

BLOCK 701.39 LOT 12 QUALIFICATION CODE _____ADDRESS (SITE) 346 Chambers Bridge RoadPERMIT NO. 12-1706

CONSTRUCTION PERMIT APPLICATION

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

I. IDENTIFICATION

1. Proposed Work Site at: Brick Township High School

2. Name of Owner in Fee: Brick Township Board of Education
Tel. (732) 785-2000 e-mail _____
Address 101 Hendrickson Ave, Brick Township 08724
street municipality zip code

3. Ownership in Fee: Public X Private _____

4. Principal Contractor: Design Resources Group Tel. (732) 560-7900
Address Contractor to follow e-mail _____

License No. OR, if new home, Builder Reg. No. _____ Exp. Date _____

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

Federal Emp. ID No. _____ FAX: (_____) _____

5. Architect or Engineer Design Resources Group Contact Patrick Seiwel
Address 371 Hoes Lane, Piscataway NJ 08854 e-mail patrickseiwel@drgrain.com
Tel. (732) 560-7900 FAX: (732) 560-7910

6. Responsible Person in Charge once Work has Begun Patrick Seiwel
Tel. (732) 560-7900 FAX: (732) 560-7910

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

	(office use only)
1. Number of Stories	
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. Flood Elevation	ft.
12. Wetlands	yes _____ no _____

IIa. PROPOSED WORK

- ☐ Minor Work ☐ New Building ☐ Addition ☐ Renovation ☐ Reconstruction
- ☐ Repair ☐ Alteration ☐ Annual Permit
- ☐ Asbestos Abat. -Subch. 8 ☐ Lead Hazard Abatement ☐ Radon Remediation

IIb. SUBCODES

(Check all that apply)

- ☐ Building
- ☐ Electrical
- ☐ Plumbing
- ☐ Fire Protection
- ☐ Elevator

FOR OFFICE USE ONLY (Optional)

Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Rejection	Re-viewer
	<u>Mark</u>	<u>2/9/12</u>	<u>2-16-12</u>			<u>6/21/12</u>		<u>JS</u>

TOTAL COST

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: _____

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

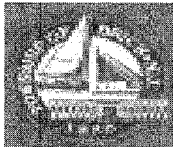
- D. Construct. Classification: Present _____ Proposed _____

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



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 11/27/2012
Control Number C-12-000436
Permit Number 12-1706
Permit Issue Date 06/22/2012
Certificate Number 12-1706

Certificate

Construction Code Division
(Certificate of Approval)

Identification

Work Site Location: 346 CHAMBERS BRIDGE RD. Brick Township Block: 701.39 Lot: 12 Qual: _____
HS Brick Township, NJ

Owner in Fee: BRICK TOWNSHIP EDUCATION

Owner Address: 101 HENDRICKSON AVE. BRICK NJ 08723

Telephone: (732) 785-3000

Contractor Design Resources Group

Address 371 Hoes Lane Ste. 301 Piscataway NJ 08854

Telephone: (732) 560-7900 Fax: (732) 560-7910

License Number or Builders Registration Number: _____ Federal Emp. Number: _____

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: R-5 Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: ALTERATION - COMMERCIAL Remove and install gym lights

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:

Construction Official

Fee: \$0.00
Check Number: _____
Collected By: _____

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 Design Resources Group - David Galati

Address 371 Hoes Lane Suite 301, Piscataway NJ

Telephone (732) 560-7900

Signature David Galati

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

CERTIFICATION IN LIEU OF OATH

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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:

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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.

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Signature _____ Date _____

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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.

(X) Check if contractor.

Agent Name Walter Sodon

Address 25 West Highland Avenue

Atlantc Highlands, NJ 07716

Telephone (732) 291-1713

Signature _____

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



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 121.34 Lot 12 Qualification Code _____

Work Site Location Brick Township High School
340 Chambersburg Road, Bldg. 111

Owner in Fee: Brick Township B.O.E.

Tel. (132) 785-3000 e-mail _____

Address 101 Hendrickson Ave Brick Township 08724

Contractor: Design Resources Group-Contractor Tel. (132) 5100 7100

Address _____ e-mail _____

Contractor License No. _____ Exp. Date _____

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

Federal Emp. ID No. _____ FAX: (____) _____

B. ELECTRICAL CHARACTERISTICS

Use Group Present Educational Proposed Educational

☐ Pole/Pad # _____ ☐ Temporary ☐ Other _____

Building Occupied as School Utility Co.

Est. Cost of Elec. Work \$ 100,000 per ender installed

JOB SUMMARY (Office Use Only)

PLAN REVIEW		INSPECTIONS	
	Dates (Month/Day)		
☐ No Plans Required	Type: _____	Failure	Approval
☐ Partial Under-slab Utilities Approved	Rough		Initial
Date: _____	Barrier-Free		
☐ Electric Plans Approved	Trench		
Date: _____	Temp. Serv.		
☐ Joint Plan Review Required:	Constr. Serv.		
☐ Bldg. ☐ Plumb. ☐ Fire. ☐ Elev.	TCO		
SUBCODE APPROVAL for PERMIT	Other		
Date: _____	Service		
Approved by: _____	Final		
	Barrier-Free		
SUBCODE APPROVAL for CERTIFICATE	Temp. Cut-in-Card Date Issued		
☐ CO ☐ CCO ☐ CA	Final Cut-in-Card Date Issued		
Date: _____	Annual Pool Inspection		
Approved by: _____	Date of Grounding and Bonding Certification		

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: _____
[] Licensed Elec. Contractor [] Certifd Landscape Irrigation Contr [] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: Removal and installation of existing gymnasium lights

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/+ HP _____

KW Transformer/Generator _____

AMP Service _____

AMP Subpanels _____

AMP Motor Control Center _____

KW Elec. Sign/Outline Light _____

Date Received _____

Control # _____

Date Issued _____

Permit # _____

Administrative Surcharge \$ _____

Minimum Fee \$ _____

State Permit Surcharge Fee \$ _____

TOTAL FEE \$ _____



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 901,39 Lot 12 Qualification Code _____
Work Site Location Brick Township; High School

Owner in Fee: Brick Township School District

Tel. (732) 785-3000 x1016 e-mail _____

Address 10 Hendrickson Avenue

Brick

Contractor: Sodon's Electric, Inc.

Tel. (732) 291-1713

Address 25 West Highland Avenue

e-mail mary@u@sodonseletric.co

Atlantic Highlands, NJ 07716

Contractor License No. 5458

Exp. Date _____

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

Federal Emp. ID No. 222401656 FAX: (732) 291-8702

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____

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

Building Occupied as School Utility Co. JCP&L

Est. Cost of Elec. Work \$ 40,000

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[] No Plans Required

[] Partial -Underslab Utilities Approved

Date: _____ Approved by: _____

[] Electric Plans Approved

Date 6/21/12 Approved by: JS

Joint Plan Review Required:

[] Bldg. [] Plumb. [] Fire. [] Elev.

SUBCODE APPROVAL for PERMIT

Date: 6/21/12 Approved by: JS

SUBCODE APPROVAL for CERTIFICATE

[] CO [] CCO [] CA

Date: _____

Approved by: _____

INSPECTIONS	Dates (Month/Day)
Type:	Failure Failure Approval Initial
Rough	
Barrier-Free	
Trench	
Temp. Serv.	
Constr. Serv.	
TCO	
Other	
Service	
Final	
Barrier-Free	
Temp. Cut-in-Card Date Issued	
Final Cut-in-Card Date Issued	
Annual Pool Inspection	
Date of Grounding and Bonding Certification	

C. CERTIFICATION IN LIEU OF OATH
I hereby certify that I am the (agent, owner, or registered professional) who made this application and performance work installation, and I am not a signatory to make this application sign/Contractor sign and seal here:

Print name here: Walter P. Sodon

[X] Licensed Elec. Contractor [] Certified Engineering Investigator [] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK:

Gym Lighting

QTY. SIZE ITEMS

48 Lighting Fixtures

Receptacles

10 Switches

Detectors

Light Poles

Motors—Fract. HP

Emergency & Exit Lights

Communications Points

Alarm Devices/F.A.C. Panel

108

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/+ HP

KW Transformer/Generator

AMP Service

AMP Subpanels

AMP Motor Control Center

KW Elec. Sign/Outline Light

Lighting Control Panel

Administrative Surcharge \$

Minimum Fee \$

State Permit Surcharge Fee \$

TOTAL FEE \$

TECHNICAL SUBCODE



CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO. 1-800-272-1000.

Block 101.39 Lot 19 Qualification Code _____
Work Site Location Brick Township, High School

Owner in Fee: Brick Township School District

Tel. (732) 785-3000 x1016 e-mail _____

Address 10 Hendrickson Avenue Brick

Contractor: Sodon's Electric, Inc. Tel. (732) 291-1713

Address 25 West Highland Avenue e-mail marylu@sodonselectric.co

Atlantic Highlands, NJ 07716

Contractor License No. 5458 Exp. Date _____

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

Federal Emp. ID No. 222401656 FAX: (732) 291-8702

B. ELECTRICAL CHARACTERISTICS

Use Group Present _____ Proposed _____

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

Building Occupied as School Utility Co. JCP&L

Est. Cost of Elec. Work \$ 40,000

JOB SUMMARY (Office Use Only)

PLAN REVIEW		INSPECTIONS		Dates (Month/Day)	
		Type:	Failure	Failure	Approval
[] No Plans Required		Rough			
[] Partial - Underslab Utilities Approved		Barrier-Free			
Date: _____ Approved by: _____		Trench			
[] Electric Plans Approved		Temp. Serv.			
Date: <u>6/11/12</u> Approved by: <u>JS</u>		Constr. Serv.			
Joint Plan Review Required:		TCO			
[] Bldg. [] Plumb. [] Fire. [] Elev.		Other			
SUBCODE APPROVAL for PERMIT		Service			
Date: <u>6/11/12</u>		Final			
Approved by: <u>JS</u>		Barrier-Free			
SUBCODE APPROVAL for CERTIFICATE		Temp. Cut-in-Card Date Issued			
[] CO [] CCO [] CA		Final Cut-in-Card Date Issued			
Date: <u>10-2-12</u>		Annual Pool Inspection			
Approved by: <u>JS</u>		Date of Grounding and Bonding			
		Certification			

C. CERTIFICATION IN LIEU OF OATH
I hereby certify that I am the (registered) owner, architect and duly authorized to make this application and perform the work specified on this application.
Applicant sign/Contractor _____
sign and seal here: _____
Print name here: Walter P. Sodon

[X] Licensed Elec. Contractor [] Certifd Landscaper/Plantation Contr. [] E-emp Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK:

Gym Lighting

QTY.	SIZE	ITEMS	FEE (Office Use Only)
48		Lighting Fixtures	
		Receptacles	
		Switches	
10		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
50		Communications Points	
		Alarm Devices/F.A.C. Panel	
108		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/+ HP
- KW Transformer/Generator
- AMP Service
- AMP Subpanels
- AMP Motor Control Center
- KW Elec. Sign/Outline Light
- Lighting Control Panel

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

Control # _____
Date Issued: 6/22/12
Permit # 12.1706



CONSTRUCTION PERMIT

Date Issued
Control #
Permit #

6/22/12
C-12-000436
12-1706

IDENTIFICATION Block: 701.39 Lot: 12 Qualifier
Work Site Location: 346 CHAMBERS BRIDGE RD. Brick Township HS Contractor Design Resources Group
Brick Township, NJ Address 371 Hoes Lane Ste. 301 Piscataway NJ 08854
Owner in Fee BRICK TOWNSHIP EDUCATION
101 HENDRICKSON AVE. BRICK NJ 08723 Telephone: (732) 560-7900
Telephone: (732) 785-3000 Lic. No. or Bldrs. Reg. No.
Federal Employee. No.

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:

ALTERATION - COMMERCIAL Remove and install gym lights

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 \$40,000

Construction Official

Date

6-22-12

U.C.C. F170
equiv (rev 8/03)

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	\$0
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.



CONSTRUCTION PERMIT APPLICATION

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

I. IDENTIFICATION

1. Proposed Work Site at: Brick Township High School

2. Name of Owner in Fee: Brick Township School Dist

Tel. (732) 785-3000 x1016 e-mail _____

Address 10 Hendrickson Ave Brick Twp

3. Ownership in Fee: Public Private street municipality zip code

4. Principal Contractor: Sodon's Electric, Inc. Tel. (732) 291-1713 e-mail marylu@sodonselectric.c

Address 25 W. Highland Avenue e-mail _____

Atlantic Highlands, NJ 07716

License No. OR, if new home, Builder Reg. No. 5458 Exp. Date _____

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

Federal Emp. ID No. 222401656 FAX: (732) 291-8702

5. Architect or Engineer _____ Contact _____ e-mail _____

Address _____ Tel. _____ FAX: _____

6. Responsible Person in Charge once Work has Begun _____ Tel. _____ FAX: _____

IIa. PROPOSED WORK

☐ Minor Work ☐ New Building ☐ Addition ☐ Demolition

☐ Repair ☐ Alteration ☐ Renovation ☐ Reconstruction

☐ Asbestos Abat. -Subch. 8 ☐ Lead Hazard Abatement ☐ Radon Remediation ☐ Annual Permit

IIb. SUBCODES

(Check all that apply)

	Est. Cost	Plans Recd by	Date Recd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates	Re-viewer
☐ Building								
☒ Electrical	40,000							
☐ Plumbing								
☐ Fire Protection								
☐ Elevator								
TOTAL COST	\$40,000							

FOR OFFICE USE ONLY (Optional)

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

2. ☐ High Pressure Boilers

3. ☐ Refrigeration Systems

4. ☐ Cross-Connections/Backflow Preventers

5. ☐ Hazardous Uses/Places of Assembly

6. ☐ Smoke Control Systems in Open Wells

7. ☐ Swimming Pools, Spas and Hot Tubs

8. ☐ Fire Alarm

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 _____ (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 _____

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 _____

Lost, Rental _____

B. NON-RESIDENTIAL (primary use)

1. State Specific Use: _____

2. Use Group, Proposed: _____

3. Change in Use Group, Indicate Present: _____

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

D. Construct. Classification: Present _____ Proposed _____

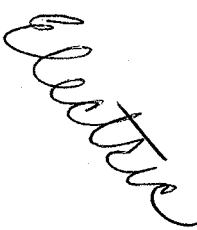
Lisa Rose Tavaiaiccio

From: Patrick Seiwell [patrick@dragaia.com]
Sent: Tuesday, February 14, 2012 12:27 PM
To: Lisa Rose Tavaiaiccio
Cc: Daniel Newman
Subject: Permit Packages

Please apply the following estimated construction costs to commence review:

Lighting Projects:

Brick Mem HS \$73,000
Brick Twp High School \$60,000
Drum Point \$10,000
Lake Riviera \$37,000
Veterans Mem Middle School \$37,000



Chair Lift

Brick Township High School \$75,000

Also, please apply myself as the contact person for all projects:

Patrick S. Seiwell (owner's Rep / Architect)
908-295-5397 (cell)

If there is anything else required to expedite the review process, please do not hesitate to call.

Sincerely,

Patrick S. Seiwell
Design Resources Group, Architects, AIA, Inc.
371 Hoes Lane, Suite 301
Piscataway, NJ 08854
p (732) 560-7900
f (732) 560-7910
www.dragaia.com

Principals

Patrick S. Seiwell NJ Lic #21A101611000

Hany Y. Salib NJ Lic #21A101733800
Phillip J. Cacossa NJ Lic #24GE037049000

TOWNSHIP OF BRICK

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

Stephen C. Acropolis, Mayor

Township Council:

John Ducey - President
Bob Moore - Vice President
Domenick Brando
Jim Fozman
Susan Lydecker
Joseph Sangiovanni
Dan Toth



Department of Community Development & Land Use

Juan Carlos Bellu
Director

732-262-1027

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

February 16, 2012

Design Resources Group
371 Hoes Lane, Ste. 301
Piscataway, NJ 08854

Dear Patrick Seiwell,

The permit applications for the gymnasium lighting in Brick Township's public schools have been reviewed by our electrical sub code official. It has been determined the plans are satisfactory but this office cannot release the permit until the contractor information, with seal and signature has been updated.

If you have any questions, please do not hesitate to contact me at 732-262-1030.

Thank you for your anticipated cooperation.

Sincerely,

Daniel Newman Jr.
Construction Official

DN/lrt

Cc: Jim Edwards, Business Administrator
Robert Vogel, Director of Facilities





State of New Jersey
DEPARTMENT OF COMMUNITY AFFAIRS
101 SOUTH BROAD STREET
PO Box 802
TRENTON, NJ 08625-0802

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

RICHARD E. CONSTABLE, III
Acting Commissioner

January 12, 2012

Mr. Daniel F. Newman, Jr.
Construction Official
Brick Township, Municipal Building
401 Chambers Bridge Road
Brick Township, New Jersey 08723

Re: Project: Gym Lighting
School: Brick Township HS
School District: Brick Township
County: Ocean
DOE Project #: 0530-020-10-1039

Dear Mr. Newman:

The New Jersey Department of Education (NJDOE) has forwarded the above-referenced school district's request for permission to allow your agency to perform plan review in accordance with the requirements of the New Jersey Uniform Construction Code (NJUCC). The New Jersey Department of Community Affairs hereby grants the requested permission.

Please be aware that it is your agency's responsibility to ensure the NJDOE has issued final educational adequacy approval or has determined no such approval is required. Furthermore, your agency must obtain the plans that have been approved by the NJDOE from the school district or its design professional.

In addition to plan review for compliance with all of the subcodes of the NJUCC, as they may be applicable, it is also your responsibility to ensure compliance with N.J.A.C. 5:23-3.11A(c) and the NJDOE's public school facility requirements enumerated in Bulletin #00-3, as appropriate.

If you have any questions, please feel free to contact this office at (609) 984-7609.

Sincerely,


John N. Terry
Division of Codes and Standards

c: Mr. Walter Hrycenko, Superintendent, Brick Township School District
Enclosure to Construction Official: DOE Stamped Plans



STATE OF NEW JERSEY
DEPARTMENT OF EDUCATION - CHIEF OF STAFF
OFFICE OF SCHOOL FACILITIES

STATE PROJECT#:

Parent 0530-020-10-1039

Land

Temporary

Feasibility

Emergent

SCHOOL
FACILITIES

REQUEST FOR LOCAL RELEASE OF SCHOOL CONSTRUCTION PLANS

Project and District Information

County: OCEAN
District Name: BRICK TWVP
District Number: 0530
School Name: Brick Township High School
School Code: 020

District Contact: Mr. James Edwards
Contact Title: Business Administrator
District Telephone #: 732-785-3000
District Fax #: 732-840-9089
District E-Mail: jedwards@brickschools.org

Project Title: Replace Gym Lighting at BTHS
Project Address: 346 Chambersbridge Road
Municipality: Brick Township
Zip Code: 08723

A/E Firm: Spiezie Architectural Group
A/E Contact: Steven Siegel, Associate
A/E Phone #: 609-695-7400
A/E Fax #: 609-394-2274
A/E E-Mail: Ssiegel@spiezie.com

Brief Description of Project:

Replace Gym lighting.

It is the request of the above-named school district to have this project reviewed for State Uniform Construction Code compliance (including N.J.A.C. 5:23-3.11A(c) and Department of Community Affairs, Division of Codes and Standard Bulletin 00-3) and other applicable State Codes by a municipal code enforcing agency, pursuant to P.L. 1990 c. 23.

Chief School Administrator (Signature):

Chief School Administrator:

Mr. Walter Hrycenko

Date: 4/14/11

This project will be reviewed for compliance by the below named appropriately licensed municipal code enforcing agency

Municipality Name:

Other Municipality (only if project located in > 1 jurisdiction):

Brick Township

Municipal Code Enforcing Agency Construction Official (Name):

Daniel F. Newman, Jr.

Municipal Code Enforcing Agency Construction Official (Signature):

[Signature]

Date: 4-14-11

Municipal Code Enforcing Agency Classification is class:

Class 1

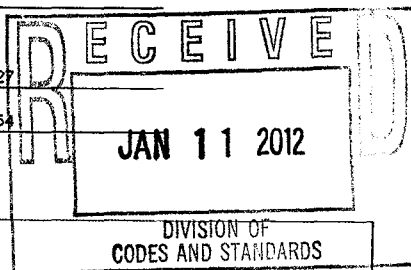
Municipal Code Enforcing Agency Address:

Street: Municipal Building
401 Chambers Bridge Road
City: Brick Township
State: New Jersey
Zip Code: 08723

Phone: 732-262-1027

Fax: 732-262-8954

Comments/Notes for ease of UCC Review:



FOR DCA* USE ONLY

*Note: For all capital projects for NJ Private Schools for the Disabled, DOE will Approve this Form in place of DCA.

Request Reviewed By: John N. Terry

Title: Mgr., CCE

Signature:

Date Acted Upon: 1/11/12

Action:

☐ APPROVED☐ DENIED (identify reason below)☐ RETURNED NO ACTION (identify reason below)

Comments:



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723
(732) 262-1027

Subcode Official Review

To: 101 HENDRICKSON AVE. BRICK, NJ 08723 CC:

RE: Electrical Subcode
Block: 701.39 Lot: 12 Qual:
346 CHAMBERS BRIDGE RD.
Permit Number: Control Number: C-12-000436
Last Submit Date: Tuesday, February 14, 2012

Date: Thursday, February 16, 2012

Dear BRICK TOWNSHIP EDUCATION,
Your request is hereby denied based upon the following infractions.

electrical tech card must be signed and sealed by electrical contractor

*2/16/12
see attached letter*

Sincerely,

Geoffrey Stahl, Subcode Official

*4-10-12
REVISE PLANS TO MATCH APPLICATION*

SPECIFICATIONS FOR:
Gymnasium Lighting Replacements

DRG 1126

AT

Brick Memorial High School	State Plan	0530-025-10-1038
Brick Township High School	State Plan	0530-020-10-1039
Drum Point Elementary School	State Plan	0530-030-10-1045
Lake Riviera Middle School	State Plan	0530-043-10-1061
Veterans Memorial Middle School	State Plan	0530-090-10-1077

FOR THE

Brick Township
Board of Education

OWNER

Brick Township School District
101 Hendrickson Avenue
Brick Township, NJ 08724

ARCHITECT

Design Resources Group, Architects, AIA
371 Hoes Lane, Suite 301
Piscataway, New Jersey 08854
Tel: (732)-560-7900
Fax: (732)-560-7910

DATE: Oct. xx, 2011
SET NO: _____

P # 12-1706
B # 701.39 L#12
346 Chambers Bridge Rd.
BRICK High School

SPECIFICATIONS FOR:
Gymnasium Lighting Replacements

DRG 1126

AT

Brick Memorial High School	State Plan	0530-025-10-1038
Brick Township High School	State Plan	0530-020-10-1039
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FOR THE
Brick Township
Board of Education

OWNER

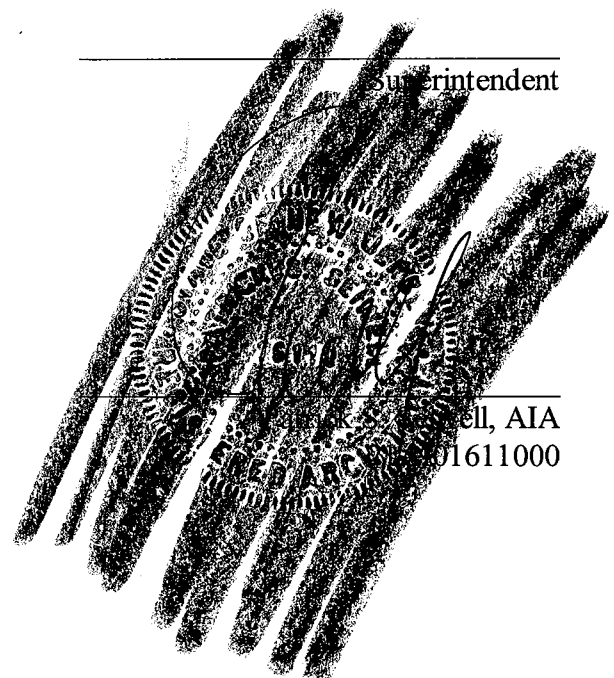
Brick Township School District
101 Hendrickson Avenue
Brick, New Jersey 08724

ARCHITECT

Design Resources Group
Architects, AIA, Inc.
371 Hoes Lane, Suite 301
Piscataway, New Jersey 08854
(732) 560-7900
(732) 560-7910 Fax

Board President

Superintendent



ell, AIA
01611000

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INSTRUCTIONS TO BIDDERS
COPY OF NOTICE TO BIDDERS (LEGAL ADVERTISEMENT)

Notice is hereby given that sealed bids will be received by the **Brick Township Board of Education** for the complete construction of **Gym Lighting Replacements at the:**

Brick Memorial High School	State Plan	0530-025-10-1038
Brick Township High School	State Plan	0530-020-10-1039
Drum Point Elementary School	State Plan	0530-030-10-1045
Lake Riviera Middle School	State Plan	0530-043-10-1061
Veterans Memorial Middle School	State Plan	0530-090-10-1077

together with all work incidental thereto in accordance with Drawings and Specifications prepared by Design Resources Group, Architects, AIA, Inc., **Drawings and Specifications will be available as of [REDACTED] at the office of the Architect.**

Bids will be received by the Owner at its offices, located at **101 Hendrickson Avenue, Brick, New Jersey, 08724** until prevailing time on **[REDACTED]** and will be opened and read aloud immediately thereafter. Bids must include all applicable allowances, unit prices, and numbered alternate bids.

Bids will be received for the following contracts, in accordance with NJS 18A:18A-18:

SINGLE CONTRACT BID:

CONTRACT NO. 1 Gym Lighting Replacements

The Instructions to Bidders, Form of Bid, Specifications, Drawings and other contract documents may be examined at the office of the Architects, **Design Resources Group Architects, AIA, 371 Hoes Lane, Piscataway, NJ 08854** and can be loaned to prospective bidders upon deposit of **One Hundred Dollars (\$100.00)**, "NON-REFUNDABLE", for each complete set. **Payment is to be in the form of a check made payable to Design Resources Group, Architects.**

Bid documents will not be mailed to prospective bidders under any circumstances.

Bidders shall use complete sets of Bidding Documents in preparing Bids. Neither the Owner nor the Architect will assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

Each bid must be accompanied by a bid security deposit of an amount equal to at least ten (10%) percent of the amount of the base bid, but not in excess of \$20,000, the deposit may be either a certified check or cashier's check drawn on an incorporated bank or trust company payable to the order of the Owner, or a bid bond in favor of the Owner as a guarantee that, in case the contract is awarded to the bidder, he will execute such contract. Upon failure to do so, the bid security will become liable up to its full amount for any difference between the amount of his bid and the Contract which the Owner may be obliged to award another bidder or bidders.

The bid security deposits of all excepting the three lowest bidders will, if requested, be returned after ten (10) days from the opening of bids, Sundays and holidays excepted, and the remaining deposits will be returned when the contract of the successful bidder is approved.

The successful bidder will be required to furnish a New Jersey Statutory Performance Bond and a Labor and Material Payment Bond in the amount of the contract sum.

The Owner reserves the right to waive any informalities in, or to reject, any or all bids.

Attention of the bidders is called particularly to the requirements of conditions of employment and to the minimum prevailing wage rates to be paid under the contract as stated in the Instructions to Bidders, the General Conditions of the Contract for Construction, and the Supplementary General Conditions.

Bidders are required to comply with the "Affirmative Action" requirements of N.J.S.A. 10:5-31 et seq. and (NJAC 17:27).

Wherever reference is made to the Owner, Title of Project, or Architect, they shall be as follows:

OWNER:

Brick Township Board of Education

ADDRESS BIDS AND MAIL TO:

**101 Hendrickson Avenue
Brick, New Jersey 08724**

TITLE OF PROJECT:

Gym Lighting Replacements at the:

Brick Memorial High School	State Plan	0530-025-10-1038
Brick Township High School	State Plan	0530-020-10-1039
Drum Point Elementary School	State Plan	0530-030-10-1045
Lake Riviera Middle School	State Plan	0530-043-10-1061
Veterans Memorial Middle School	State Plan	0530-090-10-1077

ARCHITECT:

**Design Resources Group, Architects, AIA
371 Hoes Lane
Piscataway, NJ 08854**

CONTRACTOR:

In case of a single contract, all terms such as "General Contractor", "Steel Contractor", "Plumbing Contractor", "Heating Contractor", "Electrical Contractor", etc., shall be changed to read "the Contractor".

SCOPE

It is the intention that the Drawings, Specifications and other contract documents provide for the complete construction of Various Maintenance and Upgrade projects for the Owner complete in all its parts. Any work shown on the Drawings and not particularly described in the Specifications or vice versa, or any work evidently necessary to complete the Contract, shall be included in the bid.

During the course of the work, should any ambiguities or discrepancies be found in or between the Drawings and Specifications, the Architect will interpret the intent of the Drawings and Specifications. It is expressly stipulated that neither the Drawings nor the Specifications shall take precedence one over the other, and that the Architect will interpret or construe the Drawings and Specifications so as to secure the most substantial and complete performance of the work as is most consistent with the needs and requirements of the work.

PREPARATION OF THE BID

The proper bid form is made by "Reproducing" the Bid Form on the bidder's own letterhead.

The "complete" Bid Form includes the Bid Bond, Guarantee Certificate of Surety, Ownership Disclosure Certification, Non-Collusion Affidavit, Contractor Registration Certificate, Subcontractor List and any other documents noted in these Instructions to Bidders or indicated on the Bid Form to be submitted with this Bid.

Bid prices must be filled in, in ink, in both words and figures for lump sum bids, base bids, alternative bids, and unit prices for the contract or work for which the bid is made.

All numbered Alternate Bids, if any have been specified applicable to the bidder's work, must be bid. State the

The Bid Security shall be in the amount of ten (10%) percent of the Bid but not in excess of \$20,000 and payable to the order of the Owner. Bid Security, at the option of the bidder, may be a certified or cashier's check drawn on an incorporated bank or trust company, or a bid bond equivalent in scope to the sample Bid Bond included with the Bid Form.

All bid security except the security of the three (3) apparent lowest responsible bidders shall, if requested, be returned after ten (10) days from the opening of bids, Sundays and holidays excepted, and the bids of such bidders shall be considered as withdrawn. Within three (3) days after the awarding of the contract and the approval of the Contractor's performance bond, the bid security of the remaining unsuccessful bidders shall be returned to them forthwith, Sundays and holidays excepted.

If the successful bidder fails to execute the Contract and furnish the Performance Bond and Labor & Materials Payment Bond within eight (8) days from the date of "Notice of Acceptance," the award of the Contract may be rescinded and the bid security will become liable up to its full amount for any difference between the amount of his bid and the Contract which the Owner may be obliged to award to another bidder or bidders.

If the bid is not accepted within sixty (60) days after the date of opening of bids, or any length of time thereafter, if agreed to by the Owner and the bidder, or if the bidder executes the Contract and delivers the performance bond, the bid security will be returned to the bidder. No interest will be allowed on the bid security deposits. If the bid security is in the form of a bid bond, the bonding company shall fulfill the obligation as herein stated.

GUARANTEE CERTIFICATE FROM SURETY COMPANY

All bidders are required to submit with their bid a guarantee certificate from a surety company authorized to do business in New Jersey and satisfactory to the Owner, stating that it will provide the Contractor with a bond for the faithful performance of all provisions relating to the performance of the Agreement with the Owner during the course of construction; and including the guarantees required under Article 12 of Chapter 44 of Title 2A of the New Jersey Statutes; and a maintenance bond during the one year warranty period after the date of Substantial Completion.

BOND OF AN INDIVIDUAL

If a bidder desires to offer the bond of an individual instead of that of a surety company, he shall submit with his bid a certificate signed by such individual similar to that required of a surety company.

The Owner may reject any such bid if it is not satisfied with the sufficiency of the individual surety offered.

PERFORMANCE AND LABOR AND MATERIAL PAYMENT BOND

A New Jersey Statutory Performance Bond and a Labor and Material Payment Bond, from a surety company authorized to do business in New Jersey and satisfactory to the Owner, in the amount of one hundred (100%) percent of the Contract Sum shall be delivered simultaneously with the executed Contract. If, at any time, or for any reason, the bonds cease to be adequate security for the Owner, the successful bidder shall, within five (5) days after notice, substitute an acceptable bond with surety satisfactory to the Owner.

The premium on bonds shall be paid by the successful bidder.

BONDING ATTORNEYS

Attorneys in fact, who sign bonds, shall file with each bond a certified and effectively dated copy of their power of attorney.

OWNERSHIP DISCLOSURES REQUIRED

CONDITIONS OF THE WORK

Bidders shall submit bids subject to and in accordance with all the conditions stated herein, required by the Specifications, Drawings, and actual conditions. Bidders shall carefully examine the site(s), as well as the Drawings and Specifications and fully inform themselves as to the existing conditions and to the work of others coming in conjunction with their work, both labor and materials even though not especially shown or noted, but which are necessary to obtain a complete and finished condition.

Bidders are advised that construction terms and conditions set forth in the Contract Documents will be rigidly enforced.

ADDENDA AND INTERPRETATIONS

Should any error, omissions, inconsistencies or obscure wording appear or occur in the Drawings and Specifications or should there be any discrepancies between Drawings and Specifications, the bidder, shall, before submitting his bid, apply to the Architect in writing, for an interpretation and determination of the intent of the Drawings and Specifications. Requests for such interpretations, to be given consideration, must be received *by the dates outlined in the Advertisement to Bid*.

Any interpretation or supplemental instructions will be in the form of written Addenda to the Specifications, which if issued, will be mailed by receipted mail or sent by facsimile to all bidders of record, for receipt in accordance with P.L. 1999, c.440.

Each bidder shall ascertain, prior to submitting his bid, that he had received all Addenda issued and he shall acknowledge their receipt in his bid. Failure of any bidder to receive any Addenda or interpretation shall not relieve the bidder from any obligation under his bid as submitted. Addenda so issued shall become part of the Contract Documents.

The price bid for the work of any Contract shall **NOT** be based in any manner upon oral opinions or real or alleged instructions of an oral nature, regardless of whether such opinions or instructions are expressed by the Owner, the Architect or his Consultants, or agents or representatives of any of them.

FORM OF CONTRACT

Contracts will be let on **American Institute of Architects' Document A101, Standard Form of Agreement Between the Owner and Contractor where the Basis of Payment is a Stipulated Sum, 1992 Construction Manager-Adviser Edition.**

The Contract will be subject to all statutory provisions on the matter of Public Works, Public Contracts and Prevailing Rates of Wages under the laws of New Jersey.

PROGRESS PAYMENTS

Monthly progress payments will be made based on the value of labor and materials incorporated in the work and of materials suitably stored at the site. An itemized schedule of value shall be submitted with each application for payment.

Refer to Article 9 of the General Conditions for retainage and other conditions pertaining to payments.

All applications for payment, shall be accompanied by paid invoices for materials incorporated in the work, and for materials suitably stored at the site, and affidavit(s) by subcontractors whose work was included in the next to the last application to the effect such work and such materials have been paid for.

BID FORM

**ALL BID FORM DOCUMENTS TO BE SUBMITTED IN TRIPLICATE AND REPRODUCED ON
BIDDERS LETTERHEAD
ONE (1) ORIGINAL AND TWO (2) COPIES
BY FILLING OUT THIS BID FORM AND BY SIGNING SAME, THE FOLLOWING BIDDER IS
CERTIFYING THAT HE HAS PROCURED PRICING FOR THE PRODUCTS AS SPECIFIED.
WHILE NON-CONFORMING SUBSTITUTIONS MAY BE CONSIDERED AT LATER DATE,
THE BIDDER SHOULD NOT ANTICIPATE ACCEPTANCE OF SAME. A FULL CREDIT WILL
BE REQUESTED FROM ANY BIDDER WHO SUBMITS AND RECEIVES APPROVAL OF A
NON CONFORMING SUBSTITUTION DURING THE COURSE OF CONSTRUCTION. BY
SUBMITTING THIS PROJECT FOR PUBLIC BIDDING, THE OWNER HAS THE RIGHT TO
ASSUME THAT ALL CONTRACTORS HAVE BID ON EQUAL PRODUCTS PRIOR TO AWARD
OF CONTRACT.**

Date: _____, 20____.

TO:

From: _____
Name of Bidder

Street Address

City, State, Zip Code

Phone

Fax

Gentlemen:

Having carefully examined the Instructions to Bidders, General Conditions, Supplementary General Conditions, Drawings and Specifications for the **Gym Lighting Replacements at the:**

Brick Memorial High School	State Plan	0530-025-10-1038
Brick Township High School	State Plan	0530-020-10-1039
Drum Point Elementary School	State Plan	0530-030-10-1045
Lake Riviera Middle School	State Plan	0530-043-10-1061
Veterans Memorial Middle School	State Plan	0530-090-10-1077

prepared by Design Resources Group, Architects, AIA, and all Addenda issued by the Architects and mailed to the Undersigned by receipted mail or facsimile prior to the date of opening of bids whether received by the Undersigned or not, as well as the premises and conditions affecting the work, the Undersigned proposes to furnish all plant, labor, materials, supplies, equipment and other facilities necessary to, proper for, or incidental to:

In accordance with said documents for the sum of:

CONTRACT NO. 1:

(INSERT ADDRESS AND TELEPHONE NUMBER HERE)

Respectfully submitted,

Date

Trade, Company, or Corporate Name

Witness

Street

City

By: _____

Title: _____

Enclosures submitted with this bid.

- ____ 1. Department of Treasury Notice of Classification Form
- ____ 2. State of New Jersey Public Works Contract Registration Form
- ____ 3. Bid Bond
- ____ 4. Guarantee Certificate from Surety Company
- ____ 5. Ownership Disclosure Certification
- ____ 6. Non-Collusion Affidavit
- ____ 7. Affidavit of No Material Change
- ____ 8. Subcontractor Disclosure Statement
- ____ 9. Total Amount of Uncompleted Contracts
- ____ 10. Affirmative Action Certification - Exhibit "B"
- ____ 11. New Jersey Business Registration Certification
- ____ 12. Contractor / Bidder Political Contribution Form

SAMPLE GUARANTEE CERTIFICATE OF SURETY

KNOW ALL MEN BY THESE PRESENT, that for and in consideration of the sum of One Dollar, lawful money of the United States, the receipt whereof is hereby acknowledged, paid the undersigned Surety, and for other valuable consideration, the (INSERT SURETY'S NAME) a corporation organized and existing under the laws of the State of (INSERT NAME) and licensed to do business in the State of New Jersey, consents and agrees, that if the contract for the (INSERT TYPE OF WORK) for the (INSERT PROJECT NAME) be awarded to (INSERT CONTRACTOR'S NAME) the undersigned corporation agrees with the said Contractor to execute the final bond as required by the specifications, and to become Surety in the full amount in accordance with specifications for the faithful performance of the contract. The undersigned Surety does further agree that having examined the INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, and all other CONTRACT DOCUMENTS, and the bid of (INSERT CONTRACTOR'S NAME) hereto attached, we hereby declare that, if said bid or any part thereof be accepted, we are willing to be bound with the said bidder upon the terms and conditions mentioned in the proposal and specifications in one-hundred (100%) percent of the contract sum, conditioned upon the faithful and satisfactory performance of all obligations and requirements of the contract.

The undersigned Surety does further agree that they will supply a Maintenance Bond in ten (10%) percent of the contract sum, conditioned upon the faithful and satisfactory performance of all obligations and requirements for correction of work for one year from date of Substantial Completion.

IN WITNESS WHEREOF, the undersigned (INSERT SURETY'S NAME) has caused this agreement to be signed by its duly authorized representative and its corporate seal to be hereto affixed this _____ day of _____, 20____.

Countersigned by:

By _____ (Attorney-in-fact)

Resident Agent

NOTE: If the organization of the Surety is other than a corporation, substitute the proper type for the word "corporation", such as, Partnership, Proprietorship, etc.

SUBCONTRACTOR DISCLOSURE STATEMENT

BIDDER: _____

ADDRESS: _____

CITY, STATE, ZIP CODE _____

TELEPHONE: _____

In spaces below, provide names and addresses of subcontractors proposed to perform indicated categories of work. Include as supplemental information **DBC Notice of Classification, Total Amount of Uncompleted Contracts, DBC 701, and Public Works Contractor Registration Form**. Show approximate value of subcontract for each subcontractor.

ORNAMENTAL IRON AND STRUCTURAL STEEL

NAME _____ VALUE OF SUBCONTRACT: \$ _____

ADDRESS _____

CITY, STATE, ZIP CODE _____

DBC Classification Form attached (____) DBC Uncompleted Contract Form Attached (____)
Public Works Contractor Registration Attached (____)

PLUMBING AND GAS FITTING

NAME _____ VALUE OF SUBCONTRACT: \$ _____

ADDRESS _____

CITY, STATE, ZIP CODE _____

DBC Classification Form attached (____) DBC Uncompleted Contract Form Attached (____)
Public Works Contractor Registration Attached (____)

HVAC WORK

NAME _____ VALUE OF SUBCONTRACT: \$ _____

ADDRESS _____

CITY, STATE, ZIP CODE _____

DBC Classification Form attached (____) DBC Uncompleted Contract Form Attached (____)
Public Works Contractor Registration Attached (____)

ELECTRICAL WORK

NAME _____ VALUE OF SUBCONTRACT: \$ _____

ADDRESS _____

CITY, STATE, ZIP CODE _____

DBC Classification Form attached (____) DBC Uncompleted Contract Form Attached (____)
Public Works Contractor Registration Attached (____)

EQUIPMENT CERTIFICATION

(This Certification is part of the Bid Proposal)

State of New Jersey :
 : ss
County of _____ :

_____ being duly sworn, deposes and says:
(name of person signing Bid Proposal)

1. He resides at _____
Street Address, City, State, Zip Code
2. He signed the bid proposal as _____ - of the bidder.
Position Held
3. On behalf of the bidder, the undersigned certifies that the bidder has all the equipment necessary to complete this project as outlined in the drawings and specifications.

Subscribed and sworn to before me this

_____ day of _____, 20____.

Notary Public

BIDDER QUALIFICATION QUESTIONNAIRE
LIST OF PRIOR WORK

(This form is part of the Bid Proposal)

For purposes of verifying the experience and qualifications of the bidder to perform the contract work, the bidder submits this list of **at least three jobs** completed by the bidder **within the last five (5) years** which were similar in size and nature to the work proposed to be performed for the Owner.

Name and Address of Owner: _____

_____ Telephone No. _____

Description of Contract Work: _____

\$ Value of Contract: _____ Date of Completion of Work: _____

Description of Contract Work: _____

\$ Value of Contract: _____ Date of Completion of Work: _____

Name and Address of Owner: _____

_____ Telephone No. _____

Description of Contract Work: _____

\$ Value of Contract: _____ Date of Completion of Work: _____

Name and Address of Owner: _____

_____ Telephone No. _____

Description of Contract Work: _____

\$ Value of Contract: _____ Date of Completion of Work: _____

The undersigned bidder certifies that the above list of prior completed work is accurate.

_____ Name of Bidder

By: _____
Print Name and Title Under Signature

EXHIBIT B

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE

N.J.S.A 10:5-31 et seq., N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act .

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Division may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Division is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Division , that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2.

EXHIBIT B (Cont)

(6). To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:

(i) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Division. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(ii). The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in paragraph (i) above, whenever vacancies occur. At the request of the Division, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iii). If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Division.

(7). To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Division and submitted promptly to the Division upon request.

(C). The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that,

**STATE OF NEW JERSEY
DEPARTMENT OF THE TREASURY**

Attachment 8

**DIVISION OF PUBLIC CONTRACTS EQUAL EMPLOYMENT
OPPORTUNITY COMPLIANCE**

FORM AA201

FORM AA-201
Revised 10/08

STATE OF NEW JERSEY

DIVISION OF PUBLIC CONTRACTS
EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE

INITIAL PROJECT WORKFORCE REPORT CONSTRUCTION

Official Use Only

Assignment

Code

For instructions on completing the form, go to: http://www.state.nj.us/treasury/contract_compliance/pdf/aa201ms.pdf

1. FID NUMBER		2. CONTRACTOR ID NUMBER		3. NAME AND ADDRESS OF PUBLIC AGENCY AWARDED CONTRACT Name: Address:			
3. NAME AND ADDRESS OF PRIME CONTRACTOR (Name) (Street Address) (City) (State) (Zip Code)				CONTRACT NUMBER DATE OF AWARD DOLLAR AMOUNT OF AWARD			
				4. NAME AND ADDRESS OF PROJECT Name: Address:			
4. IS THIS COMPANY MINORITY OWNED ☐ OR WOMAN OWNED ☐				COUNTY		7. PROJECT NUMBER	
5. TRADE OR CRAFT				6. IS THIS PROJECT COVERED BY A PROJECT LABOR AGREEMENT (PLA)? YES ☐ NO ☐			
		PROJECTED TOTAL EMPLOYEES		PROJECTED MINORITY EMPLOYEES		PROJECTED PHASE - IN DATE	
		MALE FEMALE		MALE FEMALE		PROJECTED COMPLETION DATE	
		1 AP 2 AP		1 AP 2 AP			
1. ASBESTOS WORKER							
2. BRICKLAYER OR MASON							
3. CARPENTER							
4. ELECTRICIAN							
5. GLAZIER							
6. HVAC MECHANIC							
7. IRONWORKER							
8. OPERATING ENGINEER							
9. PAINTER							
10. PLUMBER							
11. ROOFER							
12. SHEET METAL WORKER							
13. SPRINKLER FITTER							
14. STEAMFITTER							
15. SURVEYOR							
16. TILER							
17. TRUCK DRIVER							
18. LABORER							
19. OTHER							
20. OTHER							

I hereby certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements are willfully false, I am subject to punishment.

(Signature)

T0. (Please Print Your Name)

(Title)

(Area Code)

(Telephone Number)

(Ext.)

(Date)

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY

- A. The owner is:
Brick Township Board of Education
101 Hendrickson Avenue
Brick, NJ 08724
- B. Section Includes:
1. Project description.
 2. Contracts scope description.
 3. Applicable regulatory requirements.
 4. Permits and licenses.
 5. Access to the site.
 6. Contractor's use of the premises.
 7. Coordination requirements.
 8. Coordination drawings.
 9. Preconstruction meeting.

1.02 PROJECT DESCRIPTION

- A. The project consists of:
1. Gym Lighting Replacements at the
Brick Memorial High School 0530-025-10-1038
Brick Township High School 0530-020-10-1039
Drum Point Elementary School 0530-030-10-1045
Lake Riviera Middle School 0530-043-10-1061
Veterans Memorial Middle School 0530-090-10-1077
 2. As shown in contract documents prepared by Design Resources Group, Architects, AIA.
- B. The work consists of:
1. **Removal and disposal o the existing lighting fixtures.**
 2. **Installation of new lighting fixtures.**
- C. The owner will be performing the following work:
1. - NA -
- D. **Milestone Events and Dates :**
- a Shop drawings to be submitted to Architect seven (7) calendar days after notice to proceed.
 - b Demolition / installation of the lighting fixtures begin **XXXXXX**.
 - c Substantial completion of the installation of the lighting fixtures **XXXXXX**.
- E. The Contractor shall complete any uncompleted items the punch list attached to the Certificate of Substantial completion **within 30 calendar days** or a time fixed by the Architect on the Certificate

- C. The following existing facilities may not be used by construction personnel:
 - 1. Toilet facilities.
 - 2. Food service facilities, including dining areas.
- D. The owner will continue to occupy the existing building during the construction period.
 - 1. The owner will endeavor to cooperate with the contractor's operations when the contractor has notified the owner in advance of need for changes in operations in order to accommodate construction operations.
 - 2. Conduct the work so as to cause the least interference with the owner's operations.
- E. Coordinate with Local Authorities as to which routes are capable of handling heavy truck traffic.
- F. Storage areas will be available on site.
- G. Signs: Provide signs adequate to direct visitors.
 - 1. Do not install, or allow to be installed, signs other than specified sign(s) and signs identifying the principal entities involved in the project.
- H. All deliveries by the Contractors to be coordinated with the Owner, prior to the delivery date.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. A preconstruction meeting will be held at a time and place designated by the architect, for the purpose of identifying responsibilities of the owner's and the architect's personnel and explanation of administrative procedures.
- B. The contractor shall also use this meeting for the following minimum agenda:
 - 1. Construction schedule.
 - 2. Use of areas of the site
 - 3. Delivery and storage.
 - 4. Safety.
 - 5. Security.
 - 6. Cleaning up.
 - 7. Subcontractor procedures relating to:
 - a. Submittals.
 - b. Change orders.
 - c. Applications for payment.
 - d. Record documents.
- C. Attendees shall include:
 - 1. The Owner.
 - 2. The Architect, and any consultants.
 - 3. Each prime contractor and their superintendents.

1. In particular, prepare the following coordination drawings:
 - a. Drawings showing all piping, duct, cable trays, electrical duct banks, and similar items, but not electrical conduit less than 4 inches in diameter.
 - b. Complete architectural, mechanical and electrical reflected ceiling layouts, (including ductwork, conduits, piping, lighting, etc.).
2. Where space is limited, show plan and cross-section dimensions of space available, including structural obstructions and ceilings as applicable.
3. Coordinate shop drawings prepared by separate entities.
4. Show installation sequence when necessary for proper installation.

END OF SECTION 01010

SECTION 01025 - PAYMENT, MODIFICATION, AND COMPLETION PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Payment procedures.
 - 2. Modification procedures.
 - 3. Completion procedures.
- B. Related Requirements Specified Elsewhere in the Project Manual:
 - 1. Progress payment dates and time limits.
 - 2. Retainage.
- C. Related Sections:
 - 1. Testing, Adjusting and Balancing of HVAC Systems prior to Substantial Completion: Elsewhere in Division 15.

1.02 CONTRACT CONDITIONS

- A. See the conditions of the contract for additional requirements.
- B. No payment will be made for materials or equipment stored off site (unless approved by A/E).
- C. **Payments will be withheld if the contractor fails to make dated submittals within the time periods specified. See Supplementary General Conditions, Article 9.2.**

1.03 DEFINITIONS

- A. Change Proposal Request: Any written request from the owner or architect to the contractor for a quotation, price, or breakdown on a change proposed but not ordered.
- B. Final Completion: The stage at which all incomplete and incorrect work has been completed or corrected in accordance with the contract documents.
- C. List of Incomplete Work: A comprehensive list of items to be completed or corrected, prepared by the contractor for the purpose of obtaining certification of substantial completion. This list is also referred to as a "Punch List."
- D. Modifications: Written amendments to the contract signed by both the owner and the contractor, change orders, construction change directives, and written orders for a minor change in the work issued by the architect.
- E. Substantial Completion: The time at which the work, or a portion of the work which the owner agrees to accept separately, is sufficiently complete in accordance with the contract documents so that the owner can occupy or use the work for its intended purpose.
- F. Time and Material Work: Work which will be paid for on the basis of the actual cost of the work, including materials, labor, equipment, and other costs as defined elsewhere, as documented by detailed records. This basis is also referred to using the terms "cost-plus," "cost of the work," "force

- b. Plumbing and Gas Fitting Prime Contractor to transmit one (1) copy to the Architect's Mechanical Engineer.
- c. Heating Ventilating and Air Conditioning Systems and Equipment Prime Contractor to transmit one (1) copy to the Architect's Mechanical Engineer.
- d. Electrical Prime Contractor to transmit one (1) copy to the Architect's Electrical Engineer.
- e. Architect's Consultants (Structural, Mechanical and Electrical) are noted on the title page of the Specifications Manual.

3.02 WAIVERS OF LIEN

- A. Submit, with each application for payment, waivers of lien from every entity who performed work during the period covered by the previous application for payment, and who may be legally entitled to file a mechanic's or other lien against the work.
- B. Waiver of Lien Forms: Use forms acceptable to the owner.

3.03 FIRST PAYMENT PROCEDURE

- A. The first application for payment will not be submitted for payment until the following submittals have been received and reviewed by the Owner and Architect:

To be submitted in a bound booklet two (2) copies clearly indexed and labeled for the project.

- 1. Certificates of Insurance.
- 2. Performance and Payment Bonds.
- 3. Schedule of Values.
- 4. List of subcontractors, principal suppliers, and fabricators.
- 5. Contractor's Construction Schedule.
- 6. Submittal Schedule.
- 7. Quality control activities schedule.
- 8. Schedule of Products.
- 9. Unit Price Schedule.
- 10. Names of the contractor's principal staff assigned to the project, phone, fax and beeper phone numbers.
- 11. Names of the contractor's principal consultants.
- 12. Copies of building permits and other authorizations from governing authorities.
- 13. First Progress Report.
- 14. List of all submittals specified to occur prior to first application for payment or prior to first payment.

3.04 MODIFICATION PROCEDURES

- A. Designate a single individual authorized to receive change documents and who will be responsible for informing others of changes to the work.
- B. Changes in cost resulting from modifications shall include only those costs specified elsewhere in the contract documents.
- C. When requested in writing, the contractor shall provide sufficient information for evaluation of proposed changes within 10 working days.
- D. Provide the following information for every change proposal request:

- h. The Owner has been informed of procedures for changing over insurance coverage.
 - i. The Owner has been informed of procedures for changing over operation, maintenance, security, etc.
 - j. The Owner has received occupancy and operating permits from authorities having jurisdiction
2. **Submittal of Substantial Completion Documentation**
- a. Contractor shall **search through all specification sections** for individual guarantees on certain items (i.e. roofing), and shall include these guarantees/warranties with documentation
 - b. Contractor shall submit documentation **in triplicate in booklet form** labeled by item.
 - c. **Fragmentary documentation shall not be accepted.**
 - d. **Documentation required:**
 - 1). List of incomplete work
 - 2). Copy of transmittal of delivered maintenance materials and tools.
 - 3). Written verification of instructions to owner personnel including reports.
 - 4). Written verification of demonstration of all equipment and systems to owner personnel including reports.
 - 5). Written verification of removal of Temporary Facilities.
 - 6). Written verification of change over of permanent locking systems including keying records and delivery of keys to the Owner.
 - 7). Written verification of Final Cleaning.
 - 8). Written verification of insurance changeover to Owner.
 - 9). Written verification that owner has been informed of procedures for changing over operation, maintenance, security, etc.
 - 10). Written verification of Owner receipt of occupancy permits and operating permits from authorities having jurisdiction including copies of all such permits.
 - 11). Copies of Startup reports.
 - 12). Copies of final testing/adjusting/balancing reports.
 - 13). All specific warranties required by the individual specification sections.
 - 14). All required maintenance agreements as required by the individual specification sections.
 - 15). All required operation and maintenance data as required by the individual specification sections.
 - 16). Submit final meter readings for utilities and similar data as of the date of Substantial Completion or when the Owner took possession and or responsibility for corresponding elements of the work.
 - 17). All required project record documents.
 - a). See Specification section 01800 for specific requirements for submittal of project record documents.
3. **The Contractor shall have 30 days from receipt of the Punch List to accomplish all tasks and request a Final Inspection.**

3.06 FINAL COMPLETION PROCEDURES

- A. Request for Final Inspection and final application for payment may coincide.
- B. The Architect will perform **one (1) inspection for final completion**, upon request of the contractor.
- C. **Request for Final Inspection will be certification and written acknowledgment by the Contractor that he has completed the Punch List items and is requesting a final visit by The Architect. Subsequently, if the Architect visits the site to find items not corrected, it will be the**

SECTION 01030 - ALTERNATES, ALLOWANCES AND UNIT PRICES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Alternates:
 - a. List of alternates.
 - b. Procedures for alternate work.
2. Allowances:
 - a. List of Allowances to be included in contract bid.
 - b. Procedures for using allowance amounts
3. Unit Prices:
 - a. List of unit prices to be included in contract.
 - b. Procedures for using unit prices.

B. Related Sections:

1. Applications for payment: Elsewhere in Division 1.
2. Procedures for modifications to the contract: Elsewhere in Division 1.
3. Contract closeout procedures: Elsewhere in Division 1.

1.02 ALTERNATE LIST

A. Alternate No. EC-X: Additional Lighting Fixtures

1. To **ADD** to Contract No. 1 all work associated with the installation of the additional lighting fixtures.
2. As specified in various specification sections.
3. As shown on drawings E.1
4. This alternate is a requirement of bidding and must be completed in the bid form.

1.03 ALLOWANCE LIST - NA

Allowance amount: Listed in Bid Form

1.04 UNIT PRICE LIST - NA

1.05 SUBMITTALS

- A. Supporting Data:** With applications for payment covering allowance work submit executed modification to the contract.
1. For variations in lump sum cost, include invoices showing actual cost.
- B. Supporting Data:** With applications for payment covering unit price work submit substantiated measurement of quantity installed or executed.

SECTION 01200 - PROGRESS DOCUMENTATION AND PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Progress documentation requirements:
 - a. Preliminary construction schedule.
 - b. Contractor's construction schedule.
 - c. Progress reports.
 - 2. Progress procedures:
 - a. Progress meetings.
- B. Contract time is indicated elsewhere.
- C. Related Sections:
 - 1. Applications for payment: Elsewhere in Division 1.
 - 2. Coordination meetings: Elsewhere in Division 1.
 - 3. Preconstruction meeting: Elsewhere in Division 1.
 - 4. Schedule of values: Elsewhere in Division 1.
 - 5. Submittal schedule: Elsewhere in Division 1.
 - 6. Quality control activities schedule: Elsewhere in Division 1.
 - 7. Milestone Dates and Events: Elsewhere in Division 1.

1.02 SUBMITTALS

- A. Preliminary Construction Schedule.
 - 1. Submit within 7 days after notice to proceed.
- B. Contractor's Construction Schedule.
 - 1. Submit before second project meeting, or as directed by the Architect .
 - 2. Submit revised schedule with application for payment.
- C. Daily Construction Reports: Submit every week.
- D. Progress Reports: Submit with each application for payment.
- E. Progress Photographs: Submit with each application for payment.
- F. Minutes of Progress Meetings.

1.03 FORM OF SUBMITTALS

- B. Each Prime Contractor is responsible for coordinating reporting with other contractors.
- C. In preparation of schedules, take into account the time allowed or required for the Architects administrative procedures.
- D. Notify entity responsible for coordination of schedules promptly when problems are anticipated in meeting schedule dates.
- E. Each prime Contractor will be held responsible for out of sequence work due to lack of cooperation in scheduling procedures.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PRELIMINARY CONSTRUCTION SCHEDULE

- A. The General Work Contractor, Contract No.1, shall prepare and submit preliminary construction schedule:
 - 1. The General Work Contractor shall notify the Architect immediately if other Prime Contractors do not provide proper information.
 - 2. All prime Contractors submit their schedules to the General Work Contractor in time for incorporation into the preliminary construction schedule.
 - 3. Submit copies to all other prime contractors.
- B. Provide preliminary construction schedule in the form of bar charts.
 - 1. Show activities of construction in detail; show remainder in skeletal form.
 - 2. Show completion of the work in advance of the date established for substantial completion.
 - 3. Include dates and description of all submittals required during construction.
 - a. Include those required by the construction schedule.
 - b. Submittal dates may be provided in a separate list rather than on the schedule.
 - 4. The Architect will notify the Contractors if schedule is not satisfactory; revise and resubmit.
 - a. Resubmit within 3 days.

3.02 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. The General Construction Work Contractor, Contract No.1 shall prepare and submit a complete construction schedule:
 - 1. Obtain and incorporate schedules of all other prime Contractors.
 - 2. Base construction schedule on preliminary construction schedule, with adjustments due to changes since start of work.
- B. Provide construction schedule in the form of bar charts or network analysis diagrams, with supporting reports.
 - 1. Show each prime Contractor work on separate sheets with another sheet summarizing the activities of all prime contractors.

- C. The Architect will notify the Contractor if schedule is not satisfactory; revise and resubmit.
 - 1. Resubmit within (7) days unless otherwise directed by the Architect.
- D. The General Construction Work Contractor shall make copies of schedule and distribute to the Architect, to the Owner, to all prime Contractors, and to other entities whose work will be influenced by schedule dates.
 - 1. Each prime Contractor shall make and distribute copies to his subcontractors, suppliers, and other parties.
 - 2. Hang a copy of the schedule up in each field office or meeting room.
- E. The General Construction Work Contractor shall update the schedule whenever changes occur or are made, or when new information is received, but not less often than at the same intervals at which applications for payment are made.
 - 1. Indicate changes made since last issue; show actual dates for activities completed.
 - 2. Submit updated schedule with application for payment.
 - 3. Issue updated schedule with report of meeting at which revisions are made.
 - 4. Issue updated schedule in same manner as original schedule.
 - 5. Include the same supporting reports as for original schedule.
 - 6. Updating of Schedule: The General Construction Work Contractor, Contract No.1 will be required to update the Schedule at intervals not less than those at which applications for than those at which applications for payment are made. All original supporting reports will be required. If any additional information not originally asked for or not applicable to the original submission is required, Specifier will need to describe that information.

3.03 PROGRESS REPORTS

- A. Daily Construction Logs: Every day, the General Construction Work Contractor shall record the following information concerning events at the site:
 - 1. Weather conditions; high and low temperatures.
 - 2. Approximate number of persons at the site.
 - 3. Names of prime Contractors at site.
 - 4. Visitors to the site.
 - 5. All information required of each prime Contractor.
- B. Daily Construction Logs: Every day, each prime Contractor shall record the following information concerning events at the site:
 - 1. Modifications to the contract received; modifications implemented.
 - 2. Changes in occupancy.
 - 3. Delays; reasons for delay.
 - 4. Emergencies and accidents.
 - 5. Equipment and system start-ups and tests.
 - 6. Field quality control activities conducted.
 - 7. Instrument and meter readings.
 - 8. Losses of material and property.
 - 9. Meetings held and significant decisions made there.
 - 10. Names of subcontractors at site.
 - 11. Special reports made.
 - 12. Orders and requests of representatives of governing authorities.

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Preparing and processing of submittals for review and action.
 - 2. Preparing and processing of informational submittals.
- B. Submit the following for the architect's review and action:
 - 1. Shop drawings.
 - 2. Product data.
 - 3. Samples.
 - 4. **Submittals for which procedures are not defined elsewhere.**
- C. Submit the following as informational submittals:
 - 1. Certificates.
 - 2. Coordination drawings.
 - 3. Reports.
 - 4. Qualification statements for manufacturers/installers.
- D. Specific submittals are described in individual sections.
 - 1. Provide other information required by Division 15 for mechanical work.
 - 2. Provide other information required by Division 16 for electrical work.
- E. **Do not commence work which requires review of any submittals until receipt of returned submittals with an acceptable action.**
- F. Do not allow submittals without an acceptable action marking to be used for the project.
- G. **Submit all submittals to the Architect.**
 - 1. Contractor to allow for adequate time for mailing; failure of the Contractor in this respect will not be considered as grounds for an extension of the contract time.
- H. **Do not submit substitute items that have not been approved by means of the procedure specified elsewhere. Equivalent substitutions will be reviewed according to Specification Section 01600. Equivalent substitutions can be requested during the bidding period by prime bidders only and up to 10 business days prior to bid date. Product equivalent substitutions will not be entertained after 10 business days prior to bidding. No manufacturer's calls will be accepted. In the event an equivalent substitution is permitted prior to the bid date, all contractors will be notified by Addendum.**
- I. **Do not include requests for substitution (either direct or indirect) on submittals; comply with procedures for substitutions specified elsewhere.**
- J. Related Sections: The following are specified elsewhere in Division 1:
 - 1. Payment, modification, and completion submittals.
 - a. Applications for payment.

information only.

1.03 FORM OF SUBMITTALS

A. Sheet Size:

1. Minimum: 8 1/2 inches by 11 inches.
2. Maximum: 36 inches by 48 inches.
3. Exception: Full size pattern or template drawings.

B. Contractor shall submit shop drawing checklist form with each submittal which appears at the end of each specification section

C. Number of Copies:

1. **Submittals for Review: One (1) reproducible AND three (3) copies minimum. [One (1) reproducible and four (4) copies minimum when a Construction Manager has been retained by the owner.]**

- a. One (1) copy to be retained by the architect.
- b. One (1) copy to be retained by the engineer.
- c. One (1) copy to be retained for the owner.
- d. [One (1) copy to be retained by the Construction Manager if applicable.]
- e. One (1) reproducible to be retained by the contractor.
- f. Contractor to produce and distribute copies to all contractors as required.
- g. Number of copies required by the contractor, to be returned to the contractor.
- h. For product data submittals, equipment package submittals, equipment cuts and other such submissions, provide four (4) minimum copies.

2. **Informational Submittals: Three (3) copies minimum.[Four (4) copies minimum when a Construction Manager has been retained.]**

- a. One (1) copy to be retained by the architect.
- b. One (1) copy to be retained by the engineer.
- c. One (1) copy to be retained for the owner.
- d. [One (1) copy to be retained by the Construction Manager if applicable.]
- e. Informational submittals; no copies to be returned.

D. Samples: 3 sets of each.

1. 1 set will be returned.

E. If additional sets are needed by other entities involved in work represented by the samples, submit with original submittal, and mark accordingly.

F. Provide additional copies, if required for operating and maintenance data, marked to indicate their purpose.

G. The Contractor is responsible for reproduction of reproducibles (or equipment cut copies and the like) to provide additional copies, if required for operating and maintenance data, other entities, and for distribution to other prime contractors for purposes of coordinating the Work.

H. The Contractor is responsible for reproduction of reproducibles (or equipment cut copies and the like) to provide additional copies for project record documents.

I. Copies in excess of the number requested will not be returned, unless they are marked to indicate

- I. All required submittals must be completely and properly submitted to the Architect within XXXX calender days from "Notice to proceed". Failure to make submittals within this time period shall constitute a delay by the responsible contractor, and may cause for Liquidated Damages as defined in other sections of these contract documents.

3.02 SUBMITTAL PROCEDURES - GENERAL

- A. **Contractor Review:** Contract to sign each copy of each submittal certifying compliance with the requirements of the contract documents.
- B. Notify the Architect, in writing and at time of submittal, of all points upon which the submittal does not conform to the requirements of the contract documents, if any.
- C. Preparation of Submittals:
1. Label each copy of each submittal, with the following information:
 - a. Project name.
 - b. Date of submittal.
 - c. Contractor's name and address.
 - d. Architect's name and address.
 - e. Subcontractor's name and address.
 - f. Supplier's name and address.
 - g. Manufacturer's name.
 - h. Specification section where the submittal is specified.
 - i. Numbers of applicable drawings and details.
 - j. Other necessary identifying information.
 2. Pack submittals suitably for shipment.
 3. Submittals to receive Architect's action marking: Provide blank space on the label or on the submittal itself for action marking; minimum 4 inches wide by 5 inches high.
- D. Transmittal of Submittals:
1. **Submittals will be accepted from the contractor ONLY.** Submittals received from other entities will be returned without review or action.
 2. Submittals received without a transmittal form will be returned without review or action.
 3. Transmittal form: Use AIA G810.
 - a. Any form acceptable to the Architect, obtain approval prior to submittal.
 - b. The contractor's certification signature.
 4. Fill out a **separate** transmittal form for each submittal; also include the following:
 - a. Other relevant information.
 - b. Requests for additional information.
 5. Submittals shall be mailed or hand delivered directly to the Architects office (with specified copies to the Architects consultants also included).
 - a. Submittals provided at construction meetings, etc. will be done so at the contractors own risk. Delays, lost information, etc. caused by circumventing the above procedure will not be grounds for additional time or moeny.

3.03 SHOP DRAWINGS

7. Show compliance with specified testing agency listings; show the limitations of their labels or seals, if any.
8. Identify dimensions which have been verified by field measurement.
9. Show special coordination requirements for the product.

3.05 SAMPLES

A. Samples:

1. Provide samples that are the same as proposed product.
2. Where unavoidable variations must be expected, submit "range" samples, minimum of three (3) units, and describe or identify variations among units of each set.
3. Where selection is required, provide full set of **all options**.
 - a. **"All options"**, means both standard and custom selections.
4. Where products are to match a sample prepared by other entities, prepare sample to match.

B. Preparation:

1. Attach a description to each sample.
2. Attach name of manufacturer or source to each sample.
3. Where compliance with specified properties is required, attach documentation showing compliance.
4. Where there are limitations in availability, delivery, or other similar characteristics, attach description of such limitations.
5. Where samples are specified to be returned for installation in the work, indicate such requirement on transmittal form.
6. Where selection is required, the first submittal may be a single set of all options; after return of submittal with selection indicated, submit standard number of sets of selected item.

C. Keep final sample set(s) at the project site, available for use during progress of the work.

3.06 WARRANTIES

- #### A.
- Submit to the Architect four (3) **signed** copies (original plus one (2) copies) of all guarantees and warranties required by the Contract Documents.

3.07 REVIEW OF SUBMITTALS

- #### A.
- Submittals for approval will be reviewed, marked with appropriate action, and returned.
- #### B.
- Informational submittals: Submittals will be reviewed.

3.08 RETURN, RESUBMITTAL, AND DISTRIBUTION

- #### A.
- Submittals will be returned to the contractor by mail.
- #### B.
- Perform resubmittals in the same manner as original submittals; indicate all changes other than those requested by the Architect.
- #### C. Distribution:
1. Distribute returned submittals to all subcontractors and suppliers involved in work covered by the submittal.
 2. Distribute one copy to each prime contractor.

SECTION 01700 - CONSTRUCTION PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. General construction and installation procedures.
2. Cleaning during construction.
3. Cutting procedures.
4. Patching procedures.
5. Existing equipment startup.
6. Instruction of the owner's personal.
7. Project completion procedures.
8. Final cleaning.

B. Related Sections:

1. Cleaning requirements for specific products and systems: Applicable product sections in Divisions 2-16.
2. Demolition: Elsewhere in Division 2.
3. Final payment procedures: Elsewhere in Division 1.
4. General product installation requirements: Elsewhere in Division 1
5. Sequence of the work: Elsewhere in Division 1.
6. Waste removal services: Elsewhere in Division 1.

1.02 DEFINITIONS

- A. Concealed Spaces: Spaces which are not accessible after completion of construction.
- B. Cutting: Removal of material by cutting, sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation.
- C. Damage: Any sort of deterioration whether due to weather, normal wear and tear, accident, or abuse, resulting in soiling, marring, breakage, corrosion, rotting, or impairment of function.
- D. Debris: Rubbish, waste materials, litter, volatile wastes, and similar materials, with the exception of surplus materials which are to become the property of the owner.
- E. Fire Barriers: Any wall, floor, ceiling, or roof which is indicated as having a fire resistance rating.
- F. Operational Elements: Equipment: Moving parts, electrical conductors, sound and vibration control materials, waterproofing, vapor retarders, piping, ducts, tanks, and other similar materials and components which convey or retard the passage of liquids, gases, light, persons, animals, or insects or which perform a similar function: not including structural elements.
- G. Patching: Restoration to completed condition by patching, repairing, refinishing, finishing, filling, closing up, and similar operations.
- H. Replacement: Replace the entire element, surface or product.
- I. Safety-Related Elements: Materials and assemblies whose principal function is the promotion of the safety of the building and its occupants, including fire and smoke barriers, fireproofing, emergency

3. Do not allow smoking in areas where highly combustible materials are present.
 4. Carefully supervise the operation of potential fire sources, including heating units.
 5. Conduct welding operations in manner to prevent fire; comply with local regulations.
- C. Take precautions to prevent accidents due to physical hazards:
1. Provide barricades, warning lights, or signs as required to inform personnel and the public of the hazard being protected against.
 2. Safety barricades: Comply with regulations.
 3. Provide temporary walkways where walking surfaces are hazardous.
 4. Notify the owner before beginning work that involves hazardous operations.
- D. Take care to prevent pollution of air, water, and soil.
1. Comply with environmental protection regulations.
 2. Limit effluent and rainwater runoff into waterways as required by regulations.
 3. Do not dump contaminants in areas that will result in contamination of waterways.
- E. Minimize discharge of effluent and rainwater runoff into sewers.
1. Control sediment discharge into sewers; filter out construction debris, soil, and contaminants.
 2. Comply with regulations and orders of public utilities regarding use of sewers.
 3. Where disposal of effluent or rainwater by means of sewers is not lawful or is not possible, provide alternative methods of disposal.
- F. Prevent erosion due to rainwater runoff.
- G. Control windblown dust; prevent erosion to site and nuisance to neighbors.
- H. Prevent flooding of excavations, below-grade construction, and adjacent properties due to rainwater runoff.
- I. Protect existing property indicated to remain, including:
1. Plants and trees.
 2. Existing property.
- J. Do not use tools or equipment which produce harmful levels of noise.
1. Do not use noise-making tools or equipment at any time students are attending classes in building unless all activities are coordinated in advance with the school administration.
- K. Keep the site and adjacent public ways free of hazardous and unsanitary conditions and public nuisances.
- L. Control rodents and other pests; prevent infestation of adjacent sites and buildings due to pests on this site.
- M. Keep public streets free of debris due to this work.
- N. Provide adequate traffic control by means of signs, signals, and flagmen, as necessary.
- O. Provide temporary means of draining roofs where required.

- D. Before starting work which might affect existing construction, verify the existence and location of such construction,
- E. Verify that utility requirements of operating equipment are compatible with building utilities.
- F. Verify space requirements of items which are shown diagrammatically on the drawings.
- G. Notify the Architect promptly of any modifications required due to existing conditions or previous work.

3.02 GENERAL PREPARATION REQUIREMENTS

- A. Take field measurements as required to fit the work properly.
- B. Recheck measurements prior to installing each product.

3.03 GENERAL INSTALLATION PROCEDURES

- A. Accurately locate the work and components of the work; make vertical work plumb; make horizontal work level.
- B. See sections describing specific parts of the work for additional requirements.
- C. Where space is limited, install components to maximize space available for maintenance and to maximize ease of removal for replacement.
- D. **In finished areas, conceal pipes, ducts, and wiring within the construction, whether shown or not shown on the drawings and unless otherwise indicated; provide the following:**
 - 1. **In areas where adjacent finished construction is gypsum board: Construct chases for concealment providing sufficient clearances with painted 5/8" gypsum board over 3 5/8" metal studs (min.) At 16" on center to underside structure above.**
 - 2. **In areas where adjacent finish construction is Concrete Masonry Units: Construct chases for concealment with painted 4" wide units to underside structure above.**
 - 3. **In areas where adjacent finished construction is other than the above: Contact the Architect.**
- E. Coordinate exact locations of fixtures and outlets with finish elements.
- F. Install work in such manner and sequence as to preclude, if possible, or at least to minimize, cutting and patching.
- G. Existing Construction:
 - 1. Perform work in existing construction in same manner as for new construction unless otherwise specified.
 - 2. Where a new surface exposed to view is an extension of any existing surface, align both surfaces without a change in plane and make a neat transition between finishes.
 - a. If a change of plane is necessary due to the configuration of the existing surface, terminate the existing surface and its finish along a straight line at a natural line of division.
 - 3. Where portions of existing work are removed and unless otherwise indicated on the drawings; patch remaining work with neat transitions between remaining surfaces without

8. Uncovering work for observation.
 9. Repairing damages.
- B. **Unless otherwise indicated** in the contract documents, the contractor shall be responsible for cutting, fitting, or patching required to complete his work or to make its parts fit together properly.
- C. Perform cutting and patching at earliest time feasible unless otherwise indicated or directed by the Architect.
- D. Use procedures specified in applicable product sections as well as those specified in this section.
1. Use procedures recommended by original installer, when such information is available.
 2. Where required, obtain approval of procedures by the Architect.
 3. Cut using methods that are least likely to damage adjacent work and work to remain and which will provide proper surfaces for patching.
 4. Make cuts neatly with minimum disturbance of adjacent work.
 - a. Use appropriate tools intended for sawing or grinding and not for chopping or hammering.
 - b. Do not use pneumatic tools without prior approval.
 5. Where installation of similar new work is included, perform patching in manner specified for installation of new work.
 6. Where new work is inserted into or through the work that is cut, fit the patched work tightly to the new work.
 7. Patch with seams which are durable and as invisible as possible.
 8. Repair substrates prior to patching finish.
- E. Employ skilled workers to perform cutting and patching work.
1. Use the original installer of the work to perform cutting and patching of the following:
 - a. Any products so indicated in the applicable product section.
- F. Fire/Smoke Barriers: Do not cut more than absolutely necessary.
1. Cut penetration holes to sizes required for penetration seal assemblies required.
 2. Patch all oversize holes and cuts made in error.
 3. Perform patching in a manner which complies in all respects with the original construction; if not possible, report nature of difficulty to the architect and request instructions.
- G. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.
- H. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
- I. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, **in the Architect's opinion**, reduce the building's aesthetic qualities or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.
- J. Materials: Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of the existing materials.

- 5). Unless otherwise indicated on the drawings: where patching occurs in a smooth painted surface, extend final paint coat over unbroken area containing the patch, after the patched area has received primer and second coat.
 - c. Patch, repair or rehang existing ceiling as necessary to provide an even plane surface of uniform appearance.
 - d. Remove and replace work which is patched in a visually unacceptable manner.
- N. Existing Construction:
1. Unless otherwise indicated on the drawings; patch existing work to match adjacent existing work to remain.
 2. Where specified procedures for similar new work are applicable, use those procedures for cutting and patching existing construction.
 3. Take precautions to avoid damage to unanticipated utilities and structural elements. If such elements are encountered, report nature and extent to the Architect and request instructions as to how to proceed.
 4. Do not cut existing mechanical and electrical services which are to remain in use until provisions have been made to relocate or reconnect them promptly; obtain approval of the owner of the time and duration of disconnection.
 5. Make neat transitions between existing and new surfaces.
- O. Concealed work: Uncover the concealed work, cut and patch, and patch the covering work.
- P. Concrete and Masonry: Use saws or drills which produce a neat cut and remove in small sections.
- Q. Insulation: Replace insulation whenever it is cut in order to modify the element it is insulating.
- R. Slabs on Grade: Use methods that will not crack or disturb adjacent slabs or partitions.
- S. Operational Elements: Maintain capacity to perform in the manner intended, including energy performance; do not cut or patch in any manner that would increase maintenance requirement, decrease life expectancy, or decrease safety.
- T. Safety-Related Elements: Do not cut or patch in a manner that would result in decreased safety.
1. Before cutting the following, obtain the Architect's approval of the proposed method.
 - a. Any product for which approval is required in the applicable product section.
 - b. Fire/smoke barriers and fireproofing.
- U. Fire/Smoke Barriers: do not cut more than absolutely necessary.
1. Cut penetration holes to sizes required for penetration seal assemblies required.
 2. Patch all oversize holes and cuts made in error.
 3. Perform patching in a manner which complies in all respects with the original construction; if not possible, report nature of difficulty to the Architect and request instructions.
- V. Protect that part of the project which is exposed during cutting and patching operations from adverse weather.
- W. Cover openings made whenever they are not in use.
- X. Cleaning: Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean

- E. Restore permanent facilities used during construction to specified condition.
- F. Restore existing facilities used during construction, and existing facilities affected by construction operations to original condition.

3.08 EXISTING EQUIPMENT STARTUP

- A. Put each item of equipment and each system into full satisfactory.
- B. Prior to Startup:
 - 1. Verify that equipment and systems are complete, correctly connected to utilities, and tested.
 - a. Comply with requirements of manufacturer.
 - 2. Inspect and test as required to ensure that work is installed as specified and to determine suitability for energizing.
- C. Execute startup under supervision of personnel designated by the Owner.
- D. After startup, adjust equipment and systems as required for proper operation.
- E. Demonstrate the operation of equipment and systems to the Architect during the inspection for substantial completion.
- F. For equipment and systems which have different operation at different seasons, demonstrate operation during subsequent seasons until fully demonstrated.

3.09 FINAL CLEANING

- A. **The Contractor shall perform all final cleaning.**
- B. Remove materials and equipment which are not part of the work and all debris from the site prior to substantial completion.
 - 1. Remove all surplus materials which are to remain property of the contractor; obtain the owner's instructions as to disposition of surplus material remaining on site and deliver, store, or dispose of as directed.
 - 2. Remove protective coverings.
 - 3. Remove temporary facilities.
- C. Dispose of debris in a lawful manner.
 - 1. Do not burn or bury debris on the site.
 - 2. Do not dispose of volatile wastes in storm or sanitary drains.
- D. **Perform final cleaning after substantial completion has been certified, but before final payment.**
 - 1. Use only professional cleaners.
 - 2. **Clean to the level of cleanliness that would be expected by a commercial building owner from a janitorial service.**
- E. Clean entire project site and grounds.

SECTION 01800 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Project record documents consisting of:
 - a. Record drawings, including As-built drawings.
 - b. Record project manual (specifications).
 - c. Record submittals.
 - 1. Shop drawings.
 - 2. Product data.
 - 3. Samples.
- B. Related Sections:
 - 1. Payment, Modification, and Completion Procedures: Elsewhere in Division 1.
 - 2. Operation and maintenance data: Elsewhere in Division 1.
 - 3. Warranties: Elsewhere in Division 1.

1.02 SUBMITTALS

- A. Project Record Documents: Submit prior to substantial completion.
 - 1. Submit an original marked-up record set.
 - a. Sets shall include all drawings, whether changed or not.
 - 2. As-Built drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 MAINTENANCE OF PROJECT RECORD DOCUMENTS

- A. Do not use record documents of any type for construction purposes.
- B. Maintain record documents in a secure location at the site while providing for access by the contractor and the architect during normal working hours; store in a fire-resistive room or container outside of normal working hours.
- C. Record information as soon as possible after it is obtained.
- D. Assign a person or persons responsible for maintaining record documents.
- E. Record the following types of information on all applicable record documents:
 - 1. Dimensional changes.

1. Include a copy of each addendum and modification to the contract.
2. In addition to the types of information required on all record documents, record the following types of information:
 - a. Product options taken, when the specification allows more than one.
 - b. Product substitutions.
 - c. Proprietary name and model number of actual products furnished, for each product, material, and item of equipment specified.
 - d. Name of the supplier and installer, for each product for which neither a product data submittal nor a maintenance data submittal was specified.

3.04 RECORD SUBMITTALS

- A. Each contractor shall maintain a complete set of all submittals made during construction, marked to show changes which occur due to his work.
 1. Maintain submittals in cardboard file boxes, labeled to show contents.
 2. Sort submittals by applicable specification section and file in order of submittal identification number.
- B. Record Product Data Submittals: Record the types of information specified for all record documents.
 1. In addition, record the following types of information:
 - a. Changes in the products as delivered to the site.
 - b. Changes in manufacturer's instructions or recommendations for installation.
- C. Record Coordination Drawings: Record the types of information required for all record documents.
 1. Mark up in the manner specified for record drawings.

3.05 TRANSMITTAL TO OWNER

- A. Collect, organize, label, and package ready for reference.
 1. Provide cardboard file boxes for submittals.
 2. Provide cardboard drawing tubes with end caps for transparencies.
 3. Bind print sets with durable paper covers.
 4. Label each document (and each sheet of drawings) with "PROJECT RECORD DOCUMENTS - This document has been prepared using information furnished by _____", and the date of preparation.
- B. Submit to the architect for transmittal to the owner, unless otherwise indicated.

END OF SECTION 01800

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Electrical equipment coordination and installation.
 - 2. Sleeves for raceways and cables.
 - 3. Sleeve seals.
 - 4. Common electrical installation requirements.

1.3 DEFINITIONS

- A. ATS: Acceptance Testing Specifications.
- B. EPDM: Ethylene-propylene-diene terpolymer rubber.
- C. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

- A. Test Equipment Suitability and Calibration: Comply with NETA ATS, "Suitability of Test Equipment" and "Test Instrument Calibration."

1.6 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:
 - 1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
 - 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
 - 3. To allow right of way for piping and conduit installed at required slope.
 - 4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.
- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Rectangular Sleeve Minimum Metal Thickness:
 - 1. For sleeve cross-section rectangle perimeter less than 50 inches (1270 mm) and no side greater than 16 inches (400 mm), thickness shall be 0.052 inch (1.3 mm).
 - 2. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches (1270 mm) and 1 or more sides equal to, or greater than, 16 inches (400 mm), thickness shall be 0.138 inch (3.5 mm).
- E. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- F. Cut sleeves to length for mounting flush with both surfaces of walls.
- G. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.
- H. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed.
- I. Seal space outside of sleeves with grout for penetrations of concrete and masonry **and with approved joint compound for gypsum board assemblies.**
- J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.
- K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials.

SECTION 16072 - ELECTRICAL SUPPORTS AND SEISMIC RESTRAINTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Seismic restraints for electrical equipment and systems.
 - 3. Construction requirements for concrete bases.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. IBC: International Building Code.
- C. IMC: Intermediate metal conduit.
- D. NBC: National Building Code.
- E. OSHPD: Office of Statewide Health Planning and Development.
- F. RMC: Rigid metal conduit.
- G. SBC: Standard Building Code.
- H. Seismic Restraint: A structural support element such as a metal framing member, a cable, an anchor bolt or stud, a fastening device, or an assembly of these items used to transmit seismic forces from an item of equipment or system to building structure and to limit movement of item during a seismic event.
- I. UBC: Uniform Building Code.

1.4 SUBMITTALS

- A. **All submittals shall conform to the requirements of Specification Section 01300 "Submittals".**
- B. **All substitution submittals shall conform to the requirements of Specification Section 01600 "Product Requirements".**

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed under this Project, with a minimum structural safety factor of five times the applied force.
- B. Steel Slotted Support Systems: Comply with MFMA-3, factory-fabricated components for field assembly.
 - 1. Manufacturers:
 - a. Cooper B-Line; a division of Cooper Industries.
 - b. GS Metals Corp.
 - c. Thomas & Betts Corporation.
 - d. Unistrut; Tyco International, Ltd.
 - 2. Finishes:
 - a. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-3.
 - b. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-3.
 - c. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-3.
 - 3. Channel Dimensions: Selected for structural loading and applicable seismic forces.
- C. Nonmetallic Slotted Support Systems: Structural-grade, factory-formed, glass-fiber-resin channels and angles with 9/16-inch- diameter holes at a maximum of 8 inches o.c., in at least 1 surface.
 - 1. Manufacturers:
 - a. Allied Support Systems; Aickinstrut Unit.
 - b. Cooper B-Line; a division of Cooper Industries.
 - c. Fabco Plastics Wholesale Limited.
 - 2. Fittings and Accessories: Products of channel and angle manufacturer and designed for use with those items.
 - 3. Fitting and Accessory Materials: Same as channels and angles, except metal items may be stainless steel.
 - 4. Rated Strength: Selected to suit structural loading and applicable seismic forces.
- D. Raceway and Cable Supports: As described in NECA 1.
- E. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 for application of hangers and supports for electrical equipment and systems, except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as scheduled in NECA 1, where Table 1 lists maximum spacings less than stated in NFPA 70. Minimum rod size shall be 1/4 inch in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to trapeze member with clamps approved for application by an evaluation service member of the ICC Evaluation Program
 - 2. Secure raceways and cables to these supports with single-bolt conduit clamps using spring friction action for retention in support channel.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT AND SEISMIC-RESTRAINT INSTALLATION

- A. Comply with NECA 1 for installation requirements, except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT IMC RMC EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Install seismic-restraint components using methods approved by the evaluation service providing required submittals for component.
- D. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- E. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.

SECTION 16075 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes electrical identification materials and devices required to comply with ANSI C2, NFPA 70, OSHA standards, and authorities having jurisdiction.

1.3 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.4 QUALITY ASSURANCE

- A. Comply with ANSI C2.
- B. Comply with ANSI A13.1 and NFPA 70 for color-coding.

PART 2 - PRODUCTS

2.1 RACEWAY AND CABLE LABELS

- A. Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
 - 1. Color: Black letters on orange field.
 - 2. Legend: Indicates voltage
- B. Adhesive Labels: Preprinted, flexible, self-adhesive vinyl with legend overlaminated with a clear, weather- and chemical-resistant coating.
- C. Pretensioned, Wraparound Plastic Sleeves: Flexible, preprinted, color-coded, acrylic band sized to suit the diameter of the line it identifies and arranged to stay in place by pretensioned gripping action when placed in position.
- D. Colored Adhesive Tape: Self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide (0.08 mm thick by 25 to 51 mm wide).
- E. Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- F. Aluminum, Wraparound Marker Bands: Bands cut from 0.014-inch- (0.4-mm-) thick aluminum sheet, with stamped or embossed legend, and fitted with slots or ears for permanently securing around wire or cable jacket or around groups of conductors.
- G. Plasticized Card-Stock Tags: Vinyl cloth with preprinted and field-printed legends. Orange background, unless otherwise indicated, with eyelet for fastener.

- D. Self-Adhesive Identification Products: Clean surfaces before applying.
- E. Install painted identification according to manufacturer's written instructions and as follows:
 - 1. Clean surfaces of dust, loose material, and oily films before painting.
 - 2. Prime surfaces using type of primer specified for surface.
 - 3. Apply one intermediate and one finish coat of enamel.
- F. Color Banding Raceways and Exposed Cables: Band exposed and accessible raceways of the systems listed below:
 - 1. Bands: Pretensioned, wraparound plastic sleeves; colored adhesive tape; or a combination of both. Make each color band 2 inches (51 mm) wide, completely encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
 - 2. Band Locations: At changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.
 - 3. Apply the following colors to the systems listed below:
 - a. Fire Alarm System: Red.
 - b. Fire-Suppression Supervisory and Control System: Red and yellow.
 - c. Combined Fire Alarm and Security System: Red and blue.
 - d. Security System: Blue and yellow.
 - e. Mechanical and Electrical Supervisory System: Green and blue.
 - f. Telecommunication System: Green and yellow.
- G. Caution Labels for Indoor Boxes and Enclosures for Power and Lighting: Install pressure-sensitive, self-adhesive labels identifying system voltage with black letters on orange background. Install on exterior of door or cover.
- H. Circuit Identification Labels on Boxes: Install labels externally.
 - 1. Exposed Boxes: Pressure-sensitive, self-adhesive plastic label on cover.
 - 2. Labeling Legend: Permanent, waterproof listing of panel and circuit number or equivalent.
- I. Paths of Underground Electrical Lines: During trench backfilling, for exterior underground power, control, signal, and communication lines, install continuous underground plastic line marker located directly above line at 6 to 8 inches (150 to 200 mm) below finished grade. Where width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches (400 mm) overall, use a single line marker. Install line marker for underground wiring, both direct-buried cables and cables in raceway.
- J. Color-Coding of Secondary Phase Conductors: Use the following colors for service, feeder and branch-circuit phase conductors:
 - 1. 208/120-V Conductors:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 2. 480/277-V Conductors:
 - a. Phase A: Yellow.
 - b. Phase B: Brown.
 - c. Phase C: Orange.

SECTION 16120 - CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.
- B. Related Sections include the following:
 - 1. Division 16 Section "Control/Signal Transmission Media" for transmission media used for control and signal circuits.
 - 2. Division 16 Section "Undercarpet Cables" for flat cables for undercarpet installations.
 - 3. Division 16 Section "Medium-Voltage Cables" for single-conductor and multiconductor cables, cable splices, and terminations for electrical distribution systems with 2001 to 35,000 V.

1.3 SUBMITTALS

- A. Field Quality-Control Test Reports: From Contractor.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Refer to Part 3 "Conductor and Insulation Applications" Article for insulation type, cable construction, and ratings.
- B. Conductor Material: Copper complying with NEMA WC 5 or 7; solid conductor for No. 10 AWG and smaller, stranded for No. 8 AWG and larger.
- C. Conductor Insulation Types: Type THHN and SO complying with NEMA WC 5 or 7.

- F. Seal around cables penetrating fire-rated elements according to Division 7 Section "Through-Penetration Firestop Systems."
- G. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."

3.3 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches (300 mm) of slack.

3.4 FIELD QUALITY CONTROL

- A. Testing: Perform the following field quality-control testing:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test for compliance with requirements.
 - 2. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.3.1. Certify compliance with test parameters.
- B. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 16120

SECTION 16130 - RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
- B. Related Sections include the following:
 - 1. Division 16 Section "Electrical Supports and Seismic Restraints" for seismic restraints and bracing of raceways, boxes, enclosures, and cabinets.
 - 2. Division 16 Section "Wiring Devices" for devices installed in boxes and for floor-box service fittings.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. ENT: Electrical nonmetallic tubing.
- C. FMC: Flexible metal conduit.
- D. IMC: Intermediate metal conduit.
- E. LFMC: Liquidtight flexible metal conduit.
- F. LFNC: Liquidtight flexible nonmetallic conduit.
- G. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

- A. Shop Drawings: Show fabrication and installation details of components for raceways, fittings, boxes, enclosures, and cabinets.
- B. Shop Drawings: Signed and sealed by a qualified professional engineer.
 - 1. Detail assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1.5 QUALITY ASSURANCE

3. RACO; Division of Hubbell, Inc.
4. Thomas & Betts Corporation.

- B. ENT: NEMA TC 13.
- C. RNC: NEMA TC 2, Schedule 40 and Schedule 80 PVC.
- D. ENT and RNC Fittings: NEMA TC 3; match to conduit or tubing type and material.

2.4 METAL WIREWAYS

- A. Manufacturers:
 1. Hoffman.
 2. Square D.
- B. Material and Construction: Sheet metal sized and shaped as indicated, NEMA 1.
- C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Select features, unless otherwise indicated, as required to complete wiring system and to comply with NFPA 70.
- E. Wireway Covers: Screw-cover type.
- F. Finish: Manufacturer's standard enamel finish.

2.5 SURFACE RACEWAYS

- A. Surface Metal Raceways: Galvanized steel with snap-on covers. Finish with manufacturer's standard prime coating.
 1. Manufacturers:
 - a. Thomas & Betts Corporation.
 - b. Wiremold Company (The); Electrical Sales Division.
- B. Types, sizes, and channels as indicated and required for each application, with fittings that match and mate with raceways.

2.6 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers:
 1. Appleton
 2. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
 3. Hoffman.
 4. Hubbell, Inc.; Killark Electric Manufacturing Co.
 5. O-Z/Gedney; Unit of General Signal.
 6. RACO; Division of Hubbell, Inc.
 7. Thomas & Betts Corporation.

- F. Make bends and offsets so ID is not reduced. Keep legs of bends in the same plane and keep straight legs of offsets parallel, unless otherwise indicated.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
 - 1. Install concealed raceways with a minimum of bends in the shortest practical distance, considering type of building construction and obstructions, unless otherwise indicated.
- H. Install exposed raceways parallel or at right angles to nearby surfaces or structural members and follow surface contours as much as possible.
 - 1. Run parallel or banked raceways together on common supports.
 - 2. Make parallel bends in parallel or banked runs. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.
- I. Join raceways with fittings designed and approved for that purpose and make joints tight.
 - 1. Use insulating bushings to protect conductors.
- J. Tighten set screws of threadless fittings with suitable tools.
- K. Terminations:
 - 1. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box.
 - 2. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.
- L. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire.
- M. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with UL-listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where otherwise required by NFPA 70.
- N. Stub-up Connections: Extend conduits through concrete floor for connection to freestanding equipment. Install with an adjustable top or coupling threaded inside for plugs set flush with finished floor. Extend conductors to equipment with rigid steel conduit; FMC may be used 6 inches (150 mm) above the floor. Install screwdriver-operated, threaded plugs flush with floor for future equipment connections.
- O. Flexible Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed lighting fixtures; for equipment subject to vibration, noise transmission, or movement; and for all motors. Use LFMC in damp or wet locations. Install separate ground conductor across flexible connections.
- P. Surface Raceways: Install a separate, green, ground conductor in raceways from junction box supplying raceways to receptacle or fixture ground terminals.
- Q. Install hinged-cover enclosures and cabinets plumb. Support at each corner.

SECTION 16145 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following lighting control devices:
 - 1. Switch-box occupancy sensors.
 - 2. Indoor occupancy sensors.
 - 3. Automatic Dimming Controllers
- B. Related Sections include the following:
 - 1. Division 16 Section "Wiring Devices" for wall-box dimmers and manual light switches.
 - 2. Division 16 Section "Wiring Devices" for interface with dimming switches.

1.3 DEFINITIONS

- A. LED: Light-emitting diode.
- B. PIR: Passive infrared.

1.4 SUBMITTALS

- A. Shop Drawings: Show installation details for occupancy and light-level sensors.
 - 1. Lighting plan showing location, orientation, and coverage area of each sensor.
 - 2. Interconnection diagrams showing field-installed wiring.
- B. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 COORDINATION

3. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
 4. Mounting:
 - a. Sensor: Suitable for mounting in any position on a standard outlet box.
 - b. Relay: Externally mounted through a 1/2-inch (13-mm) knockout in a standard electrical enclosure.
 - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
 5. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
 6. Bypass Switch: Override the on function in case of sensor failure.
 7. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (215 to 2150 lx); keeps lighting off when selected lighting level is present.
- C. PIR Type: Ceiling mounting; detect occupancy by sensing a combination of heat and movement in area of coverage.
1. Detector Sensitivity: Detect occurrences of 6-inch (150-mm) minimum movement of any portion of a human body that presents a target of at least 36 sq. in. (232 sq. cm).
 2. Detection Coverage (Room): Detect occupancy anywhere in a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
- D. Dual-Technology Type: Ceiling mounting; detect occupancy by using a combination of PIR and ultrasonic detection methods in area of coverage. Particular technology or combination of technologies that controls on and off functions shall be selectable in the field by operating controls on unit.
1. Sensitivity Adjustment: Separate for each sensing technology.
 2. Detector Sensitivity: Detect occurrences of 6-inch (150-mm) minimum movement of any portion of a human body that presents a target of at least 36 sq. in. (232 sq. cm), and detect a person of average size and weight moving at least 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
 3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.

2.5 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG, complying with Division 16 Section "Conductors and Cables."
- B. Classes 2 and 3 Control Cable: Multiconductor cable with stranded copper conductors not smaller than No. 22 AWG, complying with Division 16 Section "Conductors and Cables."
- C. Class 1 Control Cable: Multiconductor cable with stranded copper conductors not smaller than No. 18 AWG, complying with Division 16 Section "Conductors and Cables."
- D. Install unshielded, twisted-pair cable for control and signal transmission conductors, complying with Division 16 Section "Voice and Data Communication Cabling."

PART 3 - EXECUTION

SECTION 16511 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior lighting fixtures with lamps and ballasts.
 - 2. Lighting fixtures mounted on exterior building surfaces.
 - 3. Accessories, including fluorescent fixture dimmers.
- B. Related Sections include the following:
 - 1. Division 16 Section "Wiring Devices" for manual wall-box dimmers for incandescent lamps.

1.3 DEFINITIONS

- A. BF: Ballast factor. Ratio of light output of a given lamp(s) operated by the subject ballast to the light output of the same lamp(s) when operated on an ANSI reference circuit.
- B. CRI: Color rendering index.
- C. LER: Luminaire efficiency rating, which is calculated according to NEMA LE 5. This value can be estimated from photometric data using the following formula:
 - 1. LER is equal to the product of total rated lamp lumens times BF times luminaire efficiency, divided by input watts.
- D. RCR: Room cavity ratio.

1.4 SUBMITTALS

- A. Shop Drawings: Show details of nonstandard or custom fixtures. Indicate dimensions, weights, methods of field assembly, components, features, and accessories.
- B. Product Certificates: For each type of ballast for dimmer-controlled fixtures, signed by product manufacturer.
- C. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Closeout Procedures," include the following:
 - 1. Catalog data for each fixture. Include the diffuser, ballast, and lamps installed in that fixture.

5. Globes and Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.

PART 2 - PRODUCTS

2.1 FIXTURES AND COMPONENTS, GENERAL

- A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
- B. Fluorescent Fixtures: Comply with UL **1570**. Where LER is specified, test according to NEMA LE 5 and NEMA LE 5A as applicable.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
- F. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
 1. White Surfaces: 85 percent.
 2. Specular Surfaces: 83 percent.
 3. Diffusing Specular Surfaces: 75 percent.
 4. Laminated Silver Metallized Film: 90 percent.
- G. Plastic Diffusers, Covers, and Globes:
 1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
 - a. Lens Thickness: At least **0.125 inch (3.175 mm)** minimum unless different thickness is scheduled.
 - b. UV stabilized.
 2. Glass: Annealed crystal glass, unless otherwise indicated.

2.2 FLUORESCENT LAMP BALLASTS

- A. Description: Include the following features, unless otherwise indicated:
 1. Designed for type and quantity of lamps indicated at full light output except for emergency lamps powered by in-fixture battery-packs.
 2. Externally fused with slow-blow type rated between 2.65 and 3.0 times the line current.
- B. Electronic ballasts for linear lamps shall include the following features, unless otherwise indicated:
 1. Comply with NEMA C82.11.
 2. Ballast Type: Instant start, unless otherwise indicated.

2.5 FINISHES

- A. Fixtures: Manufacturers' colors, selected by architect.
 - 1. Paint Finish: Applied over corrosion-resistant treatment or primer, free of defects. Paint after fabrication.
 - 2. Metallic Finish: Corrosion resistant.

2.6 SOURCE QUALITY CONTROL

- A. Provide services of a qualified, independent testing and inspecting agency to factory test fixtures with ballasts and lamps; certify results for electrical ratings and photometric data.
- B. Factory test fixtures with ballasts and lamps; certify results for electrical ratings and photometric data.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fixtures: Set level, plumb, and square with ceilings and walls. Install lamps in each fixture.
- B. Suspended Fixture Support: As follows:
 - 1. Pendants and Rods: Where longer than 48 inches (1200 mm), brace to limit swinging.
 - 2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
 - 3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end.
 - 4. Continuous Rows: Suspend from cable.
- C. Air-Handling Fixtures: Install with dampers closed and ready for adjustment.

3.2 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.3 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Verify normal operation of each fixture after installation.
- C. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify normal transfer to battery power source and retransfer to normal.
- D. Corroded Fixtures: During warranty period, replace fixtures that show any signs of corrosion.

END OF SECTION 16511