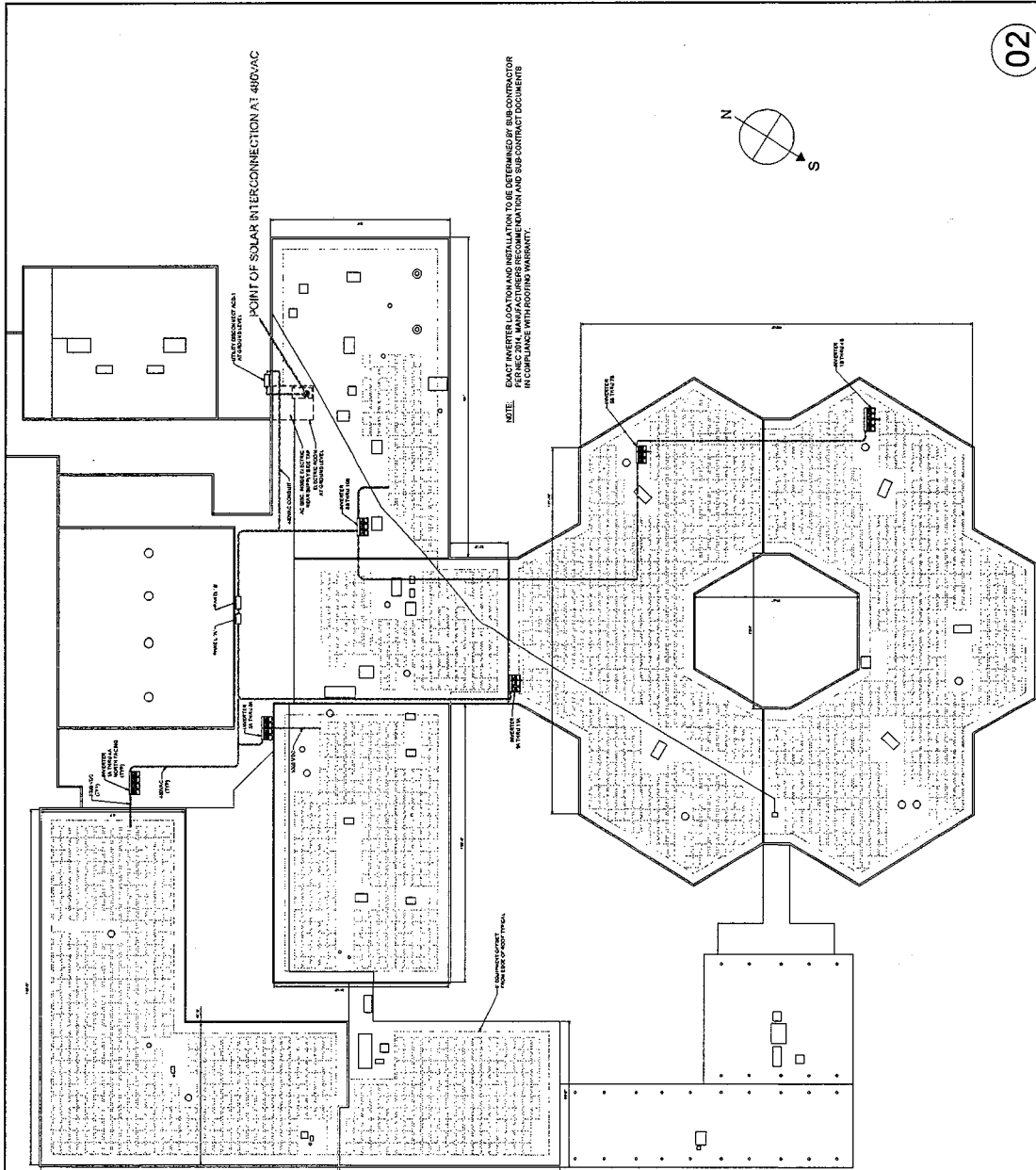


David D. Facas, P.E.
Professional Engineer
NJ License No. 12-00000000000000000000



285 DAVIDSON AVENUE
SOMERSET, NJ 08873
(888) 526-4478

NO.	DATE	BY	CHK	CLIENT APPROVAL	REVISION NUMBER
3	02-03-16	JAC	DF	PERMIT SET	3
2	10-30-15	JAC	DF	ELECTRICAL INTERCONNECTION SUBMITTAL	
1	08-25-15	JAC	DF	INITIAL RELEASE	
				REVISED	



02

1 SOLAR ROOF LAYOUT
SCALE: 1/8" = 1'-0"

TOTAL MODULES: 2,500 (260W PV MODULES)
TOTAL SYSTEM SIZE: 650.00 KW DC

DRAWING NAME: SOLAR ROOF LAYOUT AND CONDUIT SCHEDULE	
PROJECT NAME: BRICK TWP SCHOOL ROOF SYSTEM PHOTOVOLTAIC CONSTRUCTION PLANS	DRAWING: A-101
PROPERTY LOCATION: VETERANS MEMORIAL SCHOOL 100 HENRICSON AVENUE BRICK, NJ 08723	SHEET NO: 4 OF 14

Stantec

David D. Frazee, P.E.
REGISTERED PROFESSIONAL ENGINEER
NJ 08723-0000

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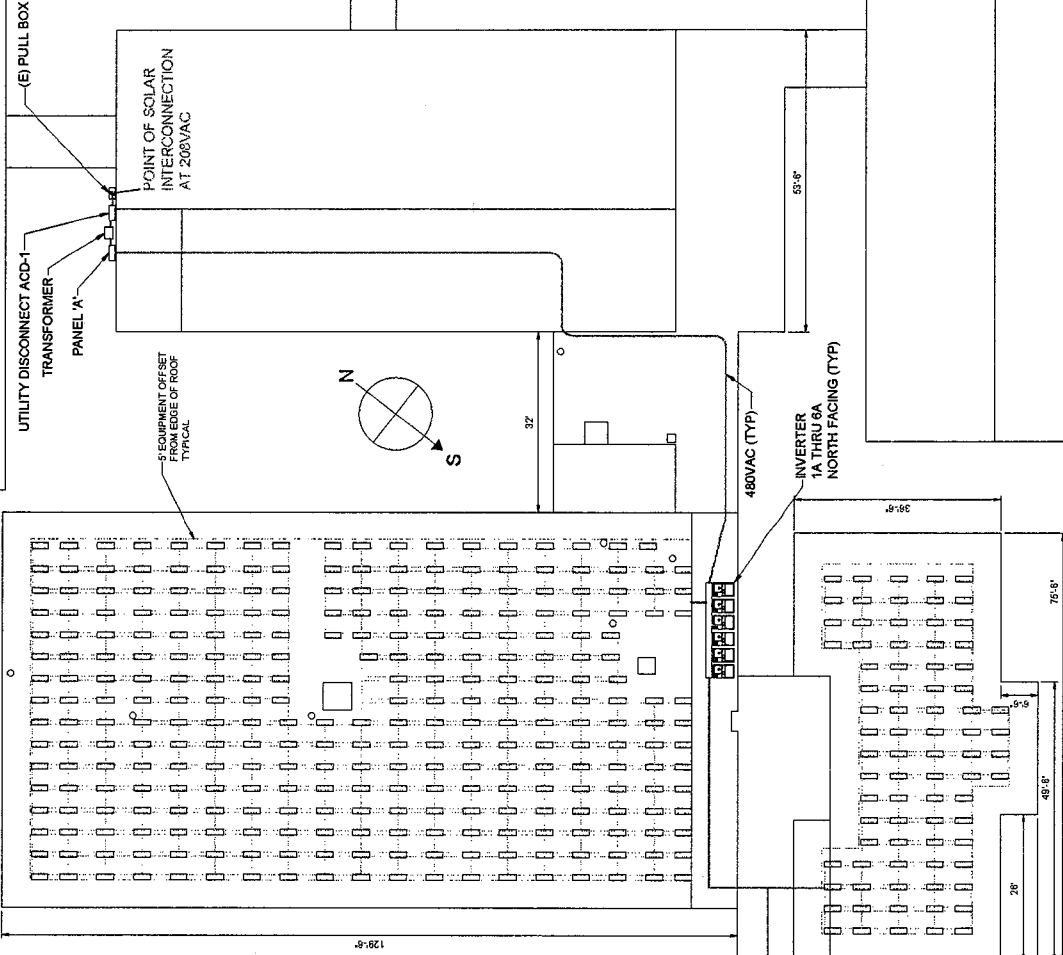
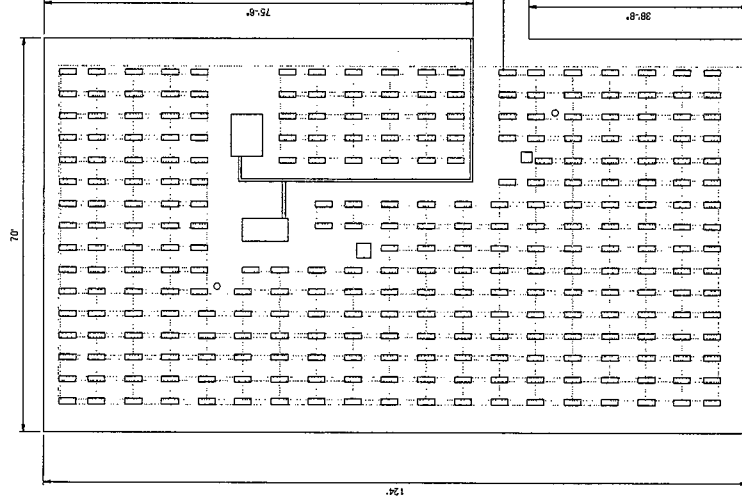
SCALE: AS SHOWN	DESIGNED BY: JMK
DATE: 10-25-15	DRAWN BY: JMK
PROJECT NO.: 15-0000000000	CHECKED BY: JMK
REVISION NUMBER: 3	CLIENT APPROVAL BY: JMK

Item	Description	Wire Size	Wire Type	Quantity (ft)	Quantity (ft)	GCPS (ft)
1	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
2	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
3	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
4	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
5	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
6	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
7	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
8	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
9	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
10	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
11	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
12	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
13	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
14	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
15	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
16	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
17	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
18	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
19	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
20	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
21	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
22	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
23	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000
24	101-102 TO 103-104	24 AWG, 1000V, 1/2"	AL THHN-2	4000	4000	4000

3	03-03-15	PRINT SET	JK	03
2	03-03-15	ELECTRICAL INTERCONNECTION SUBMITTAL	JK	03
1	03-03-15	INITIAL RELEASE	JK	03
NO.	DATE	REVISION	BY	CHK

Item	Description	Wire Size	Wire Type	Voltage/Phase	Amperage (A)	ODD/JAN
1	PANEL 1 (PH 1)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
2	PANEL 2 (PH 2)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
3	PANEL 3 (PH 3)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
4	PANEL 4 (PH 4)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
5	PANEL 5 (PH 5)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
6	PANEL 6 (PH 6)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
7	PANEL 7 (PH 7)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
8	PANEL 8 (PH 8)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram
9	PANEL 9 (PH 9)	300, 1000, 1000, 1000	AL, THHN-2	480V	250A	Refer to E-001 Electrical Diagram

NOTE:
EXACT INVERTER LOCATION AND INSTALLATION TO BE DETERMINED BY SUB-CONTRACTOR
IN COMPLIANCE WITH ROOFING WARRANTY.



1 SOLAR ROOF LAYOUT
SCALE 1/4" = 1'-0"

04

TOTAL MODULES: 528 (310W PV MODULES)
TOTAL SYSTEM SIZE: 163.86 KW DC



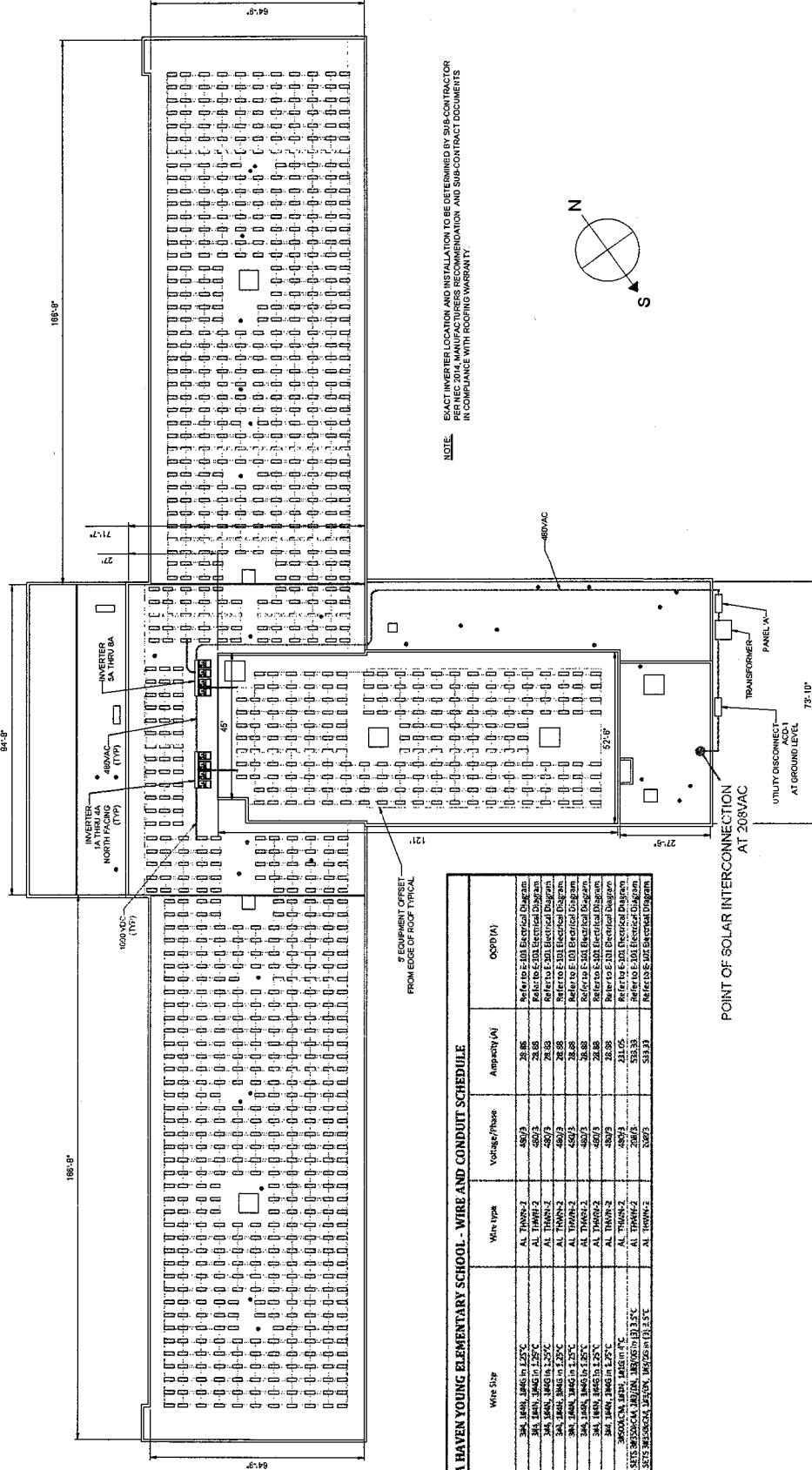
GEOPEAK ENERGY®
Smart Solutions, Clean Alternatives
285 DAVIDSON AVENUE
SOMERSET, NJ 08873
(888) 526-4478

SCALE: AS SHOWN
DATE: 10-26-15
PROJECT NO.:
REVISION NUMBER: 3

NO.	DATE	REVISION
3	02-03-15	PRIVATE SET
2	03-30-15	ELECTRICAL INTERCONNECTION SUBMITTAL
1	08-26-15	INITIAL RELEASE

PROJECT NAME: BRICK TWP SCHOOL ROOF SYSTEM
PROJECT TYPE: PHOTOVOLTAIC CONSTRUCTION PLANS
PROPERTY LOCATION: MORTIMER ELEMENTARY SCHOOL
600 MORTIMER ROAD
BRICK, NJ 08723

DRAWING NO.: A-101
SHEET NO.: 4 OF 14



NOTE: EXACT INVERTER LOCATION AND INSTALLATION TO BE DETERMINED BY SUB-CONTRACTOR IN COMPLIANCE WITH ROOFING WARRANTY.

Item	Description	Wire Size	Wire Type	Voltage/Phase	Amperacity (A)	OCDD (A)
1	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
2	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
3	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
4	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
5	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
6	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
7	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
8	INVERTER TO PNL A	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
9	PNL A TO AC-1	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
10	AC-1 TO INTERCONNECTION	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram
11	AC-1 TO INTERCONNECTION	3M, 18AWG, 1840S in 1.25°C	AL THWN-2	480/3	28.85	Refer to E-301 Electrical Diagram

06

1 SOLAR ROOF LAYOUT

TOTAL MODULES: 986 (260W PV MODULES)
TOTAL SYSTEM SIZE: 251.16 KW DC

OWNER: EMMA HAVEN YOUNG ELEMENTARY SCHOOL	PROJECT NAME: BRICK TWP SCHOOL ROOF SYSTEM PHOTOVOLTAIC CONSTRUCTION PLANS	DRAWING: A-101
PROPERTY LOCATION: 285 DAVIDSON AVENUE SOMERSET, NJ 08873	PROPERTY LOCATION: 285 DAVIDSON AVENUE SOMERSET, NJ 08873	SHEET NO: 4 OF 14



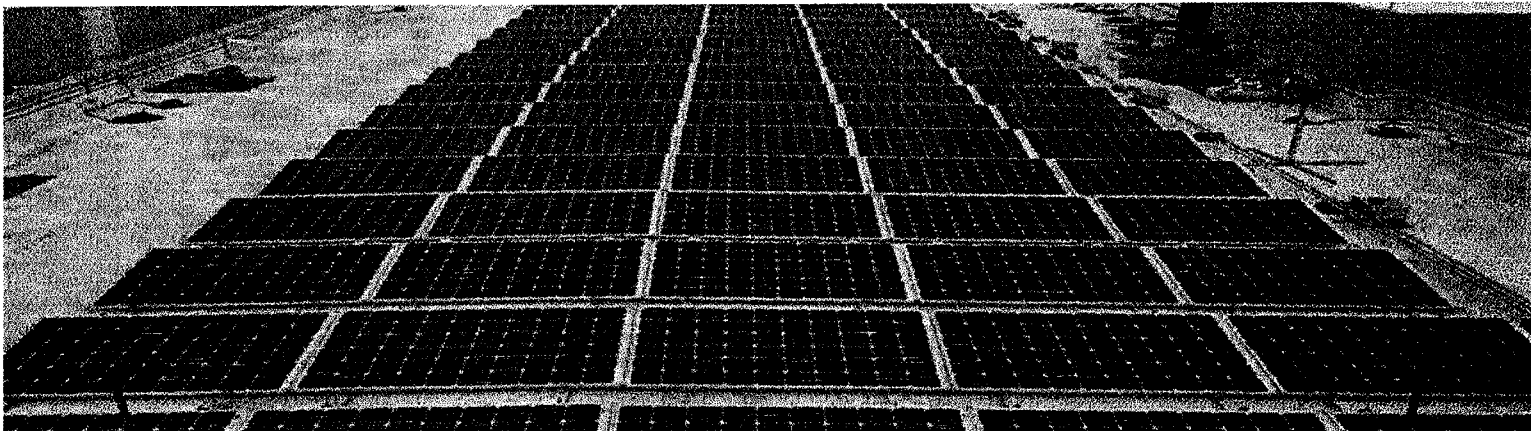
285 DAVIDSON AVENUE
SOMERSET, NJ 08873
(888) 526-4478

DESIGNED BY: JMK	AS SHOWN	DATE: 10-26-15
DRAWN BY: JMK	PROJECT NO: 10-26-15	REVISION NUMBER: 3
CHECKED BY: JMK	PROJECT NO: 10-26-15	REVISION NUMBER: 3
CLIENT APPROVAL BY: JMK	PROJECT NO: 10-26-15	REVISION NUMBER: 3
DATE: 10-26-15	PROJECT NO: 10-26-15	REVISION NUMBER: 3

Grid-Lite™

- Interlocking grid design combined with next-gen wind deflector reduces ballast to minimal or zero
- Industry's best system to handle most severe seismic conditions
- Integrated wire management trays enable string wiring throughout entire array prior to panelizing
- Near zero ballast saves up to \$.02/watt
- Fast install with minimal components
- 5 and 10 degree tilts
- Durable G90 and stainless steel components
- ETL / UL 2703 tested, ETL/UL 1703/2703 Class A fire rated
- 20-year warranty - Made in USA
- Wind tunnel testing industry leader CPP and rated for 150mph wind speed





Features

- Interlocking grid design combined with Nexigen wind deflector reduces ballast to minimal or zero
- Fire proof, durable galvanized and stainless steel components
- Minimal ballast when required on edges quickly installs with additional rail
- Ultra high grade galvanized interlocking rails install quickly to build grid
- Industry's best system to handle most severe seismic conditions
- Typical roof loading 0 to 1 psf for ballast; 2.5-3.5 total load including ballast, panels and racking
- Less ballast and related labor reduce total installed cost
- Full layout and engineering analysis for every project
- Panel supports both 5 and 10° tilt
- Snap-on EPDM blocks available in place of slip sheets
- Unique design innovations protected under patent pending
- Made in the U.S.A.

Installation

- Fast install with minimal components
- Integrated wire management trays enable string wiring throughout entire array for NE & EW runs prior to panelizing
- Pre-punched slots in wind deflectors enable fast east-west string wiring prior to panelizing
- Can be installed on any flat roof
- Flexibility for up to 5 degree roof slope variations
- 5 men install est. 195 panels, racks and ballast per day
- 15 men install .90 MW per week
- Bundles typically 3100lbs. maximum for easy offloading
- 2 trucks per MW typical

Grounding

- Racking system has integrated grounding utilizing ETL/UL teathed panel clips two corner of each array
- Grounding must be done by electrician at row end at corner array



Ultra high grade galvanized interlocking rails install quickly to build grid.



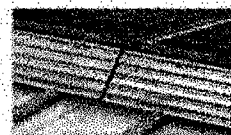
Interlocking grid design combined with Nexigen wind deflector reduces ballast to minimal or zero



Integrated wire management trays enable string wiring throughout entire array for NE & EW runs prior to panelizing



Panel supports for both 5 and 10° tilt. EPDM blocks available in place of slip sheets



Pre-punched slots in wind deflectors enable fast EW string wiring prior to panelizing



Fire proof, durable galvanized and stainless steel components

Test & Certification

- Wind tunnel testing in progress with industry leader CPP and rated for 150 mph wind speed
- Unique design innovations with patents pending
- Class A fire rating tested by ETL to UL 1703 & 2703; covers essentially all available modules (Fire guards optional at additional cost)
- ETL/UL 2703 listed
- 60 psf ground snow load rated
- Meets IBC and ASME standards for structural loading
- Warranty 20 years
- Minimum order size 300 KW

Calculations

- 100% code compliant designs for any locality
- Third-party structural PE stamped drawings and calculations
- Individual system structural calculations
- Individual system design calculations based on regional load values Design loads according to IBC 2009 or 2012
- Patent pending profile geometries with optimum material utilization

Distribution Load

- Typical roof loading 0 to 1 psf ballast; 2.5-3.5 total load including ballast, panels and racking
- Pan Row Spacing:
5 and 10° tilt option: 10.5/18.7 inches
- Shade Angles:
5 and 10° tilts: 18/19° shade angle

Material

- Rails, Panel Supports, Wind Deflectors, Fire Guards optional at additional cost: G90 galvanized steel
- Panel Clips: stainless steel
- Hardware -- 1/4-20 x 2-1/2 inch bolts with serrated flange nuts, 5/16-inch x 1/2 inch machine screws, 3/8-inch x 1-3/4 bolts with serrated flange nuts: stainless steel or Magnacool



tyz@gamechangeracking.com
www.gamechangeracking.com





CONSTRUCTION PERMIT

Date Issued 6/21/2016
Control # C-16-002081
Permit # 16-2044

IDENTIFICATION Block: 548 Lot: 21 Qualifier _____
Work Site Location: 43 DRUM POINT RD. Brick Township, NJ Contractor ALTEC BUILDING SYSTEMS CORP
Address 904 Atlantic Ave. Point Pleasant NJ 08742
Owner in Fee BRICK TOWNSHIP BOARD OF EDUCATION
101 HENDRICKSON AVE BRICK NJ 08723 Telephone: (732) 903-6264
Telephone: (732) 785-3000 Lic. No. or Bldrs. Reg. No. 11073 11073 11073
Federal Employee No. 22-3292289

Is hereby granted permission to perform the following work:

- | | | |
|--|--|--|
| ☒ BUILDING | ☐ PLUMBING | ☐ LEAD HAZARD ABATEMENT |
| ☒ ELECTRICAL | ☐ FIRE PROTECTION | ☐ DEMOLITION |
| ☐ ELEVATOR DEVICES | ☐ ASBESTOS ABATEMENT
(Subchapter 8 only) | ☐ OTHER |

DESCRIPTION OF WORK:

SOLAR PANELS...INSTALL 251.16 kw ROOF MOUNT PHOTOVOLTAIC SOLAR SYSTEM

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$426,972

D. Newman Jr.
Construction Official

6/21/16
Date

U.C.C. F170
equiv (rev 1/04)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$0
Plumbing	\$0
Fire Protection	\$0
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$0
CO Fee	
Other	\$0
Total	\$0
Check No.	
Cash	\$0
Credit	\$0
Collected By	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☐ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.

EMMA Young Elementary

RECEIVING CLERK MSF 5/31/16 **ZONING PERMIT APPLICATION** PERMIT # 28-16-00924
DATE REC'D 5/31/16 DATE ISSUED 6/21/16

BLOCK: 548 LOT: 21 QUALIFIER: 243 SITE ADDRESS: Drum Point Rd, Brick, NJ 08813

IDENTIFICATION:

1. NAME OF OWNER IN FEE: Brick Township Board of Education
COMPLETE ADDRESS: 101 Hendrickson Ave,
Brick, NJ 08812
PHONE # 732-785-3000 EMAIL:

2. NAME OF APPLICANT: Altec Building Systems Corp,
APPLICANT ADDRESS: 904 Atlantic Avenue
Pt. Pleasant, NJ 08942
PHONE # 732-903-6244 EMAIL: info@altecbuildingsystems.com

3. RESPONSIBLE PERSON FOR WORK: Bob Smith
PHONE # 732-109-1187 FAX # 732-903-6298

4. SIGNATURE OF APPLICANT: _____

FOR OFFICE USE ONLY

FEE SUMMARY:

APPLICATION FEE: \$ 0
OTHER: \$ 0
TOTAL: \$ 0

REQUIRED BY APPLICANT

RESIDENTIAL: _____
COMMERCIAL: Commercial
EXISTING USE: _____
PROPOSED USE: _____

BOARD APPROVAL: _____ PB _____ ZB _____
RESOLUTION #: _____
APPROVAL DATE: _____

PROJECT DESCRIPTION: (PLEASE CHECK APPLICABLE WORK & DESCRIBE)

*NEW BUILDING: _____ *ADDITION _____ *ALTERATION ☒ *PORCH _____ *DECK _____

POOL: ABOVE GROUND _____ IN GROUND _____ FENCE: HEIGHT _____ TYPE _____ MATERIAL _____

HEIGHT: _____ (*IF APPLICABLE)

OTHER: Solar System

DESCRIPTION: 251.16 kW Roof Mount System

ZONING REVIEW: _____

DATE REVIEWED: 5-9-16 DATE DENIED: _____ DATE APPROVED: 5-9-16 INITIALS: AS

(SEE BACK PAGE)

OFFICE USE ONLY

RECEIVED

MAY 24 2016

ZONING

SG2d

ZONING REVIEW:

DATE REVIEWED: 07/24/16

DATE DENIED:

DATE APPROVED: 07/24/16

INTLS: SG2d

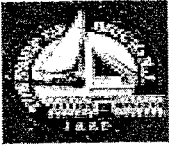
DATE:

COMMENTS:

INITIALS:

07/24/16 SENT TO ECC

SG2d



Brick Township
401 Chambers Bridge Rd.
Brick, NJ 08723
(732) 262-1336

Date Issued: _____
Application Number: ZA-16-00746
Application Date: 05/09/2016
Project Number: _____
Permit Number: _____
Fee: \$0.00

Zoning Permit

Worksite **41 & 43 DRUM POINT RD.**
Location: **Brick Township, NJ 08723**

Block: 548
Lot: 21
Qualifier: _____
Zone: R-R-2

Owner: **BRICK TOWNSHIP BOARD OF EDUCATION**
Address: **101 HENDRICKSON AVE**
BRICK, NJ 08723

Applicant: **Altec Building Solutions**
Address: **904 Atlantic Ave.**
Point Pleasant, NJ 08742

Application Approved Date: 05/09/2016

This Certifies that an application for the issuance of a Zoning Permit has been examined.

Use is: Brick Board of Education Facility (Emma Young Elementary School)

Nonconforming Use is: _____

Work Description:

Solar Energy System - Installation of a 251.16 KW solar panel system, mounted on the roof of the building.

Additional Zoning permit is required for additional work.

Upon review it was determined that the Zoning Permit:

- ☒ Permitted by Ordinance
☐ Permitted by Variance approved on: _____
☐ Valid Nonconforming Use is established by
 ☐ Zoning Board of Adjustment
 ☐ Zoning Officer

05/09/2016
Date



Christopher J. Romano, Assistant Zoning Officer



Sean Kinnevy, Zoning Officer

5/24/16
Date



ELECTRICAL SUBCODE TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 548 Lot 21 Qualification Code _____

Work Site Location Drum Point Road

Owner in Fee: Brick Township Board of Education

Tel. (732) 785-3000 e-mail _____

Address 101 Hendrickson Ave, Brick, NJ 08723

Contractor: Altec Electrical Corp. zip code 732 (903-6264

Address 904 Atlantic Avenue e-mail jlawroski@altecbuildingsystems.com

Pt. Pleasant, NJ 08742

Contractor License No. 11073 Exp. Date 3/31/18

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): 13VH04948600

Federal Emp. ID No. 22-3292289 FAX: (732) 903-6298

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____

[] Pole/Pad # _____ [] Temporary [] Other _____

Building Occupied as SCHOOL Utility Co. etc

Est. Cost of Elec. Work \$ 213,486

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent or) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant sign/Contractor sign and seal here: _____

Print name here: James E. Lawroski Jr.

Licensed Elec. Contractor [] Certifying Landscape Irrigation Contr'r [] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: Install Solar System 251.16 KW

QTY. SIZE ITEMS

Lighting Fixtures

Receptacles

Switches

Detectors

Light Poles

Motors—Fract. HP

Emergency & Exit Lights

Communications Points

Alarm Devices/F.A.C. Panel

TOTAL NUMBERS

Pool Permit/with UW Lights

Storable Pool/Spa/Hot Tub

KW Elec. Range/Receptacle

KW Oven/Surface Unit

KW Elec. Water Heater

KW Elec. Dryer/Receptacle

KW Dishwasher

HP Garbage Disposal

KW Central A/C Unit

HP/KW Space Heater/Air Handler

KW Baseboard Heat

HP Motors 4 HP Revenue IN/CB.

KW Transformer/Generator

AMP Service Disconnect

AMP Subpanels

~~AMP Motor Control Center Inverters~~

KW Elec. Sign/Outline Light

Modules

FEE (Office Use Only)

Administrative Surcharge \$

Minimum Fee \$

State Permit Surcharge Fee \$

TOTAL FEE \$

To reorder call: ALLEGRA

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U.C.C. F120 (rev. 11/09)

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ELECTRICIAN'S
OR PLUMBER'S
LICENSE

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Division of Consumer Affairs

HAS REGISTERED

Altec Electric Corp./ Altec Building Systems Corp.
James E. Lawrosko Jr./Debra Lawroski
904 Atlantic Avenue
Point Pleasant Beach NJ 08742

FOR PRACTICE IN NEW JERSEY AS A(N): **Home Improvement Contractor**

03/03/2016 TO 03/31/2017
VALID

13VH04948600
LICENSE/REGISTRATION/CERTIFICATION #

Signature of Licensee/Registrant/Certificate Holder

ACTING DIRECTOR

New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Division of Consumer Affairs

HAS REGISTERED

Altec Electric Corp./ Altec Building Systems Corp.
Home Improvement Contractor

NOT AN
ELECTRICIAN'S
OR PLUMBER'S
LICENSE
03/03/2016 TO 03/31/2017
VALID

SIGNATURE



13VH04948600

License/Registration/Certificate #

ACTING DIRECTOR

PLEASE DETACH HERE
IF YOUR LICENSE/REGISTRATION/
CERTIFICATE ID CARD IS LOST
PLEASE NOTIFY:
Division of Consumer Affairs
P.O. Box 46016
Newark, NJ 07101

PLEASE DETACH HERE



BUILDING SUBCODE **TECHNICAL SECTION**



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 518 Lot 43 Qualification Code _____
Work Site Location 34 Dumont Road

Owner in Fee: Brick Township Board of Education
Tel. 732, 785-3000 e-mail _____

Address 101 Harrison Ave, Brick, NJ 08724

Contractor: Altec Building Systems Corp. Tel. 732, 903-6244
Address 904 Atlantic Avenue e-mail info@alterc.com
41 Pleasant, NJ 08724 systems.com

Contractor License No. or Builder Registration No. 13VH0444800 Exp. Date 3-31-17

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____
Federal Emp. ID No. 23390089 FAX: 732, 903-6248

JOB SUMMARY (Office Use Only)

PLAN REVIEW		INSPECTIONS		Dates (Month/Day)	
	Date	Initial	Type	Failure	Approval
☒	<u>06/11/16</u>	<u>TEV</u>	No Plans Required		
☐			All		
☐			Footings/Foundations		
☐			Structural/Framework		
☐			Exterior		
☐			Interior		
☐			Truss Sys./Bracing		
☐			Barrier-Free		
☐			Elev.		
☐			Plumb.		
☐			Fire		
☐			Elevator		
☐			Insulation		
☐			Finishes -Base Layer		
☐			Finishes -Final		
☐			Energy		
☐			Mechanical		
☐			TCO		
☐			Other		
☐			Final		
☐			Barrier-Free		

B. BUILDING CHARACTERISTICS

Use Group Present _____ Proposed _____

No. of Stories _____

Height of Structure _____ ft.

Area — Largest Floor _____ sq. ft.

New Bldg. Area/All Floors _____ sq. ft.

Volume of New Structure _____ cu. ft.

Max. Live Load _____

Max. Occupancy Load _____

Constr. Class Present _____ Proposed _____

If Industrialized Building: State Approved _____ HUD _____

Est. Cost of Bldg. Work: \$ _____

1. New Bldg. \$ _____

2. Rehabilitation \$ 213,480

3. Total (1+2) \$ _____

U.C.C. F110 (rev. 1/09)

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the agent of owner of record and am authorized to make this application.

Sign here: _____

Print name here: JAMES CLONOGH, JR.

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Rooftop Solar Installation
- KW 051.16
1 concrete transformer
pad

TYPE OF WORK:

- ☐ New Building
- ☐ Addition
- ☒ Rehabilitation
- ☐ Roofing
- ☐ Siding
- ☐ Fence _____ Sq. Ft.
- ☐ Sign _____ Sq. Ft.
- ☐ Pool
- ☐ Retaining Wall _____ Sq. Ft.
- ☐ Asbestos Abatement Subchapter 8
- ☐ Lead Haz. Abatement NJAC 5:17
- ☐ Radon Remediation
- ☐ Other _____
- ☐ Demolition

FEE (Office Use Only)

\$ _____

Administrative Surcharge \$

Minimum Fee \$ _____

State Permit Surcharge Fee \$ _____

TOTAL FEE \$ _____

1. White = Inspector Copy

3. Pink = Office Copy

2. Canary = Office Copy

4. Gold = Applicant Copy

Date Received
Control #

Date Issued
Permit #

Emma Young Elementary

6/21/16

16-2044

Emma Young Elementary

ENGINEERING PERMIT APPLICATION

BLOCK: 548

LOT: 21

ADDRESS: 34 Drum Point Rd

RECEIVING CLERK: _____
PERMIT #: _____

IDENTIFICATION:

1. WORK SITE ADDRESS: 34 Drum Point Rd, Brick, NJ 08723
2. NAME OF OWNER IN FEE: Brick Township Board of Education
ADDRESS: 101 Hendrickson Ave PHONE #: 732 785-3000
Brick, NJ 08724 FAX #: () _____
3. PRINCIPAL CONTRACTOR: Altec Building Systems Corp.
ADDRESS: 904 Atlantic Ave. PHONE #: 732 903-6264
Pt. Pleasant, NJ 08742 FAX #: 732 903-6298
4. ARCHITECT OR ENGINEER: Stantec
ADDRESS: 1971 Rt 34, Wall, NJ 07719 PHONE: # 732 449-0099
5. RESPONSIBLE PERSON FOR WORK: Bob Smith
ADDRESS: 904 Atlantic Ave, Pt. Pleasant, NJ 08742
PHONE #: 732 903-6298 FAX #: 732 903-6298 E-MAIL: bsmith@altecbuilding.com

- PROJECT DESCRIPTION: ☐ GRADING/CLEARING ☐ ROAD OPENING
☐ SOIL REMOVAL/FILL ☐ RETAINING WALL ☐ POOL
☐ BULKHEAD/DOCK ☐ DWELLING ☐ TREE REMOVAL
☐ OTHER Solar System Rooftop

LENGTH: _____ WIDTH: _____ HEIGHT: _____

ENGINEERING REVIEW:

FEE SUMMARY:

APPLICATION FEE:	\$ _____
REVIEW FEE:	\$ _____
INSPECTION FEE:	\$ _____
OTHER _____:	\$ _____
BOND(S):	\$ _____
TOTAL:	\$ _____

SPECIAL CONDITIONS:

OCEAN COUNTY SOILS: _____

DRAINAGE EASEMENTS: _____

UTILITY EASEMENTS: _____

CONSERVATION EASEMENTS: _____

FEMA REQUIREMENTS: _____

D.E.P. PERMITS: _____

BOARD APPROVAL: ☐ PB ☐ ZB

APPLICATION NUMBER: _____

APPROVED DATE: _____

DATE RECEIVED: _____ DATE REJECTED: _____ DATE APPROVED: _____ INITIALS: _____

TOWNSHIP OF BRICK

OCEAN COUNTY, NEW JERSEY
401 CHAMBERS BRIDGE ROAD, BRICK, N.J. 08723

John G. Ducey, Mayor

Township Council:

Paul Mummolo - President
Heather deJong - Vice President
Jim Fozman
Susan Lydecker
Bob Moore
Marianna Pontoriero
Andrea Zapcic



Division of Engineering

Elissa C. Commins, PE, PP, CME, CPWM, CFM
Township Engineer & Floodplain Manager
Ecommins@twp.brick.nj.us

732-262-1040
Fax: 732-262-2941
www.twp.brick.nj.us

Date: 5/3/16

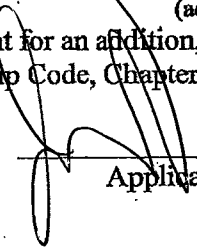
**ENGINEERING
PLOT PLAN EXEMPT FORM
(ONLY IF NOT IN A FLOOD ZONE)**

Block: 548 Lot: 21

Property Address: 34 Drum Point Road

I, James E. Lawroski, Jr. of 904 Atlantic Ave, Pt. Pleasant
(name) (address)

request to be exempt from the plot plan requirement for an addition, fence, shed, deck, pool, retaining wall, etc. as outlined in the Township Code, Chapter 245, Section 245-29.


Applicant's Signature

The following shall be submitted with this request:

1. Submit surveys locating existing dwelling and proposed addition. Dimensions of the addition should be included.
2. **Proof that the property is not located in a Flood Hazard Area.**

Note: Prior to approval a site inspection by the Engineering Department will be performed to verify that the proposed addition will not create a drainage problem.

FOR OFFICE USE ONLY

Approved on: _____ Signed: _____

Rejected on: _____ Signed: _____

Comments:



[illegible]

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. ☐ I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. ☐ I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(f)1.ix:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. ☐ I further certify that I will perform or supervise the following work:

C.1. ☐ Building C.2. ☐ Fire Protection

I further certify that I will perform the following work:

C.3. ☐ Electrical C.4. ☐ Plumbing

- D. ☐ I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

☒ Check if contractor.

Agent Name Altec Building Systems Corp.
Address 904 Atlantic Avenue
Pt. Pleasant, NJ 08742
Telephone (732) 803-6264
Signature _____

III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.