

SPECIFICATIONS

PROJECT:

**PELTON BUILDING
- 795 CONGRESS STREET
PORTLAND, MAINE**

OWNER:

**PETER BASS
RANDOM ORBIT, LLC
17 CHESTNUT STREET
PORTLAND, ME 04101**

ARCHITECT:

**ARCHETYPE, P.A.
48 UNION WHARF
PORTLAND, MAINE 04101**

JULY 26, 2010

SPECIFICATIONS

PROJECT:

**PELTON BUILDING
795 CONGRESS STREET
PORTLAND, MAINE**

OWNER:

**PETER BASS
RANDOM ORBIT, LLC
17 CHESTNUT STREET
PORTLAND, ME 04101**

ARCHITECT:

**ARCHETYPE, P.A.
48 UNION WHARF
PORTLAND, MAINE 04101**

JULY 26, 2010

**INDEX TO
PROJECT MANUAL**

July 26, 2010

00100	Invitation to Bid
00200	Bid Form
AIA A201	General Conditions of the Contract for Construction
AIA A701	Instruction to Bidders
00300	Supplementary Conditions of the Contract for Construction

Division 1 General Requirements

01045	Cutting and Patching
01300	Submittals, Meetings & Record Documents
01400	Quality Control Services
01500	Temporary Facilities
01631	Products and Substitutions
01700	Project Closeout

Division 2 Sitework

02321	Building Earthwork
-------	--------------------

Division 3- Concrete

03300	Cast-In-Place Concrete
-------	------------------------

Division 4 - Masonry

Not Used

Division 5 – Metals

05120	Structural Steel
05200	Steel Joist

Division 6 - Wood & Plastics

06100	Rough Carpentry
06200	Finish Carpentry

Division 7 - Thermal & Moisture Protection

07200	Insulation & Vapor Barriers
07240	Outsulation Exterior Insulation
07500	Roofing and Flashing
07900	Joint Sealers

Peloton Building - 795 Congress Street - Portland, ME

Division 8 - Doors & Windows

08100	Steel Doors and Frames
08411	Aluminum-Framed Storefronts
08600	PVC Windows
08810	Glass

Division 9 - Finishes.

09250	Gypsum Board
09330	Tile
09520	Acoustical Clouds & Walls
09650	Resilient Flooring & Vinyl Base
09680	Carpet
09900	Painting

Division 10 - Specialties

10800	Toilet and Bath Accessories
-------	-----------------------------

Division 11 – Equipment-

Not Used

Division 12 - Furnishings

Not Used

Division 13 – Special Construction

Not Used

Division 14 - Conveying System

Not Used

Division 15 – Mechanical

Mechanical

Division 16 – Electrical

Electrical
Electrical Cut Sheets

END OF SECTION

Peloton Building - 795 Congress Street - Portland, ME

SECTION 00100

INVITATION TO BID

Proposal for the construction for a Office Building, Portland, Maine will be available to the General Contractor on July 27, 2010. Proposals should be addressed to:

Peter Bass
Random Orbit, LLC
17 Chestnut Street
Portland, ME 04101

The project consists of a Two Story Wood Framed Office Building on Concrete Slab. Electrical, Plumbing & HVAC will be on a design build basis. GC should submit their selected design builders proposal with their bid.

Proposals will be received at the office of the Architect by 4:00 pm on August 12, 2010. Bids will be received by the Architect. There will not be a public opening. General Contractor will be contacted within three (3) working days.

Archetype, P.A
48 Union Wharf
Portland, ME 04101
(207) 772-6022
Fax (207) 772-4056

Contract Bid Documents may be viewed at the office of the Architect, Archetype, P.A. or at Xpress Copy, Portland, ME. One set of documents will be given to General Contractor, additional sets may be ordered from Xpress Copy, Portland, ME (207) 775-2444.

The Owner reserves the right to accept or reject any or all bids. Owner will select contractor on the basis of cost, timing and interview post bid.

END OF SECTION

Peloton Building - 795 Congress Street - Portland, ME

SECTION 00200

BID FORM

BIDDERS PROPOSAL

DATE: _____

TO: Peter Bass
Random Orbit, LLC
17 Chestnut Street
Portland, ME 04101

In response to your invitation for bids, and subject to all the consideration thereof, the undersigned

A corporation organized and existing under the laws of the state of _____

a partnership consisting of _____

or an individual trading as _____

of the city or town of _____

state of _____: Hereby proposes to furnish all labor and

materials and to perform all work required for the construction of 795 Congress Street Office Building,
Portland, ME.

In strict accordance with the specifications, plans and the articles of contract, therein and dated

_____ for the consideration of _____

_____ Dollars.

Included in the above figure are the following cost associated with HVAC, plumbing and electric.

HVAC \$ _____

Plumbing \$ _____

Electric \$ _____

Peloton Building - 795 Congress Street - Portland, ME

Construction Start Date: On or about _____.

Construction Completion Date: _____.

The undersigned bidder agrees to execute the contract for the amount of the total of this bid within ten (10) calendar days from the date when the written notice to commence construction (Notice To Proceed) is delivered to him at the address given on this proposal.

Bidder acknowledges receipt of the following Addendums to the Drawings and Specifications, which have been incorporated into the bid figure.

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Alternates

*Alternate #1 Add \$ _____

*Alternates are for adding offices on second floor, see drawings A1.02 for reference.

Bidder acknowledges the following Allowances: (These are included in Base Bid)

Allowance #1

1. Kitchen Cabinets \$800

Contractor

By: _____

Title: _____

Business Address: _____

END OF SECTION

AIA DOCUMENT A201-1997***General Conditions of the Contract for Construction*****TABLE OF ARTICLES**

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
5. SUBCONTRACTORS
6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
8. TIME
9. PAYMENTS AND COMPLETION
10. PROTECTION OF PERSONS AND PROPERTY
11. INSURANCE AND BONDS
12. UNCOVERING AND CORRECTION OF WORK
13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT
- 14.4.4 Amendment to AIA A201

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document has been approved and endorsed by The Associated General Contractors of America.



© 1997 AIA®
AIA DOCUMENT A201-1997
 GENERAL CONDITIONS
 OF THE CONTRACT FOR
 CONSTRUCTION

The American Institute
 of Architects
 1735 New York Avenue, N.W.
 Washington, D.C. 20006-5292

CAUTION: You should use an original AIA document with the AIA logo printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced.

INDEX

Acceptance of Nonconforming Work
9.6.6, 9.9.3, 12.3

Acceptance of Work
9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

Access to Work
3.16, 6.2.1, 12.1

Accident Prevention
4.2.3, 10

Acts and Omissions
3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 4.3.8, 4.4.1, 8.3.1, 9.5.1,
10.2.5, 13.4.2, 13.7, 14.1

Addenda
1.1.1, 3.11

Additional Costs, Claims for
4.3.4, 4.3.5, 4.3.6, 6.1.1, 10.3

Additional Inspections and Testing
9.8.3, 12.2.1, 13.5

Additional Time, Claims for
4.3.4, 4.3.7, 8.3.2

ADMINISTRATION OF THE CONTRACT
3.1.3, 4, 9.4, 9.5

Advertisement or Invitation to Bid
1.1.1

Aesthetic Effect
4.2.13, 4.5.1

Allowances
3.8

All-risk Insurance
11.4.1.1

Applications for Payment
4.2.5, 7.3.8, 9.2, 9.3, 9.4, 9.5.1, 9.6.3, 9.7.1, 9.8.5,
9.10, 11.1.3, 14.2.4, 14.4.3

Approvals
2.4, 3.1.3, 3.5, 3.10.2, 3.12, 4.2.7, 9.3.2, 13.4.2, 13.5

Arbitration
4.3.3, 4.4, 4.5.1, 4.5.2, 4.6, 8.3.1, 9.7.1, 11.4.9, 11.4.10

Architect
4.1

Architect, Definition of
4.1.1

Architect, Extent of Authority
2.4, 3.12.7, 4.2, 4.3.6, 4.4, 5.2, 6.3, 7.1.2, 7.3.6, 7.4,
9.2, 9.3.1, 9.4, 9.5, 9.8.3, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.5.1, 13.5.2, 14.2.2, 14.2.4

Architect, Limitations of Authority and
Responsibility
2.1.1, 3.3.3, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,
4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 4.4, 5.2.1,
7.4, 9.4.2, 9.6.4, 9.6.6

Architect's Additional Services and Expenses
2.4, 11.4.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract
3.1.3, 4.2, 4.3.4, 4.4, 9.4, 9.5

Architect's Approvals
2.4, 3.1.3, 3.5.1, 3.10.2, 4.2.7

Architect's Authority to Reject Work
3.5.1, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright
1.6

Architect's Decisions
4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.3.4, 4.4.1, 4.4.5,
4.4.6, 4.5, 6.3, 7.3.6, 7.3.8, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1,
9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4

Architect's Inspections
4.2.2, 4.2.9, 4.3.4, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions
3.2.3, 3.3.1, 4.2.6, 4.2.7, 4.2.8, 7.4.1, 12.1, 13.5.2

Architect's Interpretations
4.2.11, 4.2.12, 4.3.6

Architect's Project Representative
4.2.10

Architect's Relationship with Contractor
1.1.2, 1.6, 3.1.3, 3.2.1, 3.2.2, 3.2.3, 3.3.1, 3.4.2, 3.5.1,
3.7.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.1.3, 4.2, 4.3.4,
4.4.1, 4.4.7, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7,
9.8, 9.9, 10.2.6, 10.3, 11.3, 11.4.7, 12, 13.4.2, 13.5

Architect's Relationship with Subcontractors
1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.4.7

Architect's Representations
9.4.2, 9.5.1, 9.10.1

Architect's Site Visits
4.2.2, 4.2.5, 4.2.9, 4.3.4, 9.4.2, 9.5.1, 9.9.2, 9.10.1,
13.5

Asbestos
10.3.1

Attorneys' Fees
3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts
6.1.1, 6.1.2

Award of Subcontracts and Other Contracts
for Portions of the Work
5.2

Basic Definitions
1.1

Bidding Requirements
1.1.1, 1.1.7, 5.2.1, 11.5.1

Boiler and Machinery Insurance
11.4.2

Bonds, Lien
9.10.2

Bonds, Performance, and Payment
7.3.6.4, 9.6.7, 9.10.3, 11.4.9, 11.5

Building Permit
3.7.1

Capitalization
1.3

Certificate of Substantial Completion
9.8.3, 9.8.4, 9.8.5

Certificates for Payment
4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7.1, 9.10.1,
9.10.3, 13.7, 14.1.1.3, 14.2.4



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

Contractor's Relationship with Separate
Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.4.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2,
11.4.1.2, 11.4.7, 11.4.8

Contractor's Relationship with the Architect

1.1.2, 1.6, 3.1.3, 3.2.1, 3.2.2, 3.2.3, 3.3.1, 3.4.2, 3.5.1,
3.7.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.1.3, 4.2, 4.3.4,
4.4.1, 4.4.7, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 5, 9.7,
9.8, 9.9, 10.2.6, 10.3, 11.3, 11.4.7, 12, 13.4.2, 13.5

Contractor's Representations

1.5.2, 3.5.1, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing
the Work

3.3.2, 3.18, 4.2.3, 4.3.8, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10

Contractor's Review of Contract Documents

1.5.2, 3.2, 3.7.3

Contractor's Right to Stop the Work

9.7

Contractor's Right to Terminate the Contract

4.3.10, 14.1

Contractor's Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.6, 9.2, 9.3,
9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.5.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction
Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 4.3.3, 6.1.3, 6.2.4,
7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14

Contractual Liability Insurance

11.1.1.8, 11.2, 11.3

Coordination and Correlation

1.2, 1.5.2, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.6, 2.2.5, 3.11

Copyrights

1.6, 3.17

Correction of Work

2.3, 2.4, 3.7.4, 4.2.1, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2,
12.2, 13.7.1.3

Correlation and Intent of the Contract Documents
1.2

Cost, Definition of

7.3.6

Costs

2.4, 3.2.3, 3.7.4, 3.8.2, 3.15.2, 4.3, 5.4.2, 6.1.1, 6.2.3,
7.3.3.3, 7.3.6, 7.3.7, 7.3.8, 9.10.2, 10.3.2, 10.5, 11.3,
11.4, 12.1, 12.2.1, 12.2.4, 13.5, 14

Cutting and Patching

6.2.5, 3.14

Damage to Construction of Owner or Separate
Contractors

3.14.2, 6.2.4, 9.2.1.5, 10.2.1.2, 10.2.5, 10.6, 11.1, 11.4,
12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.6, 11.4, 12.2.4

Damages, Claims for

3.2.3, 3.18, 4.3.10, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3,
11.1.1, 11.4.5, 11.4.7, 14.1.3, 14.2.4

Damages for Delay

6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

Date of Commencement of the Work, Definition of
8.1.2

Date of Substantial Completion, Definition of
8.1.3

Day, Definition of
8.1.4

Decisions of the Architect

4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.3.4, 4.4.1, 4.4.5,
4.4.6, 4.5, 6.3, 7.3.6, 7.3.8, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1,
9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4

Decisions to Withhold Certification

9.4.1, 9.5, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance,
Rejection and Correction of

2.3, 2.4, 3.5.1, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2,
9.9.3, 9.10.4, 12.2.1, 13.7.1.3

Defective Work, Definition of
3.5.1

Definitions

1.1, 2.1.1, 3.1, 3.5.1, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 4.3.1, 5.1,
6.1.2, 7.2.1, 7.3.1, 7.3.6, 8.1, 9.1, 9.8.1

Delays and Extensions of Time

3.2.3, 4.3.1, 4.3.4, 4.3.7, 4.4.5, 5.2.3, 7.2.1, 7.3.1, 7.4.1,
7.5.1, 8.3, 9.5.1, 9.7.1, 10.3.2, 10.6.1, 14.3.2

Disputes

4.1.4, 4.3, 4.4, 4.5, 4.6, 6.3, 7.3.8

Documents and Samples at the Site
3.11

Drawings, Definition of
1.1.5

Drawings and Specifications, Use and Ownership of
1.1.1, 1.3, 2.2.5, 3.11, 5.3

Effective Date of Insurance
8.2.2, 11.1.2

Emergencies

4.3.5, 10.6, 14.1.1.2

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3,
11.1.1, 11.4.7, 14.1, 14.2.1.1

Equipment, Labor, Materials and

1.1.3, 1.1.6, 3.4, 3.5.1, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.6, 9.3.2, 9.3.3, 9.5.1.3,
9.10.2, 10.2.1, 10.2.4, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3, 3.4, 3.5, 3.7,
3.10, 3.12, 3.14, 4.2.2, 4.2.3, 4.3.3, 6.2.2, 7.1.3, 7.3.4,
8.2, 9.5, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3

Extensions of Time

3.2.3, 4.3.1, 4.3.4, 4.3.7, 4.4.5, 5.2.3, 7.2.1, 7.3, 7.4.1,
9.5.1, 9.7.1, 10.3.2, 10.6.1, 14.3.2

Failure of Payment

4.3.6, 9.5.1.3, 9.7, 9.10.2, 14.1.1.3, 14.2.1.2, 13.6

Certificates of Inspection, Testing or Approval
13.5.4

Certificates of Insurance
9.10.2, 11.1.3

Change Orders

1.1.1, 2.4.1, 3.4.2, 3.8.2.3, 3.11.1, 3.12.8, 4.2.8, 4.3.4,
4.3.9, 5.2.3, 7.1, 7.2, 7.3, 8.3.1, 9.3.1.1, 9.10.3, 11.4.1.2,
11.4.4, 11.4.9, 12.1.2

Change Orders, Definition of
7.2.1

CHANGES IN THE WORK

3.11, 4.2.8, 7, 8.3.1, 9.3.1.1, 11.4.9

Claim, Definition of
4.3.1

Claims and Disputes

3.2.3, 4.3, 4.4, 4.5, 4.6, 6.1.1, 6.3, 7.3.8, 9.3.3, 9.10.4,
10.3.3

Claims and Timely Assertion of Claims
4.6.5

Claims for Additional Cost

3.2.3, 4.3.4, 4.3.5, 4.3.6, 6.1.1, 7.3.8, 10.3.2

Claims for Additional Time

3.2.3, 4.3.4, 4.3.7, 6.1.1, 8.3.2, 10.3.2

Claims for Concealed or Unknown Conditions
4.3.4

Claims for Damages

3.2.3, 3.18, 4.3.10, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3,
11.1.1, 11.4.5, 11.4.7, 14.1.3, 14.2.4

Claims Subject to Arbitration

4.4.1, 4.5.1, 4.6.1

Cleaning Up

3.15, 6.3

Commencement of Statutory Limitation Period
13.7

**Commencement of the Work,
Conditions Relating to**

2.2.1, 3.2.1, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 4.3.5, 5.2.1,
5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.4.1, 11.4.6, 11.5.1

Commencement of the Work, Definition of
8.1.2

**Communications Facilitating Contract
Administration**

3.9.1, 4.2.4

Completion, Conditions Relating to

1.6.1, 3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8,
9.9.1, 9.10, 12.2, 13.7, 14.1.2

**COMPLETION, PAYMENTS AND
9**

Completion, Substantial

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,
9.10.4.2, 12.2, 13.7

Compliance with Laws

1.6.1, 3.2.2, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 4.4.8, 4.6.4,
4.6.6, 9.6.4, 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1,
13.5.2, 13.6, 14.1.1, 14.2.1.3

Concealed or Unknown Conditions
4.3.4, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 1.1.7, 6.1.1, 6.1.4

Consent, Written

1.6, 3.4.2, 3.12.8, 3.14.2, 4.1.2, 4.3.4, 4.6.4, 9.3.2,
9.8.5, 9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2

**CONSTRUCTION BY OWNER OR BY SEPARATE
CONTRACTORS**

1.1.4, 6

Construction Change Directive, Definition of
7.3.1

Construction Change Directives

1.1.1, 3.12.8, 4.2.8, 4.3.9, 7.1, 7.3, 9.3.1.1

Construction Schedules, Contractor's

1.4.1.2, 3.10, 3.12.1, 3.12.2, 4.3.7.2, 6.1.3

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

4.3.3

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 11.4.9, 14

Contract Administration

3.1.3, 4, 9.4, 9.5

**Contract Award and Execution, Conditions Relating
to**

3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.4.6, 11.5.1

Contract Documents, The

1.1, 1.2

**Contract Documents, Copies Furnished
and Use of**

1.6, 2.2.5, 5.3

Contract Documents, Definition of
1.1.1

Contract Sum

3.8, 4.3.4, 4.3.5, 4.4.5, 5.2.3, 7.2, 7.3, 7.4, 9.1, 9.4.2,
9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.4.1, 14.2.4, 14.3.2

Contract Sum, Definition of
9.1

Contract Time

4.3.4, 4.3.7, 4.4.5, 5.2.3, 7.2.1.3, 7.3, 7.4, 8.1.1, 8.2,
8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, 6.1.2

Contractor's Construction Schedules

1.4.1.2, 3.10, 3.12.1, 3.12.2, 4.3.7.2, 6.1.3

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3,
11.1.1, 11.4.7, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1



© 1997 AIA®
AIA DOCUMENT A201-1997
**GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION**

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

Faulty Work
(See Defective or Nonconforming Work)

Final Completion and Final Payment
4.2.1, 4.2.9, 4.3.2, 9.8.2, **9.10**, 11.1.2, 11.1.3, 11.4.1,
11.4.5, 12.3.1, 13.7, 14.2.4, 14.4.3

Financial Arrangements, Owner's
2.2.1, 13.2.2, 14.1.1.5

Fire and Extended Coverage Insurance
11.4

GENERAL PROVISIONS

1

Governing Law
13.1

Guarantees (See Warranty)

Hazardous Materials
10.2.4, **10.3**, 10.5

Identification of Contract Documents
1.5.1

Identification of Subcontractors and Suppliers
5.2.1

Indemnification
3.17, **3.18**, 9.10.2, 10.3.3, 10.5, 11.4.1.2, 11.4.7

Information and Services Required of the Owner
2.1.2, **2.2**, 3.2.1, 3.12.4, 3.12.10, 4.2.7, 4.3.3, 6.1.3,
6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3,
11.2, 11.4, 13.5.1, 13.5.2, 14.1.1.4, 14.1.4

Injury or Damage to Person or Property
4.3.8, 10.2, 10.6

Inspections
3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.2,
9.8.3, 9.9.2, 9.10.1, 12.2.1, 13.5

Instructions to Bidders
1.1.1

Instructions to the Contractor
3.2.3, 3.3.1, 3.8.1, 4.2.8, 5.2.1, 7, 12, 8.2.2, 13.5.2

Insurance
3.18.1, 6.1.1, 7.3.6, 8.2.1, 9.3.2, 9.8.4, 9.9.1, 9.10.2,
9.10.5, 11

Insurance, Boiler and Machinery
11.4.2

Insurance, Contractor's Liability
11.1

Insurance, Effective Date of
8.2.2, 11.1.2

Insurance, Loss of Use
11.4.3

Insurance, Owner's Liability
11.2

Insurance, Project Management Protective Liability
11.3

Insurance, Property
10.2.5, 11.4

Insurance, Stored Materials
9.3.2, 11.4.1.4

INSURANCE AND BONDS
11

Insurance Companies, Consent to Partial Occupancy
9.9.1, 11.4.1.5

Insurance Companies, Settlement with
11.4.10

Intent of the Contract Documents
1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4

Interest
13.6

Interpretation
1.2.3, **1.4**, 4.1.1, 4.3.1, 5.1, 6.1.2, 8.1.4

Interpretations, Written
4.2.11, 4.2.12, 4.3.6

Joinder and Consolidation of Claims Required
4.6.4

Judgment on Final Award
4.6.6

Labor and Materials, Equipment
1.1.3, 1.1.6, **3.4**, 3.5.1, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.6, 9.3.2, 9.3.3, 9.5.1.3,
9.10.2, 10.2.1, 10.2.4, 14.2.1.2

Labor Disputes
8.3.1

Laws and Regulations
1.6, 3.2.2, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 4.4.8, 4.6,
9.6.4, 9.9.1, 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2,
13.6, 14

Liens
2.1.2, 4.4.8, 8.2.2, 9.3.3, 9.10

Limitation on Consolidation or Joinder
4.6.4

Limitations, Statutes of
4.6.3, 12.2.6, 13.7

Limitations of Liability
2.3, 3.2.1, 3.5.1, 3.7.3, 3.12.8, 3.12.10, 3.17, 3.18, 4.2.6,
4.2.7, 4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.10.4, 10.3.3,
10.2.5, 11.1.2, 11.2.1, 11.4.7, 12.2.5, 13.4.2

Limitations of Time
2.1.2, 2.2, 2.4, 3.2.1, 3.7.3, 3.10, 3.11, 3.12.5, 3.15.1,
4.2.7, 4.3, 4.4, 4.5, 4.6, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4,
8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9,
9.10, 11.1.3, 11.4.1.5, 11.4.6, 11.4.10, 12.2, 13.5, 13.7, 14

Loss of Use Insurance
11.4.3

Material Suppliers
1.6, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5

Materials, Hazardous
10.2.4, 10.3, 10.5

Materials, Labor, Equipment and
1.1.3, 1.1.6, 1.6.1, 3.4, 3.5.1, 3.8.2, 3.8.23, 3.12, 3.13,
3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.6, 9.3.2, 9.3.3,
9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.2

Means, Methods, Techniques, Sequences and
Procedures of Construction
3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien
4.4.8



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

Mediation

4.4.1, 4.4.5, 4.4.6, 4.4.8, 4.5, 4.6.1, 4.6.2, 8.3.1, 10.5

Minor Changes in the Work

1.1.1, 3.12.8, 4.2.8, 4.3.6, 7.1, 7.4

MISCELLANEOUS PROVISIONS

13

Modifications, Definition of

1.1.1

Modifications to the Contract

1.1.1, 1.1.2, 3.7.3, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2, 11.4.1

Mutual Responsibility

6.2

Nonconforming Work, Acceptance of

9.6.6, 9.9.3, 12.3

Nonconforming Work, Rejection and Correction of

2.3, 2.4, 3.5.1, 4.2.6, 6.2.5, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2.1, 13.7.1.3

Notice

2.2.1, 2.3, 2.4, 3.2.3, 3.3.1, 3.7.2, 3.7.4, 3.12.9, 4.3, 4.4.8, 4.6.5, 5.2.1, 8.2.2, 9.7, 9.10, 10.2.2, 11.1.3, 11.4.6, 12.2.2, 12.2.4, 13.3, 13.5.1, 13.5.2, 14.1, 14.2

Notice, Written

2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 4.3, 4.4.8, 4.6.5, 5.2.1, 8.2.2, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 11.4.6, 12.2.2, 12.2.4, 13.3, 14

Notice of Testing and Inspections

13.5.1, 13.5.2

Notice to Proceed

8.2.2

Notices, Permits, Fees and

2.2.2, 3.7, 3.13, 7.3.6.4, 10.2.2

Observations, Contractor's

1.5.2, 3.2, 3.7.3, 4.3.4

Occupancy

2.2.2, 9.6.6, 9.8, 11.4.1.5

Orders, Written

1.1.1, 2.3, 3.9, 4.3.6, 7, 8.2.2, 11.4.9, 12.1, 12.2, 13.5.2, 14.3.1

OWNER

2

Owner, Definition of

2.1

Owner, Information and Services Required of the

2.1.2, 2.2, 3.2.1, 3.12.4, 3.12.10, 4.2.7, 4.3.3, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1, 13.5.2, 14.1.1.4, 14.1.4

Owner's Authority

1.6, 2.1.1, 2.3, 2.4, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.1.3, 4.2.4, 4.2.9, 4.3.6, 4.4.7, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.1, 11.4.3, 11.4.10, 12.2.2, 12.3.1, 13.2.2, 14.3, 14.4

Owner's Financial Capability

2.2.1, 13.2.2, 14.1.1.5

Owner's Liability Insurance

11.2

Owner's Loss of Use Insurance

11.4.3

Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Right to Carry Out the Work

2.4, 12.2.4, 14.2.2.2

Owner's Right to Clean Up

6.3

Owner's Right to Perform Construction and to Award Separate Contracts

6.1

Owner's Right to Stop the Work

2.3

Owner's Right to Suspend the Work

14.3

Owner's Right to Terminate the Contract

14.2

Ownership and Use of Drawings, Specifications and Other Instruments of Service

1.1.1, 1.6, 2.2.5, 3.2.1, 3.11.1, 3.17.1, 4.2.12, 5.3

Partial Occupancy or Use

9.6.6, 9.9, 11.4.1.5

Patching, Cutting and

3.14, 6.2.5

Patents

3.17

Payment, Applications for

4.2.5, 7.3.8, 9.2, 9.3, 9.4, 9.5.1, 9.6.3, 9.7.1, 9.8.5, 9.10.1, 9.10.3, 9.10.5, 11.1.3, 14.2.4, 14.4.3

Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7.1, 9.10.1, 9.10.3, 13.7, 14.1.1.3, 14.2.4

Payment, Failure of

4.3.6, 9.5.1.3, 9.7, 9.10.2, 14.1.1.3, 14.2.1.2, 13.6

Payment, Final

4.2.1, 4.2.9, 4.3.2, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 11.4.5, 12.3.1, 13.7, 14.2.4, 14.4.3

Payment Bond, Performance Bond and

7.3.6.4, 9.6.7, 9.10.3, 11.4.9, 11.5

Payments, Progress

4.3.3, 9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3

PAYMENTS AND COMPLETION

9

Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 11.4.8, 14.2.1.2

PCB

10.3.1

Performance Bond and Payment Bond

7.3.6.4, 9.6.7, 9.10.3, 11.4.9, 11.5

Permits, Fees and Notices

2.2.2, 3.7, 3.13, 7.3.6.4, 10.2.2

PERSONS AND PROPERTY, PROTECTION OF

10

Polychlorinated Biphenyl

10.3.1



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

- Product Data, Definition of
3.12.2
- Product Data and Samples, Shop Drawings
3.11, 3.12, 4.2.7
- Progress and Completion
4.2.2, 4.3.3, 8.2, 9.8, 9.9.1, 14.1.4
- Progress Payments
4.3.3, 9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3
- Project, Definition of the
1.1.4
- Project Management Protective Liability Insurance
11.3
- Project Manual, Definition of the
1.1.7
- Project Manuals
2.2.5
- Project Representatives
4.2.10
- Property Insurance
10.2.5, 11.4
- PROTECTION OF PERSONS AND PROPERTY**
10
- Regulations and Laws
1.6, 3.2.2, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 4.4.8, 4.6,
9.6.4, 9.9.1, 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2,
13.6, 14
- Rejection of Work
3.5.1, 4.2.6, 12.2.1
- Releases and Waivers of Liens
9.10.2
- Representations
1.5.2, 3.5.1, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1,
9.8.2, 9.10.1
- Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.10, 5.1.1, 5.1.2, 13.2.1
- Resolution of Claims and Disputes
4.4, 4.5, 4.6
- Responsibility for Those Performing the Work
3.3.2, 3.18, 4.2.3, 4.3.8, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10
- Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
- Review of Contract Documents and Field
Conditions by Contractor
1.5.2, 3.2, 3.7.3, 3.12.7, 6.1.3
- Review of Contractor's Submittals by Owner
and Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
- Review of Shop Drawings, Product Data and
Samples by Contractor
3.12
- Rights and Remedies
1.1.2, 2.3, 2.4, 3.5.1, 3.15.2, 4.2.6, 4.3.4, 4.5, 4.6, 5.3,
5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2,
12.2.4, 13.4, 14
- Royalties, Patents and Copyrights
3.17
- Rules and Notices for Arbitration
4.6.2
- Safety of Persons and Property
10.2, 10.6
- Safety Precautions and Programs
3.3.1, 4.2.2, 4.2.7, 5.3.1, 10.1, 10.2, 10.6
- Samples, Definition of
3.12.3
- Samples, Shop Drawings, Product Data and
3.11, 3.12, 4.2.7
- Samples at the Site, Documents and
3.11
- Schedule of Values
9.2, 9.3.1
- Schedules, Construction
1.4.1.2, 3.10, 3.12.1, 3.12.2, 4.3.7.2, 6.1.3
- Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 4.6.4, 6, 8.3.1, 11.4.7,
12.1.2, 12.2.5
- Shop Drawings, Definition of
3.12.1
- Shop Drawings, Product Data and Samples
3.11, 3.12, 4.2.7
- Site, Use of
3.13, 6.1.1, 6.2.1
- Site Inspections
1.2.2, 3.2.1, 3.3.3, 3.7.1, 4.2, 4.3.4, 9.4.2, 9.10.1, 13.5
- Site Visits, Architect's
4.2.2, 4.2.9, 4.3.4, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5
- Special Inspections and Testing
4.2.6, 12.2.1, 13.5
- Specifications, Definition of the
1.1.6
- Specifications, The
1.1.1, 1.1.6, 1.1.7, 1.2.2, 1.6, 3.11, 3.12.10, 3.17
- Statute of Limitations
4.6.3, 12.2.6, 13.7
- Stopping the Work
2.3, 4.3.6, 9.7, 10.3, 14.1
- Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4, 11.4.1.4
- Subcontractor, Definition of
5.1.1
- SUBCONTRACTORS**
5
- Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7
- Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10 10.2.1, 11.4.7, 11.4.8, 14.1,
14.2.1, 14.3.2
- Submittals
1.6, 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.6, 9.2, 9.3,
9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3
- Subrogation, Waivers of
6.1.1, 11.4.5, 11.4.7
- Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,
9.10.4.2, 12.2, 13.7
- Substantial Completion, Definition of
9.8.1



© 1997 AIA®
AIA DOCUMENT A201-1997
 GENERAL CONDITIONS
 OF THE CONTRACT FOR
 CONSTRUCTION

The American Institute
 of Architects
 1735 New York Avenue, N.W.
 Washington, D.C. 20006-5292

Substitution of Subcontractors
5.2.3, 5.2.4

Substitution of Architect
4.1.3

Substitutions of Materials
3.4.2, 3.5.1, 7.3.7

Sub-subcontractor, Definition of
5.1.2

Subsurface Conditions
4.3.4

Successors and Assigns
13.2

Superintendent
3.9, 10.2.6

Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 4.3.3, 6.1.3, 6.2.4,
7.1.3, 7.3.6, 8.2, 8.3.1, 9.4.2, 10, 12, 14

Surety
4.4.7, 5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2

Surety, Consent of
9.10.2, 9.10.3

Surveys
2.2.3

Suspension by the Owner for Convenience
14.4

Suspension of the Work
5.4.2, 14.3

Suspension or Termination of the Contract
4.3.6, 5.4.1.1, 11.4.9, 14

Taxes
3.6, 3.8.2.1, 7.3.6.4

Termination by the Contractor
4.3.10, 14.1

Termination by the Owner for Cause
4.3.10, 5.4.1.1, 14.2

Termination of the Architect
4.1.3

Termination of the Contractor
14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT 14

Tests and Inspections
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,
9.10.1, 10.3.2, 11.4.1.1, 12.2.1, 13.5

TIME 8

Time, Delays and Extensions of
3.2.3, 4.3.1, 4.3.4, 4.3.7, 4.4.5, 5.2.3, 7.2.1, 7.3.1,
7.4.1, 7.5.1, 8.3, 9.5.1, 9.7.1, 10.3.2, 10.6.1, 14.3.2

Time Limits
2.1.2, 2.2, 2.4, 3.2.1, 3.7.3, 3.10, 3.11, 3.12.5, 3.15.1,
4.2, 4.3, 4.4, 4.5, 4.6, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4,
8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9,
9.10, 11.1.3, 11.4.1.5, 11.4.6, 11.4.10, 12.2, 13.5, 13.7, 14

Time Limits on Claims
4.3.2, 4.3.4, 4.3.8, 4.4, 4.5, 4.6

Title to Work
9.3.2, 9.3.3

UNCOVERING AND CORRECTION OF WORK 12

Uncovering of Work
12.1

Unforeseen Conditions
4.3.4, 8.3.1, 10.3

Unit Prices
4.3.9, 7.3.3.2

Use of Documents
1.1.1, 1.6, 2.2.5, 3.12.6, 5.3

Use of Site
3.13, 6.1.1, 6.2.1

Values, Schedule of
9.2, 9.3.1

Waiver of Claims by the Architect
13.4.2

Waiver of Claims by the Contractor
4.3.10, 9.10.5, 11.4.7, 13.4.2

Waiver of Claims by the Owner
4.3.10, 9.9.3, 9.10.3, 9.10.4, 11.4.3, 11.4.5, 11.4.7,
12.2.2.1, 13.4.2, 14.2.4

Waiver of Consequential Damages
4.3.10, 14.2.4

Waiver of Liens
9.10.2, 9.10.4

Waivers of Subrogation
6.1.1, 11.4.5, 11.4.7

Warranty
3.5, 4.2.9, 4.3.5.3, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2,
13.7.1.3

Weather Delays
4.3.7.2

Work, Definition of
1.1.3

Written Consent
1.6, 3.4.2, 3.12.8, 3.14.2, 4.1.2, 4.3.4, 4.6.4, 9.3.2,
9.8.5, 9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2

Written Interpretations
4.2.11, 4.2.12, 4.3.6

Written Notice
2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 4.3, 4.4.8, 4.6.5,
5.2.1, 8.2.2, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 11.4.6,
12.2.2, 12.2.4, 13.3, 14

Written Orders
1.1.1, 2.3, 3.9, 4.3.6, 7, 8.2.2, 11.4.9, 12.1, 12.2, 13.5.2,
14.3.1



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

ARTICLE 1 GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or portions of Addenda relating to bidding requirements).

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect and Contractor, (2) between the Owner and a Subcontractor or Sub-subcontractor, (3) between the Owner and Architect or (4) between any persons or entities other than the Owner and Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

1.1.7 THE PROJECT MANUAL

The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

1.2.3 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.3 CAPITALIZATION

1.3.1 Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the titles of numbered articles and identified references to Paragraphs, Subparagraphs and Clauses in the document or (3) the titles of other documents published by the American Institute of Architects.

1.4 INTERPRETATION

1.4.1 In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.5 EXECUTION OF CONTRACT DOCUMENTS

1.5.1 The Contract Documents shall be signed by the Owner and Contractor. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request.

1.5.2 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

1.6 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

1.6.1 The Drawings, Specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants are Instruments of Service through which the Work to be executed by the Contractor is described. The Contractor may retain one record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect or the Architect's consultants, and unless otherwise indicated the Architect and the Architect's consultants shall be deemed the authors of them and will retain all common law, statutory and other reserved rights; in addition to the copyrights. All copies of Instruments of Service, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

the execution of their Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' copyrights or other reserved rights.

ARTICLE 2 OWNER

2.1 GENERAL

2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Subparagraph 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 The Owner shall, at the written request of the Contractor, prior to commencement of the Work and thereafter, furnish to the Contractor reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Furnishing of such evidence shall be a condition precedent to commencement or continuation of the Work. After such evidence has been furnished, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

2.2.2 Except for permits and fees, including those required under Subparagraph 3.7.1, which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

2.2.4 Information or services required of the Owner by the Contract Documents shall be furnished by the Owner with reasonable promptness. Any other information or services relevant to the Contractor's performance of the Work under the Owner's control shall be furnished by the Owner after receipt from the Contractor of a written request for such information or services.

2.2.5 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals as are reasonably necessary for execution of the Work.

2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 12.2 or persistently fails to carry out Work in



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Subparagraph 6.1.3.

2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may after such seven-day period give the Contractor a second written notice to correct such deficiencies within a three-day period. If the Contractor within such three-day period after receipt of such second notice fails to commence and continue to correct any deficiencies, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

3.1 GENERAL

3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative.

3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.2.1 Since the Contract Documents are complementary, before starting each portion of the Work, the Contractor shall carefully study and compare the various Drawings and other Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Subparagraph 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered by the Contractor shall be reported promptly to the Architect as a request for information in such form as the Architect may require.

3.2.2 Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or made known to the Contractor shall be reported promptly to the Architect.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

3.2.3 If the Contractor believes that additional cost or time is involved because of clarifications or instructions issued by the Architect in response to the Contractor's notices or requests for information pursuant to Subparagraphs 3.2.1 and 3.2.2, the Contractor shall make Claims as provided in Subparagraphs 4.3.6 and 4.3.7. If the Contractor fails to perform the obligations of Subparagraphs 3.2.1 and 3.2.2, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Architect.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any resulting loss or damage.

3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

3.4 LABOR AND MATERIALS

3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

3.4.2 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order.

3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

3.5 WARRANTY

3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

3.6 TAXES

3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

3.7 PERMITS, FEES AND NOTICES

3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded.

3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities applicable to performance of the Work.

3.7.3 It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

3.7.4 If the Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

3.8 ALLOWANCES

3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

3.8.2 Unless otherwise provided in the Contract Documents:

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances;
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Clause 3.8.2.1 and (2) changes in Contractor's costs under Clause 3.8.2.2.

3.8.3 Materials and equipment under an allowance shall be selected by the Owner in sufficient time to avoid delay in the Work.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

3.9 SUPERINTENDENT

3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

3.10.2 The Contractor shall prepare and keep current, for the Architect's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review submittals.

3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

3.11.1 The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record field changes and selections made during construction, and one record copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

3.12.3 Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Architect is subject to the limitations of Subparagraph 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect without action.

3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action.

3.12.6 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice the Architect's approval of a resubmission shall not apply to such revisions.

3.12.10 The Contractor shall not be required to provide professional services which constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Subparagraph 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

3.13 USE OF SITE

3.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

3.14 CUTTING AND PATCHING

3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

3.15 CLEANING UP

3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

3.16 ACCESS TO WORK

3.16.1 The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

3.17 ROYALTIES, PATENTS AND COPYRIGHTS

3.17.1 The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

3.18 INDEMNIFICATION

3.18.1 To the fullest extent permitted by law and to the extent claims, damages, losses or expenses are not covered by Project Management Protective Liability insurance purchased by the Contractor in accordance with Paragraph 11.3, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 3.18.

3.18.2 In claims against any person or entity indemnified under this Paragraph 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Subparagraph 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ADMINISTRATION OF THE CONTRACT

4.1 ARCHITECT

4.1.1 The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

4.1.3 If the employment of the Architect is terminated, the Owner shall employ a new Architect against whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the former Architect.

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents, and will be an Owner's representative (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Paragraph 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

4.2.2 The Architect, as a representative of the Owner, will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Subparagraph 3.3.1.

4.2.3 The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

4.2.4 Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

4.2.6 The Architect will have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Subparagraphs 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

4.2.7 The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Paragraphs 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Paragraph 7.4.

4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion, will receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Paragraph 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretations until 15 days after written request is made for them.

4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and initial decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor; will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.

4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

4.3 CLAIMS AND DISPUTES

4.3.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be initiated by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

4.3.2 Time Limits on Claims. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims must be initiated by written notice to the Architect and the other party.

4.3.3 Continuing Contract Performance. Pending final resolution of a Claim except as otherwise agreed in writing or as provided in Subparagraph 9.7.1 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

4.3.4 Claims for Concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within 21 days after the Architect has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but if the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for initial determination, subject to further proceedings pursuant to Paragraph 4.4.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

4.3.5 Claims for Additional Cost. If the Contractor wishes to make Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Paragraph 10.6.

4.3.6 If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with this Paragraph 4.3.

4.3.7 CLAIMS FOR ADDITIONAL TIME

4.3.7.1 If the Contractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

4.3.7.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

4.3.8 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

4.3.9 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

4.3.10 Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Subparagraph 4.3.10 shall be deemed to preclude an award of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

4.4 RESOLUTION OF CLAIMS AND DISPUTES

4.4.1 Decision of Architect. Claims, including those alleging an error or omission by the Architect but excluding those arising under Paragraphs 10.3 through 10.5, shall be referred initially to the Architect for decision. An initial decision by the Architect shall be required as a



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

condition precedent to mediation, arbitration or litigation of all Claims between the Contractor and Owner arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered by the Architect. The Architect will not decide disputes between the Contractor and persons or entities other than the Owner.

4.4.2 The Architect will review Claims and within ten days of the receipt of the Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Architect is unable to resolve the Claim if the Architect lacks sufficient information to evaluate the merits of the Claim or if the Architect concludes that, in the Architect's sole discretion, it would be inappropriate for the Architect to resolve the Claim.

4.4.3 In evaluating Claims, the Architect may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Architect in rendering a decision. The Architect may request the Owner to authorize retention of such persons at the Owner's expense.

4.4.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either provide a response on the requested supporting data, advise the Architect when the response or supporting data will be furnished or advise the Architect that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Architect will either reject or approve the Claim in whole or in part.

4.4.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefor and which shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be final and binding on the parties but subject to mediation and arbitration.

4.4.6 When a written decision of the Architect states that (1) the decision is final but subject to mediation and arbitration and (2) a demand for arbitration of a Claim covered by such decision must be made within 30 days after the date on which the party making the demand receives the final written decision, then failure to demand arbitration within said 30 days' period shall result in the Architect's decision becoming final and binding upon the Owner and Contractor. If the Architect renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence, but shall not supersede arbitration proceedings unless the decision is acceptable to all parties concerned.

4.4.7 Upon receipt of a Claim against the Contractor or at any time thereafter, the Architect or the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Architect or the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

4.4.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the Claim by the Architect, by mediation or by arbitration.

4.5 MEDIATION

4.5.1 Any Claim arising out of or related to the Contract, except Claims relating to aesthetic effect and except those waived as provided for in Subparagraphs 4.3.10, 9.10.4 and 9.10.5 shall, after initial decision by the Architect or 30 days after submission of the Claim to the Architect, be



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

subject to mediation as a condition precedent to arbitration or the institution of legal or equitable proceedings by either party.

4.5.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be filed in writing with the other party to the Contract and with the American Arbitration Association. The request may be made concurrently with the filing of a demand for arbitration but, in such event, mediation shall proceed in advance of arbitration or legal or equitable proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

4.5.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

4.6 ARBITRATION

4.6.1 Any Claim arising out of or related to the Contract, except Claims relating to aesthetic effect and except those waived as provided for in Subparagraphs 4.3.10, 9.10.4 and 9.10.5, shall, after decision by the Architect or 30 days after submission of the Claim to the Architect, be subject to arbitration. Prior to arbitration, the parties shall endeavor to resolve disputes by mediation in accordance with the provisions of Paragraph 4.5.

4.6.2 Claims not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect. The demand for arbitration shall be filed in writing with the other party to the Contract and with the American Arbitration Association, and a copy shall be filed with the Architect.

4.6.3 A demand for arbitration shall be made within the time limits specified in Subparagraphs 4.4.6 and 4.6.1 as applicable, and in other cases within a reasonable time after the Claim has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations as determined pursuant to Paragraph 13.7.

4.6.4 **Limitation on Consolidation or Joinder.** No arbitration arising out of or relating to the Contract shall include, by consolidation or joinder or in any other manner, the Architect, the Architect's employees or consultants, except by written consent containing specific reference to the Agreement and signed by the Architect, Owner, Contractor and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the Owner, Contractor, a separate contractor as described in Article 6 and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the Owner, Contractor or a separate contractor as described in Article 6 shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described therein or with a person or entity not named or described therein. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

4.6.5 Claims and Timely Assertion of Claims. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

4.6.6 Judgment on Final Award. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

ARTICLE 5 SUBCONTRACTORS

5.1 DEFINITIONS

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection.

5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

5.2.4 The Contractor shall not change a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitute.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Paragraph 14.2 and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Paragraph 4.3.

6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights which apply to the



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

6.2.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a separate contractor because of delays, improperly timed activities or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work or defective construction of a separate contractor.

6.2.4 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Subparagraph 10.2.5.

6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Subparagraph 3.14.

6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

7.1 GENERAL

7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

7.2 CHANGE ORDERS

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect, stating their agreement upon all of the following:

- .1 change in the Work;
- .2 the amount of the adjustment, if any, in the Contract Sum; and
- .3 the extent of the adjustment, if any, in the Contract Time.

7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Subparagraph 7.3.3.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 as provided in Subparagraph 7.3.6.

7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

7.3.5 A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. In such case, and also under Clause 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph 7.3.6 shall be limited to the following:

- .1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

- .4 costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 additional costs of supervision and field office personnel directly attributable to the change.

7.3.7. The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

7.3.8 Pending final determination of the total cost of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the Architect will make an interim determination for purposes of monthly certification for payment for those costs. That determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a claim in accordance with Article 4.

7.3.9 When the Owner and Contractor agree with the determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

7.4 MINOR CHANGES IN THE WORK

7.4.1 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 8 TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

8.1.2 The date of commencement of the Work is the date established in the Agreement.

8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Paragraph 9.8.

8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

8.2 PROGRESS AND COMPLETION

8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance. Unless the date of commencement is established by the Contract Documents or a notice to proceed given



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work to permit the timely filing of mortgages, mechanic's liens and other security interests.

8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, or by delay authorized by the Owner pending mediation and arbitration, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph 4.3.

8.3.3 This Paragraph 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

9.2 SCHEDULE OF VALUES

9.2.1 Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

9.3 APPLICATIONS FOR PAYMENT

9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the schedule of values. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for in the Contract Documents.

9.3.1.1 As provided in Subparagraph 7.3.8, such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

9.3.1.2 Such applications may not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

9.4 CERTIFICATES FOR PAYMENT

9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Subparagraph 9.5.1.

9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Subparagraph 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Subparagraph 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Subparagraph 3.3.2, because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 persistent failure to carry out the Work in accordance with the Contract Documents.

9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

9.6 PROGRESS PAYMENTS

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

9.6.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

9.6.4 Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

9.6.5 Payment to material suppliers shall be treated in a manner similar to that provided in Subparagraphs 9.6.2, 9.6.3 and 9.6.4.

9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

9.7 FAILURE OF PAYMENT

9.7.1 If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by arbitration, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

9.9 PARTIAL OCCUPANCY OR USE

9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Clause 11.4.1.5 and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Subparagraph 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Subparagraph 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

- 1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- 2 failure of the Work to comply with the requirements of the Contract Documents; or
- 3 terms of special warranties required by the Contract Documents.

9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

- 1 employees on the Work and other persons who may be affected thereby;
- 2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- 3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.18.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

10.2.7 The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

10.3 HAZARDOUS MATERIALS

10.3.1 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

10.3.2 The Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. The Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up, which adjustments shall be accomplished as provided in Article 7.

10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Subparagraph 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) and provided that such damage, loss or expense is not due to the sole negligence of a party seeking indemnity.

10.4 The Owner shall not be responsible under Paragraph 10.3 for materials and substances brought to the site by the Contractor unless such materials or substances were required by the Contract Documents.

10.5 If, without negligence on the part of the Contractor, the Contractor is held liable for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

10.6 EMERGENCIES

10.6.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage;
- .5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 claims for bodily injury or property damage arising out of completed operations; and
- .8 claims involving contractual liability insurance applicable to the Contractor's obligations under Paragraph 3.18.

11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment.

11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These certificates and the insurance policies required by this Paragraph 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Subparagraph 9.10.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

11.2 OWNER'S LIABILITY INSURANCE

11.2.1 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

11.3 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

11.3.1 Optionally, the Owner may require the Contractor to purchase and maintain Project Management Protective Liability insurance from the Contractor's usual sources as primary coverage for the Owner's, Contractor's and Architect's vicarious liability for construction operations under the Contract. Unless otherwise required by the Contract Documents, the Owner



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

shall reimburse the Contractor by increasing the Contract Sum to pay the cost of purchasing and maintaining such optional insurance coverage, and the Contractor shall not be responsible for purchasing any other liability insurance on behalf of the Owner. The minimum limits of liability purchased with such coverage shall be equal to the aggregate of the limits required for Contractor's Liability Insurance under Clauses 11.1.1.2 through 11.1.1.5.

11.3.2 To the extent damages are covered by Project Management Protective Liability insurance, the Owner, Contractor and Architect waive all rights against each other for damages, except such rights as they may have to the proceeds of such insurance. The policy shall provide for such waivers of subrogation by endorsement or otherwise.

11.3.3 The Owner shall not require the Contractor to include the Owner, Architect or other persons or entities as additional insureds on the Contractor's Liability Insurance coverage under Paragraph 11.1.

11.4 PROPERTY INSURANCE

11.4.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.4 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

11.4.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

11.4.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

11.4.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

11.4.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

11.4.1.5 Partial occupancy or use in accordance with Paragraph 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

11.4.2 Boiler and Machinery Insurance. The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

11.4.3 Loss of Use Insurance. The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

11.4.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

11.4.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Subparagraph 11.4.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

11.4.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Paragraph 11.4. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

11.4.7 Waivers of Subrogation. The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Paragraph 11.4 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

11.4.8 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Subparagraph 11.4.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

11.4.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or in accordance with an arbitration award in which case the procedure shall be as provided in Paragraph 4.6. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

11.4.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved as provided in Paragraphs 4.5 and 4.6. The Owner as fiduciary shall, in the case of arbitration, make settlement with insurers in accordance with directions of the arbitrators. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.

11.5 PERFORMANCE BOND AND PAYMENT BOND

11.5.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

11.5.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

12.1.2 If a portion of the Work has been covered which the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

12.2 CORRECTION OF WORK

12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

12.2.1.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

12.2.2 AFTER SUBSTANTIAL COMPLETION

12.2.2.1 In addition to the Contractor's obligations under Paragraph 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Subparagraph 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Paragraph 2.4.

12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work.

12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Paragraph 12.2.

12.2.3 The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

12.2.5 Nothing contained in this Paragraph 12.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the one-year period for correction of Work as described in Subparagraph 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

12.3 ACCEPTANCE OF NONCONFORMING WORK

12.3.1 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the law of the place where the Project is located.

13.2 SUCCESSORS AND ASSIGNS

13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Subparagraph 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

13.2.2 The Owner may, without consent of the Contractor, assign the Contract to an institutional lender providing construction financing for the Project. In such event, the lender shall assume the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

13.3 WRITTEN NOTICE

13.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

13.4 RIGHTS AND REMEDIES

13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

13.5 TESTS AND INSPECTIONS

13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.

13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Subparagraph 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Subparagraph 13.5.3, shall be at the Owner's expense.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

13.5.3 If such procedures for testing, inspection or approval under Subparagraphs 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.6 INTEREST

13.6.1 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.7.1 As between the Owner and Contractor:

- 1 Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;
- 2 Between Substantial Completion and Final Certificate for Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment; and
- 3 After Final Certificate for Payment. As to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Paragraph 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Paragraph 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- 1 issuance of an order of a court or other public authority having jurisdiction which requires all Work to be stopped;
- 2 an act of government, such as a declaration of national emergency which requires all Work to be stopped;

- 3 because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Subparagraph 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- 4 the Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Subparagraph 2.2.1.

14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Paragraph 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

14.1.3 If one of the reasons described in Subparagraph 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead, profit and damages.

14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has persistently failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Subparagraph 14.1.3.

14.2 TERMINATION BY THE OWNER FOR CAUSE

14.2.1 The Owner may terminate the Contract if the Contractor:

- 1 persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- 2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- 3 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
- 4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

14.2.2 When any of the above reasons exist, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- 1 take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- 2 accept assignment of subcontracts pursuant to Paragraph 5.4; and
- 3 finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

14.2.3 When the Owner terminates the Contract for one of the reasons stated in Subparagraph 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292

14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Subparagraph 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall:

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

14.4.4 Amendment to AIA A201 - Change Order Proposals, Change Orders, and Applications for Payment to be submitted to Architect, Owner and MaineHousing Construction Analyst for review, approval, and signature.



© 1997 AIA®
AIA DOCUMENT A201-1997
GENERAL CONDITIONS
OF THE CONTRACT FOR
CONSTRUCTION

The American Institute
of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006-5292



AIA Document A701™ – 1997

Instructions to Bidders

for the following PROJECT:
(Name and location or address):

THE OWNER:
(Name and address):

THE ARCHITECT:
(Name and address):

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

TABLE OF ARTICLES

- 1 DEFINITIONS**
- 2 BIDDER'S REPRESENTATIONS**
- 3 BIDDING DOCUMENTS**
- 4 BIDDING PROCEDURES**
- 5 CONSIDERATION OF BIDS**
- 6 POST-BID INFORMATION**
- 7 PERFORMANCE BOND AND PAYMENT BOND**
- 8 ~~FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR~~**

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 The Bidder by making a Bid represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

§ 2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 COPIES

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the Advertisement or Invitation to Bid, or in supplementary instructions to bidders.

§ 3.1.3 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

§ 3.1.4 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

§ 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

§ 3.3 SUBSTITUTIONS

§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

§ 3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

§ 3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 ADDENDA

§ 3.4.1 Addenda will be transmitted to all who are known by the issuing office to have received a complete set of Bidding Documents.

§ 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 PREPARATION OF BIDS

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

§ 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall make no additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

§ 4.2 BID SECURITY

§ 4.2.1 Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. The amount of the bid security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

§ 4.3 SUBMISSION OF BIDS

§ 4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

§ 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 OPENING OF BIDS

At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

§ 5.2 REJECTION OF BIDS

The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

§ 5.3 ACCEPTANCE OF BID (AWARD)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 CONTRACTOR'S QUALIFICATION STATEMENT

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

§ 6.2 OWNER'S FINANCIAL CAPABILITY

The Owner shall, at the request of the Bidder to whom award of a Contract is under consideration and no later than seven days prior to the expiration of the time for withdrawal of Bids, furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Unless such reasonable evidence is furnished, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 SUBMITTALS

§ 6.3.1 The Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, after notification of selection for the award of a Contract, furnish to the Owner through the Architect in writing:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 BOND REQUIREMENTS

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 If the Owner requires that bonds be secured from other than the Bidder's usual sources, changes in cost will be adjusted as provided in the Contract Documents.

§ 7.2 TIME OF DELIVERY AND FORM OF BONDS

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in the amount of the Contract Sum.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

SECTION 00300

SUPPLEMENTARY CONDITION
OF THE CONTRACT FOR CONSTRUCTION

1. GENERAL

1.1 CHANGE ORDERS

A. Delete Subparagraph 7.2.2 and substitute the following:

7.2.2 The General Contractor will be allowed the following Profit and Overhead on Change Orders: OH&P General Contractor = 10% on own work, 5% on Subcontractors and Sub-subcontractors.

1.2 INSURANCE

A. Refer to General Conditions, Article 11, Insurance and Bonds for general provisions concerning insurance.

B. Amend, General Conditions, Article 11, as follows:

1. Add to Sub-sub-paragraph 11.1.1.7 the following: Liability insurance shall include all major divisions of coverage, and be on a comprehensive basis including:

- a. Premises operations (including XCU as applicable).
- b. Independent contractors' protective.
- c. Products and completed operations.
- d. Personal injury liability with employment exclusion deleted.
- e. Contractual, including specified provisions for Contractor's obligation under Paragraph 4.18.
- f. Owned, non-owned, and hired motor vehicles.
- g. Broad form property damage, including completed operations.
- h. Umbrella excess liability.

2. Sub-paragraph 11.1.2, add Sub-sub-paragraph 11.1.2.1 as follows: "11.1.2.1: Insurance required by Sub-paragraph 11.1.1 shall be written for not less than following, or greater if required by law:

- a. Statutory Workman's Compensation and Employer's Liability.
- b. Comprehensive General Liability (including Premises-Operations; Independent Contractors' Protective; Products and Completed Operations' Broad Form Property Damage):
 - i. Bodily Injury:
 - \$1,000,000 each person
 - \$3,000,000 annual aggregate

Peloton Building - 795 Congress Street - Portland, ME

- ii. Property Damage
 - \$1,000,000 each occurrence
 - \$3,000,000 annual aggregate
- iii. Products and Completed Operations shall be maintained for two years after final payment.
- iv. Property Damage Liability Insurance shall provide X, C, and U coverage (explosion, collapse, underground utilities) as applicable.
- c. Contractual Liability:
 - i. Property Injury:
 - \$1,000,000 each occurrence
 - ii. Property Damage:
 - \$1,000,000 each occurrence
 - \$3,000,000 annual aggregate
- d. Personal Injury, with Employment Exclusion deleted:
 - \$1,000,000 annual aggregate
- e. Comprehensive Automobile Liability:
 - i. Bodily Injury:
 - \$1,000,000 each occurrence
 - \$3,000,000 annual aggregate
 - ii. Property Damage:
 - \$1,000,000 each occurrence
- f. Umbrella Excess Liability
 - i. \$1,000,000 over primary insurance
 - \$ 3,000 retention for self-insured hazards, each occurrence

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

1. GENERAL

1.1 REFERENCES

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this Section.
- B. Divisions 2 through 16.

1.2 DESCRIPTION OF WORK

- A. Definition: "Cutting and patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition. This section does not apply to new work that has been installed as part of the Work.
- B. Structural Work: Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- C. Operational/Safety Limitations: Do not cut-and-patch operational elements and safety components in a manner resulting in decreased performance, shortened useful life, or increased maintenance.
- D. Visual/Quality Limitations: Do not cut-and-patch work exposed to view (exterior and interior) in a manner resulting in noticeable reduction of aesthetic qualities and similar qualities, as judged by the Architect/Engineer.
- E. Limitation on Approvals: The Architect/Engineer's approval to proceed with cutting and patching does not waive right to later require removal/replacement of work found to be cut-and-patched in an unsatisfactory manner, as judged by the Architect/Engineer.
- F. Materials marked to be removed and reused shall be repaired as necessary to maintain their existing condition. When repair is not sufficient, existing materials shall be disposed of and new materials installed to match existing materials.
- G. Refer to other sections of these specifications for specific cutting and patching requirements and limitations applicable to individual units of work.

- H. Unless otherwise specified, requirements of this Section apply to Mechanical and Electrical work. Refer to Divisions 15 and 16 for additional requirements and limitations on cutting and patching of mechanical and electrical work.

1.3 QUALITY ASSURANCE

- A. Refer to Section 01631, Products and Substitutions, for general provisions covering product selection, substitutions, material storage and installation.
- B. Refer to Section 01400, Quality Control Services, for provisions for testing and inspections.
- C. Refer to specific Specification Section covering subject in question for quality assurance requirements.

1.4 SUBMITTALS

- A. Issue submittals in accordance with Section 01300, Submittals.
- B. Refer to specific Specification Section covering subject in question for submittal requirements.

2. PRODUCTS

2.1 GENERAL

- A. Use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics.
- B. Fire-stopping:
 - 1. Seal openings in fire-rated walls and floors to make a tight fit with penetrating items, using appropriate non-combustible filler material. to provide a rating equivalent to wall/floor assemble.
 - 2. Acceptable filler materials include:
 - a. Concrete
 - b. Cementitious proprietary product: Zonolite Firestop ZF-1
 - c. Blanket-type mineral-fiber or ceramic-fiber insulation (glass-fiber insulation is not acceptable)

- d. Fire-resistant sealant: Domtar Fire-Halt, Dow Corning Fire Stop, Hilti CS 240 Firestop, or Nelson CLK or CMP
 - e. Fire-resistant silicone foam: Dow Corning RTV Foam Penetration Seal System, Hilti CB 120 Adhesive Filling and Sealing Foam, Tremco Fyre-Sil
 - f. Flexible intumescent strip wrapped around pipe penetrations: Dow Corning Fire Stop Intumescent Wrap, Hilti CS 24720 Intumescent Wrap, Nelson RSW, Tremco TREMstop WS
 - g. Intumescent fibrous material enclosed in a polyethylene envelope: Nelson PLW, Tremco TREMstop PS
 - h. Pliable intumescent putty: Nelson FSP Flameseal, Tremco TREMstop WBM
 - i. Water-based intumescent fire-protective coating for electrical cables: Nelson CTG
3. Neatly patch and seal exposed-to-view openings, using sealants, tooled mortar joints, escutcheons, or flanged collars, as appropriate.

3. EXECUTION

3.1 INSPECTION

- A. Before cutting, examine surfaces to be cut and patched and conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.2 TEMPORARY SUPPORT

- A. To prevent failure provide temporary support of work to be cut.

3.3 PROTECTION

- A. Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.4 PERFORMANCE

- A. Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect/Engineer, proceed with cutting and patching at the earliest feasible time and complete work without delay.
- B. Cutting:
- 1. Cut the work using methods that are least likely to damage work to be retained or adjoining work.

2. In general, where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
3. Comply with requirements of applicable sections of Division 2 where cutting and patching requires excavating and backfilling.
4. By-pass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated or abandoned. Cut-off conduit and pipe in walls or partitions to be removed. After by-pass and cutting, cap, valve or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.

C. Patching:

1. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
2. Where feasible, inspect and test patched areas to demonstrate integrity of work.
3. Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.
4. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.

END OF SECTION

SECTION 01300

SUBMITTALS, MEETINGS AND RECORD DOCUMENTS

1. GENERAL

1.1 PRE-CONSTRUCTION MEETING

- A. Architect will schedule a pre-construction meeting within 10 days of issuance of Notice to Proceed, to be attended by the owner, project manager, Contractor's field superintendent, and representatives of major sub-contractors. At this time, Contractor shall make specified pre-construction submittals including following:

1. Typed list of sub-contractors with addresses and telephone numbers.
2. Certificates of insurance.
3. Approved construction schedule. See General Conditions, Paragraph 3.10.
4. Schedule of values.
5. Building permit and similar start-up authorization or certificates.

- B. Pre-construction meeting agenda will include following:

1. Processing application for payment.
2. Processing and distribution of submittals.
3. Maintenance of record documents.
4. Procedure for field changes, change estimates, change orders, etc.
5. Site and building security.
6. Location and maintenance of temporary storage areas, field offices, vehicular parking and access, waste disposal, etc.
7. Safety and first-aid procedures.
8. Date and time for regular bi-weekly coordination and progress meeting (to be coordinated with monthly application for payment).

1.2 CONSTRUCTION SCHEDULE

- A. Refer to General Conditions, Paragraph 3.10, for general provisions concerning construction progress schedule. Schedule shall show activities, itemized according to specification Section, and be organized in bar-chart or graph form so as to show both projected and actual progress of work.

- B. Submit updated schedule monthly, together with application for payment.

1.3 SCHEDULE OF VALUES

- A. Refer to General Conditions, Paragraph 9.2 for general provisions concerning schedule of values.
- B. For these submittals, use AIA Document G702/703, Application and Certificate for Payment.
- C. Use specifications Sections as listed in Table of Contents as basis for format for listing costs.
- D. Itemize separately general cost items, such as bonds and allowances.
- E. Itemize change orders separately as they are approved.

1.4 MEETINGS AND REPORTING

- A. Contractor shall conduct general progress and coordination meetings at least once each month, attended by a representative of each primary entity engaged for performance of work. Record discussions and decisions, and distribute copies to those attending and others affected, including Architect/Engineer.
- B. Date and time of at least one regular monthly progress and coordination meeting shall be determined at the pre-construction meeting. Timing of this monthly meeting shall be coordinated with payment requests.

1.5 APPLICATION FOR PAYMENT

- A. Refer to General Conditions, Paragraph 9.3, for general provisions concerning applications for payment.
- B. Use AIA Form G702/703, fully completed and executed.
- C. Submit a minimum of five copies of all except two copies of waiver and required documentation.

1.6 SHOP DRAWINGS, PROJECT DATA, SAMPLES

- A. Refer to General Conditions, Product Data and Samples, paragraph 3.12, for general provisions covering this type of submittal.
- B. Coordinate the preparation and processing of work-related submittals with the performance of the work. Coordinate each separate submittal with other submittals and related activities that require sequential activity. Coordinate the submittal of

different units of interrelated work so that one submittal will not be delayed by the necessity of reviewing a related submittal.

C. Architect/Engineer Review:

1. Allow ten working days for the Architect/Engineer's initial processing of each submittal. Allow one week for reprocessing each submittal. No extension of time will be authorized because of failure to transmit submittals to the Architect/Engineer sufficiently in advance of the work.
2. The Architect/Engineer will stamp each submittal to be returned with a uniform, self-explanatory action stamp, appropriately marked and executed to indicate the status of the submittal.

D. Mark each submittal with a permanent label for identification. Provide project name, date, name of Architect/Engineer, name of Contractor, number and title of appropriate specification section and similar definitive information. Provide a space on the label for Contractors and Architect/Engineer's review markings.

E. Package each submittal appropriately for transmittal and handling. Send each submittal from the Contractor to the Architect/Engineer and other destinations using AIA Transmittal Form G810.

F. Provide additional copies of submittals required by governing authorities that are in addition to copies specified for submittal to the Architect/Engineer.

G. Where it is necessary to provide intermediate submittals between the initial and final submittals, provide and process intermediate submittals in the same manner as for initial submittals.

H. Submit as follows:

1. Shop drawings (original drawings prepared by Contractor or sub-contractor illustrating fabrication, layout, erection details, etc.): six prints, or one reproducible transparency and one opaque print, to Architect.
2. Manufacturers' specifications, installation instructions, charts, schedules, catalogs, brochures, etc.: number of copies required by Contractor for distribution, plus one copy for Architect's retention.
3. Samples: one sample to Architect only, unless otherwise specified.

4. In submitting shop drawings and product data to Architect, use separate transmittals for material in different specification Sections, with applicable specification section clearly numbered.
- I. Architect will review submittals within ten working days, measured from date of receipt by Architect until date of mailing. Contractor shall promptly make corrections and resubmit when so directed. Where submittal is marked "Approved as Noted" or similar, assume that all items are approved other than those to which specific exception is taken. Do not delay fabrication, assembly and delivery pending receipt of entirely "Approved" submittal.
- J. Distribute approved submittals to job site and record document files, and to suppliers and sub-contractors as required. Samples not designated by Contractor for incorporation into Work shall be kept on file until job completion. Any sample not reclaimed within 30 days after job completion will be considered unclaimed, and will be disposed of as directed by Architect.

1.7 PROJECT RECORD DOCUMENTS

- A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, shop drawings and product data, testing data, change orders, field orders, and other modifications. Documents shall be neatly and securely stored in files or on racks, clearly indexed by trade activity or specification Section, and shall not be used for construction purposes.
- B. Legibly mark significant field changes such as following, using colored pencils or felt-tipped pens:
 1. Drawings: locations of concealed utilities, field changes of dimension and detail, changes resulting from change order or field order, and details not on original drawings.
 2. Specifications: manufacturer and model number of equipment actually installed.
 3. Shop drawings and manufacturers' literature: changes made after Architect's review.
- C. At completion of Work, deliver completed record documents to Architect. Final payment for Project will not be made until Architect reviews and approves these documents.

1.8 SUBSTANTIAL COMPLETION

- A. Refer to General Conditions, Article 9, Substantial Completion, for general provision concerning substantial Completion.
- B. Following issuance by Architect/Engineer of Certificate of Substantial Completion, Contractor may submit special payment request, provided the following have been completed:
 - 1. Obtain permits, certificates of inspection and other approval and releases by governing authorities, required for Owner's occupancy and use of project.
 - 2. Submit warranties and similar documentation.
 - 3. Submit maintenance manuals and provide instruction of Owner's operational/maintenance personnel.
 - 4. Complete final cleaning of the work.
 - 5. Submit record documents.
 - 6. Submit listing of work to be completed before final acceptance.
- C. Following completion of the following requirements, final payment request may be submitted:
 - 1. Complete work listed as incomplete at time of substantial completion, or otherwise assure Owner of subsequent completion of individual incomplete items.
 - 2. Settle liens and other claims, or assure Owner of subsequent settlement.
 - 3. Submit proof of payment on fees, taxes and similar obligations.
 - 4. Transfer operational, access, security and similar provisions to Owner; and remove temporary facilities, tools and similar items.
 - 5. Completion of requirements specified in "Project Closeout" section.
 - 6. Obtain consent of surety for final payment.

END OF SECTION

SECTION 01400

QUALITY CONTROL SERVICES

1. GENERAL

1.1 DESCRIPTION

- A. Quality control services include inspections and tests performed by independent agencies and governing authorities, as well as by the Contractor.
- B. Inspection and testing services are intended to determine compliance of the work with requirements specified.
- C. Specific quality control requirements are specified in individual specification sections.

1.2 RESPONSIBILITIES

- A. Except where indicated as being the Owner's responsibility, quality control services are the Contractor's responsibility, including those specified to be performed by an independent agency and not by the Contractor.
- B. The Contractor shall employ and pay an independent agency, testing laboratory or other qualified firm to perform quality control services specified.
- C. The Owner will engage and pay for services of an independent agency to perform the inspections and tests that are specified as Owner's responsibilities.
- D. Where results of inspections or tests do not indicate compliance with contract document, retests are the Contractor's responsibility.
- E. The Contractor shall cooperate with independent agencies performing inspections or tests. Provide auxiliary services as are reasonable. Auxiliary services include:
 - 1. Provide access to the work.
 - 2. Assist taking samples.
 - 3. Deliver samples to test laboratory.

1.3 COORDINATION

- A. The Contractor and independent test agencies shall coordinate the sequence of their activities. Avoid removing and replacing work to accommodate inspections and tests. The Contractor is responsible for scheduling times for inspections and tests.

1.4 QUALIFICATIONS FOR SERVICE AGENCIES

- A. Engage inspection and test service agencies which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories.
- B. Each agency shall be employed with the approval of the Architect/Engineer.

1.5 SUBMITTALS

- A. Notify the Architect/Engineer of the testing schedule.
- B. Submit a certified written report of each inspection test or similar service, in duplicate to the Architect/Engineer. Submit additional copies of each report to governing authority, when the authority so directs.

1.6 REPORT DATA

- A. Written inspection or test reports shall include:
 - 1. Name of testing agency or test laboratory.
 - 2. Dates and locations of samples, tests or inspections.
 - 3. Names of individuals present.
 - 4. Complete inspection or test data.
 - 5. Test results.
 - 6. Interpretations.
 - 7. Recommendations.
- B. Reports shall be provided to the Architect/Engineer in a timely manner.

1.7 REPAIR AND PROTECTION

- A. Upon completion of inspection or testing repair damaged work and restore substrates and finishes. Comply with requirements for "Cutting and Patching".

END OF SECTION

SECTION 01400

QUALITY CONTROL SERVICES

1. GENERAL

1.1 DESCRIPTION

- A. Quality control services include inspections and tests performed by independent agencies and governing authorities, as well as by the Contractor.
- B. Inspection and testing services are intended to determine compliance of the work with requirements specified.
- C. Specific quality control requirements are specified in individual specification sections.

1.2 RESPONSIBILITIES

- A. Except where indicated as being the Owner's responsibility, quality control services are the Contractor's responsibility, including those specified to be performed by an independent agency and not by the Contractor.
- B. The Contractor shall employ and pay an independent agency, testing laboratory or other qualified firm to perform quality control services specified.
- C. The Owner will engage and pay for services of an independent agency to perform the inspections and tests that are specified as Owner's responsibilities.
- D. Where results of inspections or tests do not indicate compliance with contract document, retests are the Contractor's responsibility.
- E. The Contractor shall cooperate with independent agencies performing inspections or tests. Provide auxiliary services as are reasonable. Auxiliary services include:
 - 1. Provide access to the work.
 - 2. Assist taking samples.
 - 3. Deliver samples to test laboratory.

1.3 COORDINATION

- A. The Contractor and independent test agencies shall coordinate the sequence of their activities. Avoid removing and replacing work to accommodate inspections and tests. The Contractor is responsible for scheduling times for inspections and tests.

1.4 QUALIFICATIONS FOR SERVICE AGENCIES

- A. Engage inspection and test service agencies which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories.
- B. Each agency shall be employed with the approval of the Architect/Engineer.

1.5 SUBMITTALS

- A. Notify the Architect/Engineer of the testing schedule.
- B. Submit a certified written report of each inspection test or similar service, in duplicate to the Architect/Engineer. Submit additional copies of each report to governing authority, when the authority so directs.

1.6 REPORT DATA

- A. Written inspection or test reports shall include:
 - 1. Name of testing agency or test laboratory.
 - 2. Dates and locations of samples, tests or inspections.
 - 3. Names of individuals present.
 - 4. Complete inspection or test data.
 - 5. Test results.
 - 6. Interpretations.
 - 7. Recommendations.
- B. Reports shall be provided to the Architect/Engineer in a timely manner.

1.7 REPAIR AND PROTECTION

- A. Upon completion of inspection or testing repair damaged work and restore substrates and finishes. Comply with requirements for "Cutting and Patching".

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES

1. GENERAL

- 1.1 DESCRIPTION OF REQUIREMENTS: Provide temporary services and facilities ready for use when first needed to avoid delay in the work. Maintain, expand and modify as needed. Do not remove until no longer needed, or replaced by authorized use of permanent facilities.
- 1.2 USE CHARGES: Usage charges for temporary services or facilities are not chargeable to the Owner or Architect/Engineer.
- 1.3 REGULATIONS: Comply with requirements of local laws and regulations governing construction and local industry standards, in the installation and maintenance of temporary services and facilities.
- 1.4 STANDARDS: Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", the ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and the NECA National Joint Guideline NJG-6 "Temporary Job Utilities and Services".
- 1.5 INSPECTIONS: Inspect and test each service before placing temporary utilities in use. Arrange for inspections and tests by governing authorities, and obtain certifications and permits for use.
- 1.6 SUBMITTALS: Submit copies of reports and permits required or necessary for installation and operation, including reports of tests, inspections and meter readings performed on temporary utilities, and permits and easements necessary for installation, use and operation.
- 1.7 MATERIALS AND EQUIPMENT
 - A. Provide materials and equipment that are suitable for the intended use.
 - B. Provide new materials and equipment for temporary services and facilities; if acceptable to the Architect/Engineer, used materials and equipment that are undamaged may be used.
- 1.8 INSTALLATION
 - A. Use qualified tradesmen for installation.

- B. Locate temporary services and facilities where they will serve the project adequately and result in minimum interference with the work.

1.9 TEMPORARY UTILITY INSTALLATION

- A. Engage, or make arrangements if necessary with, the local utility company to make connections to existing service.
- B. Arrange with the companies and existing users for an acceptable time when service can be interrupted to make connections.
- C. Establish a service implementation and termination schedule. As early as possible change to use of permanent service, to enable removal of the temporary utility and eliminate possible interference with completion of the work.
- D. Provide adequate capacity at each stage of construction. Prior to availability at the site, provide, trucked-in services for start up of construction operations.
- E. Obtain and pay for easements required to bring temporary utilities to the site, where the Owner's easement cannot be utilized for that purpose.

1.10 ELECTRIC POWER SERVICE

- A. Provide weathertight, grounded temporary electrical service-entrance and distribution system, with ground-fault circuit interrupters and ground-fault interrupter features of proper types, sizes, electrical ratings and characteristics to fulfill project requirements.
- B. Comply with applicable requirements of NEMA, NECA and UL standards and governing regulations.
- C. Install temporary lighting of adequate illumination levels to perform the work specified.
- D. Comply with NEC pertaining to installation of temporary wiring service and grounding. Provide meters, transformers, and overcurrent protective devices at main distribution panel for power and light circuitry. Provide disconnects for equipment circuits.

1.11 POWER DISTRIBUTION SYSTEM

- A. Provide circuits of proper sizes, characteristics, and ratings for each use indicated.
- B. Install wiring overhead, and risers vertically where least exposed to damage.

- C. Provide rigid steel conduit to protect wiring on grade, floors, decks or other areas exposed to possible damage.
- D. Provide 20 amp, 4-gang receptacle outlets, equipped with ground-fault circuit interrupters, reset button and pilot light, spaced that a 100 foot extension cord can reach each area of work. Use only grounded extension cords; use "hard- service" cords where exposed to abrasion and traffic.
- E. Provide warning signs at power outlets that are other than 110/120 volt. Provide outlets of proper NEMA configuration to prevent insertion of 110/120 volt plugs into higher voltage outlets.

1.12 TEMPORARY LIGHTING

- A. Provide general service incandescent lamps of wattage required for adequate illumination.
- B. Protect lamps with guard cages or tempered glass enclosures, where exposed to breakage.
- C. Provide exterior type fixtures where exposed to weather or moisture.
- D. Provide one 200-watt incandescent lamp per 1000 square feet of floor area for general construction lighting, one 100-watt incandescent lamp every 50 feet in corridors, and one lamp per story, located to illuminate each landing and flight in stairways.
- E. Install temporary lighting to fulfill security and protection requirements, without having to operate the entire temporary lighting system.

1.13 TEMPORARY TELEPHONES

- A. Provide project manager's and supervisor's cell phone number to architect.

1.14 TEMPORARY HEAT

- A. Provide temporary heat where needed for performance of work, for curing or drying of recently installed work or for protection of work in place from adverse effects of low temperatures or high humidity.
- B. Provide UL or FM tested and labeled heating units known to be safe and without adverse effect upon work in place or being installed. Coordinate with ventilation requirements to produce the ambient condition.

- C. Maintain a minimum temperature of 45 deg. F (7 deg. C) in permanently enclosed portions of the building and areas where finished work has been installed.
- D. Except where use of the permanent heating system is available and authorized, provide properly vented self-contained LP gas or fuel oil heaters with individual space thermostatic control for temporary heat. Do not use open burning or salamander type heating units.

1.15 FIELD OFFICES

- A. Provide (1) lockable field office.
- B. Provide (1) lockable, weathertight storage trailer.

1.16 SANITARY FACILITIES

- A. Sanitary facilities include temporary toilets.
- B. Comply with governing regulations including safety and health codes for the type, number, location, operation and maintenance of fixtures and facilities.
- C. Supply toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each facility. Provide covered waste containers for used material.
- D. Install single occupant self-contained toilet units of the chemical, aerated recirculation or combustion type, properly vented and fully enclosed with glass fiber reinforced polyester shell. Use of pit-type privies will not be permitted.
- E. Provide separate toilet facilities for male and female construction personnel.
- F. Provide drinking water fountains where and when piped potable water, approved by local authorities, is reasonably accessible from permanent or temporary lines. Otherwise, provide containerized tap-dispenser bottled-water type drinking water units.

1.17 FIRST AID SUPPLIES: Comply with governing regulations and recognized recommendations within the construction industry.

1.18 DEWATERING FACILITIES AND DRAINS

- A. For temporary drainage and dewatering facilities and operations not directly associated with performance of work included under other sections, comply with dewatering requirements of applicable Division-2 sections. Where feasible, utilize the same facilities.

- B. Maintain the site, excavations and construction free of water.
- C. Dispose of rainwater in a lawful manner which will not result in flooding and project or adjoining property, nor endanger either permanent work or temporary facilities.

1.19 TEMPORARY ENCLOSURE

- A. Provide temporary enclosure of materials, equipment, work in progress and completed portions of the Work to provide protection from exposure, foul weather, other construction operations, and similar activities.
- B. Provide enclosures where temporary heat is needed and the permanent building enclosure is not completed, and there is no other provision for containment of heat. Coordinate with ventilating and material drying or curing requirements to avoid dangerous conditions.
- C. Provide temporary enclosures by installing waterproof, fire- resistant, UL labeled tarpaulins with a flame-spread rating of 15 or less, using a minimum of wood framing. Use translucent nylon reinforced laminated polyethylene tarpaulins to admit the maximum amount of daylight. Individual openings of 25 square feet or less may be closed with plywood or similar materials.
- D. Close openings through the floor or roof decks and other horizontal surfaces with substantial load-bearing wood-framed or similar construction.

1.20 COLLECTION AND DISPOSAL OF WASTES

- A. Establish a system for daily collection and disposal of waste materials. Do not hold collected materials longer than 7 days.
- B. Handle waste materials that are hazardous, dangerous, or unsanitary separately from other waste by containerizing.
- C. Burying or burning of waste materials on the site or washing waste material down sewers will not be permitted.

1.21 MISCELLANEOUS SERVICES AND FACILITIES

- A. Design, construct, and maintain miscellaneous services and facilities as needed to accommodate performance of the work, including temporary stairs, ramps, ladders, staging, shoring, scaffolding, temporary partitions, waste chutes and similar items.

1.22 SECURITY AND PROTECTION FACILITIES INSTALLATION

- to
- A. Provide a neat and uniform appearance in security and protection facilities acceptable to the Architect/Engineer and the Owner.
 - B. Maintain site in a safe, lawful and publicly acceptable manner.
 - C. Take necessary measures to prevent erosion.
 - D. Except for utilization of permanent fire protection facilities, as soon as available, do not change over to use of permanent facilities until substantial completion.

1.23 TEMPORARY FIRE PROTECTION

- A. Until fire protection needs may be fulfilled by permanent facilities, install and maintain temporary fire protection of the types needed to protect against losses.
- B. Comply with recommendations of NFPA Standard 10.
- C. Locate fire extinguishers where most effective; provide not less than one on each floor at or near each stairwell.
- D. Provide type "A" fire extinguishers for temporary offices and spaces where there is minimal danger of electrical or flammable liquid fires, and type "ABC" dry chemical extinguishers elsewhere.
- E. Store combustible materials in containers in fire-safe locations.
- F. Review fire prevention and protection needs with local fire department officials and establish procedures to be followed in the event of fire. Instruct personnel in procedures and post warnings and information.
- G. Maintain unobstructed access to fire extinguishers, temporary fire protection facilities, stairways and other access routes.
- H. Prohibit smoking in hazardous areas.
- I. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of ignition.
- J. At temporary water outlets provide hoses of sufficient length to reach construction areas. Hang hoses with a warning sign, indicating that hoses are for fire protection purposes and are not to be removed.

- K. At the earliest feasible date complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel at the site on how to use facilities which may not be self-explanatory.

1.24 BARRICADES, WARNING SIGNS AND LIGHTS

- A. Comply with recognized standards and code requirements for erection of substantial, barricades where needed to prevent accidents.
- B. Paint with appropriate colors and warning signs to inform personnel at the site and the public, of the hazard being protected against.
- C. Provide lighting where needed, including flashing red lights where appropriate.

1.25 SECURITY ENCLOSURE AND LOCKUP: Where materials and equipment must be temporarily stored, and are of substantial value or attractive for possible theft, provide a secure lockup.

1.26 ENVIRONMENTAL PROTECTION

- A. Conduct construction activities, and by methods that comply with environmental regulations, minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result from the performance of work at the site.
- B. Avoid the use of tools and equipment which produce harmful noise.
- C. Restrict the use of noise making tools and equipment to hours of use that will minimize complaints.

1.27 OPERATION, TERMINATION AND REMOVAL

- A. Limit availability of temporary services and facilities to essential and intended uses to minimize waste and abuse. Do not permit temporary installations to be abused or endangered.
- B. Operate and maintain temporary services and facilities in good operating condition and in a safe and efficient manner until removal is authorized. Do not overload services or facilities. Protect from damage by freezing temperatures and similar elements.
- C. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.

- D. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24- hour basis where required to achieve indicated results and avoid the possibility of damage to the Work or to temporary facilities.
- E. Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation.
- F. Remove each temporary service and facility promptly when need has ended, or when replaced by use of a permanent facility, but no later than substantial completion. Complete, or, if necessary, restore permanent work delayed because of interference with the temporary service or facility. Repair damaged work, clean exposed surfaces and replace work which cannot be repaired.
- G. At substantial completion, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.

1.28 PROJECT IDENTIFICATION AND TEMPORARY SIGNS

- A. Prepare a 4'x8' project identification sign as per Architect's requirements. Use 3/4" exterior plywood, and exterior grade acrylic latex-base enamel. Install at location indicated by Architect.
- B. Support on suitable posts or framing of treated wood or steel. Maintain in a manner which will properly inform the public and persons seeking entrance to the project.
- C. Do not permit installation of unauthorized signs that are visible outside the site.

END OF SECTION

SECTION 01631

PRODUCTS AND SUBSTITUTIONS

1. GENERAL

1.1 PROCEDURAL REQUIREMENTS

A. Source Limitations:

1. To the fullest extent possible, provide products of the same generic kind, from a single source, for each unit of work. Where it is not possible to do so, match separate procurements as closely as possible.
2. To the extent that the product selection process is under the Contractor's control, provide products that are compatible with previously selected products.
3. Where standard products are available that comply with specified requirements, provide those standard products that have been used successfully before in similar applications, and that are recommended by the manufacturers for the applications indicated.

1.2 PRODUCT SELECTION LIMITATIONS

A. Product Selections: Comply with the following requirements in the selection of products, materials and equipment:

1. Single Product Name: Where only a single product or manufacturer is named provide the product, or approved equal, unless it is incompatible with existing work, or does not comply with specified requirements or governing regulations.
2. "Or Approved Equal" Provisions: Where products or manufacturers are specified by name provide either the product named, or comply with the requirements for gaining approval of "substitutions" for the use of an unnamed product.
4. Compliance with Standards: Where the specifications require only compliance with an imposed standard, code or regulation, the Contractor has the option of selecting any product that complies with specified requirements provided no product names are indicated.
5. Performance Requirements: Where the specifications require compliance with indicated performance requirements, the Contractor has the option of selecting

any product that complies with the specific performance requirements, provided no product names are indicated.

6. Visual Requirements: Where the specifications indicate that a product is to be selected from the manufacturer's standard options, without naming the manufacturer, the Architect/Engineer has the option of making the selection, after the Contractor has determined or selected the manufacturer.
- B. Nameplates: Except as otherwise indicated for required labels and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on the exterior of the completed project.

1.3 SUBSTITUTIONS

- A. Conditions: The Contractor's requests for substitutions will be considered when they are reasonable, timely, fully documented, and when they qualify under one or more of the following circumstances.
1. The proposed substitution is related to an "or approved equal" or similar provision in the contract documents.
 2. The required product cannot be supplied in time for compliance with Contract Time requirements.
 3. The required product is not acceptable to governing authorities.
 4. The required product cannot be properly coordinated with other materials in the work, or cannot be warranted or insured as specified.
 5. The proposed substitution will offer a substantial advantage to the Owner after deducting offsetting disadvantages including delays, additional compensation to the Architect/Engineer for redesign, evaluation and other necessary services, and similar considerations.
- B. Submittals: Include the following information, as appropriate, in each request for substitution:
1. Provide complete product documentation, including product data and samples, where appropriate.
 2. Provide detailed performance comparisons and evaluation, including testing laboratory reports where applicable.

3. Provide coordination information indicating the effect of the substitution on other work and the time schedule.
4. Provide cost information for the proposed change order.
5. Provide the Contractor's general certification of the recommended substitution.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Receive, store and handle products, materials and equipment in a manner which will prevent loss, deterioration and damage.
- B. Schedule deliveries so as to minimize long-term storage at the project site.

END OF SECTION

SECTION 01700

PROJECT CLOSEOUT

1. GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. Provisions of this section apply to the procedural requirements for the actual closeout of the Work, not to administrative matters such as final payment or the change over of insurance.
- B. Closeout requirements relate to both substantial and final completion of the Work; they also apply to individual portions of completed work as well as the total Work.
- C. Specific requirements contained in other sections have precedence over the general requirements contained in this section.

1.2 PROCEDURES AT SUBSTANTIAL COMPLETION

- A. Prerequisites: Comply with General Conditions and complete the following before requesting Architect's/Engineer's inspection of the Work, or a designated portion of the Work, for certification of substantial completion.
 - 1. Submit executed warranties, workmanship bonds, maintenance agreements, inspection certificates and similar required documentation for specific units of work, enabling owner's unrestricted occupancy and use.
 - 2. Submit record documentation, maintenance manuals, tools, spare parts, keys and similar operational items.
 - 3. Complete instruction of Owner's operating personnel, and start-up of systems.
 - 4. Complete final cleaning, and remove temporary facilities and tools.
- B. Inspection Procedures:
 - 1. Upon receipt of Contractor's request, Architect/Engineer will either proceed with inspection or advise Contractor of prerequisites not fulfilled.

2. Following initial inspection, Architect/Engineer will either prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of the certificate of substantial completion.
3. The Architect/Engineer will repeat the inspection when requested and assure that the Work has been substantially completed.
4. Results of the completed inspection will form the initial "punch-list" for final acceptance.

1.3 PROCEDURES AT FINAL ACCEPTANCE

A. Reinspection Procedure:

1. The Architect/Engineer will reinspect the Work upon receipt of the Contractor's notice that, except for those items whose completion has been delayed due to circumstances that are acceptable to the Architect/Engineer, the Work has been completed, including punch-list items from earlier inspections.
2. Upon completion of reinspection, the Architect/Engineer will either recommend final acceptance and final payment, or will advise the Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, this procedure will be repeated.

1.4 RECORD DOCUMENTATION

A. Record Drawings:

1. Maintain a complete set of either blue- or black-line prints of the contract drawings and shop drawing for record mark-up purposes throughout the Contract Time.
2. Mark-up these drawings during the course of the work to show both changes and the actual installation for all trades, in sufficient detail to form a complete record for the Owner's purposes. Give particular attention to work which will be concealed and difficult to measure and record at a later date, and work which may require servicing or replacement during the life of the project.
3. Require the entities marking prints to sign and date each mark-up.
4. Bind prints into manageable sets, with durable paper covers, appropriately labeled.

B. Maintenance Manuals:

1. Provide 3-ring vinyl-covered binders containing required maintenance manuals, properly identified and indexed.
2. Include operating and maintenance instructions extended to cover emergencies, spare parts, warranties, inspection procedures, diagrams, safety, security, and similar appropriate data for each system or equipment item.

1.5 GENERAL CLOSEOUT REQUIREMENTS

- A. Operator Instructions: Require each Installer of systems requiring continued operation and maintenance by owner's operating personnel, to provide on-location instruction to Owner's personnel, sufficient to ensure safe, secure, efficient, non-failing utilization and operation of systems. Provide instructions for the following categories of work:
 1. Mechanical/electrical/electronic systems (not limited to work of Divisions 15 and 16).
 2. Roofing, flashing, joint sealers.
 3. Floor finishes.
- B. Final Cleaning: At the time of project close out, clean or reclean the Work to the condition expected from a normal, commercial building cleaning and maintenance program. Complete the following cleaning operations before requesting the Architect/Engineer's inspection for certification of substantial completions.
 1. Remove non-permanent protection and labels.
 2. Polish glass.
 3. Clean exposed finishes.
 4. Touch-up minor finish damage.
 5. Clean or replace mechanical systems filters.
 6. Remove debris.
 7. Broom-clean unoccupied spaces.
 8. Sanitize plumbing and food service facilities.
 9. Clean light fixtures and replace burned-out lamps.
 10. Sweep and wash paved areas.
 11. Police yards and grounds

END OF SECTION

SECTION 02321

BUILDING EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes: Excavating, filling and backfilling, trench excavation, and grading indicated or required for building footings, foundation walls, slabs-on-grade, mechanical work, and electrical work within 5'-0" of building line.

1.02 SUBMITTALS

- A. Quality control submittals:
 - 1. Complete shoring and bracing plans, designs, and other means of retaining undisturbed earth for Architect's files.
 - 2. INTENT IS TO DEMONSTRATE CONTRACTOR'S UNDERSTANDING OF REGULATIONS; NO REVIEW WILL BE MADE OF THIS SUBMITTAL.
 - 3. Excavating or trenching requiring depths over 3'-0" without this submittal is STRICTLY PROHIBITED.

1.03 PROJECT CONDITIONS

- A. Protection:
 - 1. Protect benchmarks and monuments; if disturbed or destroyed, replace in original position.
 - 2. Protect existing facilities and adjacent property. Prevent ponding or washing of water on site, on adjacent property, or downstream. Erect straw bale barricades and retention ponds as indicated or required.
 - 3. Protect areas outside limits of construction from encroachment by construction personnel or equipment, regardless of property ownership. Access by specific written permission or easement only.
 - 4. Protect active utilities; remove or relocate as indicated. Remove or relocate active utilities encountered but not indicated.
 - 5. Plug or cap inactive utilities encountered, not less than 5'-0" outside building lines.
 - 6. Identify and protect utilities for Project duration.
- B. Items of historic or archaeological value discovered during earthwork operations remain Owner's property.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Compacted structural fill: ASTM D1241-68 (1979), Coarse Aggregate, Type I, Gradation B, gravel, crushed gravel, or crushed stone; compacted to 95% Standard Proctor.
 - 1" Sieve: 75-to-95% retained.
 - No. 10 Sieve: 20-to-45% retained.
 - No. 200 Sieve: 5-to-15% retained.
- B. Porous fill: ASTM C33-86, size 3; crushed stone or gravel.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Excess, unsuitable, and insufficient materials:
 - 1. Remove excess and unsuitable materials from Project site. Legally dispose of materials off Owner's property.
 - 2. Provide satisfactory fill material in areas where existing materials are insufficient or unsuitable.
 - 3. Clear and grub site; stockpile loam if possible.
 - 4. Protect existing trees and other site work

3.02 APPLICATION

- A. Excavation:
 - 1. Excavate on basis of unclassified excavation. Include excavation under Contract Sum of soil materials required to establish grades indicated and excavation for utilities, structures, and appurtenances.
 - 2. Assume responsibility for design and construction of excavation shoring and bracing capable of supporting excavations and construction loads. Selected materials and methods are in accord with regulatory requirements and Contractor's option.
 - 3. Excavation of unsuitable soil material:
 - a. If unsuitable soil material, including mass or trench rock or muck is encountered, clear away earth to expose material. Notify Soils Engineer and receive written instructions prior to proceeding.
 - b. Remove rock to a depth of 6" below slabs and pavement, 2'-0" outside building walls, 6" below and 8" each side of piping in utility trenches and 1'-0" below finished grade in areas to receive landscaping and grassing.
 - c. Remove unsuitable soil materials to extent directed by Testing Agency.
 - 4. Excavate to lines and levels required to obtain finish elevation indicated. Provide space for foundation work and inspection. Cut excavations clean with level bottoms. Where changes in levels occur, provide vertical steps in horizontal footings.
 - 5. Cut footing trenches to exact size of footing; omit forms if soil conditions permit. Notify Soils Engineer, in writing, if earth of doubtful bearing is encountered or if indicated

design bearing capacity is not encountered within 8" of indicated depth; await Soils Engineer's written instructions.

6. If excavations are by error carried deeper than indicated, fill additional depth with concrete class specified for foundations at no additional cost.
7. Protect excavations against cave-ins, ponding, and freezing. Provide bracing, shoring, and sheeting to contain excavations. Slope embankments over 5'-0" high at 45° angle away from excavation, or shore. When freezing can be anticipated prior to concrete placement, protect excavations or delay carrying excavations to full depth until concrete can be placed.
8. Maintain excavations including utility trenches free of surface water. Provide pumps and well points if required to drain excavations. Provide and maintain temporary drainage ditches.
9. Notify Soils Engineer immediately of subsurface water encountered; await written instructions.
10. Notify Testing Agency when footing excavations are complete. Testing Lab shall verify bearing capacity determined by Soils Engineer just prior to footings placement.
11. Trench excavation: Excavate trenches to a maximum width equal to pipe diameter plus 2'-0" for pipe 2'-6" diameter and smaller; 2'-6" for pipe exceeding 2'-6" diameter. Do not over-excavate. If specified trench widths are exceeded, Architect may require installation of stronger pipe or special installation procedures at no additional cost.

B. Fill and backfill:

1. Provide satisfactory soil material to perform earthwork operations indicated; include filling and backfilling to bring grade to elevations indicated.
2. Surface preparation to receive fill:
 - a. Remove vegetation, unsuitable soil materials, obstructions, and deleterious materials from ground surface prior to fill placement. Break up sloped surfaces steeper than one vertical to four horizontal for fill material to bond with existing surface.
 - b. Proofroll areas to receive fill, foundations, pavements, and building slabs with fully loaded 20-ton dump truck or equivalent. Make two complete coverages of areas in each pass of two perpendicular passes. Undercut and replace areas exhibiting "pumping" during proofrolling with selected fill materials compacted in accord with requirements of this section. Perform proofrolling under Testing Agency observation.
3. Placement and compaction:
 - a. Place fill materials in layers not more than 6" in loose depth.
 - b. Placing rocks exceeding 3" diameter in top 1'-0" fill is prohibited. Before compaction, moisten or aerate each layer to provide optimum moisture content. Compact each layer to specified percentage of maximum density for area classification.
 - c. Placing backfill or fill material on muddy or frozen surfaces or surfaces containing frost or ice is prohibited.
 - d. Perform placement under observation of Testing Agency if required.
4. Bed pipe in trenches on continuous soil foundation shaped to lowest one-fourth of pipe profile. Form depressions for hubs and similar joints only in sizes required for making joints.

5. Backfill against pipe in layers not more than 6" loose depth. Place backfill evenly along both sides of pipe to level of piping top; compact each layer with power tampers. Rock placement exceeding 3" diameter in first 1'-0" of fill directly over piping top is prohibited.
 6. Backfill excavations promptly, but not prior to completion of following:
 - a. Inspecting, testing, and recording locations of underground utilities.
 - b. Shoring and bracing removal, and backfilling voids.
 - c. Debris removal from excavations.
 - d. Permanent or temporary horizontal bracing for unsupported walls.
 7. Place backfill against below grade walls in uniform lifts to prevent wedging action. Placement of backfill until slabs on grade and framed floors lending lateral bracing is in place and until concrete has developed design compressive strength is prohibited.
 8. Place porous fill layer in indicated thickness underneath slabs on grade.
- C. Compaction:
1. Perform soil materials compaction for fills using mechanical soil compaction equipment for type and size materials to be compacted. Hand compact materials in areas inaccessible to machinery and within 5'-0" of below grade walls.
 2. Percentage of maximum density requirements: Provide not less than percentages of maximum density required to obtain design bearing capacity.
 3. Moisture control: Where subgrade or soil layer must be moisture conditioned before compaction, apply water to surface of subgrade or soil layer. Scarify and air dry soil material too wet to permit compaction to specified density.
 4. Soil material removed because of excess wetness to permit compaction may be stockpiled or spread where directed by Architect and permitted to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to satisfactory value determined by moisture-density relation tests. When accepted by Soils Engineer, soil material may be used in compacted backfill or fill.
- D. Grading:
1. Grade areas to lines and elevations indicated, including adjacent transition areas. Smooth finished surface within specified tolerances, compact and bring to uniform levels of slopes between points where elevations are indicated, or between such points and existing grades.
 2. Provide finish surfaces free from irregular surface changes.
 3. After grading, compact subgrade surfaces to depth and percentage of maximum density for each area classification.
 4. Where compacted areas are disturbed by construction operations, scarify surface, reshape, and compact to required density.
 5. Protection of graded areas: Protect newly graded surfaces from traffic and erosion. Keep free of debris. Where graded or compacted surfaces are damaged by subsequent operations, return to indicated grade and state of compaction.
- E. Tolerances:
1. Surfaces under walks and pavements: Shape surface area under walks to line. Grade and cross-section with finish surface not more than 0.10' above or below required subgrade elevation.

2. Surface under building slabs and foundations: Grade level, free of voids, compacted as specified, within 0.05' of required elevation.

3.03 FIELD QUALITY CONTROL

A. Testing:

1. Perform the following testing as requested by Owner:
 - a. Compaction tests: In accord with ASTM D698-78.
 - b. Field density tests for each 2'-0" lift in accord with ASTM D1556-82; one test for each 2000 SF fill.
 - c. Inspection and testing subgrades and proposed fill materials.
 - d. Examination of foundation excavations to determine if required soil bearing has been achieved.
 - e. Inspection of excavation bracing system, including providing and monitoring slope indicator devices and settlement gauges.
2. Contractor's duties relative to testing include:
 - a. Provide representative fill soil samples to Testing Agency for test purposes. Provide 50 lb. samples of each fill soil.
 - b. Advise Testing Agency sufficiently in advance of operations to allow for quality tests completion and personnel assignment.
3. Contractor shall be responsible for paying costs of additional testing beyond scope required and retesting if initial tests reveal non-conformance with specified requirements.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. RELATED DOCUMENTS: Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections apply to work of this section.
- B. Examine all other sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK:

- A. Work included: Provide labor, materials, and equipment necessary to complete the work of this Section and, without limiting the generality thereof, furnish and include the following:
 - 1. The extent of cast-in-place concrete work is shown on drawings and includes (but not by way of limitation) formwork, reinforcing, cast-in-place concrete, accessories, and casting in of items specified under other Sections of the Specifications or furnished by Owner that are required to be built-in with the concrete.
 - 2. Equipment support pads indicated on mechanical drawings to be installed by the Building Contractor.

1.03 RELATED WORK:

- A. Miscellaneous Metal: Section 05500
 - 1. Expansion Anchors - Section 05500
 - 2. Embedded Items - Section 05500
- B. Anchor Rods: Section 05120

1.04 QUALITY ASSURANCE:

- A. Codes and Standards: Comply with provisions of the following except where more stringent requirements are shown or specified:
1. ACI 211.1-91 "Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete."
 2. ACI 212.3R-91 "Chemical Admixtures for Concrete."
 3. ACI 301-89 "Specifications for Structural Concrete for Buildings."
 4. ACI 302.1R-89 "Guide for Concrete Floor and Slab Construction."
 5. ACI 304R-89 "Guide for Measuring, Mixing, Transporting and Placing Concrete."
 6. ACI 304.2R-91 "Placing Concrete by Pumping Methods."
 7. ACI 306 R-88 "Cold Weather Concreting."
 8. ACI 308-92 "Standard Practice for Curing Concrete."
 9. ACI 315-80 (86) "ACI Detailing Manual."
 10. ACI 318-89 "Building Code Requirements for Reinforced Concrete."
 11. ACI 347R-88 "Guide to Formwork for Concrete."
 12. ACI 503.2-92 "Specifications for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive."
 13. Concrete Reinforcing Steel Institute, "Placing Reinforcing Bars," 1992.
- B. Materials and installed work may require testing and retesting, as directed by the Architect, at any time during progress of work. Allow free access to material stockpiles and facilities. Tests not specifically indicated to be done at Owner's expense, including retesting of rejected materials and installed work, shall be done at Contractor's expense.

1.05 SUBMITTALS:

- A. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement, polypropylene fiber admixtures, patching compounds, non-shrink grout, joint systems, curing compounds, bonding agents, sealers and others as requested by Architect.

B. Shop Drawings:

1. Reinforcement: Submit shop drawings for fabrication, bending and placement of concrete reinforcement. Comply with ACI 315, showing bar schedules, stirrup spacing, diagrams of bent bars and arrangement of concrete reinforcement. Include special reinforcement required at openings through concrete structures.

C. Samples: Submit samples of materials as specified and as otherwise requested by Architect, including names, sources and descriptions.

D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design test if trial batch method is used for proportioning concrete mixes.

E. Strength Tests: Provide required records of strength tests if field experience method is used for proportioning concrete mixes.

PART 2 - PRODUCTS

2.01 FORM MATERIALS:

A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

1. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled and edge-sealed, with piece bearing legible inspection trademark.

B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

C. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.02 REINFORCING MATERIALS:

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

- B. Fiber Reinforcing: ASTM C1116, Type III virgin polypropylene fibers as manufactured by FIBERMESH or approved alternate.
 - 1. The Fiber size (length) required shall be based on the largest size of the coarse aggregate in the concrete mix and determined by the manufacturer. Manufacturer shall submit written confirmation as to size of fibers that will be used based on concrete mix specified.
- D. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers, and other devices for spacing, supporting and fastening reinforcing bars in place. Use wire bar type supports complying with CRSI recommendation, unless otherwise specified. Wood, brick and other devices are not acceptable.
 - 1. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class I) or stainless steel protected (CRSI, Class 2).

2.03 CONCRETE MATERIALS:

- A. Portland Cement: ASTM C 150, Type I or Type II, unless otherwise acceptable to Architect. Use one brand of cement throughout project, unless otherwise acceptable to Architect.
- B. Normal Weight Aggregates: ASTM C 33. Provide from a single source for exposed concrete. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite, or ochre which can cause stains on exposed concrete surfaces.
- C. Water: Potable.
- D. Air-Entraining Admixture: ASTM C 260.
- E. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C 494, Type F or Type G containing not more than 1% chloride ions.
 - 1. Fiber reinforcing shall be added and distributed prior to incorporation of Super Plasticizer.
- F. Normal range water reducing admixture: ASTM C 494 Type A containing no calcium chloride.
- G. Accelerating Admixture: ASTM C 494, Type C or E.
- H. Calcium Chloride not permitted.

2.04 RELATED MATERIALS:

- A. Moisture Barrier: Super Sampson 4SSB by Raven Industries vapor barrier conforming to ASTM E-1745 Class A, B, C over prepared base material.
- B. Non-Shrink Cement-based Grout: Provide grout consisting of premeasured, prepackaged materials supplied by the manufacturer requiring only the addition of water. Manufacturer's instructions must be printed on the outside of each bag.
 - 1. Non-shrink: No shrinkage (0.0%) and a maximum 4.0% expansion when tested in accordance with ASTM C-827. No shrinkage (0.0%) and a maximum of 0.2% expansion in the hardened state when tested in accordance with CRD-C-621.
 - 2. Compressive strength: A minimum 28 day compressive strength of 5000 psi when tested in accordance with ASTM C-109.
 - 3. Setting time: A minimum initial set time of 60 minutes when tested in accordance with ASTM C-191.
 - 4. Composition: Shall not contain metallic particles or expansive cement.
- C. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M182, Class 2.
- D. Moisture-Retaining Cover: One of the following, complying with ANSI/ASTM C 171.
 - 1. Waterproof paper.
 - 2. Polyethylene film.
 - 3. Polyethylene-coated burlap.
- E. Preformed Expansion Joint Formers:
 - 1. Isostrip manufactured by Century Floors of Topsham, ME
 - 2. Conflex manufactured by Masonite Building and Industrial Products of Chicago, IL
 - 3. Bituminous Fiber Type, ASTM D 1751.
- F. Bonding Agent: Provide epoxy adhesive conforming to ASTM C 881 to bond plastic concrete to hardened concrete. Prepare hardened concrete surface and apply bonding agent in compliance with manufacturer's instructions.

- G. Sealer: Sikagard 70, water and chloride-ion repellent penetrating sealer manufactured by Sika or approved alternate. Apply to all exterior concrete flatwork including stairs, ramps and sidewalks in accordance with manufacturer's instructions.

2.05 PROPORTIONING AND DESIGN OF MIXES:

- A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. Use material, including all admixtures, proposed for use on the project. If trial batch method used, use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.
- B. Submit written reports to Architect of each proposed mix for each class of concrete at least 14 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.
- C. Proportion design mixes to provide concrete with the following properties:
 - 1. Interior Slab-On-Grade:
 - a. Strength: 4000 psi @28 days, 3/4" aggr.
 - b. W/C Ratio: 0.48
 - c. Entrained Air: non-air-entrained
 - d. Slump: 3"±1"

NOTE: Concrete will remain as finish floor surface.

- 2. Footings and Frost Walls:
 - a. Strength: 3000 psi @28 days, 3/4" aggr.
 - b. W/C Ratio: 0.58
 - c. Entrained Air: 6% ± 1%
 - d. Slump: 3"±1"
- 3. Exterior flatwork including slabs, ramps, stairs and sidewalks:
 - a. Strength: 4000 psi @28 days, 3/4" aggr.
 - b. W/C Ratio: 0.48
 - c. Entrained Air: 7% ± 1%
 - d. Slump: 3"±1"
 - e. DCI -S Corrosion Inhibitor by Grace Construction Products or Rheocrete CNI Corrosion Inhibitor by Master Builders. 3 1/2 gal/cy. added at Batch Plant.
- 4. Add air entraining admixture at manufacturers prescribed rate to result in concrete at point of placement having the above noted air contents.

- D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor, when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.

- 1. Water may be added at the project only if the specified slump and design mix maximum water/cement ratio is not exceeded.

2.06 CONCRETE MIXING:

- A. Job-Site Mixing: Not permitted.
- B. Ready-Mix Concrete: Must comply with the requirements of ASTM C 94, and as herein specified. Provide batch ticket for each batch discharged and used in work, indicating project name, mix type, mix time and quantity.
 - 1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required by Engineer.
 - 2. When the air temperature is between 85 degrees F. and 90 degrees F., reduce the mixing and delivery time from 1 1/2 hours to 75 minutes, and when the air temperature is above 90 degrees F., reduce the mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.01 FORMS:

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.
- B. Design, construct, erect, maintain, and remove forms for cast-in-place concrete work in compliance with ACI 347.
- C. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.
- D. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers,

blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.

- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like to prevent swelling and for easy removal.
- F. Provide temporary openings where interior area of formwork is inaccessible for clean out, for inspection before concrete placement and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.
- G. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- H. Form Ties: Factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.
 - 1. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is 1" inside concrete and will not leave holes larger than 1" diameter in concrete surface.
- I. Provision for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.
- J. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement as required to eliminate mortar leaks and maintain proper alignment.

3.02 PLACING REINFORCEMENT:

- A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
 - 1. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

2. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required.
3. Place reinforcement to obtain specified coverages for concrete protection within tolerances of ACI-318. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
4. Fiber Reinforcing shall be introduced directly into the concrete either at the batch plant or job site at the rate of 1.6 pounds (minimum) per cubic yard. If introduced at the batch plant with the aggregate, no extra mixing time is required. If added at the job site, approximately 3 to 5 minutes mixing at agitating speed is required.

3.03 JOINTS:

- A. Construction Joints: Locate and install construction joints, which are not shown on drawings, so as not to impair strength and appearance of the structure, as acceptable to Architect.
 1. Provide keyways at least 1-1/2" deep in construction joints in walls, and slabs; accepted bulkheads designed for this purpose may be used for slabs.
 2. Roughened surfaces shall be used between walls and footings unless shown otherwise on the drawings. The footing surface shall be roughened to at least an amplitude of 1/4" for the width of the wall before placing the wall concrete.
 3. Place construction joints perpendicular to the main reinforcement. Continue reinforcement across construction joints.
 4. Joints in slabs on grade shall be located and detailed as indicated on the drawings. If saw-cut joints are required or permitted, cutting shall be timed properly with the set of the concrete: Cutting shall be started as soon as the concrete has been hardened sufficiently to prevent aggregate being dislodged by the saw, and shall be completed before shrinkage stresses become sufficient to produce cracking.

3.04 INSTALLATION OF EMBEDDED ITEMS:

- A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto. Notify other trades to permit installation of their work.

- B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface.

3.05 INSTALLATION OF GROUT

- A. Place grout for base plates in accordance with manufacturer's recommendations.
- B. Grout below setting plates as soon as practicable to facilitate erection of steel and prior to removal of temporary bracing and guys. If leveling bolts or shims are used for erection grout shall be installed prior to addition of any column load.
- C. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials and allow to cure. For proprietary grout materials, comply with manufacturer's instructions.

3.06 PREPARATION OF FORM SURFACES:

- A. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.
- B. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating material manufacturer's directions. Do not allow excess form coating to accumulate in forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

3.07 CONCRETE PLACEMENT:

- A. Preplacement Review: Footing bottoms, reinforcement and all work shall be subject to review by the Architect. Verify that reinforcing, ducts, anchors, seats, plates and other items to be cast into concrete are placed and securely held. Notify Architect 48 hours prior to scheduled placement and obtain approval or waiver of review prior to placement. Moisten wood forms immediately before placing concrete where form coatings are not used. Be sure that all debris and other foreign matter is removed from forms.
- B. General: Comply with ACI 304, and as herein specified.
 - 1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete

as nearly as practicable to its final location to avoid segregation due to rehandling or flowing.

2. Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of ingredients and in a manner which will assure that the required quality of the concrete is maintained.
3. Conveying equipment shall be approved and shall be of a size and design such that detectable setting of concrete shall not occur before adjacent concrete is placed. Conveying equipment shall be cleaned at the end of each operation or work day. Conveying equipment and operations shall conform to the following additional requirements:
 - a. Belt conveyors shall be horizontal or at a slope which will not cause excessive segregation or loss of ingredients. Concrete shall be protected against undue drying or rise in temperature. An arrangement shall be used at the discharge end to prevent apparent segregation. Mortar shall not be allowed to adhere to the return length of the belt. Long runs shall be discharged into a hopper or through a baffle.
 - b. Chutes shall be metal or metal-lined and shall have a slope not exceeding 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20 feet long, and chutes not meeting the slope requirements may be used provided they discharge into a hopper before distribution.
 - c. Pneumatic placement shall be controlled so that segregation is not apparent in the discharged concrete.
 - d. The loss of slump in pumping or pneumatic conveying equipment shall not exceed 2 inches. Concrete shall not be conveyed through pipe made of aluminum alloy. Standby equipment shall be provided on the site.
 - e. Tined rakes are prohibited as a means of conveying fiber reinforced concrete.
- C. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 18 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.
 2. Use vibrators designed to operate with vibratory equipment submerged in concrete, maintaining a speed of not less than 8000 impulses per minute and of sufficient amplitude to consolidate the concrete effectively. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine, generally at points 18 inches maximum apart. Place vibrators to rapidly penetrate placed layer and at least 6 inches into the preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion maintain the duration of vibration for the time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix, generally from 5 to 15 seconds. A spare vibrator shall be kept on the job site during all concrete placing operation.
- D. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
1. Consolidate concrete using internal vibrators during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations. Do not sprinkle water on plastic surface.
- E. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.
1. When air temperature has fallen to or is expected to fall below 40 deg.F (4 deg.C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg.F (10 deg.C), and not more than 80 deg.F (27 deg.C) at point of placement.
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators.

4. All temporary heat, form insulation, insulated blankets, coverings, hay or other equipment and materials necessary to protect the concrete work from physical damage caused by frost, freezing action, or low temperature shall be provided prior to start of placing operations.
 5. When the air temperature has fallen to or is expected to fall below 40 deg.F, provide adequate means to maintain the temperature in the area where concrete is being placed between 50 and 70 deg.F.
- F. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg.F. Mixing water may be chilled, or chopped ice may be used to control the concrete temperature provided the water equivalent of the ice is calculated to the total amount of mixing water.
 2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that the steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
 3. Wet forms thoroughly before placing concrete.
 4. Do not use retarding admixtures without the written acceptance of the Architect.

3.08 FINISH OF FORMED SURFACES:

- A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This concrete surface shall have texture imparted by form facing material, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4 in. in height rubbed down or chipped off.
- B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp-proofing, painting or other similar system. This as-cast concrete surface shall be obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.

- C. Grout Cleaned Finish: Provide grout cleaned finish to scheduled concrete surfaces which have received smooth form finish treatment. Combine one part Portland cement to 1-1/2 parts fine sand by volume and mix with water to consistency of thick paint. Proprietary additives may be used at Contractor's option. Blend standard Portland cement and white Portland cement, amounts determined by trial patches, so that final color of dry grout will closely match adjacent surfaces. Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.
- D. Related Unformed Surfaces: At tops of walls and grade beams, horizontal offset surfaces occurring adjacent to formed surfaces, strike-off, smooth and finish with a texture matching adjacent unformed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.09 MONOLITHIC SLAB FINISHES:

- A. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified, and slab surfaces which are to be covered with membrane or elastic waterproofing, and as otherwise indicated.
 - 1. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to a tolerance not exceeding 1/4 in. in 10 ft. when tested with a 10 ft. straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
- B. Trowel Finish: Apply trowel finish to monolithic slab surfaces.
 - 1. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/4 in. in 10 ft. when tested with a 10-ft. straightedge.
- C. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.

1. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.10 CONCRETE CURING AND PROTECTION:

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with the requirements of ACI 306 as herein specified.
 1. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
 2. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.
 - a. Curing shall be continued for at least 7 days in the case of all concrete except high-early-strength concrete for which the period shall be at least 3 days. Alternatively, if tests are made of cylinders kept adjacent to the structure and cured by the same methods, moisture retention measures may be terminated when the average compressive strength has reached 70 percent of the specified strength, f'_c . If one of the curing procedures below is used initially, it may be replaced by one of the other procedures any time after the concrete is 1 day old provided the concrete is not permitted to become surface dry during the transition.
 3. When the mean daily temperature is less than 40 deg.F, the temperature of the concrete shall be maintained between 50 and 70 deg.F for the required curing period.
 - a. When necessary, arrangements for heating, covering, insulation, or housing the concrete work shall be adequate to maintain the required temperature without injury due to concentration of heat. Combustion heaters shall not be used during the first 24 hours unless precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide.

- b. Keep protections in place and intact at least 24 hours after artificial heat is discontinued. Avoid rapid dry-out of concrete due to overheating and avoid thermal shock due to sudden cooling or heating.
 - c. Changes in temperature of the air immediately adjacent to the concrete during and immediately following the curing period shall be kept as uniform as possible and shall not exceed 5 deg.F in any 1 hour or 50 deg.F in any 24 hour period.
- B. Curing Methods: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing compound, and by combinations thereof, as herein specified.
 - 1. Provide moisture curing by following methods:
 - a. Keep concrete surface continuously wet by covering with water.
 - b. Continuous water-fog spray.
 - c. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4-in. lap over adjacent absorptive covers.
 - 2. Provide moisture-cover curing as follows:
 - a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3 in. and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
- C. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.
- D. Protection From Mechanical Injury: During the curing period, the concrete shall be protected from damaging mechanical disturbances, such as load stresses, heavy shock, and excessive vibration. All finished concrete surfaces shall be protected from damage by construction equipment, materials, or methods, by application of curing procedures, and by rain or running water.

- E. Protection of Interior Slab-on-Grade: The concrete slab-on-grade is to be the finished floor surface. In addition to D. above, provide continuous protection during construction against any damage and/or staining.

3.11 REMOVAL OF FORMS:

- A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg.F (10 deg.C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.
- B. Form facing material may be removed 4 days after placement only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and support.

3.12 REUSE OF FORMS:

- A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.
- B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

3.13 MISCELLANEOUS CONCRETE ITEMS:

- A. Filling In: Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

3.14 CONCRETE SURFACE REPAIRS:

- A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to the Architect.
 - 1. Cut out honeycomb, rock pockets, voids over 1/4 inch in any dimension, and holes left by tie rods and bolts, down to solid concrete but in no case to a depth of less than 1 inch. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.

2. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- B. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins, and other projections on surface and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar or precast cement cone plugs secured in place with bonding agent.
1. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
 2. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.
 3. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Proprietary patching compounds may be used when acceptable to Architect.
 4. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4 inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.
 5. Repair isolated random cracks and single holes not over 1 inch in diameter by dry-pack method. Groove top of cracks and cut out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

6. Use epoxy-based mortar for structural repairs, where directed by the Architect.
7. Repair methods not specified above may be used, subject to acceptance of the Architect.

3.15 QUALITY CONTROL TESTING DURING CONSTRUCTION:

- A. The Owner will employ a testing laboratory to inspect, sample and test the materials and the production of concrete and to submit test reports. Concrete testing shall be performed by technicians certified by the Maine Concrete Technician Certification Board employed by an independent testing laboratory selected by the Architect and the Owner.
- B. Concrete shall be sampled and tested for quality control during placement of concrete shall include the following, unless otherwise directed by Architect.
- C. Sampling Fresh Concrete: ASTM C 172.
 1. Slump: ASTM C 143; one test for each concrete load at point of discharge and one test for each set of compressive strength test specimens. A slump test must be run prior to the incorporation of the CFP fibers per recommendations of ACI 544.
 2. Air Content: ASTM C 231 "Pressure method for normal weight concrete." One for each set of compressive strength test specimens.
 3. Concrete Temperature: Test hourly when air temperature is 40 deg.F (4 deg.C) and below, and when 80 deg.F (27 deg.C) and above; and each time a set of compression test specimens are made.
 4. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
 - a. Fiber reinforced concrete test specimens shall be vibrated externally per recommendations ACI 544.
 5. Compressive Strength Tests: ASTM C 39; one set for each 100 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 5,000 sq. ft. of surface area placed; 1 specimen tested at 7 days, 2 specimens tested at 28 days, and 1 specimen retained in reserve for later testing if required.

- a. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 used.
 - b. When total quantity of a given class of concrete is less than 50 cu. yds., strength test may be waived, if in the Architect's judgement, adequate evidence of satisfactory strength is provided.
 - c. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
 - d. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.
 - e. Test results will be reported in writing to Architect and Contractor on the day after tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials compressive breaking strength, and type of break for both 7-day tests and 28-day tests.
- D. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by the Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods, as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

3.16 ENGINEER'S REVIEW

- A. The Engineer of Record will conduct periodic reviews of the construction for compliance with the provisions of the Specifications and Drawings during the construction period.
- B. The General Contractor shall employ a licensed professional engineer to analyze and design modifications and repairs for construction not in conformance with the provisions of the Contract Documents. These modifications and repair details shall be stamped by an engineer licensed to practice in the State of Maine and submitted with

calculations for approval by the Engineer of Record. Modifications shall not be made without express written approval.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS:

- A. RELATED DOCUMENTS: Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections apply to work of this section.
- B. Examine all other sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK:

- A. Extent of structural steel work is shown on drawings, including schedules, notes and details to show size and location of members, typical connections, and type of steel required.
- B. Structural steel is that work defined in AISC "Code of Standard Practice" and as otherwise shown on drawings.

1.03 RELATED WORK

- A. Cast-In-Place Concrete: Section 03300
- B. Metal Fabrications: Section 05500.

1.04 QUALITY ASSURANCE:

- A. Codes and Standards: Comply with provisions of the following, except as otherwise indicated:

- 1. AISC "Code of Standard Practice for Steel Buildings and Bridges".

Paragraph 4.2.1 of the above code is hereby modified by deletion of the following sentence: "This approval constitutes the Owner's acceptance of all responsibility for the design adequacy of any detail configuration of

connections developed by the Fabricator as part of his preparation of these shop drawings."

2. AISC "Specifications for Structural Steel Buildings - Allowable Stress Design and Plastic Design", including "Commentary" and Supplements thereto as issued.
 3. AISC "Specifications for Structural Joints using ASTM A325 or A490 Bolts" approved by the Research Council on Structural Connections of the Engineering Foundation.
 4. AWS D1.1 "Structural Welding Code".
 5. ASTM A6 "General Requirements for Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use".
- B. Qualifications for Welding Work: Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
1. Provide certification that welders to be employed in work have satisfactorily passed AWS Qualification tests.
 2. If recertification of welders is required, retesting will be Contractor's responsibility.
- C. Fabricator Qualifications: Fabricator must be a member of the American Institute of Steel Construction (AISC), be certified in Category I of the AISC quality Certification Program, or be a member of the Structural Steel Fabricators of New England (SSFNE). Provide certification of at least one of the above.

1.05 SUBMITTALS

- A. The Engineer shall receive all submittals a minimum of two weeks prior to the start of fabrication. The Contractor shall have reviewed and approved all submittals prior to review by the Engineer. All review of submittals by the Contractor, Architect and Engineer shall be completed prior to fabrication and installation of any material or product.
- B. Product Data: Submit producer's or manufacturer's specifications and installation instructions for following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).
1. Structural steel (each type), including certified copies of mill reports covering chemical and physical properties.
 2. High-strength bolts (each type), including nuts and washers.

C. Shop Drawings:

1. Submit shop drawings, including complete details and schedules for fabrication and assembly of structural steel members, procedures and diagrams. Use of Structural Contract Documents as erection or detail drawings will not be permitted. Include details of cuts, connections, camber, holes and other pertinent data. Indicate welds by standard AWS symbols, and show size, length and type of each weld.
2. Provide setting drawings, templates and directions for installation of anchor rods and other anchorages to be installed by others.
3. Review of shop drawings will be made for size and arrangement of principal and auxiliary members, and strength of connections. Any errors in shop drawing and field dimensions shall be the responsibility of the General Contractor.

- D. Connection Design: Submit design calculations prepared and stamped by a Professional Engineer registered in the State of Maine for those connections not tabulated in the AISC "Manual of Steel Construction" (ASD or LRFD).

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Deliver materials to site at such intervals to insure uninterrupted progress of work.
- B. Deliver anchor rods and anchorage devices, which are to be embedded in cast-in-place concrete or masonry, in ample time to not delay work.
- C. Store materials to permit easy access for inspection and identification. Keep steel members off ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from corrosion and deterioration.
- D. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Structural Steel Wide Flange Shapes: ASTM A992, Grade 50
- B. Other Structural Steel Shapes, Plates and Bars: ASTM A36

- C. HSS shapes (square, rectangular and round): ASTM A500, Grade B, $F_y = 46$ ksi
- D. Steel Pipe: ASTM A53, Grade B
- E. Anchor Rods: ASTM F1554, Grade 36 headed unless otherwise indicated
- F. Unfinished Threaded Fastener and threaded rods: ASTM A307, Grade A, regular low-carbon steel bolts and nuts
 - 1. Provide hexagonal heads and nuts for all connections.
- G. High-Strength Threaded Fasteners: Heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers, as follows:
 - 1. Quenched and tempered medium-carbon steel bolts, nuts and washers, complying with ASTM A325
 - 2. Direct-tension-indicator bolts conforming to ASTM F1852 or direct-tension-indicating washers conforming to ASTM F959 may be used at Contractor's option.
- H. Electrodes for Welding: E70XX complying with AWS Code.
- I. Structural Steel Primer Paint: None
- J. Non Shrink Cement-Based Grout: See section 03300
- K. Galvanizing: ASTM A525, Hot-dipped, G-60 coating

2.02 FABRICATION:

- A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on final shop drawings. Provide camber in structural members where indicated.
 - 1. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials.
 - 2. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs and other defects.

- B. Connections: Weld or bolt shop connections, as indicated.
 - 1. Bolt field connections, except where welded connections or other connections are indicated.
 - 2. Provide high-strength threaded fasteners for principal bolted connections, except where unfinished bolts are indicated.
- C. High-Strength Bolted Connection: Install high-strength threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A325 or A490 Bolts". Unless otherwise indicated, all bolted connections are to be tightened to the snug tight condition as defined by AISC.
- D. Welded Construction: Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work.
- E. Holes for Other Work: Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members, as shown on final shop drawings. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.

PART 3 - EXECUTION

3.01 ERECTION:

- A. Surveys: Check elevations of concrete and masonry bearing surfaces, and locations of anchor rods and similar devices, before erection work proceeds, and report discrepancies to Architect. Do not proceed with erection until corrections have been made, or until compensating adjustments to structural steel work have been agreed upon with Architect.
- B. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.
- C. Anchor Rods: Furnish anchor rods and other connectors required for securing structural steel to foundations and other in-place work.
 - 1. Furnish templates and other devices as necessary for presetting bolts and other anchors to accurate locations. Refer to division 3 of these specifications for anchor bolt installation requirements in concrete.

- D. Setting Bases and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base and bearing plates.
 - 1. Set loose and attached base plates and bearing plates for structural members on wedges or other adjusting devices.
- E. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.
- F. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure. For proprietary grout materials, comply with manufacturer's instructions.
- G. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces which will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment. Level and plumb individual members of structure within specified AISC tolerance. Splice members only where indicated and accepted on shop drawings.
- H. Erection bolts: On exposed welded construction, remove erection bolts, fill holes with plug welds and grind smooth at exposed surface.
- I. Comply with AISC Specifications for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds. Do not enlarge unfair holes in members by burning or by use of drift pins, except in secondary bracing members. Ream holes that must be enlarged to admit bolts.
- J. Gas Cutting: Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members which are not under stress, as acceptable to Architect. Finish gas-cut sections equal to a sheared appearance when permitted.

3.02 QUALITY CONTROL:

- A. General:
 - 1. The Contractor is responsible for maintaining quality control and for providing a structure that is in strict compliance with the Contract Documents.

2. Inspection and testing services provided by the Owner do not relieve the Contractor of any responsibility for compliance, nor are they intended to limit the quality control responsibilities of the Contractor.
- B. The Owner will engage an independent testing and inspection agency to inspect high-strength bolted connections and welded connections and to perform tests and prepare test reports. All connections must pass these inspections prior to the installation of subsequent work which they support.
- C. The testing agency may inspect structural steel at the fabrication plant before shipment; however, the Engineer reserves the right, at any time before final acceptance, to reject material not complying with specified requirements.
- D. The testing agency shall conduct tests and state in each report which specific connections were examined or tested, whether the connections comply with requirements, and specifically state any deviations therefrom.
- E. Welding: The testing agency shall inspect and test during fabrication of structural steel assemblies, and during erection of structural steel all welded connections in accordance with procedures outlined in AWS D1.1 as follows:
1. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.
 2. Perform visual inspection of all welds. Welds deemed questionable by visual inspection, all partial and full penetration welds, and any other welds indicated on the drawings shall be tested by one of the following:
 - a. Liquid penetrant inspection: ASTM E165.
 - b. Magnetic particle inspection: ASTM E109; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration not acceptable.
 - c. Radiographic Inspection: ASTM E94 and ASTM E142; minimum quality level "2-2T".
 - d. Ultrasonic Inspection: ASTM E164.
 3. All welds deemed unacceptable shall be repaired and retested at the Contractor's expense.
- F. Bolted Connections: The testing agency shall inspect all bolted connections in accordance with procedures outlined in the AISC "Specification for Structural Joints using ASTM A325 or A490 Bolts".

1. Snug Tight Connections:

- a. The inspector shall monitor the installation of bolts to determine that all plies of connected material have been drawn together and that the selected procedure is used to tighten all bolts.
 - b. If the inspector does not monitor the installation of bolts, the inspector shall visually inspect the connection to determine that all plies of connected material have been drawn together and conduct tests on a sampling connection bolts to determine if they have been tightened to the snug tight condition. The test sample shall consist of 10% of the bolts in the connection, but not less than two bolts, selected at random. If more than 105 of the tested bolts fail the initial inspection, the Engineer reserves the right to increase the number of bolts tested.
- G. The Contractor shall provide access for testing agency to places where structural steel work is being fabricated, produced or erected so that required inspection and testing can be accomplished.
- H. The Contractor shall correct deficiencies in structural steel work where test reports indicate noncompliance with requirements. The testing agency shall perform additional tests, at the Contractor's expense, as may be necessary to show compliance of corrected work. Costs associated with Engineer's review and disposition of faulty works shall be borne by Contractor.

3.03. ENGINEERS REVIEW

- A. The Engineer of Record will conduct periodic reviews of the construction for compliance with the Contract Documents during construction.
- B. The Contractor shall employ a Professional Engineer to analyze and design modifications and repairs for construction not in conformance with the provisions of the Contract Documents. These modifications and repair details shall be stamped by a Professional Engineer registered in the State of Maine and submitted with calculations for review by the Engineer of Record. Modifications shall not be made without express written approval.

END OF SECTION

SECTION 05200

STEEL JOISTS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. RELATED DOCUMENTS: Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections apply to work of this section.
- B. Examine all other sections of the Specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section.
- C. Coordinate work with that of all trades affecting or affected by work of this section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK:

- A. Extent of steel joists is shown on drawings, including basic layout and type of joists required.
- B. Related Work specified Elsewhere
 - 1. Section 05120 Structural Steel
 - 2. Section 05300 Metal Decking
 - 3. Section 05500 Miscellaneous Metals

1.03 QUALITY ASSURANCE:

- A. Codes and Standards:
 - 1. Steel Joist Institute (SJI) Standard Specifications, Load Tables and Weight Tables for:
 - a. Open Web Steel Joists K-Series
 - 2. AWS D1.1 - 90 "Structural Welding Code" - Steel
 - 3. AWS D1.3 - 89 "Structural Welding Code" - Sheet Steel

- B. Qualification for Welding Work: Qualify welding processes and welding operators in accordance with AWS D1.1 "Standard Qualification Procedure".
 - 1. Provide certification that welders to be employed in work have satisfactorily passed AWS qualification tests.
 - 2. If recertification of welders is required, retesting will be the Contractor's responsibility.

1.04 SUBMITTALS:

- A. The Engineer shall receive all submittals a minimum of two weeks prior to the start of fabrication. The Contractor shall have reviewed and approved all submittals prior to review by the Engineer. All review by the Architect, Engineer and Contractor of submittals shall be completed prior to fabrication and installation of any material or product.
- B. Product Data: Submit manufacturer's specifications and installation instructions for each type of joist and accessories. Include manufacturer's certification that joists comply with SJI Specifications".
- C. Shop Drawings: Submit detailed drawings showing layout of joist units, special connections, jointing and accessories. Include mark, number, type, location and spacing of joists and bridging.

1.05 DELIVERY, STORAGE AND HANDLING:

- A. Deliver, store and handle steel joists as recommended in SJI "Specifications". Handle and store joists in a manner to avoid deforming members and to avoid excessive stresses.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Steel: Comply with SJI "Specifications".
- B. Unfinished Threaded Fasteners: ASTM A 307, Grade A, regular hexagon type, low carbon steel.
- C. Steel Prime Paint: Manufacturer's standard complying with SSPC 15-68T, Type 1 (red oxide) or Federal Specification TT-P-636 (red oxide).

2.02 FABRICATION:

- A. General: Fabricate steel joists in accordance with SJI "Specification".
- B. Holes in Chord Members: Provide holes in chord members where shown for securing other work to steel joists; however, deduct area of holes from the area of chord when calculating strength of member.
- C. Holes in Web: Provide holes in joist and joist girder webs to allow through passage of HVAC, sprinklers, etc. in locations shown on the drawings.
- D. Extended Ends: Provide extended ends on joists where shown, complying with manufacturer's standards and requirements of applicable SJI "Specifications and Load Tables".
- E. Bridging:
 - 1. Provide horizontal or diagonal type bridging for "open web" joists, complying with SJI "Specifications" and as shown on plans.
 - 2. Provide bridging anchors for ends of bridging lines terminating at walls or beams.
- F. End Anchorage: Provide end anchorages to secure joists to adjacent construction, complying with SJI "Specifications", unless otherwise indicated.
- G. Shop Painting:
 - 1. Remove loose scale, heavy rust and other foreign materials from fabricated joists and accessories before application of shop paint.
 - 2. Apply one shop coat of primer paint to steel joists and accessories by spray, dipping, or other method to provide a continuous dry paint film of 2.0 to 3.5 dry mils thickness.

PART 3 - EXECUTION

3.01 ERECTION:

- A. General: Place and secure steel joists in accordance with SJI "Specifications", final shop drawings, and as herein specified.
- B. Placing Joists:
 - 1. Do not start placement of steel joists until supporting work is in place and secured.

2. Place joists on supporting work, adjust and align in accurate location and spacing before permanently fastening.
 3. Provide temporary bridging, connections and anchors to ensure lateral stability during construction.
- C. Bridging: Install bridging simultaneously with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords where terminating at walls or beams.
- D. FASTENING:
1. Field weld joists to supporting steel framework in accordance with SJI "Specifications" for type of joists used. Coordinate welding sequence and procedure with placing of joists.
 2. Bolt joists to supporting steel framework in accordance with SJI "Specifications" for type of joists used.
 - a. Provide unfinished threaded fasteners for bolted connections, unless otherwise indicated.
- E. Touch-up painting: Clean field welds, bolted connections, and abraded areas, and apply same type of paint as used in shop.

3.03 ENGINEER'S REVIEW

- A. The Engineer of Record will conduct periodic reviews of the construction for compliance with the provisions of the Specifications and Drawings during the construction period.
- B. The Contractor shall employ a Professional Engineer to analyze and design modifications and repairs for construction not in conformance with the provisions of the Contract Documents. These modifications and repair details shall be stamped by a Professional Engineer registered in the State of Maine and submitted with calculations for approval by the Engineer of Record. Modifications shall not be made without express written approval.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART I - GENERAL

1.01 GENERAL REQUIREMENTS

- A. RELATED DOCUMENTS: The drawings and the general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections apply to work of this section.
- B. Examine all other sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK:

- A. Work covered by this Section includes the furnishing of all labor, material, equipment and accessories, and the performing of all operations in connection with the wood framing, other carpentry as indicated on the Drawings and/or specified within this Section.
- B. The work covered by this Section includes, but is not necessarily limited to, the following:
 - 1. Furnishing and installing all rough carpentry, including miscellaneous grounds, blocking, sills, plates, shoes, shims, and furring, framing, framing anchors, and fasteners.
 - 2. Furnishing and installing plywood wall boards and back up panels and backer boards for telephone and electrical equipment.
 - 3. Drilling concrete and masonry and drilling and tapping of metal work as required for installation of rough carpentry.
 - 4. Any other items of carpentry necessary to complete work properly.

1.03 RELATED WORK SPECIFIED ELSEWHERE:

- A. Finish Carpentry - Section 06200.
- B. Flashing and Sheet Metal - Section 07500.
- C. Caulking and Sealants - Section 07900.
- D. Glazing - Section 08800.
- E. Finish Hardware - Section 08710.

1.04 QUALITY ASSURANCE

- A. Codes and Standards:
 - 1. International Building Code - 2003
 - 2. AITC Timber Construction Manual - 2004
 - 3. NFPA National Design Specification For Wood Construction - 1991

PART 2 - PRODUCTS

2.01 LUMBER

- A. Lumber shall conform to American Softwood Lumber Standard Voluntary Product Standard PS20-05. Lumber shall bear the grade and trademark of the Association under whose rules it is produced and a mark of mill identification.
- B. Protect all lumber and keep dry, both in transit and at the job site.
- C. All lumber shall be well seasoned and contain not more than 15% moisture content (marked "S-Dry").
- D. All two inch nominal framing lumber shall have the following minimum base values, unless otherwise noted:
 - 1. Extreme Fiber Stress in Bending, $F_b = 750$ psi.
 - 2. Horizontal Shear, $F_v = 70$ psi.
 - 3. Compression Perpendicular to Grain, $F_{c\perp} = 335$ psi.
 - 4. Compression Parallel to Grain, $F_c = 975$ psi.

5. Tension Parallel to Grain, $F_t = 325$ psi.
6. Modulus of Elasticity, $E = 1,100,000$ psi.

2.02 PRESERVATIVE TREATED LUMBER

- A. The following wood members shall be Southern Yellow Pine Treated with CCA to 0.4 #/CF in accordance with AWPAC-18. Lumber embedded in or in contact with soil shall be treated to 0.6#/CF in accordance with AWPAC. Wood shall be air dried or kiln-dried to reduce maximum moisture content to 15 percent. Each piece shall bear the AWPAC stamp, indicating the plant number, preservative symbol, symbol of standard, date of treatment and moisture content after treatment:
 1. Wood sills plates, rough bucks and frames in exterior masonry wall openings.
 2. Wall plates and furring in contact with exterior masonry or concrete.
 3. Nailers that are set into, or are in contact with, concrete or masonry.
 4. Blocking and nailers for roof deck, sub-fascia members, roof cants and saddles.
 5. Lumber in contact with the ground, embedded in or in contact with concrete or masonry and all exterior trim.
- B. Cut Surfaces: Cut surfaces of preservative-treated materials shall be brush coated with at least two coats of the same preservative used in the pressure treatment.
- C. Odors and Compatibility: Treated wood exposed in the final structure shall be free from objectionable odors and shall not be harmful or corrosive to adjacent materials or anchorages.
- D. Plywood Backer Panels:
 1. Plywood telephone and electrical backer panels required to be fire-retardant treated, shall be pressure-treated with fire-retardant 2 chemicals to achieve a UL FR-S rating, designating a surface-burning characteristics rating of 25 or less for flame-spread, fuel contributed, and smoke developed, per ASTM E 84, in compliance with AWPAC 20 (lumber) and AWPAC 27 (plywood). Each piece shall be dried to a 15-to-19 percent moisture content after treatment.
 2. Acceptable products include: Koppers Dricon, Osmose Flame-Proof, and Hoover Pro-Tex.

3. Strength reduction factors used in the design of fire retardant treated wood shall be in accordance with the NFPA "National Design Specification."

PART 3 - EXECUTION

3.01 INSTALLATION

A. Wood Framing:

1. General Requirements:
 - a. Wood construction practices shall conform to recommendations of the NFPA "National Design Specification" and the AITC "Timber Construction Manual". Wall framing will conform to the Optimum Value Engineering framing practices detailed in Appendix A of this section.
 - b. All members are to be installed as shown on the drawings.
 - c. When individual members have built-in camber, the members shall be placed with camber up.
 - d. No cutting of holes or notches in trusses for pipe, conduit or other reasons will be allowed.
 - e. All bearing surfaces shall be horizontal and even over the entire width of support.
 - f. Accurately and properly fit and brace all work. Secure in proper position and orientation. Framing, studding and blocking shall be as indicated on the Design Drawings, or as required by the work.
 - g. Cooperate with all other trades as required.
2. Cutting and Patching: Do all cutting, patching, heading and blocking required for work of all trades. Notify Telephone Company to place jacks at rough-in stages.
3. Blocking and Supports:
 - a. Install 2" nominal blocking (P.T. if in contact w/ metal studs) in stud partitions for anchoring all cabinets, mirrors, towel bars, grab bars, handrail brackets and other items applied to or in the walls.

- b. Set all blocking required to erect all exterior and interior woodwork, cabinets, plumbing, electrical and mechanical equipment, rough bucks and blocking for roofing work.
- c. Backing Boards: Install 5/8" birch plywood backer boards for electrical and mechanical trades as required.
- d. Provide pressure-treated blocking at exterior window openings in steel stud walls.

B. Fastening:

- 1. Fastening shall be as indicated on the Design Drawings, or in accordance with Table 2304.9.1 of the International Building Code.
- 2. Framing supported by concrete or masonry shall be anchored with built-in threaded bolts or lags, as indicated on the design drawings. Powder actuated fasteners shall not be substituted, except in the attachment of wall furring strips.
- 3. Fasteners shall be non-corrosive on exposed and exterior locations.

3.02 CLEAN-UP

- A. Keep the premises and working surfaces in a neat, safe, and orderly condition at all times during execution of this portion of the work.
 - 1. At the end of each day, or more often if necessary, remove accumulation of sawdust, cut-ends, and other debris to proper storage areas for disposal.
- B. Upon completion of this portion of the work, thoroughly clean up the area.

END OF SECTION

SECTION 06200

FINISH CARPENTRY

1. GENERAL

1.1 GENERAL PROVISIONS: Drawings and general provisions of Contract, including General Conditions and Division 1 specifications, apply to work in this section.

1.2 DESCRIPTION OF WORK:

A. The extent of work shall be as shown on Drawings and called for in these Specifications. Performance shall meet the requirements of these Specifications. The work covered by this section of Specifications consists of the following:

1. All finished carpentry work and millwork as required by Drawings and as specified under this section.
2. Installation of metal and other items furnished by other trades, if specifically noted in these Specifications.

2. PRODUCTS:

2.1 BOARD LUMBER shall comply with the American Lumber Standards Simplified Practice Recommendation No. 16. Grade of board lumber shall be suitable for its intended use. Finish lumber is to be painted and shall be dressed free of tool marks and other objectionable defects. All exposed lumber to be architectural quality grade: Custom.

2.2 INTERIOR TRIM: 1x Window stool .Primed and Painted. All interior trim unless noted otherwise on Drawings or in Specifications to be equal to No. 1 Pine or Poplar. Finger joints shall be allowed. See window details on drawings.

2.3 STAIR RISERS AND TREADS: 3/4" APA plywood.

2.4 STAIR RAILINGS: Brosco, #75 (1-1/2" x 1-3/4" round).

2.5 STAIR SKIRTBOARDS: Pine. Primed and painted

2.6 STAIR HANDRAIL BRACKETS: Stanley SP7081, Satin brass finish. Secure with #8 or #10 Brass screws of adequate length for wall condition, minimum 1-1/4" into blocking.

2.7 NAILS: 6d for 1/2" finish stock and 4d finish for thinner wood. Use 8d generally for nailing 3/4" finish to wood wall framing. Use finish nails @ 1'-0" horiz. & vert. for attaching plywood to wood framing at interior walls.

2.8 SCREWS, BOLTS & OTHER FASTENERS: Small head self-tapping stainless-steel screws for attaching 3/4" plywood to metal studs @ 1'-0" o.c. vert and 2'-0" horiz. with penetration into framing or blocking adequate to support loads. Where not shown, consult Architect.

3. EXECUTION:

- 3.1 ALL ITEMS OF MILLWORK shall be carefully erected, leveled and plumbed with tight-fitting joints and square corners, carefully cut and secured. Exposed nails shall be set adequately for putty. Moulds and faces shall be free from hammer or other tool marks, clean-cut and true pattern. All work shall be thoroughly cleaned and sanded to receive the finish. Sharp corners of small members of finished woodwork shall be slightly rounded. All trim baseboards, etc. fastened to walls shall be secured to wall framing members and nails set. Care shall be taken to avoid splitting ends of trim boards.
- 3.2 INTERIOR TRIM: Install trim with finishing nails and glue where required to assure permanent, tight joints, according to Drawing details.
- 3.3 STAIRS: Skirtboards and handrails (handrails supported every 4'-0" o.c. minimum) shall be secured into solid blocking (1-1/4" minimum screw depth for handrails). Risers and treads to be glued and screwed together.

END OF SECTION

SECTION 07200

INSULATION AND VAPOR BARRIERS

VAPOR BARRIERS

1. 6 Mill Poly at underside of roof only.

INSULATION

1. Walls: 5-1/2" NuWool, See typical exterior wall section. Interior walls as shown on plans
2. Roof: Fill with NuWool, see drawings for depth.
- 3 Under Concrete floor slabs above grade 2" extruded polystyrene board, high density.
4. Buried insulation as shown on foundation drawings to be expanded polystyrene high density, 2" thick.
5. Sill Sealer: Latex caulk all sills. Windows and doors frames provide expanding foam insulation at all voids. Allow min. 1/2" at jambs and head to ensure continuous.

**DRYVIT SYSTEMS, INC.
MANUFACTURER'S SPECIFICATION
SECTION 07240**

OUTSULATION EXTERIOR INSULATION AND FINISH SYSTEM CLASS PB

PART I – GENERAL

1.01 SUMMARY

A. This document is to be used in preparing specifications for projects utilizing the Dryvit Outsulation System. For complete product description and usage refer to:

1. Dryvit Outsulation System Data Sheet, DS447.
2. Dryvit Outsulation System Application Instructions, DS204.
3. Dryvit Outsulation System Installation Details, DS107.

B. Related Sections

1. Unit Masonry – Section 04200
2. Concrete – Sections 03300 and 03400
3. Light Gauge Cold Formed Steel Framing – Section 05400
4. Wood Framing – Section 06100
5. Sealant – Section 07900
6. Flashing – Section 07600

1.02. REFERENCES

A. Section Includes

1. ASTM B 117 (Federal Test Standard 141A Method 6061) Standard Practice for Operating Salt Spray (Fog) Apparatus
2. ASTM C 150 Standard Specification for Portland Cement
3. ASTM C 297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
4. ASTM C 1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
5. ASTM C 1396 (formerly C 79) Standard Specification for Gypsum Board
6. ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
7. ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
8. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
9. ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
10. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
11. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
12. ASTM E 119 Standard Method for Fire Tests of Building Construction and Materials
13. ASTM E 330 Test Method for Structural Performance of Exterior Windows, Doors and Curtain Walls by Uniform Static Air Pressure Difference
14. ASTM E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.
15. ASTM E 2098 Test Method for Determining the Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to Sodium Hydroxide Solution
16. ASTM E 2134 Test Method for Evaluating the Tensile-Adhesion Performance of Exterior Insulation and Finish Systems (EIFS)
17. ASTM E 2430 Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish System (EIFS)
18. ASTM E 2485 (formerly EIMA Std. 101.01) Standard Test Method for Freeze-Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water-Resistive Barrier Coatings
19. ASTM E 2486 (formerly EIMA Std. 101.86) Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
20. ASTM G 155 (Federal Test Standard 141A Method 6151) Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Nonmetallic Materials
21. DS107, Dryvit Outsulation System Installation Details
22. DS131, Dryvit Expanded Polystyrene Insulation Board Specification
23. DS135, Specification for Outsulation System with Mechanical Fasteners
24. DS151, Custom Brick™ Polymer System Specifications for Use on Vertical Walls
25. DS152, Dryvit Cleaning and Recoating
26. DS153, Dryvit Expansion Joints and Sealants
27. DS159, Dryvit Water Vapor Transmission
28. DS204, Dryvit Outsulation System Application Instructions
29. DS456, Rapidry DM™ 35-50 or DS457, Rapidry DM™ 50-75 Data Sheets

- 30. DS494, Dryvit AquaFlash™ System
- 31. Mil Std E5272 Environmental Testing
- 32. Mil Std 810B Environmental Test Methods
- 33. UBC Std 26-4 (Formerly UBC 17-6) Multi-Story Fire Evaluation of Exterior Non Load-Bearing Foam Plastic Insulated Wall Systems
- 34. NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
- 35. NFPA 285 Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus
- 36. ULC S101 Standard Methods of Fire Endurance Tests of Building Construction Materials
- 37. ANSI FM 4880 Evaluating Insulated Wall or Wall and Roof/Ceiling Assemblies; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems

1.03 DEFINITIONS

- A. Base Coat: Material used to encapsulate one or more layers of reinforcing mesh fully embedded that is applied to the outside surface of the EPS.
- B. Building Expansion Joint: A joint through the entire building structure designed to accommodate structural movement.
- C. Contractor: The contractor that installs the Outsulation System to the substrate.
- D. Dryvit: Dryvit Systems, Inc., the manufacturer of the Outsulation System, a Rhode Island corporation.
- E. Expansion Joint: A structural discontinuity in the Outsulation System.
- F. Finish: An acrylic-based coating, available in a variety of textures and colors that is applied over the base coat.
- G. Insulation Board: Expanded polystyrene (EPS) insulation board, which is affixed to the substrate.
- H. Panel Erector: The contractor who installs the panelized Outsulation System.
- I. Panel Fabricator: The contractor who fabricates the panelized Outsulation System.
- J. Reinforcing Mesh: Glass fiber mesh(es) used to reinforce the base coat and to provide impact resistance.
- K. Sheathing: A substrate in sheet form.
- L. Substrate: The material to which the Outsulation System is affixed.
- M. Substrate System: The total wall assembly including the attached substrate to which the Outsulation System is affixed.

1.04 SYSTEM DESCRIPTION

- A. General: The Dryvit Outsulation System is an Exterior Insulation and Finish System, Class PB, consisting of an adhesive, expanded polystyrene insulation board, base coat, reinforcing mesh(es) and finish. Mechanically attached systems shall conform to Dryvit specification DS135.
- B. Methods of Installation
 - 1. Field Applied: The Outsulation System is applied to the substrate system in place.
 - 2. Panelized: The Outsulation System is shop-applied to the prefabricated wall panels.
- C. Design Requirements
 - 1. Acceptable substrates for the Outsulation System shall be:
 - a. Exterior grade gypsum sheathing meeting ASTM C 1396 (formerly C 79) requirements for water-resistant core or Type X core at the time of application of the Outsulation System.
 - b. Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
 - c. Exterior fiber reinforced cement or calcium silicate boards.
 - d. APA Exterior or Exposure 1 Rated Plywood, Grade C-D or better, nominal 12.7 mm (1/2 in), minimum 4-ply.
 - e. Unglazed brick, cement plaster, concrete, or masonry.
 - f. APA Exposure 1 rated Oriented Strand Board (OSB), nominal 12.7 mm (1/2 in).
 - g. Galvanized expanded metal lath 1.4 or 1.8 kg/m² (2.5 or 3.4 lbs/yd²) installed over a solid substrate.
 - 2. Deflection of substrate systems shall not exceed 1/240 times the span.
 - 3. The substrate shall be flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.
 - 4. The slope of inclined surfaces shall not be less than 6:12, and the length shall not exceed 305 mm (12 in).
 - 5. All areas requiring an impact resistance classification higher than "standard", as defined by ASTM E 2486 (formerly EIMA Std. 101.86), shall be as detailed in the drawings and described in the contract documents. Refer to Section 1.04.D.1.c of this specification.
 - 6. Expansion Joints
 - a. Design and location of expansion joints in the Outsulation System is the responsibility of the project designer and shall be noted on the project drawings. As a minimum, expansion joints shall be placed at the following locations:
 - 1) Where expansion joints occur in the substrate system.
 - 2) Where building expansion joints occur.
 - 3) At floor lines in wood frame construction.
 - 4) At floor lines of non-wood framed buildings where significant movement is expected.

- 5) Where the Outsulation System abuts dissimilar materials.
 - 6) Where the substrate type changes
 - 7) Where prefabricated panels abut one another
 - 8) In continuous elevations at intervals not exceeding 23 m (75 ft).
 - 9) Where significant structural movement occurs such as changes in roofline, building shape or structural system.
7. Terminations
- a. Prior to applying the Dryvit Outsulation System, wall openings shall be treated with Dryvit AquaFlash System or Flashing Tape. Refer to Dryvit Outsulation System Installation Details, DS107.
 - b. The Outsulation System shall be held back from adjoining materials around openings and penetrations such as windows, doors and mechanical equipment a minimum of 19 mm (3/4 in) for sealant application. See Dryvit's Outsulation System Installation Details, DS107.
 - c. The system shall be terminated a minimum of 203 mm (8 in) above finished grade.
 - d. Sealants
 - 1) Shall be manufactured and supplied by others.
 - 2) Shall be compatible with Outsulation System materials. Refer to current Dryvit Publication DS153 for listing of sealants tested by sealant manufacturer for compatibility.
 - 3) The sealant backer rod shall be of closed cell.
8. Vapor Retarders – The use and location of vapor retarders within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements. The type and location shall be noted on the project drawings and specifications. Vapor retarders may be inappropriate in certain climates and can result in condensation within the wall assembly. Refer to Dryvit Publication DS159 for additional information.
9. Dark Colors - The use of dark colors must be considered in relation to wall surface temperature as a function of local climatic conditions. Use of dark colors in high temperature climates can affect the performance of the system.
10. Flashing: Shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies and other areas as necessary to prevent water from entering behind the Outsulation System.
- D. Performance Requirements
1. The Outsulation System shall have been tested as follows:
 - a. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
Abrasion Resistance	ASTM D 968	No deleterious effects after 500 liters (528 quarts)	No deleterious effects after 1000 liters (1056 quarts)
Accelerated Weathering	ASTM G 155 Cycle 1	No deleterious effects after 2000 hours	No deleterious effects after 5000 hours
	ASTM G 154 Cycle 1 (QUV)		No deleterious effects after 5000 hours
Freeze-Thaw	ASTM E 2485 (formerly EIMA 101.01)	No deleterious effects after 60 cycles	Passed - No deleterious effects after 90 cycles
	ASTM C 67 modified	No deleterious effects after 60 cycles	Passed - No deleterious effects after 60 cycles
	ASTM E 2485/ICC-ES Proc.; ICC ES (AC219)***	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
Mildew Resistance	ASTM D 3273	No growth during 28 day exposure period	No growth during 60 day exposure period
Water Resistance	ASTM D 2247	No deleterious effects after 14 days exposure	No deleterious effects after 42 days exposure
Taber Abrasion	ASTM D 4060	N/A	Passed 1000 cycles
Salt Spray Resistance	ASTM B 117	No deleterious effects after 300 hours exposure	No deleterious effects after 1000 hours exposure
Water Penetration	ASTM E 331 ICC ES (AC 219)***	No water penetration beyond the inner-most plane of the wall after 2 hours at 299 Pa (6.24 psf)	Passed 2 hours at 299 Pa (6.24 psf)
Water Vapor Transmission	ASTM E 96 Procedure B	Vapor permeable	EPS 5 perm-inch Base Coat* 40 Perms Finish** 40 Perms

* Base Coat perm value based on Dryvit Genesis®

** Finish perm value based on Dryvit Quarzputz

*** AC 219 – Acceptance Criteria for EIFS

b. Structural

TEST	TEST METHOD	CRITERIA	RESULTS
Tensile Bond	ASTM C 297/E 2134	Minimum 104 kPa (15 psi) – substrate or insulation failure	Minimum 132 kPa (19.1 psi)
Transverse Wind Load	ASTM E 330	Withstand positive and negative wind loads as specified by the building code	Minimum 4.3 kPa (90 psf)* 16 inch o.c. framing, ½ in sheathing screw attached at 203 mm (8 inch) o.c.

* All Dryvit components remain intact – for higher wind loads contact Dryvit Systems, Inc.

c. Impact Resistance: In accordance with ASTM E 2486 (formerly EIMA Standard 101.86).

Reinforcing Mesh/Weight g/m ² (oz/yd ²)	Minimum Tensile Strengths	EIMA Impact Classification	EIMA Impact Range Joules (in-lbs)		Impact Test Results Joules (in-lbs)	
Standard - 146 (4.3)	27 g/cm (150 lbs/in)	Standard	3-6	(25-49)	4	(36)
Standard Plus™ - 203 (6)	36 g/cm (200 lbs/in)	Medium	6-10	(50-89)	6	(56)
Intermediate® - 407 (12)	54 g/cm (300 lbs/in)	High	10-17	(90-150)	12	(108)
Panzer® 15 * - 509 (15)	71 g/cm (400 lbs/in)	Ultra High	>17	(>150)	18	(162)
Panzer 20 * - 695 (20.5)	98 g/cm (550 lbs/in)	Ultra High	>17	(>150)	40	(352)
Detail® Short Rolls - 146 (4.3)	27 g/cm (150 lbs/in)	n/a	n/a	n/a	n/a	n/a
Corner Mesh™ - 244 (7.2)	49 g/cm (274 lbs/in)	n/a	n/a	n/a	n/a	n/a

*Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)

d. Fire performance

TEST	TEST METHOD	CRITERIA	RESULTS
Fire Resistance	ASTM E 119	No effect on the fire resistance of a rated wall assembly	Passed 1 hour Passed 2 hour
Ignitability	NFPA 268	No ignition at 12.5 kw/m ² at 20 minutes	Passed
Full Scale Multi-Story Fire Test	UBC Std. 26-4 (formerly 17-6)	1. Resist vertical spread of flame within the core of the panel from one story to the next 2. Resist flame propagation over the exterior surface 3. Resist spread of vertical flame over the interior surface from one story to the next 4. Resist significant lateral spread of flame from the compartment of fire origin to adjacent spaces	Passed
Intermediate Multi-Story Fire Test	NFPA 285 (UBC 26-9)	1. Resist flame propagation over the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces	Passed
Full Scale Multi-Story* (corner test)	ANSI FM 4880	Resist flame propagation over the exterior surface.	Passed; No height restrictions*

* Dryvit FM products must be specified

2. The Outsulation components shall be tested for:
a. Fire

TEST	TEST METHOD	CRITERIA	RESULTS
Surface Burning Characteristics	ASTM E 84	All components shall have a: Flame Spread \leq 25 Smoke Developed \leq 450	Passed

- b. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
Reinforcing Mesh Alkali Resistance of Reinforcing Mesh	ASTM E 2098 (formerly EIMA 105.01)	> 21dN/cm (120 pli) retained tensile strength after exposure	Passed
EPS (Physical Properties) Density	ASTM C 303, D 1622	15.2-20.0 kg/m ³ (0.95-1.25 lb/ft ³)	Pass
Thermal Resistance	ASTM C 177, C 518	4.0 @ 4.4 °C (40 °F) 3.6 @ 23.9 °C (75 °F)	Pass Pass
Water Absorption	ASTM C 272	2.5 % max. by volume	Pass
Oxygen Index	ASTM D 2863	24% min. by volume	Pass
Compressive Strength	ASTM D 1621 Proc. A	69 kPa (10 psi) min.	Pass
Flexural Strength	ASTM C 203	172 kPa (25 psi) min.	Pass
Flame Spread	ASTM E 84	25 max.	Pass
Smoke Developed		450 max.	Pass

1.05 SUBMITTALS

- A. Product Data – The contractor shall submit to the owner/architect the manufacturer's product data sheets describing products, which will be used on this project.
- B. Shop Drawing for Panelized Construction: The panel fabricator shall prepare and submit to the owner/architect complete drawings, showing: wall layout, connections, details, expansion joints and installation sequence.
- C. Samples: The contractor shall submit to the owner/architect two (2) samples of the Outsulation System for each finish, texture and color to be used on the project. The same tools and techniques proposed for the actual installation shall be used. Samples shall be of sufficient size to accurately represent each color and texture being utilized on the project.
- D. Test Reports – When requested, the contractor shall submit to the owner/architect copies of selected test reports verifying the performance of the Outsulation System.

1.06 QUALITY ASSURANCE

A. Qualifications

- System Manufacturer: Shall be Dryvit Systems, Inc. All materials shall be manufactured or sold by Dryvit and shall be purchased from Dryvit or its authorized distributors.
 - Materials shall be manufactured at a facility covered by a current ISO 9001:2000 certification. Certification of the facility shall be done by a registrar accredited by the American National Standards Institute, Registrar Accreditation Board (ANSI-RAB).
- Contractor: Shall be knowledgeable in the proper installation of the Dryvit Outsulation System and shall be experienced and competent in the installation of Exterior Insulation and Finish Systems. Additionally, the contractor shall possess a current Outsulation System Trained Contractor Certificate* issued by Dryvit Systems, Inc.
- Insulation Board Manufacturer: Shall be listed by Dryvit Systems, Inc., shall be capable of producing the Expanded Polystyrene (EPS) in accordance with current Dryvit Specification for Insulation Board, DS131, and shall subscribe to the Dryvit Third Party Certification and Quality Assurance Program.
- Panel Fabricator: Shall be a contractor experienced and competent in the fabrication of architectural wall panels and shall possess a current Outsulation System Contractor Certificate* issued by Dryvit Systems, Inc.
- Panel Erector: Shall be experienced and competent in the installation of architectural wall panel systems and shall be:
 - The panel fabricator, or
 - An erector approved by the panel fabricator or
 - An erector under the direct supervision of the panel fabricator

B. Regulatory Requirements

- The EPS shall be separated from the interior of the building by a minimum 15-minute thermal barrier.
- The use and maximum thickness of EPS shall be in accordance with the applicable building codes.

C. Certification

1. The Outsulation System shall be recognized for the intended use by the applicable building code(s).

D. Mock-Up

1. The contractor shall, before the project commences, provide the owner/architect with a mock-up for approval.
2. The mock-up shall be of suitable size as required to accurately represent the products being installed, as well as each color and texture to be utilized on the project.
3. The mock-up shall be prepared with the same products, tools, equipment and techniques required for the actual application. The finish used shall be from the same batch that is being used on the project.
4. The approved mock-up shall be available and maintained at the job site.
5. For panelized construction, the mock-up shall be available and maintained at the panel fabrication location.

1.07 DELIVERY, STORAGE AND HANDLING

A. All Dryvit materials shall be delivered to the job site in the original, unopened packages with labels intact.

B. Upon arrival, materials shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.

1. Materials shall be stored at the jobsite in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Minimum storage temperature shall be as follows:
 - a. Demandit®, Revyvit®: 7 °C (45 °F)
 - b. Ameristone™, TerraNeo® and Limestone™: 10 °C (50 °F)
 - c. DPR, PMR™ and E™ Finishes, Color Prime™, Primus®, Genesis and NCB™: 4 °C (40 °F)
 - d. Custom Brick™ finish: Refer to Custom Brick Polymer Specification, DS151.
 - e. For other products, refer to specific product data sheets.

2. Maximum storage temperature shall not exceed 38° C (100 °F).

NOTE: Minimize exposure of materials to temperatures over 32 °C (90 °F). Finishes exposed to temperatures over 43 °C (110 °F) for even short periods may exhibit skinning, increased viscosity and should be inspected prior to use.

C. Protect all products from inclement weather and direct sunlight.

1.08 PROJECT CONDITIONS

A. Environmental Requirements

1. Application of wet materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.
2. At the time of application, the minimum air and wall surface temperatures shall be as follows:
 - a. Demandit, Revyvit: 7 °C (45 °F)
 - b. Ameristone, TerraNeo and Limestone: 10 °C (50 °F)
 - c. DPR, PMR and E Finishes, Color Prime, Primus, Genesis and NCB: 4 °C (40 °F)
 - d. Custom Brick Finish: refer to Custom Brick Polymer Specification, DS151.
 - e. For other products, refer to specific product data sheets.
3. These temperatures shall be maintained with adequate air ventilation and circulation for a minimum of 24 hours (48 hours for Ameristone, TerraNeo and Limestone) thereafter, or until the products are completely dry. Refer to published product data sheets for more specific information.

B. Existing Conditions - The contractor shall have access to electric power, clean water, and a clean work area at the location where the Dryvit materials are to be applied.

1.09 SEQUENCING AND SCHEDULING

A. Installation of the Outsulation System shall be coordinated with other construction trades.

B. Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffold lines, texture variations, etc.

1.10 LIMITED MATERIALS WARRANTY

A. Dryvit Systems, Inc. shall provide a limited warranty against defective material upon written request. Dryvit shall make no other warranties, expressed or implied. Dryvit does not warrant workmanship. Full details are available from Dryvit Systems, Inc.

B. The applicator shall warrant workmanship separately. Dryvit shall not be responsible for workmanship associated with installation of the Outsulation System.

1.11 DESIGN RESPONSIBILITY

A. It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for its intended use. The designer selected by the purchaser shall be responsible for all decisions pertaining to design, detail, structural capability, attachment details, shop drawings and the like. Dryvit has prepared guidelines in the form of specifications, installation details and product sheets to facilitate the design process only. Dryvit is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings, or the like, whether based upon the information prepared by Dryvit or otherwise, or for any changes which purchasers, specifiers, designers, or their appointed representatives may make to Dryvit's published comments.

1.12 MAINTENANCE

- A. Maintenance and repair shall follow the procedures noted in Dryvit Outsulation Application Instructions, DS204.
- B. All Dryvit products are designed to minimize maintenance. However, as with all building products, depending on location, some cleaning may be required. See Dryvit publication DS152 on Cleaning & Recoating.
- C. Sealants and Flashings should be inspected on a regular basis and repairs made as necessary.

PART II – PRODUCTS**2.01 MANUFACTURER**

- A. All components of the Outsulation System shall be supplied or obtained from Dryvit or its authorized distributors. Substitutions or additions of materials other than specified will void the warranty.

2.02 MATERIALS

- A. Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
- B. Water: Shall be clean and free of foreign matter.
- C. Mechanical Fasteners (required when installing in accordance with DS135): Shall be Wind-lock's Wind Devil™ plates, or equivalent, used in conjunction with corrosion resistant fasteners appropriate for the substrate system.

2.03 COMPONENTS

- A. Flashing Materials: Used to protect substrate edges at terminations.
 - 1. Liquid Applied: An extremely flexible water-based polymer material, ready for use.
 - a. Shall be AquaFlash and AquaFlash Mesh
 - 2. Sheet Type:
 - a. Shall be Flashing Tape and Surface Conditioner
 - 1) Dryvit Flashing Tape™: A high density polyethylene film backed with a rubberized asphalt adhesive available in rolls 102 mm (4 in), 152 mm (6 in) and 229 mm (9 in) wide by 23 m (75 ft) long.
 - 2) Dryvit Flashing Tape Surface Conditioner™: A water-based surface conditioner and adhesion promoter for the Dryvit Flashing Tape.
- B. Adhesives: Used to adhere the EPS to the substrate, shall be compatible with the substrate and the EPS.
 - 1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement for use over non wood-based substrates.
 - a. Shall be Primus®, Genesis® or Genesis FM
 - 2. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water for use over non wood-based substrates.
 - a. Shall be Primus® DM, Genesis® DM, Genesis® DMS, Rapidry DM 35-50 or Rapidry DM 50-75.
 - 3. Noncementitious: A factory-mixed, fully formulated water-based adhesive for use over wood-based substrates.
 - a. Shall be ADEPS®.
- C. Insulation Board: Expanded polystyrene meeting Dryvit Specification for Insulation Board, DS131.
 - 1. Thickness of insulation board shall be minimum 19 mm (3/4 in) and shall be maintained at all locations. **Note: Dryvit recommends that a minimum of 25 mm (1 in) thick insulation board be installed to maintain the minimum thickness after rasping, reveals are installed, etc.**
 - 2. The insulation board shall be manufactured by a board supplier listed by Dryvit Systems, Inc.
- D. Base Coat: Shall be compatible with the EPS insulation board and reinforcing mesh(es).
 - 1. Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
 - a. Shall be Primus, Genesis or Genesis FM.
 - 2. Noncementitious: A factory-mixed, fully formulated, water-based product.
 - a. Shall be NCB™.
 - 3. Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
 - a. Shall be Primus DM, Genesis DM, Genesis DMS, Rapidry DM 35-50 or Rapidry DM 50-75.
- E. Reinforcing Mesh: A balanced open weave, glass fiber fabric treated for compatibility with other system materials. **Note: Reinforcing meshes are classified by impact resistance and specified by weight and tensile strength as Section 1.04.D.1.c.**
 - 1. Shall be Standard, Standard Plus, Intermediate, Panzer 15, Panzer 20, Detail and Corner Mesh.
- F. Finish: Shall be the type, color and texture as selected by the architect/owner and shall be one or more of the following:
 - 1. Standard DPR (Dirt Pickup Resistance): Water-based, acrylic coating with integral color and texture and formulated with DPR chemistry:
 - a. Quarzputz® DPR: Open-texture.
 - b. Sandblast® DPR: Medium texture.
 - c. Freestyle® DPR: Fine texture.
 - d. Sandpebble® DPR: Pebble texture.
 - e. Sandpebble® Fine DPR: Fine pebble texture.

Outsulation System Specifications

2. **E:** Water-based, lightweight acrylic coating with integral color and texture and formulated with DPR chemistry:
 - a. Quarzputz® **E**
 - b. Sandpebble® **E**
 - c. Sandpebble® Fine **E**
3. **FM:** Water-based, acrylic coating with integral color and texture, formulated with PMR chemistry:
 - a. Quarzputz® **FM**
 - b. Sandblast® **FM**
 - c. Sandpebble® **FM**
 - d. Sandpebble® Fine **FM**
4. **Specialty:** Factory mixed, water-based acrylic:
 - a. Ameristone: Multi-colored quartz aggregate with a flamed granite appearance.
 - b. Stone Mist®: Ceramically colored quartz aggregate.
 - c. Custom Brick: Acrylic polymer-based finish used in conjunction with a proprietary template system to create the look of stone, brick, slate or tile.
 - d. TerraNeo: 100% acrylic-based finish with large mica chips and multi-colored quartz aggregates.
 - e. Limestone: A premixed, 100% acrylic-based finish designed to replicate the appearance of limestone blocks.
5. **Elastomeric DPR (Dirt Pickup Resistance):** Water-based elastomeric acrylic coating with integral color and texture and formulated with DPR chemistry:
 - a. Weatherlastic® Quarzputz
 - b. Weatherlastic® Sandpebble
 - c. Weatherlastic® Sandpebble Fine
 - d. Weatherlastic® Adobe
6. **Medallion Series PMR™ (Proven Mildew Resistance):** Water-based acrylic coating with integral color and texture and formulated with PMR chemistry:
 - a. Quarzputz® **PMR**
 - b. Sandblast® **PMR**
 - c. Freestyle® **PMR**
 - d. Sandpebble® **PMR**
 - e. Sandpebble® Fine **PMR**
7. **Coatings, Primers and Sealers:**
 - a. Demandit
 - b. Weatherlastic® Smooth
 - c. Tuscan Glaze™
 - d. Revyvit
 - e. Color Prime
 - f. Prymit®
 - g. SealClear™

PART III – EXECUTION**3.01 EXAMINATION**

- A. Prior to installation of the Outsulation System, the contractor shall verify that the substrate:
 1. Is of a type listed in Section 1.04.C.1.
 2. Is flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.
 3. Is sound, dry, connections are tight, has no surface voids, projections or other conditions that may interfere with the Outsulation System installation or performance.
- B. Prior to the installation of the Outsulation System, the architect or general contractor shall insure that all needed flashings and other waterproofing details have been completed, if such completion is required prior to the Outsulation application. Additionally, the Contractor shall ensure that:
 1. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association (ARMA) Standards.
 2. Openings are flashed in accordance with the Outsulation System Installation Details, DS107, or as otherwise necessary to prevent water penetration.
 3. Chimneys, Balconies, and Decks have been properly flashed.
 4. Windows, Doors, etc. are installed and flashed per manufacturer's requirements and the Outsulation System Installation Details, DS107.
- C. Prior to the installation of the Outsulation System, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

3.02 PREPARATION

- A. The Outsulation materials shall be protected by permanent or temporary means from inclement weather and other sources of damage prior to, during, and following application until completely dry.
- B. Protect adjoining work and property during Outsulation installation.

Outsulation System Specifications

DS118

- C. The substrate shall be prepared as to be free of foreign materials, such as, oil, dust, dirt, form release agents, efflorescence, paint, wax, water repellants, moisture, frost and any other condition that inhibit adhesion.

3.03 INSTALLATION

- A. The system shall be installed in accordance with the current Dryvit Outsulation System Application Instructions, DS204.
- B. The overall minimum base coat thickness shall be sufficient to fully embed the mesh. The recommended method is to apply the base coat in two (2) passes.
- C. Sealant shall not be applied directly to textured finishes or base coat surfaces. Dryvit Outsulation System base coat surfaces in contact with sealant shall be coated with Demandit or Color Prime.
- D. When installing the Outsulation System, the notched trowel method of adhesive application shall be used over gypsum sheathing substrates.
- E. High impact meshes shall be installed as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage.

3.04 FIELD QUALITY CONTROL

- A. The contractor shall be responsible for the proper application of the Outsulation materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.
- C. If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
- D. If required, the EPS supplier shall certify in writing that the EPS meets Dryvit's specifications.
- E. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and Dryvit's recommendations.

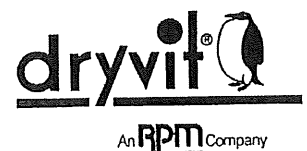
3.05 CLEANING

- A. All excess Outsulation System materials shall be removed from the job site by the contractor in accordance with contract provisions and as required by applicable law.
- B. All surrounding areas, where the Outsulation System has been installed, shall be left free of debris and foreign substances resulting from the contractor's work.

3.06 PROTECTION

- A. The Outsulation System shall be protected from inclement weather and other sources of damage until dry and permanent protection in the form of flashings, sealants, etc. are installed.

Dryvit Systems, Inc.
One Energy Way
P. O. Box 1014
W. Warwick, RI 02893
(800) 556-7752
www.dryvit.com



**SECTION 07500
ROOFING AND FLASHING**

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Fully adhered EPDM sheet roofing , elastomeric flashing, metal flashings, metal edge strips.

1.02 CODES, REGULATIONS AND STANDARDS

- A. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State and local codes, regulations and standards pertaining to work practices, hauling, disposal, protection of workers and visitors to the site, and persons occupying areas adjacent to the site. This includes modification of procedures to comply with changes to codes, regulations and standards which occur during the work of this contract. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State and local regulations. The Contractor shall hold the Owner and Owner's Representatives harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulations on the part of himself, his employees or his subcontractors.

1.03 QUALITY ASSURANCE

- A. Roofing contractor to be approved in writing by the membrane manufacturer. Contractor shall be able to substantiate that he has been trained by the membrane manufacturer.
- B. Roofing and flashing workmanship to comply with industry standards. The National Roofing Contractors Association's (NRCA) **ROOFING AND WATERPROOFING MANUAL** along with **ARCHITECTURAL SHEET METAL MANUAL** as published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) will be used to establish industry standards.

1.04 SUBMITTALS

- A. Sample fifteen (15) year watertight warranty for the EPDM membrane.
- B. Sample twenty (20) year material warranty for the EPDM membrane.
- C. Current EPDM membrane manufacturer's application specifications.
- D. Shop drawings of each flashing condition, such as eave, curb, vent, cornice, siding and fascia.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in their original, unopened containers, clearly labeled with manufacturer's name. All material to be stored in waterproof trailers or sheds, up on raised platforms and under lock and key until use. Do not use materials damaged in

Peloton Building - 795 Congress Street - Portland, ME

handling or storage. Replace damaged material with new material. Store adhesives between 60 and 80 degrees F. Should they be exposed to lower temperatures, restore to room temperature for three to five days prior to use.

1.06 WARRANTY

- A. A fifteen (15) year watertight warranty and twenty (20) year material warranty shall be issued by the EPDM membrane manufacturer.
- B. The roofing contractor shall furnish the Owner with his personal two (2) year watertight warranty.

PART 2 PRODUCTS

2.01 ROOF INSULATION

- A. Roof insulation to be in truss space not in roofing contract.
- B. Install one layer of 1/2" high density fiberboard roof insulation. The high density fiberboard roof insulation to be Structodek by Wood Fiber Industries, Celotex Corp. or approved equal.

2.02 MEMBRANE ROOF SYSTEM

- A. Membrane roofing to be fully adhered white .060" EPDM sheet roofing by Carlisle, Versico or approved equal.
- B. Use the roof membrane for flashing of curbs and walls per the manufacturer's standard details. Use reinforced EPDM anchor strips to avoid splice joints at walls and edges.
- C. Adhesives, sealants, thinner, cleaner and accessories to be furnished by the membrane manufacturer.
- D. **Six inch (6") wide seam tape will be required for all field seams.**

2.03 ROOF DRAINS (None)

- A. Roof sloped to drain off rear of building.

2.04 FASTENERS

- A. Use fasteners recommended by the membrane manufacturer to secure anchor bars and termination bars.
- B. Fasteners used to secure roof insulation to the steel deck to be #14-10 Heavy Duty Roofing Fasteners with CR-10 coating, a minimum shank diameter of 0.170" and a thread diameter of 0.125". Pressure plates to be 3" diameter Galvalume plates. Screws and plates to be manufactured by Olympic Fasteners or approved equal. Length, size and accessories to be as required by the EPDM membrane manufacturer selected.

2.05 METAL FASCIA SYSTEM

- A. Soffit and Fascia Galvalume coated steel 24 ga. Kynar 500 Finish, See Drawings for sizes and profile.

PART 3 EXECUTION

3.01 PREPARATION OF SURFACES

- A. Surfaces on which the roofing system is to be applied shall be clean, smooth, dry, free of fins, rot, sharp edges, loose and foreign materials, oil and grease.

3.02 ROOF MEMBRANE

- A. Adhere the .060" EPDM membrane to the 7/16" OSB in strict accordance with the manufacturer's specifications.
- B. **Six inch (6") wide seam tape will be required for all field seams.**

3.03 FLASHING - - WALLS, PARAPETS, CURBS AND VENTS

- A. Use the longest pieces of material which are practical. All flashing and terminations shall be done in accordance with the applicable manufacturer's details.
- B. Care must be taken to set the elastomeric flashing so it does not bridge where there is a change of direction (i.e. where a parapet meets the roof deck). This can be accomplished by creasing the membrane into the angle change prior to adhering up the wall. Excess bridging will be cause for rejection and will be re-done at the contractor's expense.
- C. Install termination bars at the top of all base flashing, fastening a minimum of 6" on center.

3.04 TEMPORARY WATER CUT-OFF

- A. Temporary water cut-offs are to be constructed at the end of each working day to protect the insulation, roofing, building and building interior from damage due to wind, snow and rain.
- B. Temporary water cut-offs are to be detailed by the contractor and approved by the manufacturer and Owner.

3.05 CLEAN UP

- A. Site clean-up shall be complete and to the satisfaction of the Owner.
- B. All roofs, building, landscape and parking areas shall be cleaned of all trash, debris and dirt caused by or associated with this work.
- C. Any areas stained, dirtied, discolored or otherwise damaged due to this work shall be cleaned, restored and replaced as required.
- D. All debris shall be removed from the premises promptly and the construction area left clean daily.

3.06 INSPECTION AND TESTING

THE OWNER RESERVES THE RIGHT TO INSPECT AND TEST ALL CONSTRUCTION OPERATIONS AND MATERIALS.

Peloton Building - 795 Congress Street - Portland, ME

- A. Any defect or noncompliance discovered by inspection shall be reported to the contractor who shall promptly remove any defective material from the site.
- B. The Owner reserves the right to inspect the work or parts of it as he chooses. His failure to inspect the work in progress shall not relieve the contractor of the responsibility for properly executing the contracted work, nor shall it impair the Owner's right to reject deficiencies he may subsequently discover.

PART 4 JOB CONDITIONS

- A. Roofing to be applied in dry weather.
- B. Completed roof areas shall not be trafficked. The work shall be coordinated to prevent this situation by working toward the roof edges.
- C. This project is subject to compliance with all requirements of the Occupational Safety and Health Administration (OSHA). All work on this project must meet the requirements of all applicable state and local codes, laws and ordinances.

END OF SECTION

SECTION 07900

JOINT SEALERS

1. GENERAL:

1.1 DESCRIPTION OF WORK: The extent of work shall be as shown on Drawings and called for in these Specifications. Performance shall meet requirements of these Specifications.

2. PRODUCTS:

2.1 CAULKING MATERIAL

A. Tremco Dymonic or as compatible with adjacent materials; one part polyurethane on exterior walls for caulking joints where siding butts trim and at all junctions as necessary to obtain complete watertight construction and caulking gap between bottom of wall and sheathing foundation wall face.

B. Tremco Latex 839 for general interior caulking.

3. EXECUTION:

3.1 ALL POTENTIAL INFILTRATION cracks & joints to be caulked. Caulking shall be done only by workmen who are thoroughly experienced in this work. Exterior caulking shall be applied around all trim boards-corners, windows, doors, vents, utilities, at top of foundation, and any other infiltration "crack".

3.2 NOTE: Apply caulking under corner boards and window, door trim as trim applied. Apply caulking under flange as window is installed.

3.3 INTERIOR CAULKING shall be applied to seal all penetrations through top plates of interior walls, (due to electrical or plumbing), and at tubs, showers, counter tops, bottom of party walls GWB, and other as shown on Drawings.

3.4 IN GENERAL, caulking to be done prior to (in conjunction with) siding installation. See Drawings for any additional applications. Joints and spaces to be caulked shall be dry and free from dust. Finished caulking "bead" shall be neat and smooth, free of gaps and sags and run continuously. Complete all caulking work and allow to stand for the manufacturer's recommended time period before painting. Prime if required before finish coat of paint is applied.

3.5 NOTE: Vents penetrating siding shall be adequately "Wood Backed" for plumpness and tight seal, and caulked prior to installation.

END OF SECTION

STEEL DOORS AND FRAMES

SECTION 08100

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this section. Extent of steel doors and frames required is indicated on drawings and in schedules.

- 1. Furnish and Install:

- a. Steel frames for hollow metal doors

- B. Related work specified elsewhere:

- 1. SECTION 09900: PAINTING

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. Manufacturer: Provide steel doors and frames complying with these specifications from one of the following:
 - 1. CECO
 - 2. Curries
 - 3. Steelcraft
- C. Supplier: A recognized hollow metal supplier, with in-house fabrication facilities, who has been furnishing doors and frames in the project's vicinity for a period of not less than five years.
- D. Product Data: Submit four copies of manufacturer's technical product data for each item. Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and maintenance.
- E. Door Schedule: Submit final door schedule in manufacturer's standard format and as outlined below. Coordinate doors, frames and related work to ensure proper size, thickness, hand, function, and fasteners.

1. **NOTE: Contractor shall make all submittals for finish hardware, doors, frames and related items simultaneously, only after proper review and coordination by own staff beforehand.**
 2. **Final Door Schedule Content:** Based on doors and frames in drawings, organize door schedule to indicate complete designations of every item required for each door or opening. Include the following information:
 - a. Type, style, hand, size and construction of each item.
 - b. Anchors and fastenings to related work.
 - c. Corner construction of knocked down frames.
 - d. Location of door and frame cross-referenced to indications on drawings both on floor plans and in hardware schedule.
 - e. Explanation of all abbreviations, symbols, codes, etc. contained in schedule.
 - f. Mounting locations for hardware.
 - g. Door construction and materials.
 - h. Gage and finish of all materials.
 3. **Shop Drawings:** Submit separate detail drawings, referenced to door schedule, showing size, hand, construction, fasteners, anchors and all other details pertinent to the fabrication of doors and frames for this project.
- 1.04 **APPROVAL OF SUBSTITUTIONS:**
- A. Manufacturers and model numbers specified herein are to establish a standard of quality. If products other than those specifically identified herein are to be considered for this Project, they must be submitted for approval of the Architect not less than ten (10) calendar days prior to receipt of General Bids.
 - B. Requests for approval of substitutions shall be in writing, accompanied by catalog cuts, technical information and physical samples.
 - C. Approval of substitutions shall only be valid when issued by Architect to all bidders in the form of Addendum.
- 1.05 **REFERENCES:**
- A. ANSI A115 Series: Standards for Steel Doors and Frames.
 - B. NFPA 80, NFPA 101.
 - C. Other applicable building and life safety codes.
 - D. Door and Hardware Institute: "Recommended Locations for Builder's Hardware.

- E. ANSI A117.1: American National Standard Providing Accessibility and Usability for Physically Handicapped People.
 - F. Other applicable industry standards.
- 1.06 PRODUCT PACKAGING AND HANDLING: - - - - -
- A. Tag each item or package separately, with identification related to final door schedule.
 - B. All doors shall be packaged in full cartons and securely banded.
 - C. Doors and frames shall be received by the contractor at the jobsite and handled in a manner so as not to be damaged. They shall be stored upright in a protected area on wood runners or skids and shall be covered with vented tarpaulins or plastic.
- 1.07 WARRANTY: Doors and frames specified for this Project shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of Substantial Completion of Project.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Doors shall be manufactured from commercial quality cold-rolled steel sheets. Exterior doors shall be A60 hot-dipped galvanized.
- B. Frames shall be manufactured from commercial quality cold-rolled steel sheets. Exterior frames shall be A60 hot-dipped galvanized.
- C. Steel shall conform to ASTM standards A366 or A620 and A568 (uncoated), ASTM A526 or A642 and A525 (galvanized).
- D. All doors and frames shall be chemically treated for paint adhesion and prime painted to meet performance requirements of ANSI A224.1.

2.02 DOOR FABRICATION:

- A. Interior doors shall be 1-3/4" thick, manufactured from two 18 gage steel sheets. A one piece resin-impregnated honeycomb core with sanded edges shall be securely bonded to both face sheets. Doors shall have mechanically interlocked vertical edges, flush face sheets, and hairline seam edges. The top and bottom of the door shall be closed flush by 16 gage steel channels (where concealed door bottoms are specified, bottom channel shall be reversed to allow insertion of door bottom into door web). At contractor option, in lieu of honeycomb cores, doors may be provided with a rigid polystyrene foam core, continuously bonded to the face sheets, and completely filling the door.

- B. Exterior doors shall be 1-3/4" thick, manufactured from two 16 gage galvanized steel sheets. The interior of the doors shall be completely filled with a foamed-in place polyurethane core, chemically bonded to all interior surfaces. Doors shall have mechanically interlocked vertical edges, flush face sheets, and hairline seam edges. The top and bottom of the door shall be closed flush by 16 gage steel channels (where concealed door bottoms are specified, bottom channel shall be reversed to allow insertion of door bottom into door web).
- C. All doors shall be handed type with factory preparation for all concealed or mortised Finish Hardware scheduled. Door closer reinforcements shall be provided for all doors whether scheduled to receive closer or not. Reinforce doors for all surface applied hardware.
- D. Non-handed doors, and/or filler plates for cutouts not required for scheduled hardware preparation shall NOT be acceptable.

2.03 FRAME FABRICATION:

- A. General: Frames shall be knocked down and field assembled type.
- B. Standard knockdown frames shall be manufactured from 16 gage steel sheets with 2" face and 5/8" integral stop. Jamb depth to be determined by wall thickness in accordance with the drawings. Supply appropriate anchors for wall construction.
- C. Drywall frames shall be manufactured from 16 gage steel sheets with 2" face and 5/8" integral stop and double back bend to grip the partition firmly without marring the wall surface. Jamb depth to be determined by wall thickness in accordance with the drawings. Provide adjustable plumb anchors to insure square and plumb installation. Supply standard floor anchors for bottom of each jamb.
- D. Prepare frames for all concealed or mortised hardware and reinforce for all surface applied hardware.
- E. Provide plaster guards for all hardware cutouts.
- F. Prepare frames to receive pneumatic type silencers: two for each pair frame, three for each single frame.

2.04 FIRE RATED ASSEMBLIES

- A. All labeled fire doors and frames shall be of a type tested in accordance with ANSI/UL-10b, ASTM E-152, NFPA-252, or UL-305, and shall provide the degree of fire protection, heat transmission, panic-loading capabilities, and/or smoke control as indicated on the label and required by the drawings.
- B. Labeled doors and frames shall bear the label of Underwriters Laboratories, Warnock Hersey, or Factory Mutual and shall meet all requirements of the labeling agencies current procedures and policies.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Doors and frames shall be assembled, installed, and erected plumb and in true alignment and in conformance with manufacturer's recommendations and final approved shop drawings. Preparation for surface applied hardware shall be performed on the jobsite. Frames shall be rigid and securely anchored in place. Doors shall be installed in a manner to achieve functional operation and appearance.
- B. Install hardware in compliance with manufactures requirements.

END OF SECTION

SECTION 08411

ALUMINUM-FRAMED STOREFRONTS

PART 1 - GENERAL

1.01 Summary

- A. Section Includes: Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.
 - 1. Types of Kawneer Aluminum Storefront Systems include:
 - a. Trifab® VG 451 Storefront System – 2" x 4-1/2" (50.8 x 114.3) nominal dimension; Non-Thermal; Front, Center, Screw Spline, Shear Block, Stick or Punched Opening Fabrication.
 - b. Trifab® VG 451T Storefront System – 2" x 4-1/2" (50.8 x 114.3) nominal dimension; Thermal; Front, Center, Back, Multi-Plane, Structural Silicone or Weatherseal Glazed (Type B); Screw Spline, Shear Block, Stick or Punched Opening Fabrication.
- B. Related Sections:
 - 1. Division 08 411 "Aluminum-Framed Entrances and Storefronts"
 - 2. Division 08810 "Glass"

1.02 References (Industry Standards)

1.03 System Description

- A. Storefront System Performance Requirements:
 - 1. Wind loads: Provide storefront system; include anchorage, capable of withstanding wind load design pressures of 18 lbs./sq. ft. inward and 24.1 lbs./sq. ft. outward. The design pressures are based on the IBC Building Code; 2003 Edition.
 - 2. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cfm/ft² at a static air pressure differential of 6.24 psf.
 - 3. Water Resistance: The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 8 psf (383 Pa) as defined in AAMA 501.
 - 4. Uniform Load: A static air design load of 20 psf (958 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
 - 5. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:
 - a. Glass to Exterior – 0.47 (low-e) or 0.61 (clear).
 - b. Glass to Center – 0.44 (low-e) or 0.61 (clear).
 - c. Glass to Interior – 0.41 (low-e) or 0.56 (clear).
 - 6. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
 - a. Glass to Exterior – 70_{frame} and 69_{glass} (low-e).
 - b. Glass to Center – 62_{frame} and 68_{glass} (low-e).
 - c. Glass to Interior – 56_{frame} and 67_{glass} (low-e).
 - 7. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
 - a. Glass to Exterior – 38 (STC) and 31 (OITC)
 - b. Glass to Center – 37 (STC) and 30 (OITC)
 - c. Glass to Interior – 38 (STC) and 30 (OITC)

1.04 Submittals

- A. General: Prepare, review, approve, and submit specified submittals in accordance with "Conditions of the Contract" and Submittals Sections. Product data, shop drawings, samples, and similar submittals are defined in "Conditions of the Contract."
- B. Quality Assurance/Control Submittals:
 - 1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics.

1.05 Warranty

- A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.
- B. Manufacturer's Product Warranty: Submit, for Owner's acceptance, manufacturer's warranty for storefront system as follows:
 - 1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by Kawneer.

1.06 Quality Assurance

- A. Qualifications:

1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.
 2. Manufacturer Qualifications: Manufacturer capable of providing structural calculations, applicable independent product test reports, installation instructions, a review of the application method, customer approval and periodic field service representation during construction.
 - B. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.
- 1.07 Delivery, Storage, and Handling
- A. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
 - B. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - C. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

PART 2 - PRODUCTS

2.01 Manufacturers (Acceptable Manufacturers/Products)

- A. Acceptable Manufacturers: Kawneer Company, Inc.
 1. Address: Kawneer Company, Inc.
555 Guthridge Court,
Technology Park/Atlanta,
Norcross, GA 30092
Telephone: 770 449 5555
Fax: 770 734 1560
 2. Proprietary Product(s)/System(s): Kawneer Aluminum Storefront Systems.
 - a. Kawneer Aluminum Storefront System
 - b. Series: Trifab® VG 451 (non-thermal) or Trifab® VG 451T (thermal) Storefront System
 - c. Framing Member Profile: 2" x 4-1/2" (50.8 x 114.3) nominal dimension; Front, Center, Back, Multi-Plane, Structural Silicone or Weatherseal Glazed (Type B); Screw Spline, Shear Block, Stick or Punched Opening Fabrication.
 - d. Finish/Color: (See 2.06 Finishes)
- B. Substitutions:
 1. General: Refer to Substitutions Section for procedures and submission requirements.
 - a. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
 - b. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid storefront installation and construction delays.
 2. Substitution Documentation
 - a. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
 - b. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacture and fabrication of aluminum storefront for a period of not less than ten (10) years.
 - c. Test Reports: Submit test reports verifying compliance with each test requirement required by the project.
 - d. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.
 3. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.02 Materials

- A. Aluminum (Framing and Components):
 1. Material Standard: ASTM B 221; 6063-T6 alloy and temper
 2. Member Wall Thickness: Each framing member shall provide structural strength to meet specified performance requirements.
 3. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.03 Accessories

- A. Fasteners: Where exposed, shall be Stainless Steel.
- B. Gaskets: Glazing gaskets shall be extruded EPDM rubber.
- C. Perimeter Anchors: Aluminum. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
- D. Thermal Barrier (Trifab® VG 451T):
 1. Kawneer IsoLock® Thermal Break with a 1/4" (6.4) separation consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum storefront sections.
 - a. Thermal Break shall be designed in accordance with AAMA TIR-A8 and tested in accordance with AAMA 505.

2.04 Related Materials

- A. Sealants: Refer to Joint Treatment (Sealants) Section.
- B. Glass: Refer to Glass and Glazing Section.

2.05 Fabrication

- A. General:
 - 1. Fabricate components per manufacturer's installation instructions and with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
 - 2. Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof.
 - 3. Prepare components to receive anchor devices. Fabricate anchors.
 - 4. Arrange fasteners and attachments to conceal from view.

2.06 Finishes

- A. Factory Finishing:
 - 1. Kawneer Permanodic® AA-M12C22A44, AAMA 611, Architectural Class I Color Anodic Coating (Color by Architect).
 - 2. Kawneer Permanodic® AA-M12C22A31, AAMA 611, Architectural Class II Clear Anodic Coating (Color #17 Clear) (Standard).

2.07 Source Quality Control

- A. Source Quality: Provide aluminum storefront specified herein from a single source.
 - 1. Building Enclosure System: When aluminum storefront is part of a building enclosure system, including entrances, entrance hardware, windows, curtain wall system and related products, provide building enclosure system products from a single source manufacturer.
- B. Fabrication Tolerances: Fabricate aluminum storefront in accordance with framing manufacturer's prescribed tolerances.

PART 3 - EXECUTION

3.01 Examination

- A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify openings are sized to receive storefront system and sill plate is level in accordance with manufacturer's acceptable tolerances.
 - 1. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

3.02 Installation

- A. General: Install framing system in accordance with manufacturer's instructions and AAMA storefront and entrance guide specifications manual.
 - 1. Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
 - 2. Weathertight Construction: Install sill members and other members in a bed of sealant or with joint filler or gaskets, to provide weathertight construction. Coordinate installation with wall flashings and other components of construction.
 - 3. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
 - 4. Provide alignment attachments and shims to permanently fasten system to building structure.
 - 5. Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.
- B. Related Products Installation Requirements:
 - 1. Sealants (Perimeter): Refer to Joint Treatment (Sealants) Section.
 - 2. Glass: Refer to Glass and Glazing Section.
 - a. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual.

3.03 Field Quality Control

- A. Field Tests: Architect shall select storefront units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies shall be corrected as part of the contract amount.
 - 1. Testing: Testing shall be performed by a qualified independent testing agency. Refer to Testing Section for payment of testing and testing requirements. Testing Standard per AAMA 503, including reference to ASTM E 783 for Air Infiltration Test and ASTM E 1105 Water Infiltration Test.
 - a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft², whichever is greater.
 - b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 6.24 psf (300 Pa).
- B. Manufacturer's Field Services: Upon Owner's written request, provide periodic site visit by manufacturer's field service representative.

3.04 Protection and Cleaning

- A. Protection: Protect installed product's finish surfaces from damage during construction. Protect aluminum storefront system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.

Peloton Building - 795 Congress Street - Portland, ME

- B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

END OF SECTION 08411

SECTION 08600
POLYVINYL CHLORIDE (PVC) WINDOWS
DOUBLE HUNG

PART 1 – GENERAL

1.1.1 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in text by basic designation only.

1.1.1 Federal Specifications (Fed. Spec.):

L-S-125B	Screening, Non-metallic, Insect
DD-G-45-1D	Glass, Float or Plate, Sheet

1.1.2 American Architectural Manufacturers Association (AAMA);

AAMA/NWWDA 101/I.S.2-97	Specifications for PolyVinyl Chloride (PVC) Windows
----------------------------	---

Test method for rate of Air Leakage through Exterior windows, Curtain walls and doors

Test method for Structural Performance of Exterior Windows, Curtain walls and doors

Test method for Water Penetration of Exterior windows, Curtain walls and doors by Uniform Static Air Pressure Difference

Specifications for Sealed Insulating Glass Units
AAMA 1503-98 Voluntary test method for Condensation Resistance of Windows, Doors, and Glazed wall sections

AAMA 1503-98	Voluntary test method of Thermal Transmittance of Windows, Doors, and Glazed wall sections
--------------	--

1.1.3 American Architectural Manufacturers Association (AAMA) Certification Program for Vinyl Windows

1.2 SUBMITTALS: Submit to Contracting Officer for Approval.

1.2.1 Certified Test Reports: Submit for air infiltration, water resistance, and uniform loading in accordance with the above referenced specification.

1.2.2 Catalog Data: Shall describe each type of window, hardware, fastener, accessory, operator, screen, and finish. Submit color chart of factory finished color.

- 1.2.3 Certification of Compliance: Submit certificates that identical windows have been successfully tested and meet the requirements specified herein for air infiltration and water penetration.
- 1.2.4 DELIVERY AND STORAGE: Deliver windows to project site in an undamaged condition. Use care in handling and hoisting during transportation and at the job site. Store windows and components out of contact with the ground, under a watertight covering, so as to prevent damage to the windows. Damaged windows shall be repaired to an "as new" condition as approved. If windows cannot be repaired, a new unit shall be provided.
- 1.2.5 PROTECTION: Finished surfaces shall be protected during shipping and handling using manufacturer's standard method.
- 1.2.6 CERTIFICATION: Window units shall be tested and certified for performance with the above referenced test methods. All window units shall bear sticker certifying conformance with AAMA/NWWDA 101/I.S.2-97, AAMA 1503-98 and Energy Star.
- 1.3 CERTIFIED FABRICATOR: Windows shall be fabricated by an AAMA Certified Fabricator.
- 1.7 WARRANTIES:
 - 1.7.1 Windows shall be fully warranted against any defects in material or workmanship under normal use and service for a period of 20 years from date of acceptance on commercial projects and lifetime warranty to original homeowner on residential projects. 5 years factory labor included.
 - 1.7.2 PVC finish shall be warranted against chipping, peeling, cracking, or blistering for a period of 20 years from date of acceptance.
 - 1.7.3 Insulated Glass Units shall be fully warranted against visual obstruction resulting from film formation or moisture collection between the interior glass surface, excluding breakage, for a period of 20 years from date of acceptance on commercial projects and lifetime warranty to original homeowner on residential projects. 5 years factory labor included.
 - 1.7.4 Contractor shall provide a written service warranty that clearly spells out how requests for service shall be handled, by whom, under whose responsibility and shall include the time frame for handling these service requests. A labor warranty providing service on the windows shall cover a period of not less than 10 years, and shall be provided in writing. A copy of the product and labor warranty must accompany other applicable warranties and be presented with bid.
- 1.8 PERFORMANCE REQUIREMENTS: Thermopane double Glazed Low E² insulating glass standard on new construction series, Argon filled.
 - 1.8.1 Test for air infiltration shall be in accordance with AAMA/NWWDA 101/I.S.2-97. On a test, the air rate shall not be greater than 0.1 cfm per square foot of sash.

Peloton Building - 795 Congress Street - Portland, ME

- 1.8.2 Test for water penetration shall be in accordance with AAMA/NWWDA 101/I.S.2-97 under a static pressure difference of 5.25 psf
- 1.8.3 Test for Thermal Performance shall be in accordance with AAMA 1503-98 the thermal transmittance due to conduction shall not exceed 0.33 BTU/HR/FT²/F
- 1.8.4 Test for Condensation Resistance Factor (CRF) shall be in accordance with AAMA 1502.7 the CRF shall not exceed 65.
- 1.8.5 Uniform Load Structural Test, with the window closed and locked, shall be in accordance with AAMA/NWWDA 101/I.S.2-97 On a test at a static pressure difference of 90 psf* with first the exterior (positive) pressure applied and then the interior (negative) pressure applied.
- 1.8.6 Solar Heat Gain Coefficient: 0.61
- 1.8.7 U-Factor: 0.30.

PART 2 – PRODUCTS

- 2.1 MATERIALS: Prime windows shall conform to the requirements of specifications listed above. Provide windows of combinations, types and sizes indicated or specified. Each window shall consist of a unit including sub-frame, frame, sash, hardware, mullions, trim, casing, insect screen, and fasteners complete. Window units shall be prime windows of the type specified. Dimensions shown are minimum.
 - 2.1.1 Double-Hung Windows Extruded PVC units, produced from commercial quality virgin powder dry blend UPVC (unpalsticised polyvinyl chloride), conforms to Grade H-R 35** of ASTM D – 4099 from sections in one piece, straight, true and smooth. Provide multi-chambered PVC extruded frames and sash in accordance with the manufacturers standard practice. Make fusion welded frame joints strong enough to develop full strength of members, with a wall thickness of .070 ". Head and jamb members shall have integral screen stops. Make interior horizontal top surfaces of both meeting rails flat and in the same plane. Meeting rails have an integral interlock with two lines of pile weatherstrip provided. Upper and lower sash shall have the same glass size. Sash shall have fusion welded mitered corners with a wall thickness of .070". **Double Hung window standard is Paradigm Standard Double Hung Window manufactured by Paradigm Window Solutions, Portland, ME 04103.**
 - * As tested in 36x60 window unit, 75 psf as tested in 44x60 window unit.
 - * As tested in both 36x60 and 44x60 window units.
 - 2.1.1.1 Balance Mechanism (DH): Provide two stainless steel, 1/2" thickness constant force coil spring balances for each sash. Enclose balance springs in rustproof cases, with jamb liner covers, from the top of the bottom sash to the head of the window unit. Balance covers shall be finished to match window frame finish and easily removable for field service. Balances shall also have an

interlocking Pivot Bar, for integral frame alignment with sash for keeping window frames straight and true during installation.

- 2.1.1.2 Locking Device (DH): Provide each window over 32 inches in width with two cam-action sweep sash locks, and windows under 30 inches in width with one lock. The lower sash shall have one continuous, integral lift rail at the bottom of the sash. The upper sash shall have a continuous, integral pull-down member on the sash top rail. Provide two tilt latches in the top of each sash for tilting in sash for cleaning. The tilt latches shall be integrally mortised into the sash top rails for a clean appearance.
- 2.1.2 Glass and Glazing: Pilkington Energy Advantage low e with a unit u-value of 0.34, unit SHGC of 0.61, and VLT of 0.57 (with argon). Sash shall be in factory glazed $\frac{3}{4}$ " insulating glass conforming to ASTM-E-774 with TruSeal Swiggle seal spacer, manufactured by TruSeal Industries Inc., Cleveland, OH 44122. Glazing shall be integral glazing type system with architectural back bedded glazing tape and designed to maintain a watertight seal between glass and sash frame.
- 2.1.3 Caulking and Sealing: As specified or recommended by window manufacturer.
- 2.1.4 Weather-stripping: All sash units shall be triple weather-stripped where the sash meet the jamb using silicone treated pile with a mylar center fin bonded to backing.
- 2.1.5 Insect Screening: Fed. Spec. L-S-125, Type II, Class 2 (plastic coated or impregnated fibrous glass yarn) of standard color as approved, mesh 18 X 16
- 2.1.6 Color – selected by Architect from manufacturer's standard colors.
- 2.2 FABRICATION
 - 2.2.1 Weathering Surfaces: All frame members shall be multi-chambered PVC extrusions utilizing double wall design without the need for reinforcement. Frame corners shall be fusion welded. Sash members shall be multi-chambered PVC extrusions utilizing double wall design at all glazing locations. Horizontal sash members shall be mitered and fusion welded to vertical sash members.
 - 2.2.2 Drips and Weep Holes: Provided as required to return water to the outside.
 - 2.2.3 Glazing Thickness: Design glazed windows and rabbets suitable for glass thickness specified above.
 - 2.2.4 Fasteners: All fasteners are to be stainless steel type, corrosion resistance. Use flathead, cross-recessed type, exposed head screws with standard threads on windows, trim, and accessories. Screw heads shall finish flush with adjoining surfaces. Self-tapping sheetmetal screws are not acceptable for material more than 1/16 inch in thickness. All sheetmetal screw fasteners shall

penetrate into a screw boss consisting of at least three layers of PVC profile for secure fastening and reduce pull out.

- 2.2.5 Provisions for Glazing: Design sash for outside double-glazing and for securing glass with manufacturer's standard glazing systems. Provide glazing channels of adequate size and depth to receive and properly support the glass and glazing accessories.
- 2.2.6 Accessories: Provide windows complete with necessary hardware, fastenings, clips, fins, anchors, glazing beads, and other appurtenances necessary for complete installation and proper operation.
- 2.2.7 Weather-stripping: Provide for ventilating sections of all windows to insure a weathertight seal meeting the infiltration tests specified herein. Use easily replaceable factory applied weather-stripping of manufacturer's stock type, as specified above. Use EPDM covered open cell foam weatherstrip for compression contact between the sill and the sash. For sliding surfaces, use silicone treated pile, with a mylar center fin bonded to a plastic-backing strip. Do not use neoprene or polyvinylchloride weather-stripping where they will be exposed to direct sunlight.
- 2.2.8 Finishes: Exposed surfaces shall be factory finished. All windows for each building shall have same finish.
- 2.2.9 Screens: Provide one insect screen for each operable ventilating unit. Design screens to fit closely around entire perimeter of each ventilator or opening, to be rewirable, easily removable from inside building, and interchangeable for same size ventilators of similar type windows, with no exposed fasteners and latches. Provide all guides, stops, clips, bolts and screws as necessary, for a secure and insect tight attachment to window. Provide continuous extruded aluminum screen frame for screen strength, and a center tie bar on taller units to prevent frame compression.
 - 2.2.9.1 Screen Frames: Provide same quality and color finish as the window units. Frames shall have extruded sections not less than .4375" by 1.25" by 0.050 inch thick and shall have removable vinyl splines. hardware, attachment devices, and accessories shall be manufacturer's standard and of same quality, material and finish as hardware of window unit.
 - 2.2.9.2 Screening: Install screening with weave parallel to frame and stretch sufficiently to present a smooth appearance. Conceal edges of screening in the spline channel.

PART 3 – EXECUTION

3.1 INSTALLATION

- 3.1.1 Method of Installation: Install in strict accordance with the window manufacturer's printed instructions and details, except as specified otherwise herein. Install windows without forcing into prepared window openings. Insulate perimeter of window frame with acceptable approved

insulation material, as recommended by window manufacturer. Set windows at proper elevation, location, and reveal; plumb, square, level, and in alignment; and brace, strut, and stay properly to prevent distortion and misalignment. Protect ventilators and operating parts against accumulation of dirt, and building materials by keeping ventilators tightly closed and locked to frame. Bed screws in sill members, joints at mullions, contacts of windows with sills, built in fins, and sub-frames in approved sealant. Install windows in a manner that will prevent entrance of water. Provide sill angle flashed in sealant at windowsills.

- 3.1.2 Anchors and Fasteners: Make ample provision for securing units to each other, and to adjoining construction. Contractor to prepare window for jamb screen installation.
- 3.1.3 Adjustments after Installation: After installation of windows adjust all ventilators and hardware to operate smoothly and to provide weathertight sealing when ventilators are closed and locked. Lubricate hardware and operating parts as necessary.
- 3.1.4 Protection: Where surfaces are in contact with, or fastened to wood, or dissimilar materials, the surface shall be protected from dissimilar materials as recommended by the manufacturer. Surfaces in contact with sealant after installation shall not be coated with any type of protective material.
- 3.2 CLEANING: Clean interior and exterior of window units of mortar, plaster, paint spattering spots, sealants, and other foreign matter to present a neat clean appearance and to prevent fouling of weather-stripping surfaces and weather-stripping, and to prevent interference with the operation of hardware. Replace with new windows all stained, discolored, or abraded windows that can not be restored to their original condition.

END OF SECTION

SECTION 08810

GLASS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Insulating glass units.
- B. Glazing accessories.

1.2 RELATED SECTIONS

- A. Section 07900 - Joint Sealers.
- B. Section 08410 - Metal-Framed Storefronts.

1.3 REFERENCES

- A. ANSI Z97.1 - American National Standard for Glazing Materials Used in Buildings -- Safety Performance Specifications and Methods of Test.
- B. ASTM C 162 - Standard Terminology of Glass and Glass Products.
- C. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
- D. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
- E. ASTM E 2188 - Standard Test Method for Insulating Glass Unit Performance.
- F. ASTM E 2189 - Standard Test Method for Testing Resistance to Fogging in Insulating Glass Units.
- G. ASTM E 2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
- H. GANA (GM) - FGMA Glazing Manual; Glass Association of North America.
- I. GANA (SM) - FGMA Sealant Manual; Glass Association of North America.

1.4 DEFINITIONS

- A. Sealed Insulating Glass Unit Surfaces:
 - 1. Side 1 - Exterior surface of outer pane.
 - 2. Side 2 - Interior surface of outer pane.
 - 3. Side 3 - Interior surface of inner pane.
 - 4. Side 4 - Exterior surface of inner pane.

1.5 SYSTEM DESCRIPTION

- A. Design requirements:
 - 1. Limit glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.

Peloton Building - 795 Congress Street - Portland, ME

1.6 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Selection Samples: For each finish product specified, two complete sets of color samples representing manufacturer's full range of available colors and patterns.
- D. Verification Samples:
 - 1. Sealed Insulating Glass Units: One 12 inch by 12 inch samples representative of unit construction.
- E. Certificates: Product certificates signed by the manufacturer certifying material compliance with specified performance characteristics and criteria, and physical requirements.
- F. Warranty documents specified herein.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Flat Glass Materials: Minimum five years documented experience producing glass products specified this section.
- B. Fabricator, Sealed Insulating Glass Units: Minimum five years documented experience producing sealed insulating glass units specified this section.
- C. Installer Qualifications: Minimum five years documented experience installing products specified in this section, and approved by fabricator.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Environmental Requirements: Installation of glass products at ambient air temperature below 50 degrees F is prohibited.
- C. Field Measurements: When construction schedule permits, verify field measurements with drawing dimensions prior to fabrication of glass products.

1.10 WARRANTY

- A. Provide ten year warranty to include replacement of sealed glass units exhibiting seal failure, interpane dusting or misting.

Peloton Building - 795 Congress Street - Portland, ME

- B. Provide ten year warranty to include replacement for laminated glass exhibiting delamination.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Pilkington, which is located at: 811 Madison Ave. P. O. Box 799 ; Toledo, OH 43697-0799; Toll Free Tel: 800-221-0444; Tel: 419-247-3731; Email: [request info \(building.products@us.pilkington.com\)](mailto:request info (building.products@us.pilkington.com)); Web: www.pilkington.com/sunmanagement
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MATERIALS

- A. Clear Uncoated Float Glass:
 - 1. Acceptable Product: Pilkington North America Inc. Clear Float Glass.
 - 2. Description: Annealed clear float glass meeting requirements of ASTM C 1036, Type 1, Class 1, Quality q3.
 - 3. Minimum Glass Thickness: 1/4 inch.
- B. Low-Emissivity Coated Float Glass:
 - 1. Acceptable Product: Pilkington Energy Advantage Low-E Glass.
 - 2. Description: Annealed clear coated float glass meeting requirements of ASTM C 1036, Type 1, Class 1, Quality q3; with pyrolytic coating meeting the requirements of ASTM C 1376 "Specification for Pyrolytic and Vacuum Deposition Coatings on Glass"
 - 3. Minimum Glass Thickness: 1/4 inch.
- C. Setting Blocks: ASTM C 864, neoprene, 80 to 90 Shore A durometer hardness; length 4 inches, width of glazing rabbet space less 1/16 inch (1.5 mm), height required for glazing method, pane weight, and pane area.
- D. Spacer Shims: ASTM C 864, neoprene, 50 to 60 Shore A durometer hardness; length 3 inches, one half height of glazing stop, thickness required for application, one face self-adhesive.
- E. Glazing Tape: Butyl compound tape with integral resilient tube spacer, 10 to 15 Shore A durometer hardness, black color, coiled on release paper; widths required for specified installation.
- F. Glazing Tape: Closed cell polyvinyl chloride foam, maximum water absorption by volume 2 percent, designed for 25 percent compression percent for air barrier and vapor retarder seal, black color, coiled on release paper over adhesive on two sides; widths required for specified installation.
- G. Glazing Splines: ASTM C 864, resilient polyvinyl chloride, extruded shape to fit glazing channel retaining slot; black color.
- H. Glazing Gaskets: ASTM C 864, resilient polyvinyl chloride, extruded shape to fit glazing channel retaining slot; black color.
- I. Glazing Clips: Manufacturer's standard type.
- J. Sealants: Specified in Section 07900.

Peloton Building - 795 Congress Street - Portland, ME

- K. Silicone Polyester Enamel: Type recommended by flat glass materials manufacturer; color selected by Architect.

2.3 FABRICATION

- A. Sealed Insulating Glass Units:
 - 1. Fabricate units in accordance with ASTM E 2190 Standard Specification for Insulating Glass Unit Performance and Evaluation with components and performance characteristics specified in SCHEDULES Article of this section.
 - 2. Insulating Glass Components:
 - a. Outer Pane:
 - 1) Glass Type: Opti Float.
 - 2) Glass Color: Clear.
 - 3) Glass Thickness: 1/4 inch.
 - 4) Heat Treating: Heat strengthened.
 - 5) Heat Treating: Fully tempered.
 - b. Air Space: 1/2 inch wide, hermetically sealed, argon gas filled, dehydrated air space.
 - c. Inner Pane:
 - 1) Glass Type: Energy Advantage.
 - 2) Glass Color: Clear.
 - 3) Glass Thickness: 1/4 inch.
 - 4) Heat Treating: Heat strengthened.
 - 5) Heat Treating: Fully tempered.
 - 6) Coating: Surface 3.
 - 3. Provide unit edge seals meeting requirements of ASTM E 773, with aluminum spacers having mitered and corners, and silicone sealant for glass-to-spacer seals.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that openings for glazing are correct size and within tolerance.
- B. Verify that glazing channels and recesses are clean and free of obstructions, that weeps are clear, and that channels and recesses are ready for glazing.

3.2 PREPARATION

- A. Clean contact surfaces to receive sealant with solvent; wipe dry.
- B. Seal porous glazing channels and recesses with primer or sealer compatible with substrate.
- C. Prime surfaces to receive sealant in accordance with sealant manufacturer's instructions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install sealants in accordance with Section 07900.
- C. Install sealants in accordance with sealant manufacturers' instructions.

Peloton Building - 795 Congress Street - Portland, ME

3.4 CLEANING

- A. Remove glazing materials from finish surfaces.
- B. Remove labels after glass installation is complete.
- C. Clean glass surfaces and adjacent surfaces.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 09250

GYPSUM BOARD

1. GENERAL

1.1 REFERENCES:

- A. Drawings and general provisions of Contract, including General Conditions and Division 1 specifications, apply to work in this section.
- B. NOTE: Selection of Finish colors and patterns in overall color scheme to be made by Architect. Contractor to notify Architect prior to commencing Gypsum Board work, to allow adequate time for color selections, Owner's approval and material ordering lead time.

1.2 DESCRIPTION OF WORK: The extent of work shall be as shown on Drawings and called for in these Specifications. Performance shall meet the requirements of these Specifications. The work covered by this section of Specifications consists of the following:

- A. Drywall installation as required by Drawings and noted in these Specifications.
- B. Taping and finishing all walls and ceilings, except where other kind of finish is specified.

2. PRODUCTS

- 2.1 NOTE: GWP types are shown as U.S.G. brand names "Sheetrock", "Firecode", "Firecode C", "M.R. Board" and "Shaftwall". Substitutions must have equal U.L. and STC ratings. See Drawings for Specific assembly.
- 2.2 EXTERIOR & INTERIOR WALLS: See rated & non rated assemblies and wall types on the drawings. Interior Panels 5/8 inch thickness installed per manufactures recommendations with screw application.

3. EXECUTION

- 3.1 THE DRYWALL CONTRACTOR shall inspect all areas affected by his work to ascertain that all work is complete and has been accepted. Defective installations shall be corrected before finished surfaces are painted or sprayed with acoustical material.
- 3.2 DRYWALL INSTALLATION. Install drywall as shown on plans, noted in the UL Specifications, and as set forth in U.S.G. Handbook. Installation of non-UL rated drywall assemblies on steel studs shall comply with the following minimum requirements:

- A. Spacing for attachment members shall not exceed 24" o.c. for walls and 16" o.c. for ceilings. All drywall shall be screwed with approved drywall screws made specifically for the purpose and of length adequate for wall types. On walls, screws shall not be placed more than 16" apart for 16" o.c. framing or 12" apart for 24" o.c. framing. Screw all edges 12" o.c. maximum. See Structural Drawings S3.2 and S3.3 for shear walls sheathing attachment.
 - B. The drywall contractor may use a few drywall nails to temporarily secure a sheet of drywall before securing with drywall screws. In this event, the drywall nails must be countersunk prior to taping. Corner beads shall be used on all corners and casing beads used whenever Gypsum Board abuts dissimilar material. Caulking to also be applied at these junctions. At all party and unit/corridor walls, Gypsum Board to be set in caulking (for sound).
 - C. Drywall shall be laid vertically. No tapered joints at floor base. See Structural Drawings for shear walls.
- 3.3 ON SURFACES TO BE PAINTED: tape and cement all joints and screw locations with three coats of compound, then sand to smooth finish, acceptable to paint.
- 3.4 DURING WORK PROGRESS, remove all excess materials and debris resulting from operations, which may disrupt the work of other trades, and after completion leave the premises broom clean.

END OF SECTION

SECTION 09300

TILE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Glazed Wall Tile.
- B. Cementitious backer board.
- C. Waterproofing.
- D. Crack Isolation.

1.2 RELATED SECTIONS

- A. Section 07920 - Joint Sealant.

1.3 REFERENCES

- A. ANSI A108.1A, 1999 - Specifications for Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar.
- B. ANSI A108.10, 1999 - Specifications for Installation of Grout in Tilework.
- C. ANSI A118.6, 1999 - Standard Ceramic Tile Grouts.
- D. ANSI A118.9, 1999 - Test Methods and Specifications for Cementitious Backer Units
- E. ANSI A118.10, 1999 - Load bearing, Bonded, Waterproof Membranes for Thinset Ceramic Tile and Dimensional Stone.
- F. ANSI A118.11, 1999 - Exterior Grade Plywood (EGP) Latex-Portland Cement Mortar.
- G. ANSI A137.1, 1988 - Specifications for Ceramic Tile.
- H. ASTM C50 - Standard Specification for Portland Cement.
- I. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
- J. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- K. TCA (HB) - Handbook for Ceramic Tile Installation; Tile Council of America, Inc.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints,

thresholds, ceramic accessories, and setting details.

- D. Manufacturer's Certificate:
 - 1. Certify that products meet or exceed specified requirements.
 - 2. For each shipment, type and composition of tile provide a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1.
- E. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.5 QUALITY ASSURANCE

- A. Maintain one copy each of all Referenced standards and specifications on site. Include the TCA Handbook, ANSI A108 Series, ANSI A118 Series ANSI A136.1 and ANSI A137.1 and others as specified under paragraph References.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years experience.
- C. Single Source Responsibility:
 - 1. Obtain each type and color of tile from a single source.
 - 2. Obtain each type and color of mortar, adhesive and grout from the same source.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging until ready for installation.
- B. Protect adhesives and liquid additives from freezing or overheating in accordance with manufacturer's instructions.
- C. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

1.8 EXTRA MATERIALS

- A. Provide 25 sq ft of each size, color, and surface finish of tile specified.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: DalTile Corporation, which is located at: 7834 C.F. Hawn Fwy. P. O. Box 170130 ; Dallas, TX 75217; Toll Free Tel: 800-933-TILE; Tel: 214-398-1411; Email: [request info \(mari.anne.wohlfeil@daltile.com\)](mailto:request info (mari.anne.wohlfeil@daltile.com)); Web: www.daltileproducts.com
- B. Substitutions: Not permitted.

2.2 TILE

- A. General: Provide tile that complies with ANSI A137.1 for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the Drawings and the end of this Section. Tile shall also be provided in accordance with the following:
1. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.
 2. Mounting: For factory mounted tile, provide back or edge mounted tile assemblies as standard with the manufacturer, unless otherwise specified.
 3. Factory Applied Temporary Protective Coatings: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with a continuous film of petroleum paraffin wax applied hot. Do not coat unexposed tile surfaces.
- B. Wall Tile: ANSI A137.1, and as follows:
1. Product: Daltile Reflective Elements.
 2. Moisture Absorption: Less than 20.0 percent.
 3. Size and Shape: 12 x 24 Field Tile (11-3/4 inch by 23 5/8 inch).
 4. Edges: Square.
 5. Surface Finish: Semi-gloss.
 6. Colors: P672 "Graphite".
 7. Pattern: Running Bond.
 8. Trim Units: Matching bead, bullnose, cove, and base shapes in sizes coordinated with field tile.

2.3 SETTING MATERIALS

- A. Mortar Bed Materials:
1. Portland cement: ASTM C150, type 1, gray or white.
 2. Hydrated Lime: ASTM C207, Type S.
 3. Sand: ASTM C144, fine.
 4. Latex additive: As approved.
 5. Water: Clean and potable.
- B. Mortar Bond Coat Materials:
1. Dry-Set Portland Cement type: ANSI A118.1.
 2. Latex-Portland Cement type: ANSI A118.4.
 3. Epoxy: ANSI A118.3, 100 percent solids.
- C. Standard Grout: Cement grout, sanded or unsanded, as specified in ANSI A118.6; color as selected.
- D. Cleavage Membrane:
1. No. 15 (6.9 kg) asphalt saturated felt, ASTM D226, Type 1.
 2. Polyethylene film, ASTM D4397, 4.0 mil thickness.
- E. Cementitious Backer Board: ANSI A118.9; High density, cementitious, glass fiber reinforced with 2 inch (50 mm) wide coated glass fiber tape for joints and corners:
1. Thickness: 5/8 inch (16 mm).

PART 3 EXECUTION

3.1 EXAMINATION

Peloton Building - 795 Congress Street - Portland, ME

- A. Verify that wall surfaces are free of substances which would impair bonding of setting materials, smooth and flat within tolerances specified in ANSI A137.1, and are ready to receive tile.

3.2 PREPARATION

- A. Protect surrounding work from damage.
- B. Remove any curing compounds or other contaminants.
- C. Vacuum clean surfaces and damp clean.
- D. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- E. Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.
- F. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.3 INSTALLATION - GENERAL

- A. Install tile and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations.
- B. Lay tile to pattern indicated. Arrange pattern so that a full tile or joint is centered on each wall and that no tile less than 1/2 width is used. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
- E. Form internal angles square and external angles bullnosed.
- F. Sound tile after setting. Replace hollow sounding units.
- G. Keep expansion joints free of adhesive or grout. Apply sealant to joints.
- H. Allow tile to set for a minimum of 48 hours prior to grouting.
- I. Grout tile joints. Use standard grout unless otherwise indicated.
- J. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.4 INSTALLATION - WALL TILE

- A. Over cementitious backer units on studs, install in accordance with TCA Handbook Method W244.

3.5 CLEANING

Peloton Building - 795 Congress Street - Portland, ME

- A. Clean tile and grout surfaces.

END OF SECTION

SECTION 09520

ACOUSTICAL CLOUDS & WALLS

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acoustical Clouds:
 - 1. Armstrong World Industries, Inc.
- B. Attachment devices:
 - 1. Armstrong World Industries, Inc.

2.2.1 ACOUSTICAL CLOUD UNITS

- A. Acoustical Cloud:
 - 1. Surface Texture: Smooth
 - 2. Composition: Fiberglass
 - 3. Surface finish: DuraBrite acoustically transparent membrane on front and edges
 - 4. Color: (White) (Shell) (Pale Lemon) (Pecan) (Sky) (Moss) (Stone) (Reef) (Lagoon) (Plum) (Cranberry) (Kiwi) (Tangerine) (Black) (Custom Colors available through Architectural Specialties) (Stainless Steel available through Architectural Specialties)
 - 5. Shapes: Standard
 - a. Nominal 4 foot x 4 foot Shapes
 - 1. Convex, Item #5441
 - 2. Concave, Item #5442
 - 3. Circle, Item #5443
 - 6. Thickness: 7/8 inch
 - 7. Edge Detail: Square edge
 - 8. Flame Spread: (ASTM E 84), Class A
 - 9. Light Reflectance: (LR): (ASTM E 1477), White: 0.90
 - 10. Acoustical Absorption: (ASTM C423), [White: Minimum 1.17 Sabins/sf] [Colors: Minimum 1.00 Sabins/sf]
 - 11. Recycle Content: Minimum 35%
 - 12. Antimicrobial protection: Inherent - Resists the growth of mold/mildew and bacterial growth.
 - 13. Sustainability: The panels are eligible for reclamation.

2.2.2 ATTACHMENT SYSTEMS

- A. Installation Hardware Kits for (individual suspension) (direct attachment to drywall) (group suspension):
 - 1. 5450 – Deck Hanging Kit
 - 2. 5451 – Grouping Frames
 - 3. 5452 – Frame Splice Kit
 - 4. 5453 – Frame Alignment Kit
 - 5. 5454 – Panel Hook Kit
 - 6. 5455 – Drywall Hanging Kit
 - 7. 625530 – Extended Hanging Cables
 - 8. 7006 – Escutcheon Kit
 - 9. 5438 – Angled Deck Hanging Kit

Peloton Building - 795 Congress Street - Portland, ME

10. 5588 – Wall Hanging Kit
11. 5632 – Grid Hook Kit
12. Multi-plane Hanging Kit
 - a. 5629 – 1" Drop Hook Kit
 - b. 5630 – 2" Drop Hook Kit
 - c. 5631 – 3" Drop Hook Kit

Peter Bass 'Kraunhall

SOUNDSCAPES® Shapes

Acoustical Clouds and Walls

Color TBD

Recycled Content: 82%		armstrong.com/greengenie			
LEED® Credits					
Energy	Waste Mgmt	Recycled Content	Local Materials	Renewable Materials	Daylight & Views
✓	✓	✓	✓		✓
Location Dependent					
LEED for Schools					
		Acoustics	Low Emitting or CHPS		
		✓	✓		

Colors

White (WH)
Shell (SH)
Pale Lemon (LM)
Pecan (PC)













Sky (SK)
Moss (MS)
Stone (SE)
Reef (RE)

Lagoon (LA)
Plum (PM)
Cranberry (CN)
Kiwi (KW)

Tangerine (TG)
Black (BK)

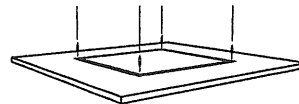
Visual Selection

Suspension Options

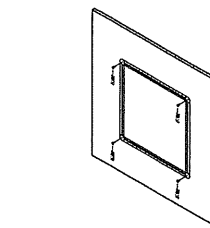
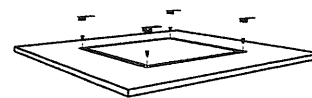
Item Number*		Description	Dimensions*
SOUNDSCAPES Shapes			
5440__		Square	Nominal 4' x 4' x 7/8"
5441__		Convex	Nominal 4' x 4' x 7/8"
5442__		Concave	Nominal 4' x 4' x 7/8"
5443__		Circle	Nominal 4' x 4' x 7/8"
5444__		Hexagon	Nominal 4' x 4' x 7/8"
5445__		Trapezoid	Nominal 4' x 4' x 7/8"
 5635__		Square – 6" radius cut corner	Nominal 4' x 4' x 7/8"
 5636__		Square – 6" square cut corner	Nominal 4' x 4' x 7/8"
5448__		Small Rectangle	Nominal 4' x 6' x 7/8"
5449__		Large Rectangle	Nominal 4' x 8' x 7/8"

- * Add 2-letter color suffix to item number when specifying or ordering. (Ex: 5440WH for square panel in White)
- * Exact dimensions for each shape are shown on page 1 inside.

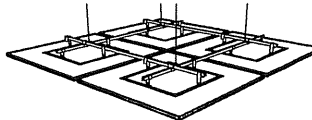
1. Individual Suspension (See page 5 inside)



2. Individual Attachment to Drywall (or a solid surface) (See page 5 inside)



3. Group Suspension (See page 6 inside)



Physical Data

Material

7/8" thick Fiberglass with DuraBrite® scrim on face and sides

Surface Finish

DuraBrite with factory-applied paint on face and sides. Standard White has energy-saving, high light-reflective finish (LR 0.90). Back of panel is unfinished with embedded metal extrusions.

Panel Weight

0.63 lbs/SF

Design Considerations

SoundScapes Shapes maintain a natural sag that may not be noticeable when installed 6" or less apart. Deflection up to 1/8" has been documented in some cases.

Special care in installation and handling must be taken with color shapes to avoid surface damage to the paint finish. Custom colors are available. Contact Architectural Specialties with a Sherwin-Williams color code from the Durations or Harmony flat interior paint families (Code SW ____)

Custom shapes are available by providing a custom shape drawing within guidelines for creating a custom shape on page 2 to Architectural Specialties at 1 877 ARMSTRONG, and select options 1-1-4.

Fire Performance

SoundScapes Shapes panel material is ASTM E84 Class A: Flame Spread 25 or under and Smoke Developed 50 or less.

SoundScapes Shapes, as with other architectural features located in the ceiling plane, may obstruct or skew the existing or planned fire sprinkler water distribution pattern, or possibly delay the activation of the fire sprinkler or fire detection system. Consult a fire protection engineer, NFPA 13, and local codes for guidance on the proper installation techniques where fire detection or suppression systems are present.

ASTM E1264 Classification

Type XII, Form 2, Pattern E

Acoustical Performance

SoundScapes Shapes offer excellent sound absorption. They provide greater sound absorption than a continuous ceiling of the same area because sound is absorbed from front and back surfaces. Color shapes have slightly reduced acoustical performance. See data page CS-3867 for details.

Seismic Restraint*

The International Building Code allows architectural components to swing freely as long as they will not be damaged or cause damage. Shapes suspended individually with aircraft cable will swing no more than 18" in any direction for each panel. Shapes directly attached to drywall or suspended in group systems have been engineered for application in all seismic areas.

* Pendulum reaction information is based on full-scale testing and computer modeling conducted at the Structural Engineering Earthquake Simulation Lab located at the State University of New York at Buffalo.

Recommended Suspension Systems

SoundScapes Shapes are pre-assembled with metal extrusions in the back of the panels. Standard accessory kits facilitate quick and easy installation from the deck, through a ceiling or directly attached to drywall. See Installation Instructions LA-297302 for installation details.

Warranty

One (1) year limited warranty. Details: armstrong.com/warranty.

SECTION 09650

RESILIENT FLOORING AND VINYL BASE

1. GENERAL:

1.1 REFERENCES: Drawings and general provisions of Contract, including General Conditions and Division 1 specifications, apply to work in this section.

1.2 DESCRIPTION OF WORK

- A. SCOPE: The extent of work shall be as shown on Drawings and called for in these Specifications. Performance shall meet the requirements of these Specifications. The work covered by this section of Specifications consists of the following:
- B. Extent of Vinyl Composition Tile Flooring and Vinyl Base as shown on the drawings.

1.3 SUBMITTALS

- A. Submittals under this Section shall include:
 - 1. Manufacturers' data and installation instructions on all specified products;
 - 2. Color range;
 - 3. Samples of vinyl composition tile flooring and vinyl base
 - 4. Shop drawings indicating materials, pattern number, tile number, and manufacturer.

2. PRODUCTS:

2.1 VINYL COMPOSITION TILE: VCT-1 shall be "Armstrong Excelon Stonetex".

2.2 VINYL BASE MOLDING – B-1 shall be Johnsonite Cover Base 4", 1/8 gauge. Submit color for Architect's approval. See Architectural Drawings for locations.

2.3 ADHESIVES: shall be as recommended by the manufacturer.

3. EXECUTION:

3.1 INSTALLATION shall be done by skilled craftsmen using the adhesives recommended by the manufacturer and in accordance with the manufacturer's instructions. The flooring contractor shall examine the subfloors and report all defects which have to be corrected before the application of flooring starts. Concrete floors shall be smooth, free of any grooves and depressions, and brushed clean of any foreign matter. Install all resilient flooring with joints tight, floor true, level and even with no bubbles, pops or other visible defects. Cut to and around all permanent fixtures keeping vinyl tight to fixtures. Vinyl also shall be installed under fixtures such as baseboard heating, and glued tight. Wrap vinyl base around exterior corners.

3.02 Preparation

- A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of resilient products.
 - B. Concrete Substrates: Verify that concrete slabs comply with ASTM F 710 and the following:
 - 1. Verify that substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with the bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by flooring manufacturer, and with specified requirements:
 - 2. Perform alkalinity and adhesion tests, calcium chloride moisture tests, and relative humidity tests.
 - a. Maintain a minimum temperature of 70 deg. F in spaces to receive flooring for at least 72 hours prior to and during the tests.
 - b. Perform tests on concrete slabs to receive resilient flooring at the rate of 1 test/1000 sq. ft. of floor area for slabs-on-grade.
 - 3. Alkalinity and Adhesion Testing: Shall result in pH range recommended by flooring manufactures when subfloor is wetted with portable water and pHydration paper is applied. Perform pH tests on concrete floors regardless of age or grade level.
 - 4. Moisture Testing:
 - a. Anhydrous Calcium Chloride Test: Perform tests in accordance with recommendations of flooring manufacturer and ASTM F 1869, except area of CaCl₂ dish shall not be deducted.
 - 5. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 25 hours, have acceptable relative humidity tests, and meet manufacturer's requirements for alkalinity and adhesion.
- 3.3 DURING WORK PROGRESS, remove all excess materials, extraneous mastic, and debris resulting from operations, which may disrupt the work of other trades. The Contractor shall be responsible for keeping the floors clean, unstained and undamaged until the final completion of the building.

END OF SECTION

SECTION 09680

CARPET

1. GENERAL

1.1 REFERENCES: Drawings and general provisions of Contract, including General Conditions and Division 1 specifications, apply to work in this section.

1.2 DESCRIPTION OF WORK:

A. Installation of Carpeting as shown on plans or noted in these Specifications.

1.3 QUALITY ASSURANCE

A. Finished installation shall comply with fire test specified in applicable Building Code.

B. Architect/Engineer shall review first finished space for workmanship. Accepted space shall serve as project standard.

1.4 SUBMITTALS

A. Submittals under this Section shall include:

1. Manufacturer's specifications and installation instructions on all specified products.
2. Samples: one piece, 24" x 24", of each color and type of carpet provided.

B. Deliver to Owner, neatly packaged and labeled, all usable carpet tiles: 1 percent of each type and color of carpet provided..

C. Provide written maintenance program.

2. PRODUCTS

2.1 CARPET shall be as follows:

A. Carpet Type C1 - Mannington Commercial CPT-3D

- Style – Provenance
- Color – Vicinity
- Pile – 100% Antron Lumena Type 6, 6 Nylon
- Width – 24" x 24"
- Installation – 1/4 Trim
- Backing – Infinity RE
- Install with direct glue method.

- B. Carpet Type C2 – J & J Solutions, Color: 1204 Rubber Band.

2.2 CARPET must carry stamp confirming conformance to above and submitted to Architect for approval.

3. EXECUTION:

3.1 JOB CONDITIONS:

- A. Examine Subfloor for dampness, loose material, excessive irregularity, oily or waxy areas impeding adhesion, or other conditions which would prevent proper installation. Verify that no incompatible curing compound has been used on newly-poured concrete. Commencement of work constitutes acceptance of subfloor.
- B. Allow newly-poured concrete to cure as long as possible before installation of carpet, a minimum of 7 days, 28 days preferable. Perform bond and moisture tests in accordance with carpet manufacturer's instructions, to verify that concrete is sufficiently cured, dried and then sealed.
- C. Broom-clean or vacuum surfaces to receive carpet, before beginning installation. Apply primer-sealer to concrete sub-floor, if recommended by carpet or adhesive manufacturer.
- D. Before proceeding with complete installation of carpet, install a representative sample area of each type of carpet provided over each type of substrate, to test for compatibility of adhesive to substrate at glue-down installation, and verify general appearance of finished installation. If sample is securely bonded after 72 hours, final installation may proceed.

3.02 Preparation

- A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of resilient products.
- B. Concrete Substrates: Verify that concrete slabs comply with ASTM F 710 and the following:
 - 1. Verify that substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with the bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by flooring manufacturer, and with specified requirements:
 - 2. Perform alkalinity and adhesion tests, calcium chloride moisture tests, and relative humidity tests.
 - a. Maintain a minimum temperature of 70 deg. F in spaces to receive flooring for at least 72 hours prior to and during the tests.
 - b. Perform tests on concrete slabs to receive resilient flooring at the rate of 1 test/1000 sq. ft. of floor area for slabs-on-grade.

3. Alkalinity and Adhesion Testing: Shall result in pH range recommended by flooring manufactures when subfloor is wetted with portable water and pHydration paper is applied. Perform pH tests on concrete floors regardless of age or grade level.
4. Moisture Testing:
 - a. Anhydrous Calcium Chloride Test: Perform tests in accordance with recommendations of flooring manufacturer and ASTM F 1869, except area of CaCl₂ dish shall not be deducted.
5. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 25 hours, have acceptable relative humidity tests, and meet manufacturer's requirements for alkalinity and adhesion.

3.3 INSTALLATION

- A. Field measure each space to receive carpet. Do not scale drawings. Before beginning installation, verify that floor telephone and electrical outlets have been installed.
- B. Apply manufacturer's recommended adhesive in accordance with manufacturer's instructions, observing proper safety precautions. Apply adhesive in a uniform film with a steel trowel and proper size notches for correct coverage. Avoid applying excess quantities so that adhesive bleeds through joints. Apply adhesive only in area which dries or films over. Avoid soiling adjacent walls and floors with adhesive. Promptly remove any spillage. Broom or roll carpet to remove air bubbles and insure bond.
- C. Install carpet wall to wall unless noted otherwise. Fit carpet neatly into breaks, recesses, closets and alcoves, against bases, around pipes and penetrations, under saddles and thresholds, and around permanent cabinets and equipment. Install Schluter metal strip wherever carpet edge does not abut vertical surface, of appropriate configuration to provide smooth transition to adjacent material. Allowable variation from level for finished installation: 1/4 in. from level in any direction when tested with 10 ft. straight-edge.
- D. Seams shall be flat, free from puckering, without twists, free from frayed edges. Coat edges with seam adhesive at glue-down installation, hot-melt tape at cushion, and as recommended by manufacturer. Patterns at seams shall match exactly. Cut raw edges on a slight angle with surface yarns extending outward over backing material so that surface yarns mingle neatly at seams.
- E. Seams shall be in accordance with approved seaming shop drawings and samples. No seams will be accepted perpendicular to openings such as doors, stairs, and entries. Seams at doors shall be centered directly under doors. Seam at corridor change of direction shall follow inner wall line across corridor.
- G. Remove adhesive spots from carpet immediately with solvent. Trim loose pieces of face yarn with sharp scissors. Upon completion of installation, remove rubbish, selvages,

Peloton Building - 795 Congress Street - Portland, ME

wrapping paper, small scraps, etc., and vacuum with commercial-type vacuum cleaner. Remove soiling, by shampoo if necessary. Cover finished work with kraft paper or polyethylene until Substantial Completion.

- H. At completion of job, remove protective paper, vacuum or shampoo again if required.

END OF SECTION

SECTION 09900

PAINTING

1. GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of work shall be as shown on Drawings and called for in these Specifications. Performance shall meet the requirements of these Specifications. The work covered by this section of Specifications consists of the following:
 - 1. Painting all interior and exterior surfaces as called for Drawings or in these Specifications.
 - 2. Painting interior walls, door trim.

1.2 SUBMITTALS

- A. Submit as follows:
 - 1. Manufacturer's data, application instructions, and color chips on all specified products.
 - 2. Provide as maintenance material, a minimum of one gallon of each type and color of paint used on job, in labeled and well-sealed containers, for future touch-up. Also provide typed list of each type and color of paint used on job, including name of distributor from whom paint may be obtained.

2. PRODUCTS

2.1 General

- A. Paint: Acceptable manufacturers, unless specific manufacturer is noted: California Products Corporation, Benjamin Moors, Pratt & Lambert, Sherwin-Williams, Tnemec.
- B. All products used shall be manufacturer's top quality product for each type of finish specified.

2.2 MATERIALS

- A. Where primer is called for, use primer recommended by manufacturer for particular combination of substrate and finish coat. Where painting over shop-applied primers, verify that finish paint proposed for field application is compatible with shop primers actually used.
- B. Exterior Doors: Steel-Clad: Benjamin Moore Ironclad Retardo
- C. All Gypsum Walls to be painted: Primer - Benjamin Moore Vinyl Latex Primer Sealer.
- D. Finish Gypsum Walls - Benjamin Moore Moorcraft Latex Eggshell.
- E. Finish Gypsum Ceilings - White Paint

3. EXECUTION

3.1 JOB CONDITIONS

- A. Store materials in sealed containers. Provide a fire extinguisher in storage room. Remove flammable rags and waste from building at end of day.
- B. Do not perform exterior work in rain or when precipitation is forecast imminently; or in hot, dry, or windy weather which would cause finish to cure too rapidly, or be marred by windstorm dust; or at temperatures below 40 degrees F.
- C. Maintain temperature at interior locations between 50 and 75 degrees F, maximum 80 percent relative humidity, while paint is being applied. Provide adequate ventilation, by mechanical means if necessary, for drying of paint and prevention of condensation and mildew. Do not apply finish in areas in which dust is being generated.
- D. Protect finished surfaces and equipment not being painted with masking tape, canvas drop cloths, polyethylene sheets, etc. Items such as lighting switch covers, fixture canopies, and door handles shall be temporarily removed, carefully stored, and replaced after painting, or carefully covered during painting operations.

3.2 PREPARATION

- A. Preparation of newly-installed materials to receive finish painting is specified under those Sections installing materials. This includes, but is not necessarily limited to: touch-up of damaged shop coats; taping, sealing and sanding of drywall; patching masonry; sanding finish wood; and cleaning off grease, oil, dirt, mildew, factory-applied protective coatings, and other foreign materials.

- B. Before beginning work under this Section, verify that preparation of substrates under other Sections has been done as specified. Thoroughly remove water, dirt, and dust with clean cloths, brooms, or brushes. Allow masonry mortar joints to cure as long as possible before beginning paint application, 7 days minimum, 28 days preferably.

3.3 APPLICATION

- A. Apply all materials in accordance with the manufacturer's recommendations.
- B. Apply materials with suitable brushes, rollers, and spraying equipment. Keep application equipment clean, dry, and free from contaminants. Thoroughly stir materials before applying, and periodically during application.
- C. Rate and method of application and drying time between coats shall be strictly in accordance with manufacturer's recommendations.
- D. Prepare field test panels in accordance with paragraph 1.4-B.3 of this Section for each type and color of finish specified. Request review of first completed room, color scheme, special items, etc., which shall serve as project standard after approval.
- E. Touch-up shop applied primers before field painting.
- F. Do not apply first coat until surface is dry to touch. Moisture content of surface shall be within limitations recommended by paint manufacturer.
- G. Leave all parts of moldings and ornaments clean and true to detail, without excessive paint in corners and depressions. Make edges of paint adjoining other materials or colors clean and sharp with no overlapping. Paint surfaces visible through grilles one coat flat black.
- H. Finish coats shall be smooth, free of brush marks, streaks, laps or pile-up of paint, and skipped or missed areas. Refinish whole wall if unacceptable finish is extensive or of such a nature that it cannot be repaired by normal touch-up.
- I. After completion of painting work, remove spilled or spattered paint. Touch-up and repair finishes damaged in any way by work under this Section. Protect finished surfaces.

3.4 EXTERIOR

- A. Exterior and interior - Steel-Clad door: Two (2) coats exterior enamel over factory primer. Doors shall be laid flat if sprayed. Doors may be rolled or brushed in place, however with no visible brush marks, drips or imperfections.

3.5 INTERIOR

- A. Interior Painting: Paint shall be applied in the following number of coats, primer and finish. Tint all primers to match finish color.
1. Drywall: All interior walls to receive paint: one (1) coat latex base primer-sealer, two (2) finish coats latex eggshell.
 2. Ceilings two (2) coat ceiling white paint.
 3. Misc. wood trim, three (3) coats.
 4. Stair Railings, three (3) coats polyurethane.
 5. Ceiling first floor, one (1) coat primer, two (2) finish coats plywood deck and steel bar joist.

END OF SECTION

SECTION 10800

TOILET AND BATH ACCESSORIES

1. GENERAL

- 1.1 REFERENCES: Drawings and general provisions of Contract, including General Conditions and Division 1 specifications, apply to work in this section.
- 1.2 DESCRIPTION OF WORK: The extent of work shall be as shown on Drawings and called for in these Specifications. The work under this section of Specifications includes furnishing and installing the items listed as indicated on Drawings.

2. PRODUCTS:

- 2.1 TOILET PAPER HOLDERS: shall be Taymor. Toilet Paper 01-9409.
- 2.2 SOAP DISH: shall be integral with sink.
- 2.3 DOUBLE HOOK FOR BATHROOM DOOR: shall be equal to Taymor 01-9402.
- 2.4 GRAB BARS: Stainless steel, 1 ¼ " diameter, concealed mounting with snap flange, satin finish; Bobrick B-5806 Series, lengths as shown on drawings.
- 2.5 MIRROR: 18" w x 30" h with Stainless Steel frame. Provide accessories for mounting and mount to meet ADA
- 2.6 **NOTE:** Blocking for all accessories and grab bars must be provided. See Section 06100 - Rough Carpentry.
- 2.7 **NOTE:** The contractor shall submit shop drawings on every item specified in this section. There shall be no substitutions without a written explanation from the subcontractor that the specified item is equal with the item specified by the architect. All substitutions shall be approved by the Architect and the Owner.
- 2.7 MATERIALS - TOILET ACCESSORIES
- A. All metal items to be Stainless Steel with Satin Finish.
 - B. Exposed surfaces to be protected with a factory applied PVC film to be left in place until final clean-up.
 - C. Mirror to be 1/4" polished plate glass with 10-year guarantee against silver spoilage.
 - D. Stainless steel tubing: 18 ga., Type 304, seamless welded.
 - E. Fasteners, screws, and bolts: Hot dip galvanized. Expansion shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component substrate.

F. Adhesive: Epoxy type contact cement.

3. EXECUTION:

- 3.1 All work shall be done by experienced craftsmen in first-class manner and high-grade finish.
- 3.2 All installations shall be in accordance with layout shown on plans and in strict conformity with the manufacturer's recommendations and secured into blocking or other framing with screws of adequate length and size to properly support accessories. Grab bars must be able to sustain a 300# direct load pulling down or out on it.

END OF SECTION

DIVISION 15 – PLUMBING & HVAC

1. The work to be performed under this Section of the Specifications shall include all labor, material, equipment, transportation and incidentals necessary for the proper execution and completion of all Plumbing and Heating, ventilating and air condition work with the intent that the installation shall be complete in every respect, meet code and be ready for use. All ductwork is to be round exposed in ceiling space.
2. NOTE: CITY REQUIREMENTS BELOW:
Prior to a Certificate of Occupancy and unit installation the applicant shall submit for review and approval by the Planning Authority, all HVAC or other noise producing units. All units shall meet the current maximum noise requirements. Specification sheets showing the manufacture's sound manifestations shall be provided prior to any unit installation. Separate permits are required for such units from Inspection Services.

Peloton Building - 795 Congress Street - Portland, ME

DIVISION 16 – ELECTRICAL (DESIGN BUILD)

16400 - SERVICE AND DISTRIBUTION

1. The work to be performed under this Section of the Specifications shall include all labor, material, equipment, transportation and incidentals necessary for the proper execution and completion of all Electrical Work with the intent that the installation shall be complete in every respect and ready for use.

See site plan for electrical service to this building and neighboring buildings.

See light fixture schedule attached.

[illegible]





Specification Sheet

ADA Wall

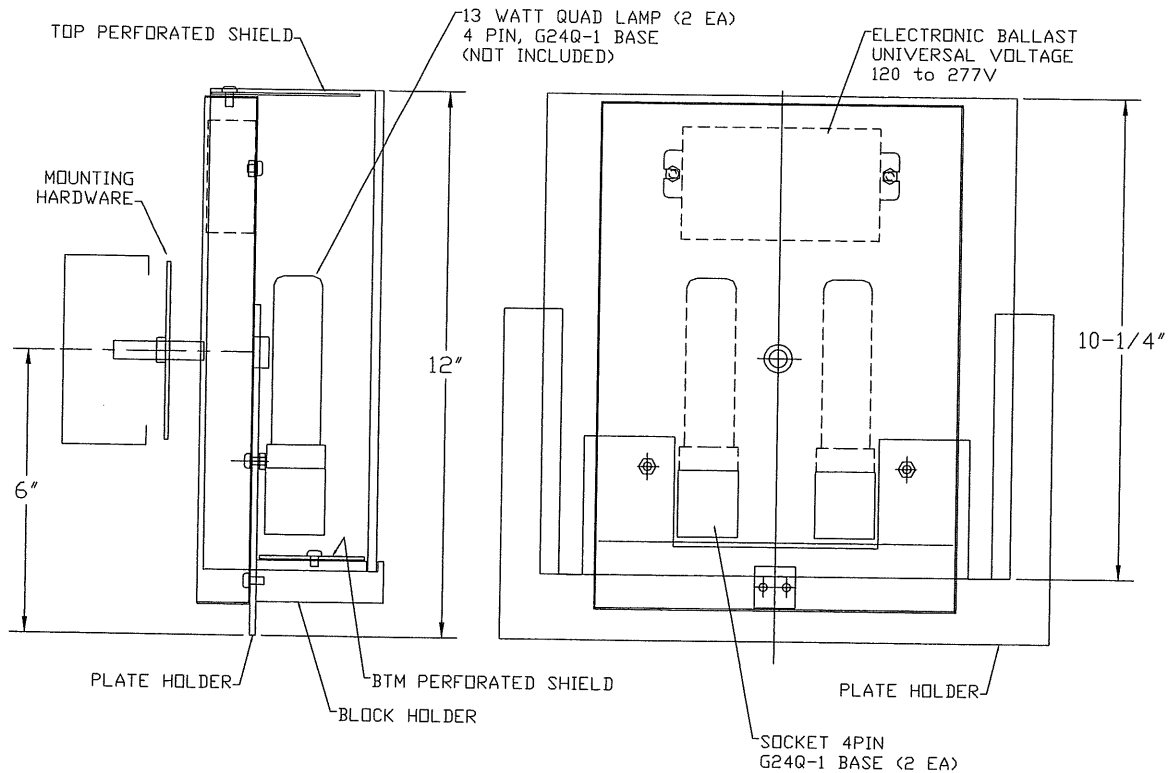
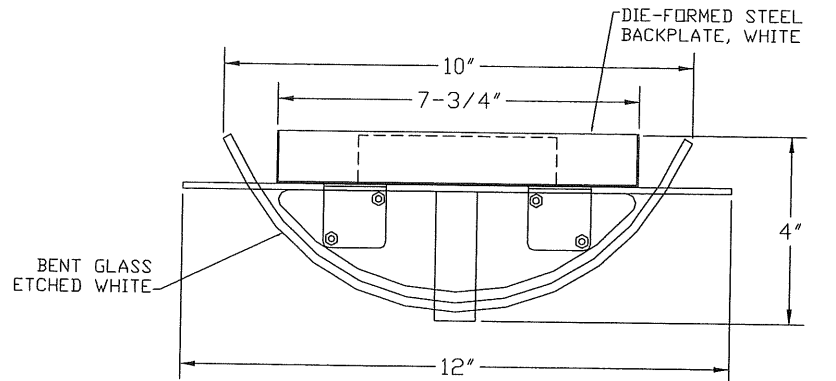
Rev. 4/17/08

Model:

F5410-36U Satin Nickel

F5410-68U Deep Bronze

795 CONGRESS ST
TYPE W
F5410-36U
wall sconce- stairwell



Glass: Etched White

Finishes: Satin Nickel -36; Deep Bronze -68

Width: 12" Height: 12" Extension: 4"

~~Lamps: 2 - 13 Watt Quad Tube Compact Fluorescent, 4-pin G24q-1 Base (Not Included)~~

Ballast: Electronic 120-277V

Labels: cULus Listed. Suitable for Damp Locations.

O

C

C

EYE-Q INDIRECT/DIRECT OR DIRECT EYS SERIES 25° LOUVER

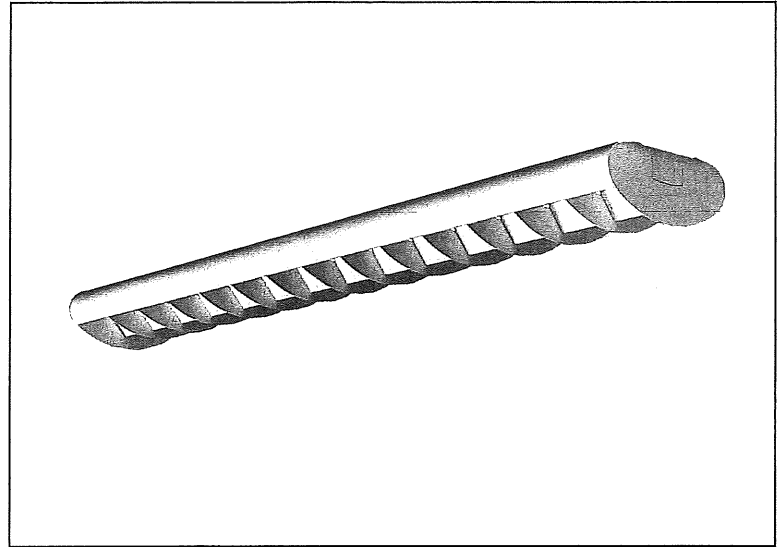
Page 1 of 2

SUSPENDED/SURFACE FLUORESCENT LUMINAIRE, SOLID SIDE REFLECTORS, 25° LOUVER

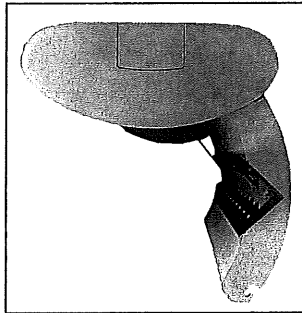
48" LENGTH, 2 LAMP T8; 96" LENGTH, 2 LAMP T8 IN TANDEM

Features

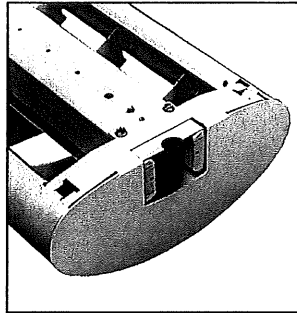
- Ideal for schools, offices or stores.
- 60% uplight, 40% downlight distribution.
- Can be pendant or surface mounted.
- Top reflectors available for downlight only.
- 88.6% efficient.
- 33" x 25° steel louver with safety chain.
- 48" or 96" modular lengths.
- Can be stem or cable mounted at fixture joints.
- 20 gauge steel housing.
- 18 gauge steel fixture ends.
- 22 gauge steel side reflectors.
- 22 gauge steel louver.
- Electronic ballast for 4' T8 lamps is standard.
- 1-3/4" x 2" easy tear-out flush K.O. for thru wiring.
- Flat white acrylic baked enamel (post painted).
- Meets NYC Code requirements.



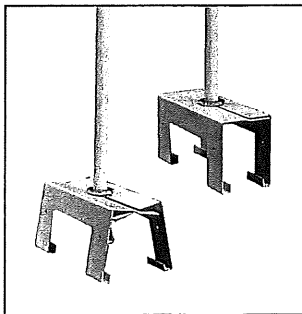
MOUNTING METHODS



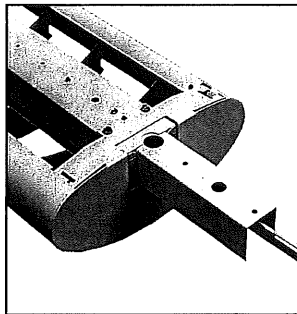
Louver hinges from either side. Safety chain is standard.



1-3/4" x 2" Flush K.O. easy tear-out for thru wiring.

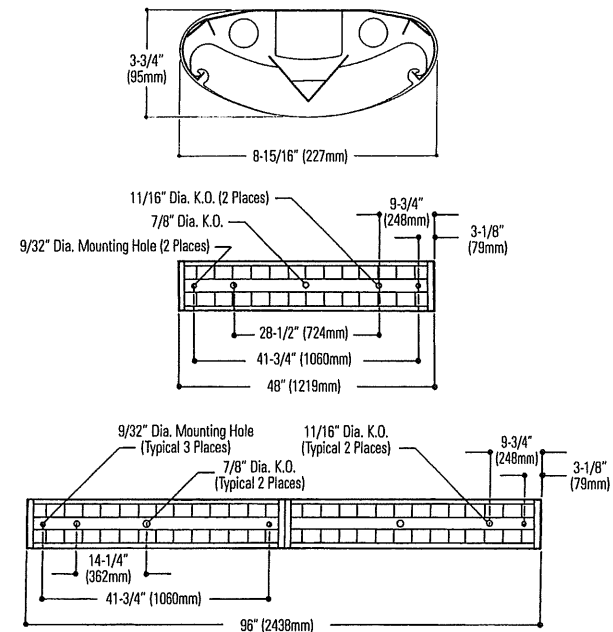


Slide Grip Hanger can be used at joint or along channel. (Can not be used with top reflector)
Order Catalog Number
EY SLIDE GRIP.



Coupler required for continuous row mounting.
Order Catalog Number
EY COUPLER.

DIMENSIONS



Job Information

Type:

A

Job Name: 795 Congress St

Cat. No.: EYS425FS232UNVHI (MET AL)/ WCC60/ WC60

Lamp(s): 2-32wt T8 not incl

Volts/Ballast: HI- univ IS ballast

Lightolier a Genlyte Thomas Company

www.lightolier.com

Technical Information: (978) 657-7600 • Fax (978) 658-0595

631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

We reserve the right to change details of design, materials and finish.

© 2002 Genlyte Thomas Group LLC (Lightolier Division)

A0902

SECTION 5/Folio K40-10

LIGHTOLIER



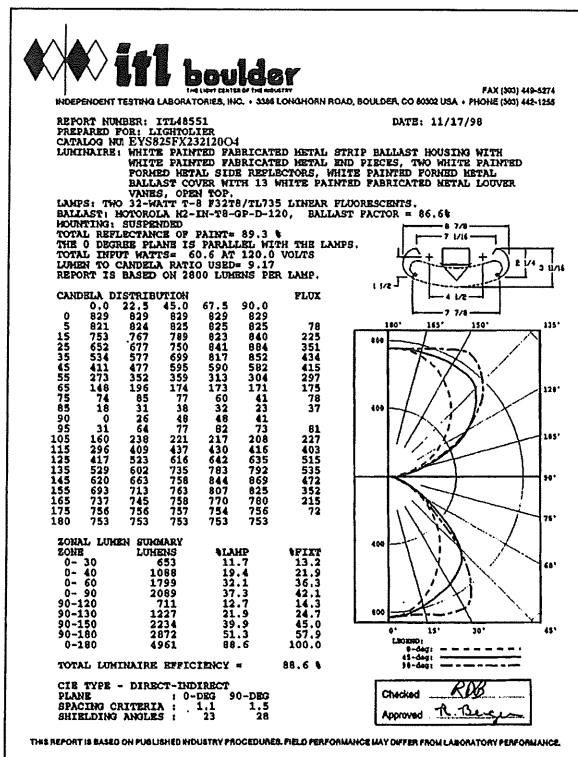
EYE-Q INDIRECT/DIRECT OR DIRECT EYS SERIES 25° LOUVER

Page 2 of 2

SUSPENDED/SURFACE FLUORESCENT LUMINAIRE, SOLID SIDE REFLECTORS, 25° LOUVER
48" LENGTH, 2 LAMP T8; 96" LENGTH, 2 LAMP T8 IN TANDEM

PHOTOMETRY

MODEL NO. EYS825FX23212004



coefficients of utilization — zonal cavity method

	RF	20			20			20		
		RC			50			30		
	RW	70	50	30	50	30	10	50	30	10
room cavity ratio	1	85	82	78	62	60	58	50	48	47
	2	78	72	67	54	51	49	44	42	40
	3	71	63	57	48	44	41	39	36	34
	4	65	56	49	43	39	35	35	32	29
	5	60	50	43	39	34	30	32	28	26
	6	55	45	38	35	30	27	29	25	22
	7	51	41	34	32	27	23	26	22	20
	8	47	37	30	29	24	21	24	20	18
	9	44	34	27	26	22	19	22	18	16
	10	41	31	24	24	20	17	20	17	14

Louver Shielding: 33° Crosswise
25° Lengthwise

ORDERING INFORMATION

Explanation of Catalog Number. Example: EYS825FX23212004

EY	S	4	25	F	S	2	32	UNV	HI	AL
EYE-Q: Suspended/ Surface Fluorescent Luminaire	SIDE: S=Solid	FIXTURE LENGTH: 4=48" 8=96"	SHIELDING: 25° Louver Cut-off	FINISH: F= Flat White (standard)	MOUNTING: X=No Reflector (Uplight/Downlight) S=Top Reflector (Downlight Only)	LAMP QUANTITY (Nominal 48") 2-Lamps (Nominal 96") 2-Lamps in tandem (4 lamps)	LAMP/TYPE: 32 Watt T8	VOLTAGE: 120 or 277	BALLAST TYPE: S0=Electronic (T8) (2 lamps) 04=1-4 Lamp Elect. (T8) (8' only)	OPTIONS: Add appropriate suffix to catalog no., ie: (GLR)

OPTIONS & ACCESSORIES

STEM AND CANOPY SETS: Suspend fixture 6", 12", 18" or 24" from surface
Catalog Number: **ASC6 CSP (6")**, **ASC12 CSP (12")**, **ASC18 CSP (18")**,
ASC24 CSP (24").

FUSING: Internal fast-blow fusing. Suffix: **GLR**.

Internal slow-blow fusing. Suffix: **GMF**.

EMERGENCY PACK: Factory-installed emergency power battery pack with
charger and inverter, LP400 or equal, 120 or 277 volt. Suffix: **LP400**.

CABLE HANGERS: Adjustable 6"-60"

Single Cable and Canopy: Catalog Number **WC60**

Single Cable, Straight Cord and Canopy: Catalog Number **WCC60**

Single Cable, Coil Cord and Canopy: Catalog Number **WCCC60**

SPECIFICATIONS

MATERIALS: Housing is die-formed 20 gauge cold rolled steel full length
channel for thru wiring.

Fixture Ends: 18 gauge cold rolled steel with 1-3/4" x 2" flush K.O. for thru
wiring.

SPECIFICATIONS (continued)

Louver: 22 gauge cold rolled steel.

Side Reflectors: Solid 22 gauge cold rolled steel.

FINISH: Post painted white acrylic baked enamel.

ELECTRICAL: Electronic instant start (<20 THD) thermally protected class "P"
HPF non PCB, UL Listed, CSA Certified ballast for T8 lamps. If K.O. is within 3"
of ballast, use wire suitable for 90°.

LABELS: I.B.E.W. UL and ULc Listed.

Job Information

Type:

A

Lightolier a Genlyte Thomas Company

www.lightolier.com

Technical Information: (978) 657-7600 • Fax (978) 658-0595

631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

We reserve the right to change details of design, materials and finish.

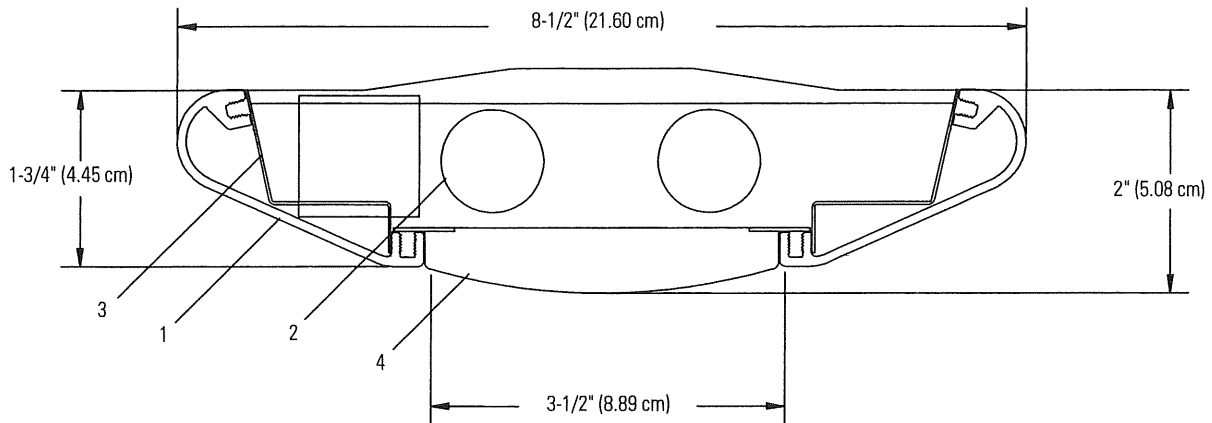
© 2002 Genlyte Thomas Group LLC (Lightolier Division)

A0902

SECTION 5/Folio K40-10

LIGHTOLIER®





Half Scale

Ordering Information

Family	Lamps	Length	Shielding	Ballast	Voltage	Finish
LSB	2	4	D	32	1	AL
	2 = 2-Lamp T8	4 = 4-Foot 8 = 8-Foot	D = Radial Louver	32 = 32W T8 3E = 32W T8 Emergency Pack 3D = 32W T8 Dimming	1 = 120 volt 2 = 277 volt	AL = Aluminum WH = White

Complete ordering instructions below.

Features

- Housing:** Extruded aluminum. Die-cast end cap mechanically attached with no exposed fasteners or hardware.
- Lamping:** Two T8, 32 watt fluorescent lamps per 4-foot nominal section. Provided by others.
- Reflector:** Precision die-formed semi-specular aluminum.
- Radial Louver:** Precision die-formed aluminum straight blade louver, blades are 5/8" (1.59cm) high and 5/8" (1.59cm) O.C.

Electrical

Ballast is <10% THD, .98 ballast factor, pre-heat start. 18 gauge wire. Color-coded quick connectors allow ease of connection for joiner modules. Power feed is 18 gauge white SJT. For special circuiting consult factory. Factory installed ballast disconnect allows the ballast to be disconnected from and reconnected to incoming power under load without turning the entire circuit off.

Dimming: 120/277 VAC 1% dimming level, 4 wire feed required.

Emergency Battery Pack: 32 watt: 450 lumens @ 90 minutes, 4 wire feed required.

Mountings

Cable suspension (not shown) - 4-1/2" (11.43cm) diameter canopy finished white enamel, 1/16" (0.16cm) diameter stainless steel aircraft cable adjustable up to 36" (91.44cm). Dual-screw draw-tight connector to create hairline seam between joiner modules.

Finish

Powder coated baked white or aluminum finish. Custom colors available, consult factory.

Options and Accessories

Emergency circuiting; special circuiting; X, T & L joiner blocks - consult factory.

Labels

UL, cUL and I.B.E.W.

Ordering Instructions

Individual Fixtures:

- Order number of MODULES required.
- Order one POWER FEED END SET per MODULE.

Continuous Rows:

- Determine run length.
- Order the appropriate number of MODULES for the complete run.
- Order one POWER FEED END SET per run.
- Order one CABLE ASSEMBLY per MODULE minus one per run.
- For runs that exceed amperage limits, order the appropriate number of CABLE/CORD ASSEMBLIES.

Job Information

Type: B

Job Name: 795 Congress St

Cat. No.: LSB24D321AL / LSBEC36AL

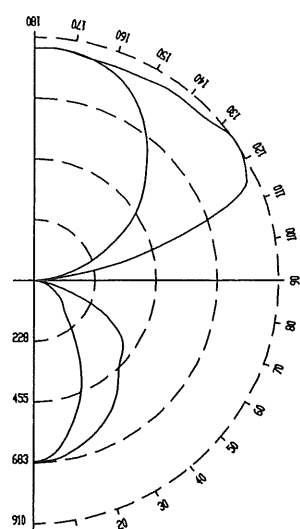
Lamp(s): 2-32wt T8 not incl

Notes: Conf Rm



Performance

CANDLEPOWER CURVE



REPORT NO: LRL 300-1T
CAT NO: LSB24D32
LAMPS: 2 F32T8
LUMENS: 2900
EFFICIENCY: 84.2%

ZONE DEG.	0	22	45	67	90
180	869	869	869	869	869
175	871	871	873	873	871
165	852	856	858	863	853
155	804	811	828	851	854
145	714	738	790	854	869
135	590	633	746	851	874
125	475	538	731	905	911
115	321	431	690	834	874
105	173	329	496	494	481
95	44	107	93	81	78
90	3	10	14	11	10
85	10	18	23	23	25
75	44	49	52	62	100
65	76	81	91	139	281
55	126	131	156	256	404
45	163	176	228	347	449
35	268	299	359	461	534
25	423	446	486	559	600
15	558	572	593	636	646
5	665	667	672	677	678
0	678	678	678	678	678

COEFFICIENTS OF UTILIZATION % EFFECTIVE CEILING CAVITY REFLECTANCE

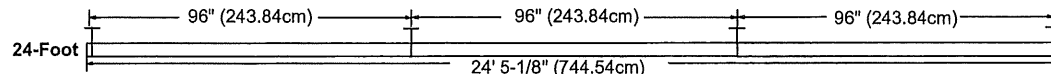
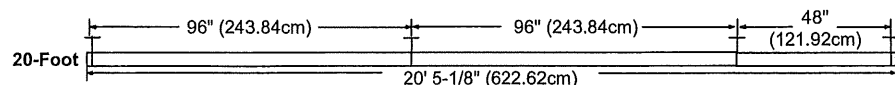
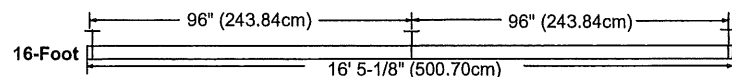
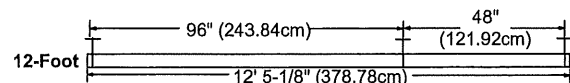
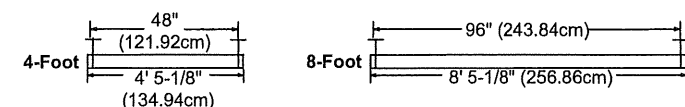
	80			70			50		
	WALL REFLECTANCE								
	70	50	30	70	50	30	50	30	10
0	86	86	86	76	76	76	59	59	59
1	78	75	72	70	67	64	52	51	49
2	72	66	61	64	59	55	46	44	41
3	66	58	53	58	52	48	41	38	35
4	60	52	46	54	47	42	37	33	30
5	55	46	40	49	42	36	33	29	26
6	51	42	35	46	38	32	30	26	23
7	47	37	31	42	34	28	27	23	20
8	43	34	28	39	30	25	24	21	18
9	40	31	25	36	28	23	22	18	16
10	38	28	22	34	25	20	20	17	14

20% FLOOR CAVITY REFLECTANCE

DISTRIBUTION

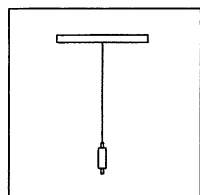
Zone	Lumens	% Lamp	% Luminaire
0-90	1296	22.3	26.5
90-180	3587	61.9	73.5
0-180	4884	84.2	100.0

Fixture Lengths & Mounting Locations

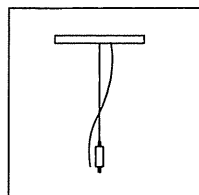


	4-Foot Module	8-Foot Module	Cable/ Assembly	Power Feed End Set
4-Foot Run	1			1
8-Foot Run		1		1
12-Foot Run	1	1	1	1
16-Foot Run		2	1	1
20-Foot Run	1	2	2	1
24-Foot Run		3	2	1

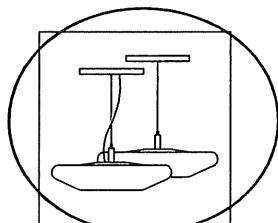
Mounting Accessories



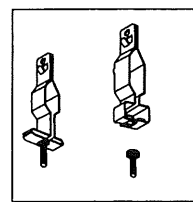
Cable Assembly
Single Cable: **LSBC36**



Cable/Cord Assembly
Single Cable & Cord: **LSBCC36**
Single Cable & 4 Wire Cord*: **LSBCC36X4**



Power Feed End Set
Straight Cord: **LSBEC36WH** (white)
LSBEC36AL (aluminum)
4 Wire Cord*: **LSBEC36WHX4** (white)
LSBEC36ALX4 (aluminum)



Ceiling Grid Kit
CGK
Includes both Standard 1" (254mm)
Tee Bar Clip & Slot Tee Clip

*Use for dimming, switching, and emergency battery packs.

Job Information

Type: B

631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710
We reserve the right to change details of design, materials and finish.
www.lightolier.com © 2008 Philips Group • B0908

O

C

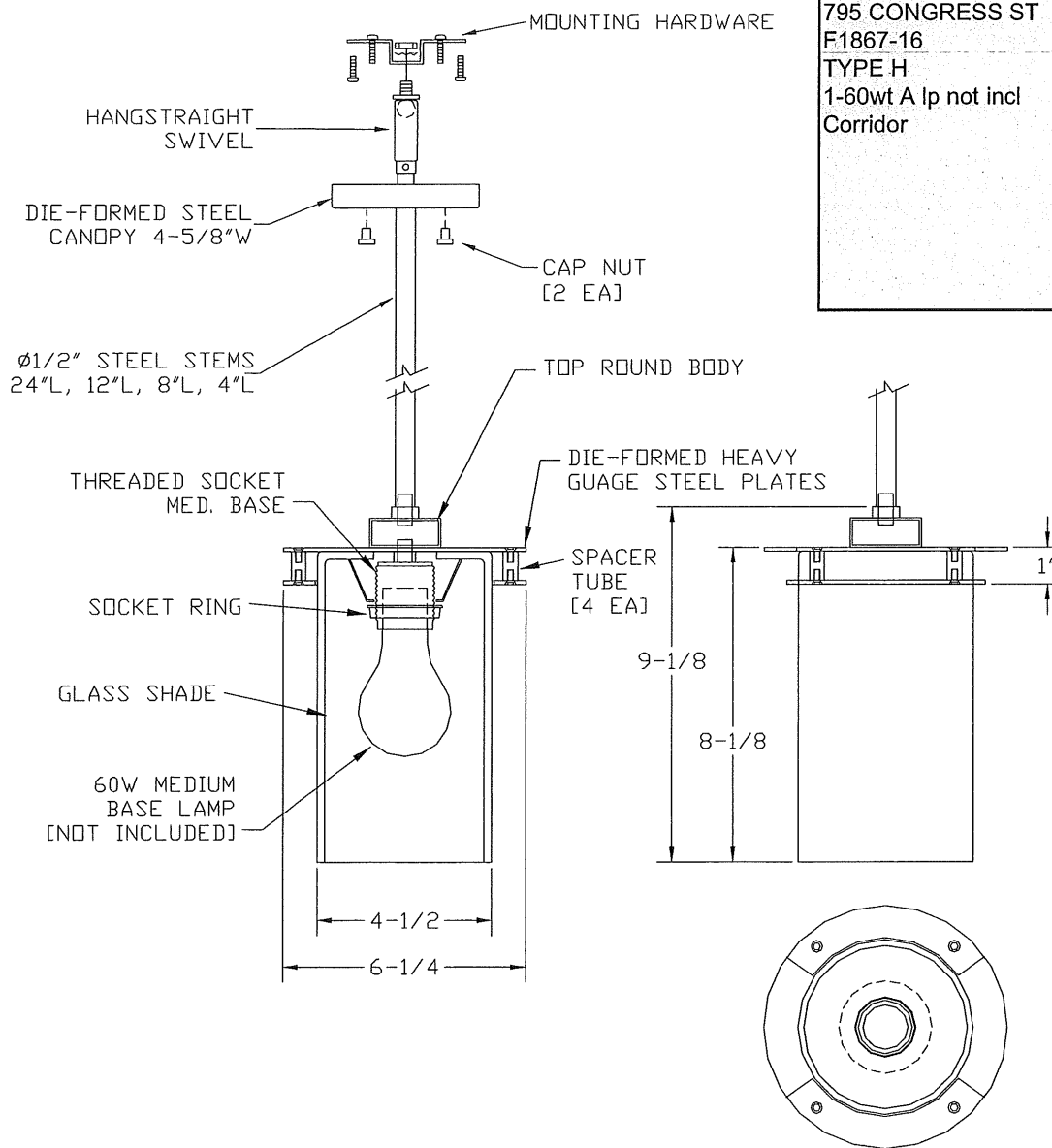
C


FORECAST
 LIGHTOLIER®

Specification Sheet

Mini Pendant

Model: **F1867-16 Gun Metal**



795 CONGRESS ST
 F1867-16
 TYPE H
 1-60wt A lp not incl
 Corridor

Glass: Etched White Opal
 Finish: Gun Metal -16
 Width: 6-1/4" Height: 9-1/8" Overall Height: 59"
 Lamps: 1 – 60W Medium Base (Not Included)
 Labels: cULus Listed. Suitable for Dry Location.

O

T

L

C

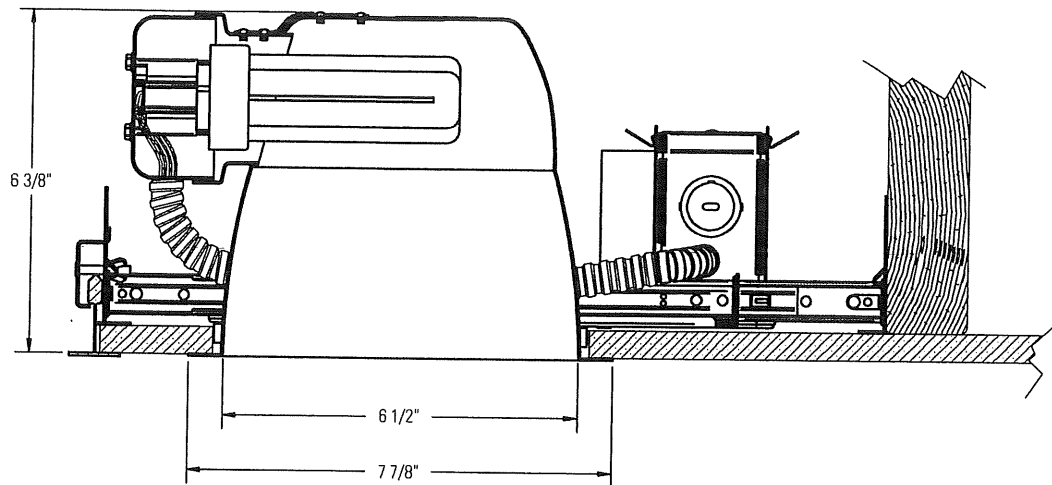
T

C

Lytecaster® Performance Recessed CFL Downlighting **1101H**

Page 1 of 2

6 3/4" Aperture Horizontal Open, Compact Fluorescent, Performance Series, Reflector Trim



Complete Fixture consists of Frame-In Kit and Reflector Trim. Select each separately.

Uniframe™ Compact Fluorescent Performance Series Reflector Trims		Compatible Frame-In Kits (See Individual Frame-In Kit Specification Sheets)		
Catalog No.	Description	Catalog No.	Installation Type	Lamping
1101HCL	6-3/4" Horizontal Open Downlight – Specular Clear	1101F18U	Uniframe™ Non-IC 120/277v	18w Quad/Triple
1101HCD	6-3/4" Horizontal Open Downlight – Clear Diffuse	1101FR18U	Uniframe™ Non-IC Remodeler 120/277v	
1101HWH	6-3/4" Horizontal Open Downlight – Matte White	1101FD26L1	Uniframe™ Non-IC Lutron Dimming 120v	26w Quad/Triple
		1101FD26L2	Uniframe™ Non-IC Lutron Dimming 277v	
		1101FD32L1	Uniframe™ Non-IC Lutron Dimming 120v	32w Triple
		1101FD32L2	Uniframe™ Non-IC Lutron Dimming 277v	
		1101F2642U	Uniframe™ Non-IC 120/277v	26w Quad/Triple
		1101FR2642U	Uniframe™ Non-IC Remodeler 120/277v	32w Triple
		1101F2642UEM	Uniframe™ Non-IC Emergency 120/277v	42w Triple
		1101FD2642MX1	Uniframe™ Non-IC Advance Mark10 Dimming 120v	
		1101FD2642MX2	Uniframe™ Non-IC Advance Mark10 Dimming 277v	
		1101FD2642M7U	Uniframe™ Non-IC Advance Mark7 Dimming 120/277v	
		1101FR264MX1	Uniframe™ Non-IC Advance Mark10 Dimming 120v Rem.	
		1101FR264MX2	Uniframe™ Non-IC Advance Mark10 Dimming 277v Rem.	
		1101F18ICU/N	Performance IC 120/277v	18w Quad/Triple
		1101F2642ICU	Performance IC 120/277v	26w Quad/Triple
		1101F2642IUN		32w Triple
				42w Triple
		1101FDICMX1/N	Performance IC Advance Mark10 Dimming 120v	26w Quad/Triple
				32w Triple
		1101FDICMX2/N	Performance IC Advance Mark10 Dimming 277v	26w Quad/Triple
				32w Triple

Features

- Reflector:** Formed aluminum. Matte White flange.
- Finishes:** CL = Specular Clear (Iridescent Free coating)
CD = Clear Diffuse
WH = Matte White Paint
- Performance Data:** 60° Cutoff angle.
See attached photometric reports for distribution and efficiency data.
Go to www.lightolier.com for .IES files.

Labels

cULus Listed. Suitable for Damp Locations. I.B.E.W.

Job Information

Type: R

Job Name: 795 Congress St

Cat. No.: 1101F2642U / 1101HCD

Lamp(s): 1-32wt TTT not incl

Notes:

O

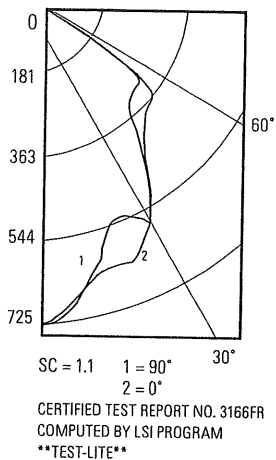
C

C

Lytecaster® Performance Recessed CFL Downlighting **1101H**

Page 2 of 2 6 3/4" Aperture Horizontal Open, Compact Fluorescent, Performance Series, Reflector Trim

32W TRIPLE TUBE LAMP, LUMEN RATING = 2200 LMS, ELECTRONIC BALLAST, CL FINISH TRIM



CANDLEPOWER SUMMARY			ZONAL LUMEN SUMMARY		ZONAL LUMENS AND PERCENTAGES			
Angle	0° CP	90° CP	Zone	Lumens	Zone	Lumens	%Lamp	%Fxt
0	720	720	0-10	68.47	0-30	516.68	23.5	38
5	722	725	10-20	181.71	0-40	827.14	37.6	60.9
10	689	697	20-30	266.5	0-60	1337.28	60.8	98.5
15	641	633	30-40	310.46	0-90	1357.97	61.7	100
20	626	558	40-50	281.1	90-120	0	0	0
25	621	535	50-60	229.04	90-150	0	0	0
30	573	569	60-70	13.53	90-180	0	0	0
35	492	483	70-80	4.17	0-180	1357.97	61.7	100
40	416	399	80-90	2.98	** Efficiency = 61.7% **			
45	383	336	90-100	0				
50	366	321	100-110	0				
55	318	306	110-120	0				
60	42	44	120-130	0				
65	9	9	130-140	0				
70	5	6	140-150	0				
75	4	4	150-160	0				
80	3	3	160-170	0				
85	2	3	170-180	0				
90	2	3						

COEFFICIENTS OF UTILIZATION												
Ceiling	80%				70%				50%			
Wall	70	50	30	10	50	10	50	10	50	10	50	10
RCR	Zonal Cavity Method - Effective Floor Reflectance = 20%											
0	73	73	73	73	72	72	69	69	66	66	62	62
1	69	67	65	63	65	62	63	60	61	58	55	55
2	64	60	57	54	59	54	57	52	55	51	49	49
3	59	54	50	47	53	47	52	46	50	45	43	43
4	55	49	44	41	48	41	47	40	45	40	38	38
5	51	44	40	36	44	36	42	36	41	35	34	34
6	48	40	36	32	40	32	39	32	38	34	31	31
7	44	37	32	29	36	29	35	28	35	31	28	28
8	41	34	29	26	33	26	33	26	32	28	26	26
9	39	31	27	23	31	23	30	23	30	26	23	23
10	36	29	24	21	29	21	28	21	27	24	21	21

Determined In Accordance With Current IES Published Procedures
Luminaire Input Watts = 33.0

Job Information

Type: R



