Purchasing Office
191 South East Street
Frederick, Maryland 21701
301-644-5208 phone
301-644-5213 fax
kim.miskell@fcps.org

Frederick County Public Schools
Reach. Challenge. Prepare.

Stephen P. Starmer, C.P.M., CSBA,
Purchasing Manager
Kim Miskell, CSBO, Assistant Purchasing Manager
Bill Meekins CPPB, CSBO, CPCP,
Purchasing Agent
Shane Ryberg, Purchasing Agent

ADDENDUM

February 4, 2019

ADDENDUM # 2
Bid 19C4, Urbana Elementary School Replacement – Construction Stage II

DUE DATE & TIME:
Bids for Construction Stage II - Phase A: 2A Site Work and Geo Thermal; 3A Concrete; 4A Masonry; 5A Steel; 6A General Carpentry; 7A Roofing; 8A Windows and Storefronts; 9A Drywall and Acoustical; 15A Mechanical and 16A Electrical will be received and time stamped in the main lobby of Frederick County Public Schools (FCPS) at 191South East Street, Frederick, MD 21701, prior to and time stamped no later than 10:00 a.m. local time, February 20, 2019

Bids for Construction Stage II - Phase B: 9B Tile; 9C Fluid Applied & Terrazzo Flooring (Terrazzo as an Alternate); 9D Resilient Flooring and Rubber Athletic Surfacing; 9E Painting; 11A Food Service; 11B Athletic Equipment; will be received and time stamped in the main lobby of Frederick County Public Schools (FCPS) at 191 South East Street, Frederick, MD 21701, prior to and time stamped no later than 1:30 p.m. local time, February 20, 2019.

Bids received after these times will be returned unopened. All bids will be opened and read aloud in the Central Office Board Room.

This addendum is being issued to provide additions, corrections, clarifications and answers to certain questions raised referencing the original bid packages and any resultant contracts for the above bid.

1. This Addendum includes the following attachment(s):
   a. Oak Contracting, LLC - Addendum No. 2 (99 pages)
   b. Grimm and Parker – Addendum No. 2 (140 pages)

Thank you for your interest in bidding with Frederick County Public Schools and we apologize for any inconvenience this may have caused.

Sincerely,

Kim Miskell

Kim Miskell, CSBO,
Assistant Purchasing Manager

km/ab

pc: Bradley Ahalt, Senior Project Manager, Construction Management
Dave Toth PM, Oak Contracting
Don Porter, Grimm & Parker

OAK CONTRACTING LLC
Builders

ADDENDUM NO. 2

February 4, 2019

TO: ALL PLANHOLDERS AND PROSPECTIVE BIDDERS

RE: **URBANA ELEMENTARY SCHOOL REPLACEMENT**

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated January 10, 2019. Acknowledge receipt of this Addendum in the space provided on the Form of Proposal.

General:

See attached Oak Contracting Pre-Bid RFI's numbered ST 2 PB-004, 009 through 012, 014, 017 through 023, 025 through 028, and 030. for response to questions related to the Bid Documents (96 pages).

Changes to the Specifications:

Section 00 24 13 Specification Cross-Reference

Add Reference Section 06 12 19 Structural Insulated Panels to Contract Package 7A – Roofing.

Add Reference Section 316317 Short Aggregate Pier Foundation Systems to Contract Package 3A – Concrete

Section 00 24 16 Contract Packages

Contract Package 2A Sitework & Geothermal:
Item 2.21: Delete reference to 5,000-Cu. Yds. and replace with 7,000-Cu. Yds.

Delete the last sentence of Item 2.48 and replace with:

> "3A Contractor is responsible for footings, walls, ramps, stairs, and slab at the loading dock and footings, walls, ramps, stairs and slab outside of door XC08. 3A Contractor is also responsible for footing and all associated concrete for the screen wall."

Add Item 2.84:

2.84 3A Contractor shall be responsible for the engineering, design, and installation of the Aggregate Pier Foundation Systems complete, per the Contract Documents. The 3A Contractor will be responsible to remove and stockpile all spoils generated from this operation to a stockpile as designated by the Construction Manager. 2A Contractor will be responsible for disposal/ removal of these spoils. Testing of the Aggregate Piers will be as described in Specification Section 316317. Due to the sequence of installation, contractor to include two separate mobilizations to perform this scope of work. In the event a second mobilization is not needed, Contractor will give credit back on mobilization costs equal to scheduled value. 3A Contractor is responsible for all coordination between the piers, foundations, and underground MEP rough ins.

Contract Package 3A Concrete:
Delete Item 2.44 in its entirety and replace with:

2.44 3A Contractor is responsible for footings, walls, ramps, stairs, and slab at the loading dock and footings, walls, ramps, stairs and slab outside of door XC08. 3A Contractor is also responsible for footing and all associated concrete for the screen wall.

Add Item 2.47:

2.47 3A Contractor shall be responsible for the engineering, design, and installation of the Aggregate Pier Foundation Systems complete, per the Contract Documents. The 3A Contractor will be responsible to remove and stockpile all spoils generated from this operation to a stockpile as designated by the Construction Manager. 2A Contractor will be responsible for disposal/ removal of these spoils. Testing of the Aggregate Piers will be as described in Specification Section 316317. Due to the sequence of installation, contractor to include two separate mobilizations to perform this scope of work. In the event a second mobilization is not needed, Contractor will give credit back on mobilization costs equal to scheduled value. 3A Contractor is responsible for all coordination between the piers, foundations, and underground MEP rough ins.

Contract Package 5A Steel:
Add Item 2.41:

2.41 5A Contractor is required to provide one (1) complete record copy of the final steel erection drawings to the Construction Manager. Record copy is to include any and all changes made by the Design Team, Owner, or Contractor during the review process. This requirement supersedes any other reference in the Contract Documents.

Contract Package 6A General Carpentry:
Add the following to Item 2.01:

O. All Educational Casework as required by the Contract Documents and Specification Section 12 35 50

Delete Item 2.71 in its entirety and replace with:

2.71 The 6A Contractor shall furnish and install the Card Access System complete per specification sections 08 71 00 (Door Hardware) and 28 10 00 (Access and Intrusions Systems) and the Contract Drawings. The 6A Contractor shall coordinate with the 8A and 16A Contractors for raceways, cabling, and rough-in requirements. 16A Contractor is responsible for the rough-in of the required raceways and boxes as shown and as coordinated by the 6A Contractor. The 6A Contractor shall also coordinate with Frederick County Public Schools for programming and testing of the system. The 6A Contractor is responsible for the complete installation of the Card Access System regardless of any other reference in the Contract Documents. 16A Contractor is responsible to furnish and install the Intrusion Detection System per specification section 28 10 00. 6A Contractor is to coordinate the installation of the Card Access System with the 16A Contractor as required for a complete system.

Delete Item 2.73 in its entirety and replace with the following:

2.73 7A Contractor shall furnish and install Structural Insulated Panels at the Pump Station and Outdoor Storage building. 7A Contractor shall furnish and install Asphalt Shingle Roofing at the pump station and outdoor storage building. This includes installation of all plywood underlayment, felt, drip edge, copings, soffits, brake metal, fascia, gutters, down spouts, and all accessories as required by the Contract Documents. 6A Contractor shall furnish all anchor bolts and coordinate installation with the 4A Contractor as required. Anchor bolts not installed in CMU are to be furnished and installed by the 6A Contractor. 6A Contractor to furnish and install all wood blocking which is to include fascia board for brake metal. 9A Contractor shall furnish and install all metal stud trusses.

Contrack Package 7A Roofing:
Delete Item 2.20 in its entirety and replace with the following:

2.20 7A Contractor shall furnish and install Structural Insulated Panels at the Pump Station and Outdoor Storage building. 7A Contractor shall furnish and install Asphalt Shingle Roofing at the pump station and outdoor storage building. This includes installation of all plywood underlayment, felt, drip edge, copings, soffits, brake metal, fascia, gutters, down spouts, and all accessories as required by the Contract Documents. 6A Contractor shall furnish all anchor bolts and coordinate installation with the 4A Contractor as required. Anchor bolts not installed in CMU are to be furnished and installed by the 6A Contractor. 6A Contractor to furnish and install all wood blocking which is to include fascia board for brake metal. 9A Contractor shall furnish and install all metal stud trusses.

Contract Package 9A Drywall & Acoustics:
Delete Item 2.39 in its entirety and replace with the following:

2.39 7A Contractor shall furnish and install Structural Insulated Panels at the Pump Station and Outdoor Storage building. 7A Contractor shall furnish and install Asphalt Shingle Roofing at the pump station and outdoor storage building. This includes installation of all plywood underlayment, felt, drip edge, copings, soffits, brake metal, fascia, gutters, down spouts, and all accessories as required by the Contract Documents. 6A Contractor shall furnish all anchor bolts and coordinate installation with the 4A Contractor as required. Anchor bolts not installed in CMU are to be furnished and installed by the 6A Contractor. 6A Contractor to furnish and install all wood blocking which is to include fascia board for brake metal. 9A Contractor shall furnish and install all metal stud trusses.

Request For Information ST2 PB-004

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-004 **Date Created: 1/22/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent	Author RFI Number
	4

Subject	Discipline	Category
Alternate discrepancy		Specification Clarification

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required:**

Alternate 6A references an LVT 2.5mm as noted on A3.1. Spec section 096500 has no LVT product included. Please review and provide Specification for the referenced products.

Suggestion

Answer **Date Answered:**

Specifications for LVT provided in Addendum 2. - Oak Contracting

Request For Information ST2 PB-009

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-009 **Date Created: 1/28/2019**

Answer Company	Answered By	Author Company	Authored By
Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Dave Toth Phone: 410-828-1000 Fax: 410-828-7488	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Playground equipment	Civil	Drawing / Spec Discrepancy

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/4/2019**

What are the specifications regarding the playground equipment, including age and surfacing/drainage details?

Suggestion

Answer **Date Answered: 1/28/2019**

Specifications for the Playground Equipment are included in Section 32 30 10. The Specification is mislabelled as "Base-Mounted Pumping Station" in the footer. This will be corrected in a future Addendum.

Specification has been revised by Addendum 2.

Request For Information ST2 PB-010

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-010 **Date Created: 1/29/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Door schedule discrepancy	Architectural	Drawing Discrepancies

Cc: Company Name Contact Name Copies Notes

Question **Date Required: 2/5/2019**

Door B101A on the door schedule is listed as an aluminum door and aluminum frame. The frame type mark is #9 which is hollow metal framing. Please advise what the framing and door material should be? Aluminum storefront or hollow metal?

Suggestion

Answer **Date Answered:**

Opening has been revised in Addendum 2.

Request For Information ST2 PB-011

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-011 **Date Created: 1/29/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Intercom Headend Equipment and Cabinet substitution request		Contractor Suggestion / Upgrade

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/5/2019**

See attached substitution request from High Performance Cabling, Inc. recommending their products be accepted for Intercom Headend Equipment and Cabinet. Please review and advise.

Suggestion

Answer **Date Answered:**

Per FCPS: This substitution request will not be approved.

GRIMM AND PARKER

Substitution Request Form

IDENTIFICATION:

Contractor/CM: Oak Contracting

Project Name: Urbana Elementary School Replacement

Date: 01/28/19

REFERENCE:

Specification Title: Integrated Telecommunications System

Specification No.: 275123 Page: 1 Article/ Paragraph: 1.1.C

DESCRIPTION:

Proposed Substitution: Intercom Headend equipment and cabinet

Manufacturer: Bogen

History: ☐ New Product ☐ 2-5 years old ☒ 5-10 years old ☐ More than 10 years old

Reason for requesting substitution: ☒ Cause ☐ Convenience

Explain: Recently installed this Headend equipment in Butterfly Elem School with no issues and have installed this system in previous new school projects for FCPS (Lincoln Elementary School)

Differences between proposed substitution and specified item: Equal in performance

(Use attachment for additional space, if required.)

Proposed substitution affects other parts of Work or applicable Code requirements as follows:

(Use attachment for additional space, if required.)

Post-Bid Savings to Owner for accepting substitution: (N/A Pre-Bid) Post Bid Savings not applicable -substitution form is part of prebid

Change to Contract Time due to accepting substitution: No Change

LEED Contribution (if applicable to Project) - Explain effects to LEED Action Plan:

(Use attachment for additional space, if required.)

Will undersigned pay any costs caused by the substitution necessitating changes to the building design, construction, engineering and detailing, including additional Architect, inspection and testing fees? ☐ Yes ☒ No

Does the undersigned waive rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results? ☐ Yes ☐ No

Submitted by: High Performance Cabling, Inc.
(Contractor or CM Only)

Signed by: Tim Nelling

Firm: High Performance Cabling, Inc.

Address: 13126 Pennsylvania Ave.
Hagerstown, Md 21742

Telephone: 301-739-8989

SUPPORTING DATA ATTACHED:

☐ **Point-by-Point Comparative Data Attached (Required)**

☐ **Completed Section 01 61 16.01, Accessory Material VOC Content Certification Form Attached (Required)**

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Previously approved submittals

CERTIFICATION:

The Undersigned certifies:

- Proposed substitution has been investigated and determined that it meets or exceeds the quality level of the specified product.
- Same warranty will be furnished for proposed substitution as for specified product; **provide attachment if different**.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances; **provide attachment if otherwise**.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.
- Neither the Owner and Architect will be liable for license fees or royalties.

A/E's REVIEW AND ACTION:

☐ Substitution approved - Make submittals in accordance with Specification Section 01 60 00.

☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 60 00.

☐ Substitution rejected - Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

ADDITIONAL COMMENTS:

Contractor:

Architect:

Approvals are based upon the opinion, knowledge, information, and belief of Architect at time of decision and reliance upon data submitted. Approvals are therefore interim and subject to reconsideration as additional data, materials, workmanship and coordination with other Work are observed and reviewed. In proposing items, Contractor assumes risks, costs and responsibilities for items integration into Work and performance.

END OF FORM

GRIMM AND PARKER

SUBMITTAL REVIEW COMMENTS

BUTTERFLY RIDGE ELEMENTARY SCHOOL
21450

Date:
08.03.2017

Submittal Item:
Integrated Telecommunication Systems
Product Data

Submittal Number:
16A-095-275123

Specification Section:
27 51 23

SHOP DRAWING REVIEW

☐ NO EXCEPTIONS TAKEN REJECTED ☐
☒ NOTE MARKINGS REVISE AND RESUBMIT ☐
☐ ACTION NOT REQUIRED

Checking is only for conformance with the design concept of the project and compliance with the information given in the contract documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and for coordination of the work of all trades.

GRIMM + PARKER ARCHITECTS

Date: 08.03.2017 By: *DRP*

Comments:

1. See comments from Wright Engineering.

End of Review Comments

Wright Engineering, LLC
CONSULTING ENGINEERS

SHOP DRAWING COMMENTS

FCPS – Butterfly Ridge Elementary School
275123-0 Integrated Telecom System – Product Data Sheets

☐	REVIEWED	■	COMMENTS NOTED
☐	REJECTED	☐	REVISE AND RESUBMIT
☐	RESUBMIT AS SPECIFIED	☐	RESUBMIT FOR RECORD ONLY
☐	FOR INFORMATION ONLY/NOT REVIEWED		

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents and does not include review of quantities, dimensions, weights or gauges, fabrication processes, sequence of work, construction methods, coordination with the work of other trades, or construction safety precautions all of which are the responsibility of the Contractor. Corrections or comments made on or attached to the shop drawings (or the absence of corrections and comments) during this review in no way relieves the Contractor from complying with the requirements of the Contract Drawings.

Engineer's Comments:

1. **Contractor shall coordinate all conduit, and backbox rough-in and electrical connections, including wall sleeve locations and sizes.**

2. **Submit the product data to FCPS Technology Services for review and approval. Verify any Owner Review Comments (if any) are incorporated into this submittal review comments.**

3. **Coordinate with all trades the exact location of PA sound system cabinet. Verify access space for cabinet and maintenance clearances and electrical connection inside cabinet.**

4. **Coordinate with electrical contractor the 120 volt power connections and locations for powered loudspeakers**

Processed by: _Jim Wright_____ **Date: _July 21, 2017 _**

5. **Prior to programming of building public address intercom system, coordinate with Owner for actual area / room descriptions of each room served by the intercom system. Program system with actual field installed room numbers and names, do not use room numbers and names on contract drawings.**

6. **Contractor shall arrange a planning meeting with FCPS Technology Services prepare all required documents prior to installation. For example, coordinate installation of FCPS furnished UPS and Battery Unit in PA rack.**

7. **Coordinate exact location of exterior FLUSH mounted Public Address loudspeakers. Coordinate all rough-in and speaker recessed backboxes to provide a completely flush installation per spec 275123-2.13.B.&C. The submitted surface mounted Reentrant Horn Loudspeaker (Bogen Model SPT15A/158A) shall only be used in mechanical rooms and other interior non-public / utility areas**

8. **Coordinate intercom , clocks and sound equipment (ie 2 ft by 2 ft ceiling loudspeakers, clocks, , etc) layout with project coordination drawings to avoid conflict with lights, HVAC diffusers, sprinklers, etc. Coordinate locations for recessed products. For example, recessed back-boxes for exterior loudspeakers.**

9. **Submit 15% spare capacity system expansion per spec 275123-2.11. Submit revised bill of material showing spare capacity per spec. Submit calculations for systems per specifications.**

10. **Provide 3 year warranty for public address system per spec 275123-1.5.A.**

11. **Submit detail shop drawings showing the cable routing & other requirements per spec 275123-1.4.D & E. and spec 271300-1.2.B,C. & D.**

(end of comments)

Processed by: _Jim Wright_____ Date: _July 21, 2017 _

Callas Contractors, Inc.
10549 Downsville Pike
Hagerstown, MD 21740
Ph : (301)739-8400

Letter of Transmittal

To: Dave Macklin
Lend Lease Construction Inc.
One Preserve Parkway Ste 700
Rockville, MD 20852
Ph: 301-393-9150 Fax: 301-393-9168

Transmittal #: 48
Date: 7/11/2017
Job: 17-010 Butterfly Ridge Elementary

Subject: Submittal

WE ARE SENDING YOU ☑ Attached ☐ Under separate cover via None the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples
☐ Copy of letter ☐ Change order ☐ Specifications ☑ Submittal

Document Type	Copies	Date	No.	Description
Submittal	1		122413-1 Rev 0	Window Shade Systems- Product Data/Samples

THESE ARE TRANSMITTED as checked below:

☑ For approval ☐ Approved as submitted ☐ Resubmit ___ copies for approval
☑ For your use ☐ Approved as noted ☐ Submit ___ copies for distribution
☑ As requested ☐ Returned for corrections ☐ Return ___ corrected prints
☐ For review and comment ☐ Other
☐ FOR BIDS DUE ☐ PRINTS RETURNED AFTER LOAN TO US

Remarks:

Copy To: File (Callas Contractors, Inc.), Field (Callas Contractors Inc)

From: Sickeri, Jamie (Callas Contractors, Inc.) **Signature:** Jamie Sickeri I.E.M.

If enclosures are not as noted, kindly notify us at once.

Callas Contractors, Inc.
10549 Downsville Pike
Hagerstown, MD 21740
Ph : (301)739-8400

Submittal

Job: 17-010
Butterfly Ridge Elementary
601 Contender Way
Frederick, MD 21703

Spec Section No: 122413
Submittal No: 1
Revision No: 0
Sent Date: 7/11/2017

Spec Section Title:

Submittal Title: Window Shade Systems- Product Data/Samples

Contractor:
Callas Contractors, Inc.

☑ Approved
☐ Approved as Noted
☐ Revise & Resubmit
CALLAS CONTRACTORS, INC.
Date: 7-11-17

CHECKED AND APPROVED FOR SUBMISSION
Contractor's Stamp
CALLAS CONTRACTORS, INC.
JOB BRES
DATE 7-11-17 BY S.S.
SUBMITTAL NUMBER 122413-1
ITEM NUMBER 1
CONTACT REFERENCES:
SPECIFICATION
DRAWING

Lend Lease Construction Inc.
Dave Macklin

Architect's Stamp

Engineer's Stamp

Ph: 301-671-1500
Fax: 301-714-1134
www.neikirkco.com

The Neikirk COMPANY LLC
QUALITY PRODUCTS EXCELLENT SERVICE SINCE 1945

Suite 3001 Bowman Business Park
10228 Governor Lane Blvd
Williamsport, MD 21795

June 30, 2017

Callas Contractors, Inc.
10549 Downsville Pike
Hagerstown, MD 21740

Project: Butterfly Ridge Elementary
601 Contender Way
Frederick, MD 21703

Project No.: 17-010

RE: Roller Shade Submittal

The Neikirk Company, LLC, will furnish and install MechoShade brand roller shades as specified in Division 122413, and indicated in the following submittals. Each type of shade required will be professionally installed per manufacturer's standards and recommendations.

The following will be provided in the indicated locations unless otherwise noted by Note 1 on A3.5:
All exterior facing windows will receive:
MechoShade manually operated roller shades with ThermoVeil 3000 Series shade cloth and Snap-Loc aluminum fascia. No shades on doors.

All interior sidelights will receive:
MechoShade Urban Shade low profile roller shades with Equinox 0700 Series opaque shade cloth and Snap-Loc aluminum fascia. No shades on doors.

Storefronts S-28 & S-29 in Cafeteria will receive:
MechoShade Electro Shades dual motorized solar and blackout shades with ThermoVeil 3000 Series solar shade cloth and 0700 Equinox opaque shade cloth with Snap-Loc aluminum fascia. Shades will NOT cover doors, only transom above. Each storefront will receive six (6) shade bands controlled by four (4) motors. Shades will be operated via a ten-button wall switch allowing for individual operation of both the solar shades and the opaque shades as a group. The shades will be controlled by two (2) IQ/MLC2 controllers as specified.

Please see enclosed data sheet for product information.

We are looking forward to another successful project. Please contact our office should you have any questions or concerns.

Sincerely,

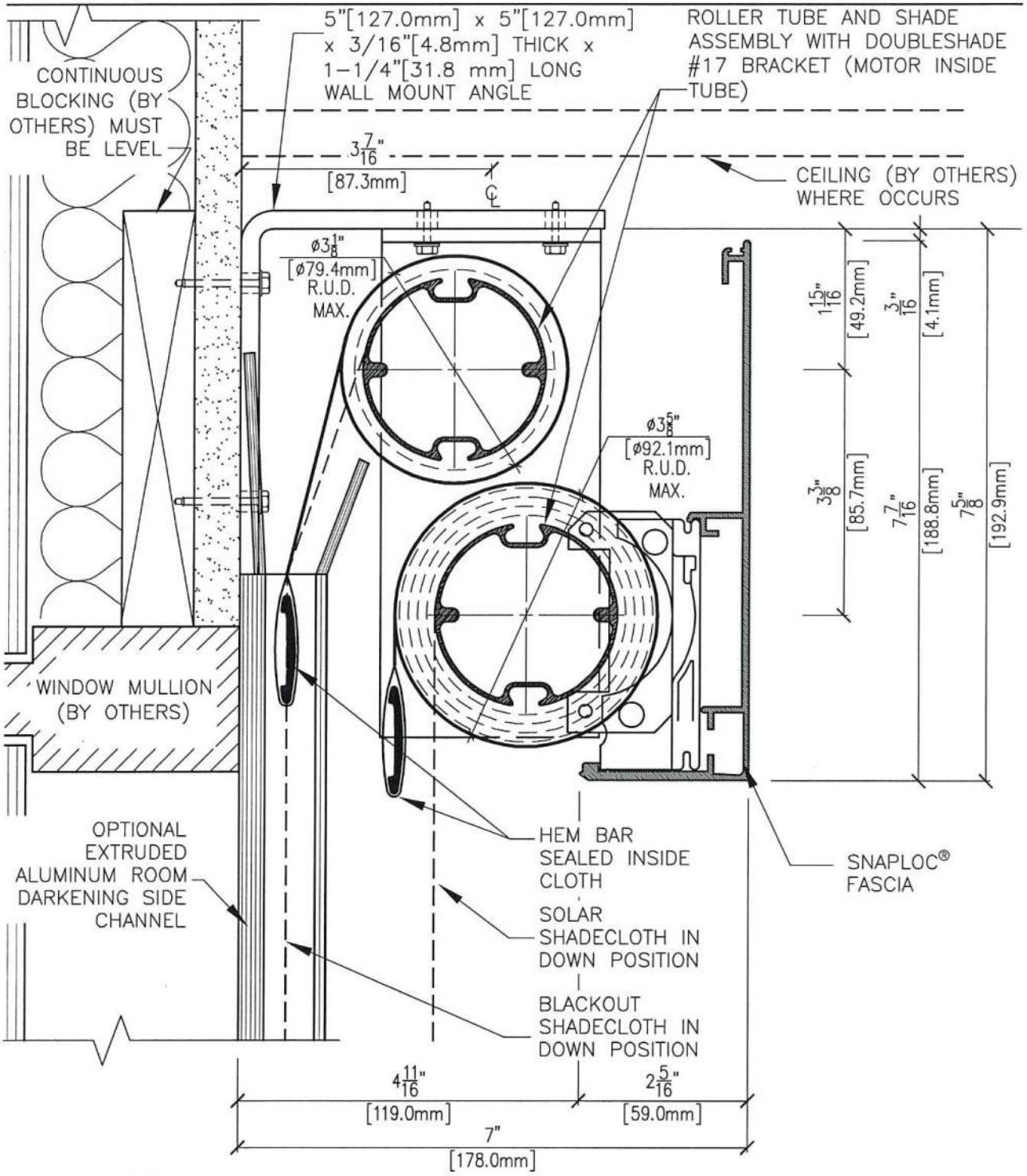
Justin Neikirk

Enclosed: Product Data Sheet(s) and Specifications

Motorized Shades in Cafetria

MechoSystems Construction Details

E2-01.1-003



SECTION AT WINDOW HEAD

SCALE: 1/2 FULL SIZE

MechoSystems
Design with light.®
42-03 35th Street
Long Island City, NY 11101
T: +1 (718) 729-2020
F: +1 (718) 729-2941
W: mechosystems.com

ElectroShade® Electro®/2
DoubleShade® #17 Bracket
Regular Roll with Fascia, Wall Mount

Drawing No. E2-01.1-003

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IQ/MLC2® Specification Submittal

Models

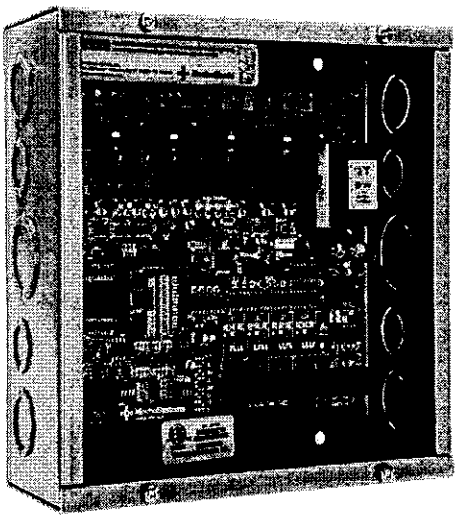
IQ/MLC2 Standard 120VAC
Stock No. IML2 120V ST SP

UL325
CSA 22.2 No. 247

IQ/MLC2 Standard 230VAC
Stock No. IML2 230V ST SP

IQ/MLC2-8 120VAC with 4-Motor Expander Card
Stock No. IML2 4MTR 12 AS

IQ/MLC2-8 230VAC with 4-Motor Expander Card
Stock No. IML2 4MTR 23 AS



Features

- Four-motor, networked shade controller operates motorized shades equipped with standard line-voltage motors.
- Provides four (4) DIP-switch configurable local control ports, which permit control of any combination of the four motors within the controller via dry contact.
- Reprogramming of local control port motor assignments is possible through DIP switches with out needing to access the motor.
- Master control port offers dry-contact group control of all four internal motors.
- Master control port enables control, via daisy chaining, of up to 250 IQ/MLC2 units or 1,000 motors (2,000 motors if using the optional 4-Motor Expander Daughter Card).
- Control ports offer one-touch shade positioning to five (5) alignment points, including three (3) mid-window presets.
- Control ports can provide power to low-voltage control accessories up to 18VDC, 300mA total.
- Preset positions default to 25%, 50%, and 75% of the shade height but are programmable to offer hem bar alignment across windows of different sizes.
- Uniform mode forces groups of shades to operate to predetermined alignment points.
- Switch personality selection enables operation of shades from 1-button, 2-button, and 3-button switches
- Ease of use
  - Removable, two-piece line-voltage terminal block connectors.
  - Troubleshooting LEDs.
- Integrated RS485 half-duplex, CSMA-CA communication network expands control options:
  - Allows up to 250 nodes per network.
  - Enables two-way communication.
  - Uses standard Cat-5 network cable.
- Integration capability with third-party devices via RS232 and dry-contact; requires no additional interface devices.
- Automation port offers daylighting control using photosensors and scheduler-based operation, as well as remote control using IR and RF wireless controls.
- Modular expansion port enables control of up to four (4) pairs of motors using the IQ/MLC2 4-Motor Expansion Card.
- Brownout protection protects against memory loss and unreliable operation during low-line conditions.
- Flash-upgradable firmware promote flexibility for custom requirements and future enhancements.
- ETL listed to UL 325.
- CSA 22.2 No. 247 compliant.

MechoSystems
Corporate Headquarters
42-03 35th Street
Long Island City, NY 11101

T:+1 (718) 729-2020
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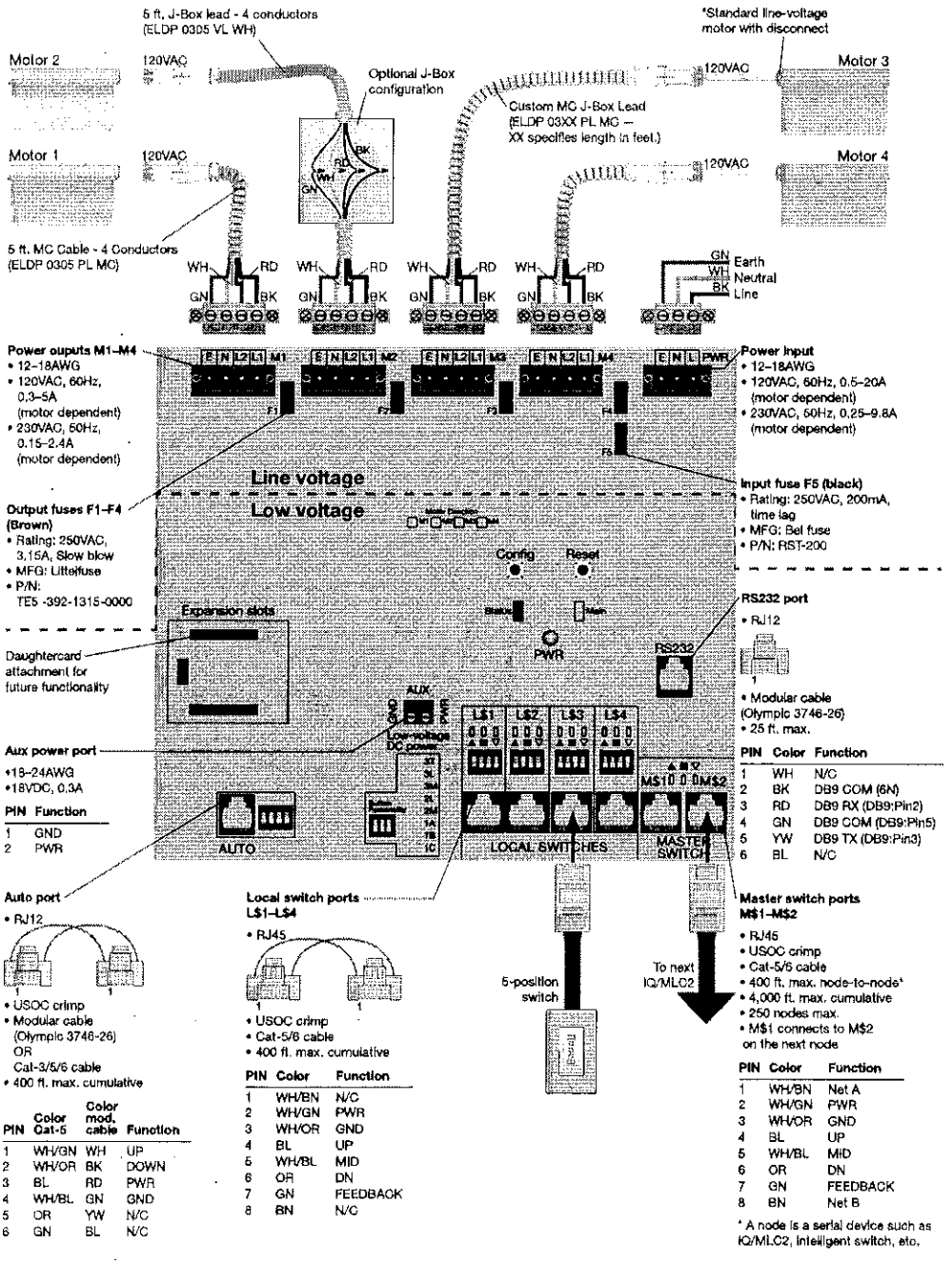
IQ/MLC2 Electrical Specifications

DANGER: Must be installed by a qualified electrician according to all applicable codes and regulations.



PIN	Color	Function
1	WH	N/C
2	BK	DB9 COM (6N)
3	RD	DB9 RX (DB9:Pin2)
4	GN	DB9 COM (DB9:Pin5)
5	YW	DB9 TX (DB9:Pin3)
6	BL	N/C

PIN	Color	Function
1	GND	
2	PWR	

PIN	Color Cat-5	Color mod. cable	Function
1	WH/GN	WH	UP
2	WH/OR	BK	DOWN
3	BL	RD	PWR
4	WH/BL	GN	GND
5	OR	YW	N/C
6	GN	BL	N/C

PIN	Color	Function
1	WH/BN	N/C
2	WH/GN	PWR
3	WH/OR	GND
4	BL	UP
5	WH/BL	MID
6	OR	DN
7	GN	FEEDBACK
8	BN	N/C

PIN	Color	Function
1	WH/BN	Net A
2	WH/GN	PWR
3	WH/OR	GND
4	BL	UP
5	WH/BL	MID
6	OR	DN
7	GN	FEEDBACK
8	BN	Net B

* A node is a serial device such as IQ/MLC2, intelligent switch, etc.

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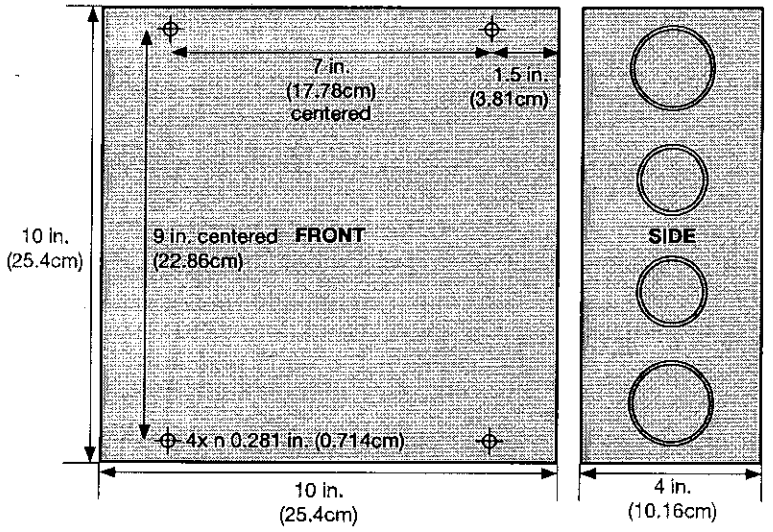
IQ/MLC2 Mechanical Specification

Packaging	Wall-mount
Mechanical	
Size	10 x 10 x 4 in. (25.4 x 25.4 x 10.16cm)
Weight	7.5 lbs. (3.4kg)
Environmental	
Enclosure	NEMA 1
Temp	0-40° C.
Humidity	< 90% relative humidity, non-condensing

Dimensions and Mounting

Box mounting diagram



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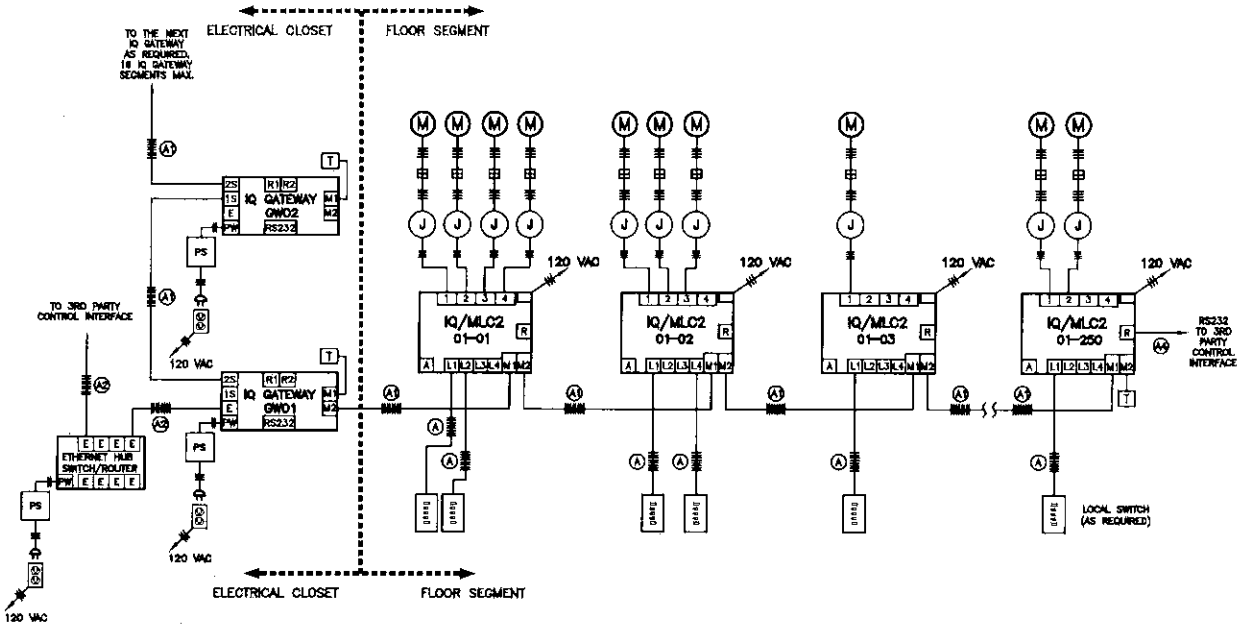
IQMLC2 system diagram



LOW VOLTAGE CABLE LEGEND

(A)	CAT5/6E – FOR LOW VOLTAGE DRY CONTACT CONNECTIONS 24AWG 4UTP (8–CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) OLYMPIC WIRE AND CABLE (www.olympicwire.com 1–800–526–2269) PART No. 3078MSFH. TERMINATION: RJ–45 MODULAR PLUG CRIMPED (USOC) ON BOTH ENDS CAT5/6E – FOR LOW VOLTAGE DRY CONTACT CONNECTIONS IN PLENUM AREAS 24AWG 4UTP (8–CONDUCTOR SOLID UNSHIELDED TWISTED PAIR) OLYMPIC WIRE AND CABLE (www.olympicwire.com 1–800–526–2269) PART No. 3604MSS SOLID CONDUCTOR RJ–45 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS DISTANCE LIMITATION: 400' CUMULATIVE (FURNISHED & INSTALLED BY OTHERS)	(A1)	CAT5/6E – CABLE FOR RS–485 CONNECTIONS 24AWG 4UTP (8–CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ–45 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS. DISTANCE LIMITATION: 4000' CUMULATIVE (FURNISHED & INSTALLED BY OTHERS)
		(A4)	CAT5/6E – CABLE FOR RS–232 CONNECTIONS 24 AWG 3UTP (6–CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ–12 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS CONNECTED TO DB–9/RJ–12 ADAPTOR (BY OTHERS) DISTANCE LIMITATION=25' CUMULATIVE (FURNISHED & INSTALLED BY OTHERS)

NOTES

1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS.
2. ADDRESS SCHEDULES REQUIRED.
3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC.

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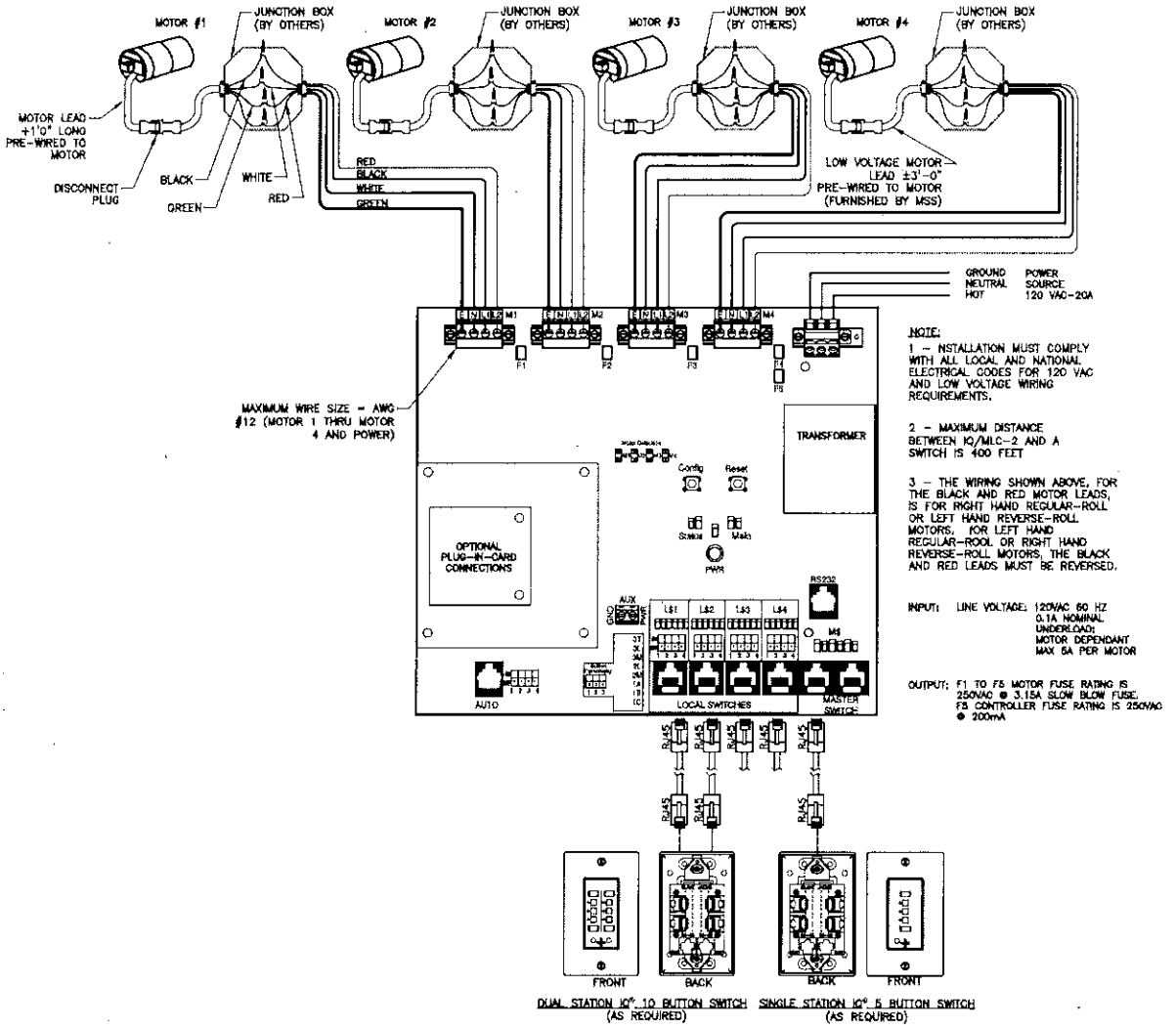
IQMLC2 Point-to point diagram



Warranty:
Limited warranty on motors and electronics to be free of manufacturing defects in factory materials or workmanship for five years from the date of shipment.

Technical Support:
MechoSystems
T: +1 (718) 729-2020, x2006
E: techsupport@mechosystems.com
W: mechosystems.com

MechoSystems reserves the right to make improvements or changes to its products without prior notice. However, every attempt is made to ensure the information herein is accurate and up to date. Verify with the MechoSystems staff to confirm the product availability, latest specifications, and suitability for your application.

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STANDARD ELECTRICAL NOTES

All electrical control equipment as indicated is furnished-only by MechoSystems, installed and wired by the Electrical Contractor.

Electrical control equipment may contain electromechanical relays, adjustment points, fuses, indicator lights, and other interface electronics. These must be conveniently accessible for future servicing and adjustments during normal working hours and without disruption to the existing operations. This equipment shall be labeled by the Electrical Contractor indicating shade locations and specific motors which are controlled, and it shall be labeled at the control equipment and circuit breaker.

Some point-to-point diagrams may not include motor disconnect plugs, junction boxes and cable raceways that may otherwise be essential for a complete installation. The point-to-point diagrams may also not depict a complete or accurate wiring arrangement that meets all applicable national and local codes for a given project location.

Warning:

- Wiring must be accomplished by a qualified electrician in accordance with all the applicable national and local codes.
- Improper wiring can result in personal injury and / or damage to equipment and surroundings.
- Read all instructions before installing. It is important for the safety of each person to follow these instructions. If you are unsure of any part, stop and contact a qualified installer.
- Code requires an accessible detachable power cord, switch or disconnect at the point of installation for the drive which must be located away from moving parts.
- Save all instructions.
- All electrical control equipment must be wired in accordance with the wiring diagrams prepared by MechoSystems, and in accordance with all applicable national (i.e. United States: N.E.C.) and local codes.
- Before installing or servicing remove any unnecessary cords and disable any equipment not needed for powered operation.
- To avoid the risk of fire, shock or death turn off the power at the circuit breaker or fuse before wiring or servicing equipment. Test that power is off before proceeding.
- Make sure that the mains voltage matches the ratings on the product labels.
- Line voltage wiring should only be connected using copper or copper-clad aluminum wire with the CC-CU or CU-CC markings.
- An outlet or terminal box to which connections to the power supply circuit will be made shall be located so that, after the appliance has been installed, such connections are accessible for inspection.
- The leads intended to be spliced in the field shall have insulation not less than 1/32 in. (0.8mm) thick.
- A hole through which insulated wires pass in a sheet metal wall shall be provided with a smooth, rounded protective bushing.

Green motor wires are to be fastened to the grounding point on grounded junction boxes, conduits or other suitable building ground locations as required by code.

- Do not connect low voltage wires to high voltage power. Improper wiring can result in personal injury and/or damage to the equipment.
- Low voltage cables should not be routed near power lines or electrical devices such as lighting ballasts, dimmers and LED drivers that may expose the system to excessive electrical noise.
- When crimping RJ connectors on modular cable or CAT5/6 cable, care must be taken to follow crimping instructions in order to ensure a reliable connection. The outer jacket must be captured within the crimp on the connection in order to ensure proper strain relief.
- Pre-crimped telephone cables will not work.
- Observe wiring guidelines in the low voltage cabling legend in order to ensure maximum cable lengths and maximum node count are properly followed.
- Europe: Do not permit children to play with the appliance (shade motors) or fixed controls. Keep remote controls away from children.
- Europe: The appliance (shade motor) is not intended for use by children or people with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless given proper instruction or supervision.

Canada: The impedance of the bonding connection to the shade motor must be at least 0.1 Ohms.

Except for the drapery operator (shade motor), all exposed dead metal parts and all dead metal parts within the enclosure shall be reliably connected to the equipment-bonding terminal or lead.

Code requires an accessible, detachable power cord or switch at the point of installation and away from moving parts for the shade motor.

Europe: The actuating member of a biased-off switch shall be located within direct sight of the shade assembly but away from moving parts. It shall be installed at a minimum height of 4.92 ft. (1.5m) and possess an opening distance between contacts of at least 0.12 in. (3mm). Controls are all certified in installation up to 6562 ft. (2000m) above sea level.

All tubular shade motors are limited duty cycle motors that are not rated for continuous use. They possess built-in thermal overload protection which limits their continuous use to approximately five (5) minutes. Once protection activates, operation will resume again after the internal temperatures within the motor return to below the thermal limit. Up to a thirty (30) minute rest may be required in order for the motor to sustain regular operation once again.

LOW VOLTAGE CABLE LEGEND

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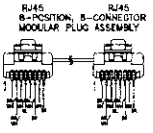
(A6)	CAT5/6E – CABLE FOR MECHONET 24 AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS **DISTANCE LIMITATION: 4000' CUMULATIVE. MAX. NODES: 250.** (FURNISHED & INSTALLED BY OTHERS)

NOTES

1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS.
2. ADDRESS SCHEDULES REQUIRED.
3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC.
4. LOW VOLTAGE CABLES SHOULD NOT BE ROUTED NEAR POWER LINES OR ELECTRICAL DEVICES SUCH AS LIGHTING BALLASTS, DIMMERS AND LED DRIVERS THAT MAY EXPOSE THE SYSTEM TO EXCESSIVE ELECTRICAL NOISE.

USOC CRIMPING INSTRUCTIONS EIGHT CONDUCTOR CABLES FOR NETWORK AND DRY CONTACT CONNECTIONS



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NOTE:
ELECTRICAL CONTRACTOR TO VERIFY WIRING DETAILS AS SHOWN MEET ALL APPLICABLE CODES.

WhisperShade® IQ®2 EDU with Mechonet Network
One iQ®2 EDU Per Splitter. No Automation
Drawing No. W01-01.4

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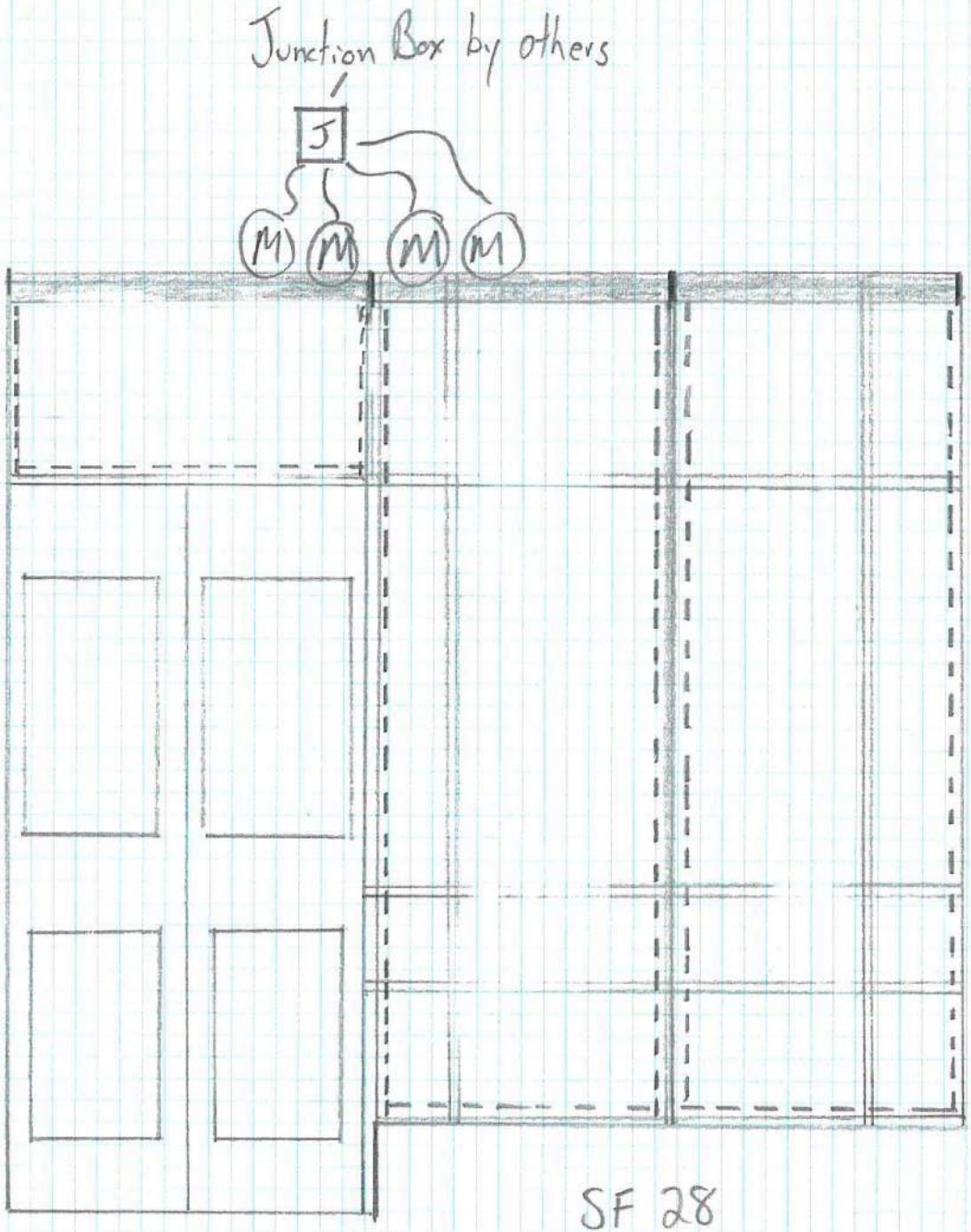
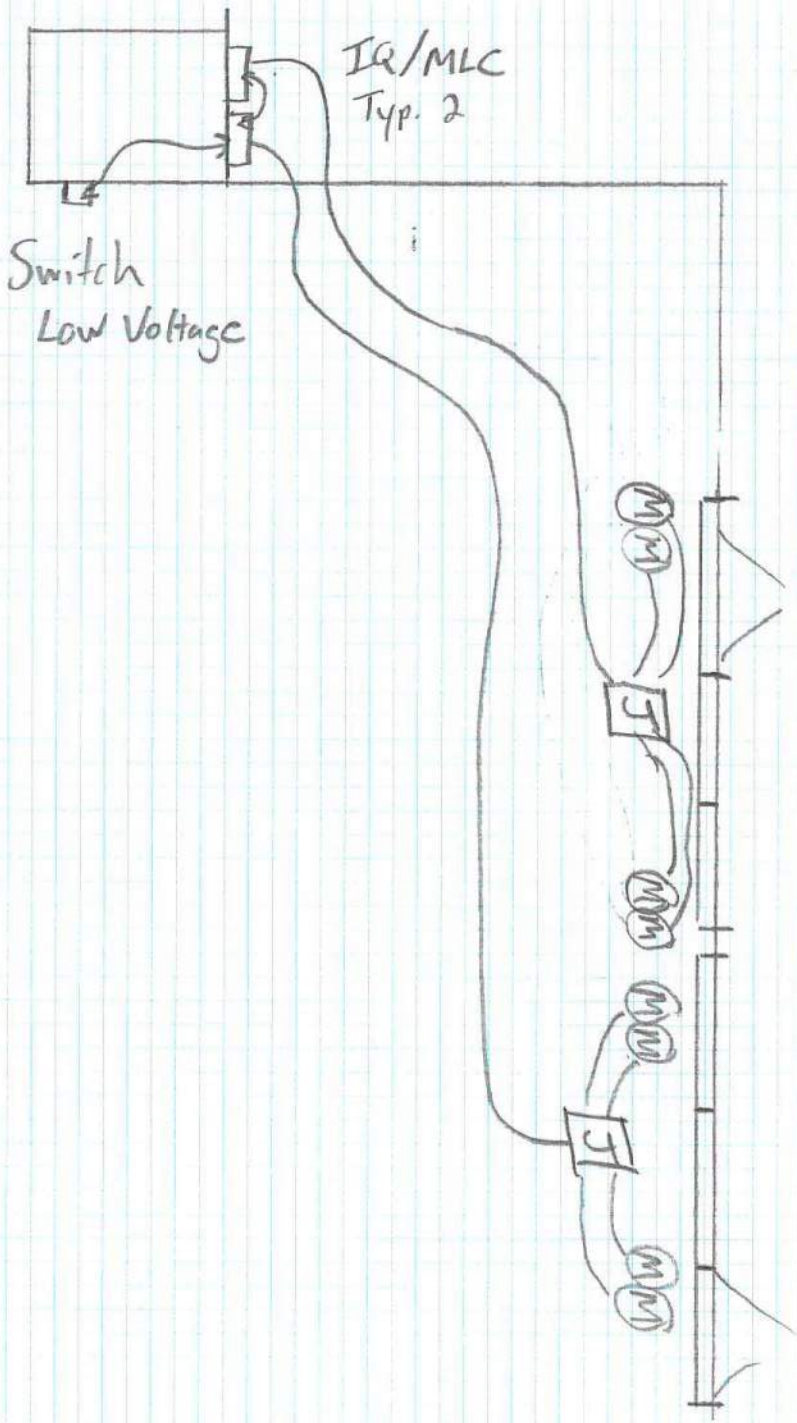
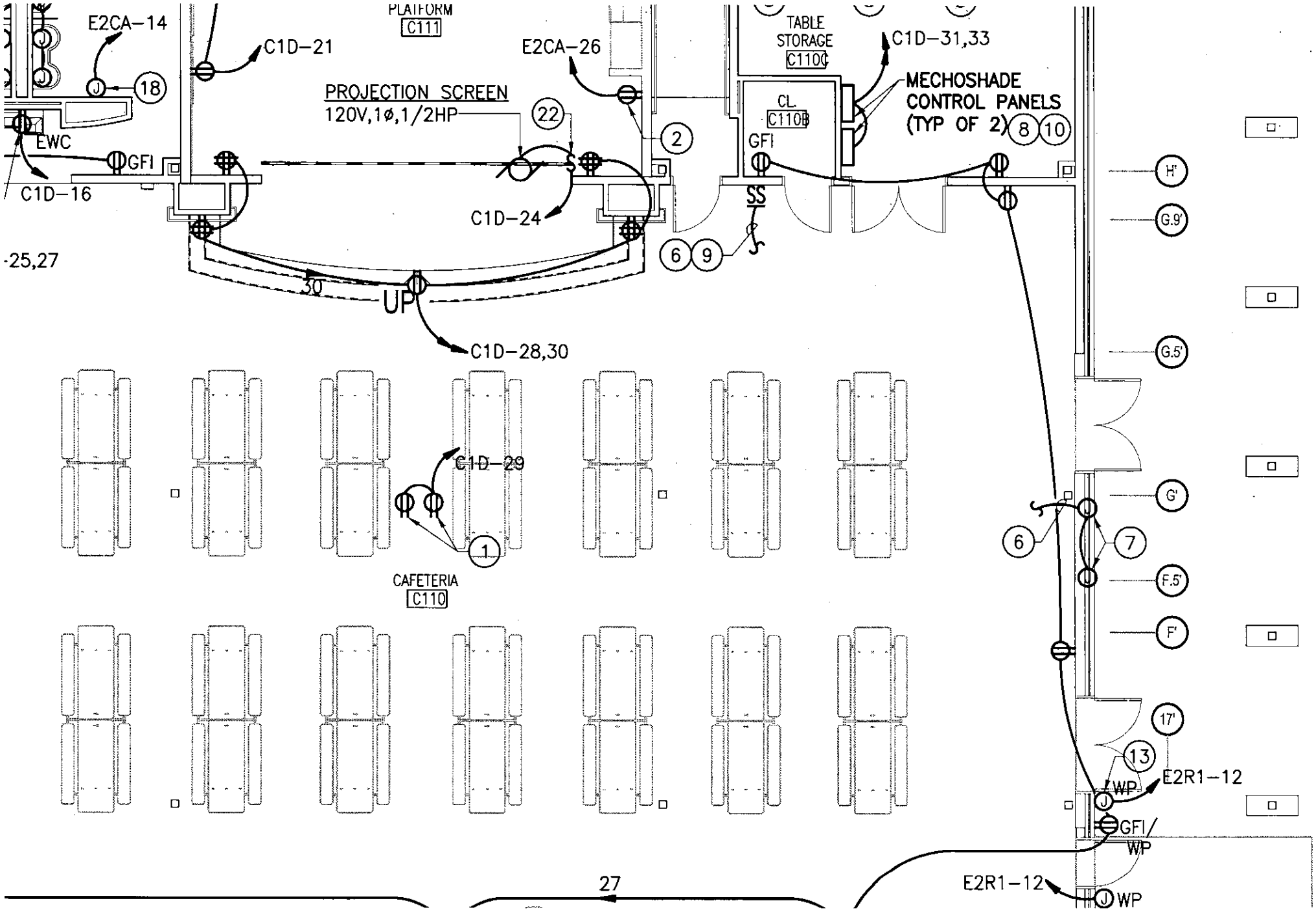


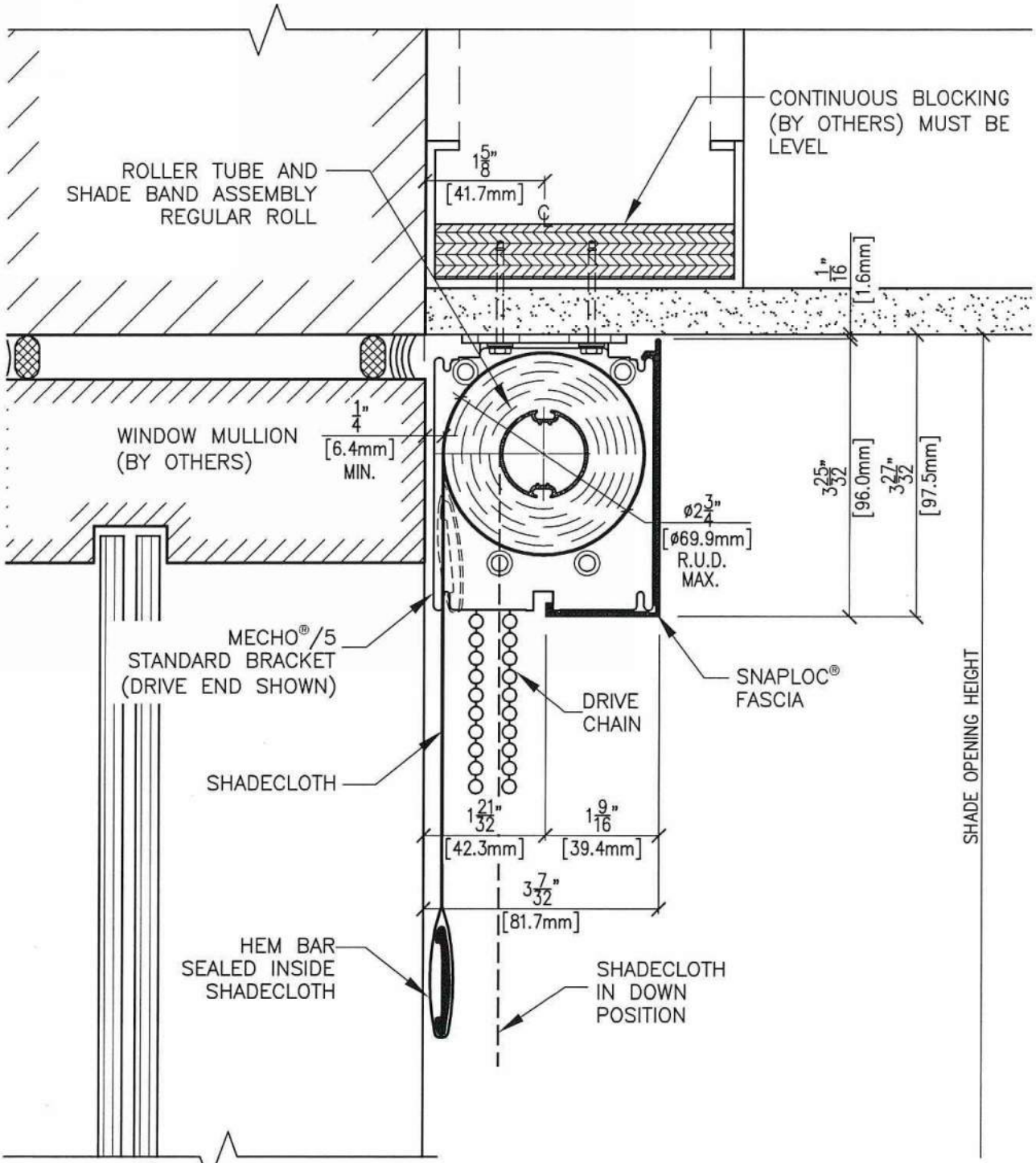
SF 28

SF 29-Inverse




E2CA–14
18
EWC
GFI
C1D–16
C1D–21
PLATFORM
C111
PROJECTION SCREEN
120V,1ø,1/2HP
22
E2CA–26
2
C1D–24
TABLE
STORAGE
C110C
C1D–31,33
CL.
C110B
GFI
MECHOSHADE
CONTROL PANELS
(TYP OF 2)
8
10
SS
6
9
-25,27
30
UP
C1D–28,30
H'
G.9'
G.5'
G'
F.5'
F'
C1D–29
1
CAFETERIA
C110
6
7
17'
13
E2R1–12
WP
GFI/
WP
E2R1–12
WP
27

Manual Shades @ Exterior Windows



SECTION AT WINDOW HEAD

SCALE: 1/2 FULL SIZE

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MechoShade® Mecho®/5 Standard Bracket
Regular Roll with Fascia, Ceiling Mount

Drawing No. M1-01.1-009

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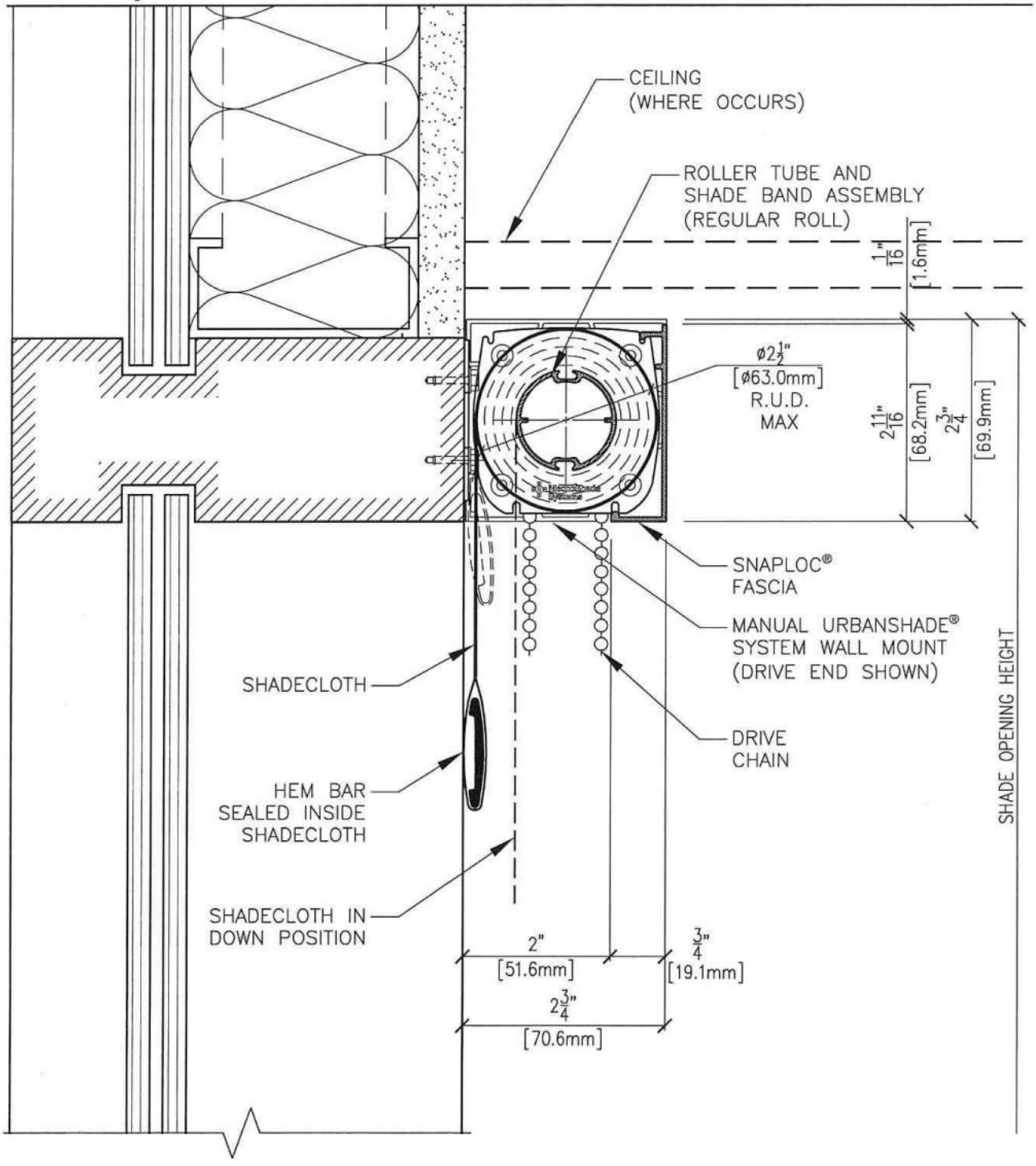
Manual Shades for interior windows

MechoSystems Construction Details

M1-01.4-005



SECTION AT WINDOW HEAD

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Manual UrbanShade® System
Regular Roll, Square Fascia, Wall Mount to Face of Mullion

Drawing No. M1-01.4-005

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Fascia color chip sample set
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MechoSystems
Fascia Sample
Clear Anodized
MechoSystems
Fascia Sample
Alabaster
Color and finish may vary.
MechoSystems
Fascia Sample
Quaker Bronze
Color and finish may vary.
MechoSystems
Fascia Sample
Mill Finish
MechoSystems
Fascia Sample
Colonial White
MechoSystems
Fascia Sample
Black
Color and finish may vary.
MechoSystems
Fascia Sample
Grey
MechoSystems
Fascia Sample

Classic Blackout
~~0700~~ Series (opaque)

This series is composed of an opaque vinyl material, which is appropriate for multimedia areas. The 0700 Series—flame retardant and fade resistant—provides insulation and opacity at the window wall.

Content: 75% vinyl (coating), 25% fiberglass (yarn)
Openness factor: 0% (opaque)
Stocked: 72 in. (183cm) wide with exceptions
NFPA 701-2004: pass

To request 4¼ x 5½ in. (11 x 14cm), 8½ x 11 in. (22 x 28cm), or 24 x 24 in. (61 x 61cm) samples, send an e-mail to samples@mechosystems.com.

GREENGUARD GOLD

GREENGUARD

FR

- ☐ 0701 White
- ☐ 0704 Ivory
- ☐ 0706 Oyster
- ☐ 0705 Champagne
- ☐ 0702 Light Grey
- ☐ 0711 Dark Grey
- ☐ 0731 Black/White

*For special orders, a waiver is required.

Project _____

Job number _____

Available for QuickShip. All QuickShip shadecloths are subject to the standard terms and conditions of the QuickShip program. Visit mechosystems.com/quickship for more information.

This literature was printed on postconsumer paper. Specifications (including colors) subject to change without notice. Other widths might be available on special order. Minimums and lead times apply.

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SCC10006.1213

Classic Blackout
~~0700~~ Series (opaque)

This series is composed of an opaque vinyl material, which is appropriate for multimedia areas. The 0700 Series—flame retardant and fade resistant—provides insulation and opacity at the window wall. The window-facing side of the textile is the same color as the interior color, with the exception of item #0731, which is white.

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SCC10004.0316

~~Classic~~ Blackout
0700 Series (opaque)

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Stocked: 72 in. (183cm) wide with exceptions
NFPA 701-2004: pass

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GREENGUARD GOLD

GREENGUARD

FR

- ☐ 0701 White Q
- ☐ 0704 Ivory
- ☐ 0706 Oyster Q
- ■ 0705 Champagne Q
- ☐ 0702 Light Grey Q
- ☐ 0711 Dark Grey Q
- ☐ 0731 Black/White Q

*For special orders, a waiver is required.

Project _____

Job number _____

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SCC10006.1213

Classic Blackout
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GREENGUARD GOLD

GREENGUARD

FR

- ☐ 0701 White Q
- ☐ 0704 Ivory
- ■ 0706 Oyster Q
- ☐ 0705 Champagne Q
- ☐ 0702 Light Grey Q
- ☐ 0711 Dark Grey Q
- ☐ 0731 Black/White Q

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Project _____

Job number _____

Q Available for QuickShip. All QuickShip shadecloths are subject to the standard terms and conditions of the QuickShip program. Visit mechosystems.com/quickship for more information.

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- ☐ 0704 Ivory
- ☐ 0706 Oyster
- ☐ 0705 Champagne
- ☐ 0702 Light Grey
- ☐ 0711 Dark Grey
- ☐ 0731 Black/White

*For special orders, a waiver is required.

Project _____

Job number _____

Available for QuickShip. All QuickShip shadecloths are subject to the standard terms and conditions of the QuickShip program. Visit mechosystems.com/quickship for more information.

This literature was printed on postconsumer paper. Specifications (including colors) subject to change without notice. Other widths might be available on special order. Minimums and lead times apply.

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SCC10004.0316

Classic Blackout
0700 Series (opaque)

This series is composed of an opaque vinyl material, which is appropriate for multimedia areas. The 0700 Series—flame retardant and fade resistant—provides insulation and opacity at the window wall.

Content: 75% vinyl (coating), 25% fiberglass (yarn)
Openness factor: 0% (opaque)
Stocked: 72 in. (183cm) wide with exceptions
NFPA 701-2004: pass

To request 4¼ x 5½ in. (11 x 14cm), 8½ x 11 in. (22 x 28cm), or 24 x 24 in. (61 x 61cm) samples, send an e-mail to samples@mechosystems.com.

GREENGUARD GOLD

GREENGUARD

FR

- ☐ 0701 White Q
- ☐ 0704 Ivory
- ☐ 0706 Oyster Q
- ☐ 0705 Champagne Q
- ☐ 0702 Light Grey Q
- ☐ 0711 Dark Grey Q
- ■ 0731 Black/White Q

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SCC10006.1213

ThermoVeil® Reversible Satin/Diamond Weave
Series 3000, 3200, 3300 (1–2% open)

These reversible shadecloths feature a textured weave with an alternating predominant color in the warp and fill. The standard 3000 and 3200 shadecloths are in a satin weave, and the 3300 series in a diamond weave. Both series may be ordered in the alternate weave; however, minimums and lead times apply. When ordering, if the face side is to be to the room interior, use the color numbers as shown below. **If the reverse is to face the room interior, use the color number followed by the letter "R."**

Content: 75% PVC (coating), 25% polyester (yarn)
Openness factor: 1–2%
Stocked: 72 in. (183cm) and 96 in. (244cm) wide
NFPA 701-2004: pass

To request 4¼ x 5½ in. (11 x 14cm), 8½ x 11 in. (22 x 28cm), or 24 x 24 in. (61 x 61cm) samples, send an e-mail to samples@mechosystems.com.

GREENGUARD GOLD

GREENGUARD

FR

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- ☐ 3010 Alabaster
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- ☐ 3011 Parchment
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- ☐ 3017 Charcoal
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SCC10016.1213

Date: 05/08/17

Butterfly Ridge Elem school
Materials List

Item #		Part Number	Description				
			Section #275123 - Public Address				
1	1	QSR120	Bogen - Quantum 120 Station Rack system				
2	1	HTA250	Bogen HTA 250 watt amplifier				
3	1	HTA125	Bogen HTA 125 watt amplifier				
4	1	SPT064-10	Geist Rack mounted power strip				
5	11	AT10A	Bogen 10W Attenuator (Volume contol)				
6	133	CSD2X2	Bogen Drop-in Ceiling Speaker				
7	10	FMH15T	Bogen 15 Watt Horn (flange mounted)				
8	10	BBSM6	Bogen Back box for surface mount (6")				
9	10	SGHD8	Bogen Heavy Duty Square Grill				
10	4	SPT15A	Bogen Horn Speaker 15 watt				
11	2000	E2242S.41.86	West Penn 16/2 Shielded PVC wire				
12	25,000	E2032.30.10	West Penn 18/2 Shielded PVC wire				
			End of Materials				

Request For Information ST2 PB-012

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-012 **Date Created: 1/29/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Tile vs. paint clarification	Interior Design	Drawing Discrepancies

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/5/2019**

The Finish Schedule(drawing A-3.1)- has the corridors A011, A012, A012, A014, B011 as painting but drawing A-6.4 indicates ceramic Tile. Please clarify.

Suggestion

Answer **Date Answered:**

Interior Elevations have been revised by Addendum 2.

Request For Information ST2 PB-014

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-014 **Date Created: 1/29/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent	Author RFI Number

Subject	Discipline	Category
Casework	Architectural	Other

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/5/2019**

See questions below from Modular Concepts:

1. Is there any casework intended in room A106?

2. Is there a scheduled “C33” intended just inside the doorway to room A124?

3. Please provide details for desk in Media Center B101. Details provided on A9.9 don’t match what is shown on A9.2.

4. Is there casework intended in the southwest corner of room C104?

5. Where is G5/A9.9 used on this project?

6. Where is A14/A09.10 used on this project?

7. Please verify the display case shown on H1/A9.10 is part of the 064100 and not 101125.

8. Maple Chair rail in the cafeteria is not shown clearly. Can we assume the entire perimeter of the Cafeteria will have this condition?

9. Please verify that detail G1/A9.9 is not used on this project. The standard details show a window sill and countertop separate of one another, not a continuous counter that also acts as a sill.

10. Please advise what doors are intended on the 123551 casework. Are they to be full height or individual compartment doors?

11. Please advise what level of Corian to assume for the C3 and Alternate C1 solid surface counters. Corian level 4?

Please provide responses accordingly.

Suggestion

Answer **Date Answered:**

1. None required. This has been clarified by Addendum 2.
2. Yes. This has been clarified by Addendum 2.
3. Details to be provided in Addendum 3.
4. Yes. This has been clarified by Addendum 2.
5. Yes. Exact location(s) will be included in Addendum 3.
6. Detail will be deleted in Addendum 3.
7. This item is Millwork. Detail will be revised in Addendum 3.
8. This will be clarified in Addendum 3.
9. This detail will be revised in Addendum 3.
10. Individual compartment.
11. Clarification or color selections will be included in Addendum 3.

Request For Information ST2 PB-017

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-017 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Lighting controls substitution	Electrical	Contractor Suggestion / Upgrade

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/6/2019**

See attached substitution request from Commercial Lighting Sales, Inc. recommending their products be accepted for lighting control devices. Please review and advise.

Suggestion

Answer **Date Answered:**

These products will not be permitted for this project.

Advancement of Construction Technology

SUBSTITUTION REQUEST

Project: Urbana ES/Future Frederick County Public Schools

Substitution Request Number:

From:

To: Oak Contracting

Date: 1/29/2019

A/E Project Number:

Re:

Contract For:

Specification Title: Lighting Control Devices

Description: Digital Room Controllers, relay panels entire section excluding Lighting Contactors

Section: 26 09 23 Page:

Article/Paragraph:

Proposed Substitution: Lehigh EFlex digital room controllers and wall stations

Manufacturer: Lehigh Electric Products Co., Inc. Phone:

Trade Name: EFlex Lighting Controls Model No.:

Installer: Address: Phone:

History: ☐ New product ☑ 2-5 years old ☐ 5-10 yrs old ☐ More than 10 years old

Differences between proposed substitution and specified product: Lehigh EFlex system provides "distributed" and "centralized" control while providing durable wall stations made of Lexan with steel mounting straps.

EFlex products utilize a "distributed" wiring scheme to avoid potential building-wide control issues by putting the processing capability in each room. Issues in one location will not affect lighting in other areas. On the other hand central control systems are desirable in other areas such as egress and exterior spaces to provide broadcast time clock signals. Digitally addressable wall stations are programmed with each local plenum-rated relay/dimming panel. Features include: manual and scene control, timeclock, local override, control of Emergency fixtures and fire alarm interface.

☑ Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: Specified controls system is not represented by our agency.

Similar Installation: See attached "Project List"

Project: Sugarloaf Elem. School

Address: 3400 Stone Barn Drive

Frederick, MD 21704

Architect: Grimm + Parker

Owner: Frederick County Public Schools

Date Installed: 2018

Proposed substitution affects other parts of Work: ☑ No ☐ Yes; explain

Savings to Owner for accepting substitution: N/A - it would allow for additional competition during the bid process ($).

Proposed substitution changes Contract Time: ☑ No ☐ Yes [Add] [Deduct] days.

Supporting Data Attached: ☐ Drawings ☑ Product Data ☐ Samples Upon request ☐ Tests ☐ Reports ☐

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SUBSTITUTION REQUEST
(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: Kyle Wheeler

Signed by: Kyle Wheeler

Firm: Commercial Lighting Sales, Inc

Address: 6797 Dorsey Road, Suite 3
Elkridge, MD 21075

Telephone: 443-561-1537

Attachments:

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

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LEHIGH

E-Flex™

Lighting and Energy Control System

- **4 and 8 Zone Models**
- **16A Electronic Ballast Rated Relays**
- **0-10V Dimming**
- **Commissioning Free Default Programming**
- **DMX controlled or Standalone Operation**
- **Demand Response**
- **Secondary Daylight Zone Adjustment**
- **Meets requirements for CA Title 24**
- **PC-based configuration software**
- **USB Device Port**
- **Astronomical Timeclock Option**
- **UL and cUL Listed**

The E-Flex™ lighting and energy control system is a relay based controller for switched and 0-10V lighting control for direct connection to dimming ballasts and LED drivers. The system is flexible enough to act as a standalone room controller, or to accept DMX512 directly to easily integrate alongside DMX-based architectural lighting. It is available with four or eight output circuits and four input banks to accept occupancy, daylight, contact closure and CapT wallstations.

It is an ideal solution for standalone applications – classrooms, conference rooms, offices, or to simply light public spaces such as stairwells, hallways, or lobbies. Built-in support for occupancy and daylight sensors provides a complete energy management solution. Receptacle zone type is provided to meet automatic receptacle control requirements. Additional inputs provide UL924 emergency, timeclock, or demand response support. Demand Response includes load shed adjustment on a zone-by-zone basis for maximum flexibility to meet energy codes and reduce power consumption. An integral astronomical timeclock option is also available with 50 events and support to control individual panels and zones or to broadcast an event to all panels on FlexNet.

E-flex provides support for both primary and secondary daylight zones controlled from a single photocell. Secondary daylight zones can be adjusted on a zone-by-zone basis using DASC (daylight scaler) which scales the effect of the daylight sensor on a zone from 100% down to 0.

Each input bank has an input for Lehigh's CapT™ wallstations which provide a capacitive touch button interface with wake-on proximity sensing for low-power operation. CapT wall stations include button layouts with up to 7-buttons from simple ON/OFF to a 4-preset recall with OFF, and raise/lower control.

With DMX512 and RDM support the E-Flex integrates alongside DMX-based lighting fixtures and is compatible with Lehigh's Solitaire and Impress DMX architectural control systems, as well as the DX3 architectural processor.

Dimensions:

E-Flex 4: 9.5"H x 12" W x 3"D.

E-Flex 8: 16.25"H x 12"W x 3"D.

Part Numbers:

H2800 E-Flex-4, DMX, 0-10V

H2814 E-Flex-4, DMX, 0-10V, Timeclock

H2803 E-Flex-4, Relays Only

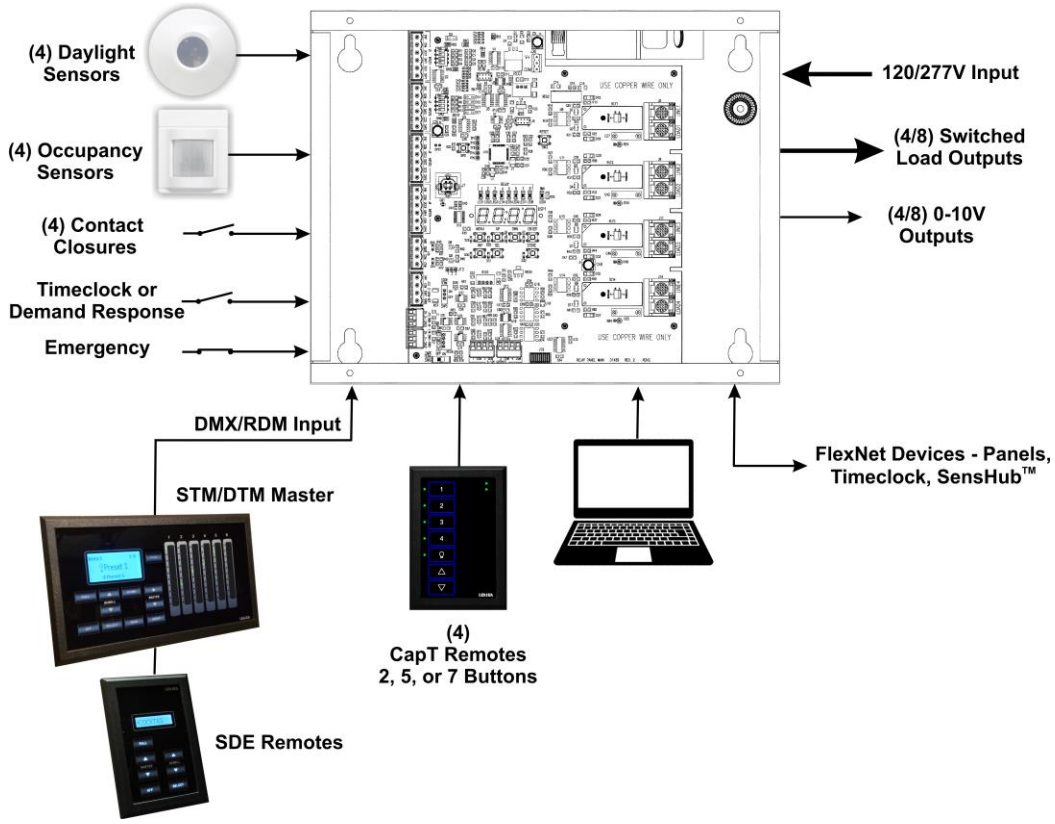
H2810 E-Flex-8, DMX, 0-10V

H2815 E-Flex-8, DMX, 0-10V, Timeclock

H2813 E-Flex-8, Relays Only

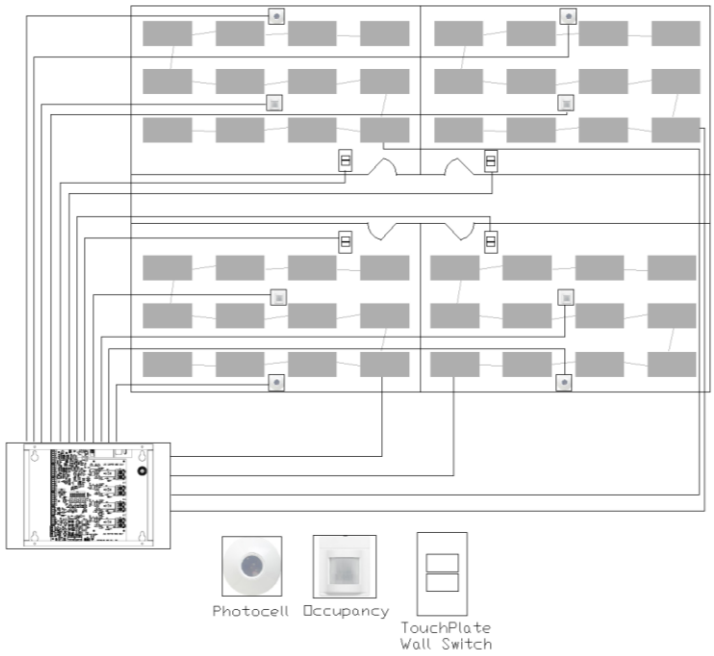
6265 Hamilton Blvd Allentown, Pa. 18106 Tel: (610) 395-3386 Fax: (610 395-7735)

Input/Output Diagram



Default Programming Riser – Four rooms, 1 zone each, wired

Energy Savings: Automatic shutoff, and space control – occupancy in vacancy mode, plus daylight harvesting.



LEHIGH

E-Flex™

CapT™ Wall Stations

- **Low Cost Capacitive Touch**
- **No Mechanical buttons**
- **2, 5, and 7 Button Layouts**
- **Preset Recall**
- **Raise/Lower**
- **16 presets in banks of four**

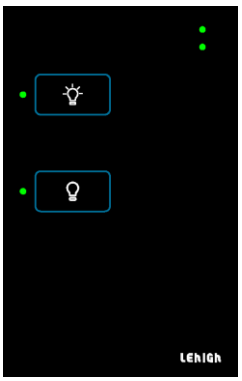
CapT wall stations for the E-Flex Lighting and Energy control system provide a capacitive touch button interface with wake-on proximity sensing for low-power operation. CapT wall stations include button layouts with up to 7-buttons for simple ON/OFF to a 4-preset recall with OFF, and raise/lower control. The 4-preset recall layout is bank selectable via a dip switch on the rear of the station and can be configured to recall presets 1-4, 5-8, 9-12, or 13-16 from an EFRP (E-flex relay panel).

In the upper corner of the station are two LEDs. The top LED is always ON and will flicker when the proximity sensor is activated. The bottom LED will be lit while a button is pressed. The top five buttons include an LED on the right to indicate activation.

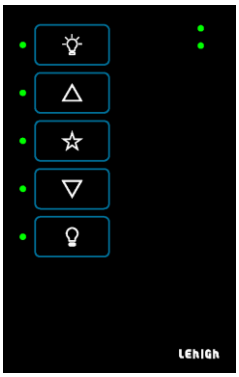
Each EFRP (E-Flex relay panel) has four CapT inputs; only one CapT station can be connected to an input. A single CapT station can be connected to more than one relay panel to expand the number of lighting zones to control. By configuring a CapT input on the EFRP, a CapT wall station can be set up to control one or more zones of the connected EFRP(s). By default a single zone is assigned to the corresponding CapT input on the EFRP for out of the box operation as a standalone 4-zone room controller.

Zone assignment can be unique for each CapT wall station or the same zones can be assigned to more than one CapT wall station. With multiple zones assigned, a CapT station can recall full lighting looks which are editable on the relay panel. The 16 presets available on the relay panel can be edited with the PC-based E-Flex EFRP configurator tool software or using the on-board user interface of the EFRP.

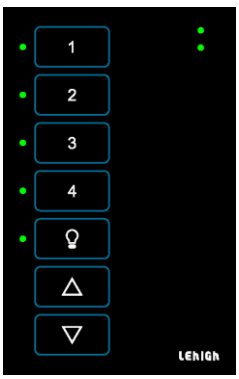
ON/OFF (CapT-2)



ON/OFF, R/L, Preset (CapT-5)



Preset 1-4, OFF, R/L (CapT-7)



Available in colors – black, white, tan.

6265 Hamilton Blvd Allentown, Pa. 18106 Tel: (610) 395-3386 Fax: (610 395-7735)

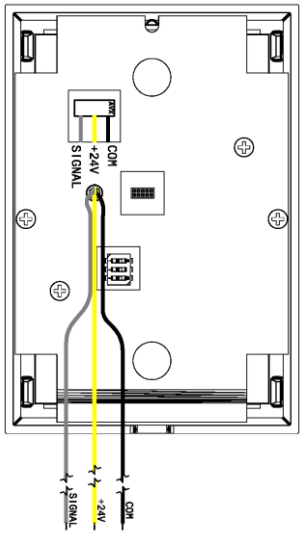
Rear View of Station

Connections:

- 24V
- Ground
- Signal

Wiring:

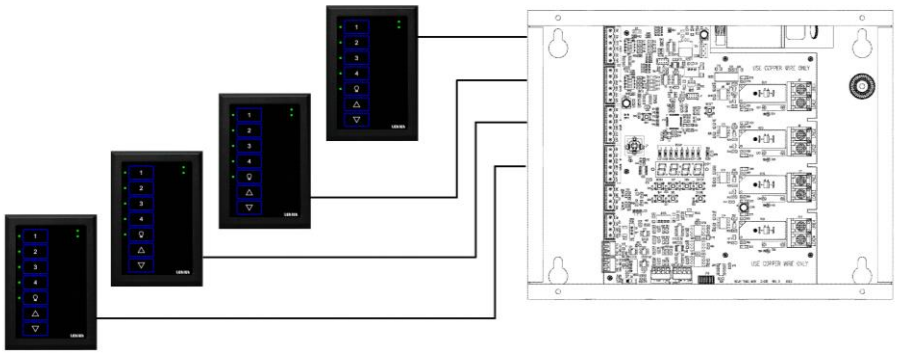
150 ft. maximum.
(3) - 22-18 AWG or Cat5.
Cat5 – two pairs for power.



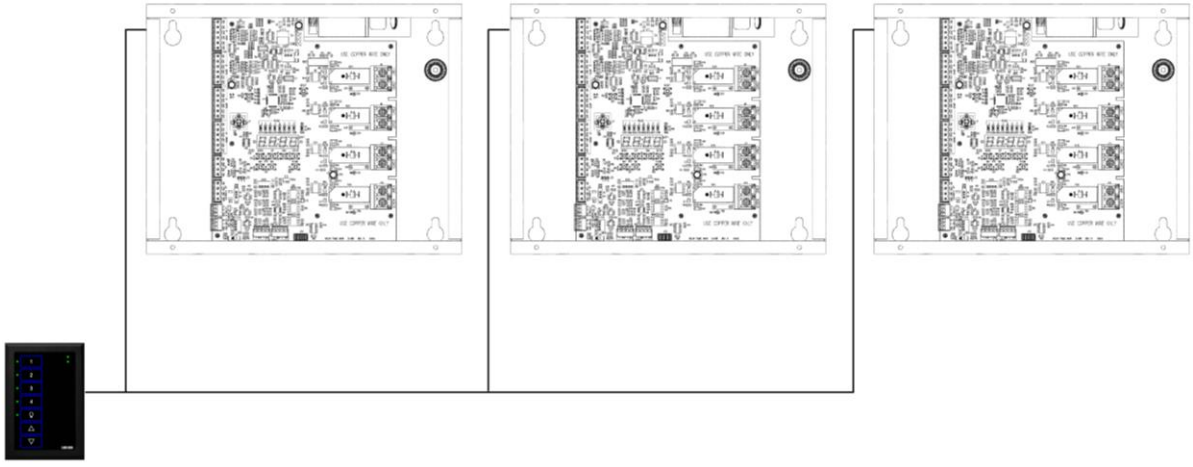
Part Numbers

P/N	Description
H2820	CapT-2 Black
H2822	CapT-5 Black
H2823	CapT-7 Black
H2825	CapT-2 White
H2827	CapT-5 White
H2828	CapT-7 White
H2830	CapT-2 Tan
H2832	CapT-5 Tan
H2833	CapT-7 Tan

Typical Risers



CapT Wall Station per EFRP (E-Flex relay Panel) Input



CapT Wall Station to Multiple EFRPs (E-Flex relay Panel)

Advancement of Construction Technology

SUBSTITUTION REQUEST

Project: Urbana ES/Future Frederick County Public Schools

Substitution Request Number:

From:

To: Oak Contracting

Date: 1/29/2019

A/E Project Number:

Re:

Contract For:

Specification Title: Lighting Control Devices

Description: Digital Room Controllers, relay panels, occ sensors

Section: 26 09 23 Page:

Article/Paragraph: entire section excluding Lighting Contactors

Proposed Substitution: GreenMax Digital Room Control and GreenMax Relay Panel Systems

Manufacturer: Leviton Mfg. Co., Inc. Phone:

Trade Name: GreenMax Digital Room Control and GreenMax Relay Panel systems Model No.:

Installer: Address: Phone:

History: ☐ New product ☐ 2-5 years old ☑ 5-10 yrs old ☐ More than 10 years old

Differences between proposed substitution and specified product: Leviton GreenMax Digital Room Control and GreenMax Relay panels offer the advantages of "distributed" and "centralized" control while providing the same easy-to-use wall control style through-out the school. All Leviton wall switches utilize Decora style faceplates.

DRC products utilize a "distributed" wiring scheme to avoid potential building-wide control issues by putting the processing capability in each room. Issues in one location will not affect lighting in other areas. On the other hand central control systems are desirable in other areas such as egress and exterior spaces to provide broadcast time clock signals. Local digitally addressable wall stations, occ sensors and photocells are programmed with each local plenum-rated relay/dimming relay module. Features include: manual and scene control, timeclock, local override, control of Emergency fixtures, fire alarm and BAS interface.

☑ Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: Specified controls system is not represented by our agency.

Similar Installation: See attached "Project List"

Project: Oakcrest School

Architect: Davis, Carter, Scott - McLean, VA

Address: 1619 Crowell Rd. Vienna, VA 22182

Owner: Private (Roman Catholic association)

Date Installed: installed 2016

Proposed substitution affects other parts of Work: ☑ No ☐ Yes; explain

Savings to Owner for accepting substitution: N/A - it would allow for additional competition during the bid process ($).

Proposed substitution changes Contract Time: ☑ No ☐ Yes [Add] [Deduct] days.

Supporting Data Attached: ☐ Drawings ☑ Product Data ☐ Samples ☐ Tests ☐ Reports ☐

Upon request

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SUBSTITUTION REQUEST
(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: Kyle Wheeler

Signed by: Kyle Wheeler

Firm: Commercial Lighting Sales, Inc.

Address: 6797 Dorsey Road, Suite 3
Elkridge, MD 21075

Telephone: 443-561-1537

Attachments:

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

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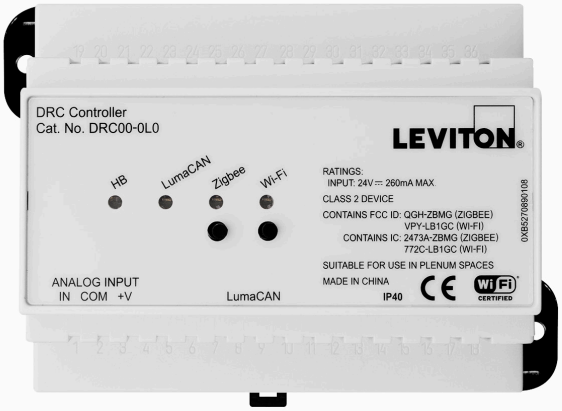
GreenMAX®
DRC Low Voltage Room Controller



PRODUCT DESCRIPTION

The GreenMAX® DRC Low Voltage Room Controller serves as the "brain" of any GreenMAX DRC Room Control System by coordinating the energy management functions within the room. Each room requires one room controller to connect with components such as DRC Smart Packs, digital keypads, and sensors.

SYSTEM DESCRIPTION

The GreenMAX DRC Room Control System offers a fully distributed room control system, with each room operating independently of others; no dependence on network processors or centralized controllers. This revolutionary system is fully configurable via the GreenMAX DRC app for smart devices, and can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, multi-level lighting, daylight harvesting, partial-ON, partial-OFF, scheduling, exterior lighting, demand response and receptacle control requirements, and it is listed on the DesignLights Consortium (DLC) Qualified Products List (QPL) for Networked Lighting Control systems (certification pending).

GREENMAX DRC APP

Wirelessly commission, configure, control, monitor and provision the GreenMAX DRC system using the GreenMAX DRC App designed for any WiFi-enabled Android or iOS smart device.

APPLICATIONS

- Single room controller for GreenMAX DRC systems—one required per room
- DIN rail applications, such as phase control dimmers

USE WITH THESE LEVITON SYSTEMS

- GreenMAX DRC
- GreenMAX relay panels
- Sapphire™ Touchscreen

FEATURES

- Low voltage model is powered from LumaCAN network and can be surface mounted or installed into a DIN rail enclosure
- Connects to building WiFi network for configuration and communication between rooms,
- Acts as an access point for direct connection
- UL2043 Plenum rated
- Single analog input

Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
20497 SW Teton Avenue, Tualatin, OR 97062 **tech line** 800-959-6004 **fax** 503-404-5594
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PRODUCT DATA

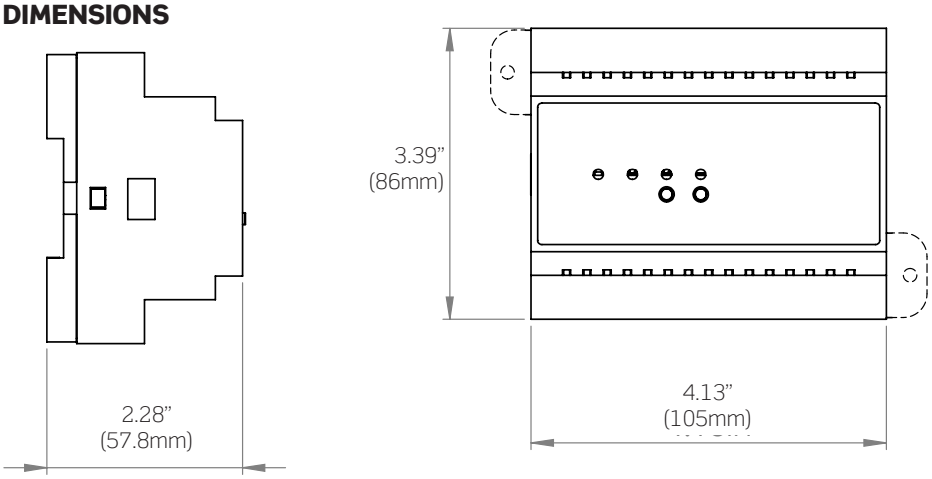
LEVITON

GreenMAX® DRC Low Voltage Room Controller

SPECIFICATIONS

ELECTRICAL	
Power Input	+12-24VDC
Low Voltage Connections	LumaCAN: (2) RJ45, CAT6A or better, termination provided via jumper (LCTRM-RJ) AUX In: 3-wire 2-part terminals, 26-18AWG (solid or stranded)
CONNECTIVITY	
Network Connections	(2) RJ45, CAT6 or better for connection to LumaCAN network. Termination provided via local termination switch.
Network Topology	Daisy chain, 1600' max between repeaters Home-run topology and network length up to 10,000' can be achieved when using LumaCAN network repeaters (NPRPT) Maximum 110 nodes between repeaters Maximum 250 nodes on a LumaCAN network
ENVIRONMENTAL	
Operating Temperature Range	32° to 104° F (0° to 40° C)
Storage Temperature Range	14° to 185° F (-10° to 85° C)
Relative Humidity	0 to 90% non-condensing, for indoor use only
IP Rating	IP30
OTHER	
Listings	UL, cUL (File # E148771), emergency bypass (UL924)
Energy Codes	Can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, multi-level lighting, daylight harvesting, partial-ON, partial-OFF, scheduling, exterior lighting, demand response and receptacle control requirements
Warranty	Limited 5-year

DIMENSIONS



ORDERING INFORMATION

CAT. NO.	DESCRIPTION
DRC00-0L0	GreenMAX DRC Room Controller with interface to LumaCAN, and WiFi networks, DIN rail form factor, low voltage, color: putty
DINRK-001	DIN Rail Rack Mount Enclosure, Small, 14x10" with (1) 12.9" rail
DINRK-A03	DIN Rail Rack Mount Enclosure, Medium, 21x25" with (3) 13.7" rails
DINRK-A06	DIN Rail Rack Mount Enclosure, Large, 25x48" with (5) 19.5" rails

Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
20497 SW Teton Avenue, Tualatin, OR 97062 **tel** 800-736-6682 **fax** 503-404-5594 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004

Leviton Manufacturing Co., Inc. Global Headquarters
201 North Service Road, Melville, NY 11747-3138 **tel** 800-323-8920 **fax** 800-832-9538 **tech line** (8:30AM-7:00PM ET Mon-Fri) 800-824-3005

Visit our Website at: www.leviton.com/emca

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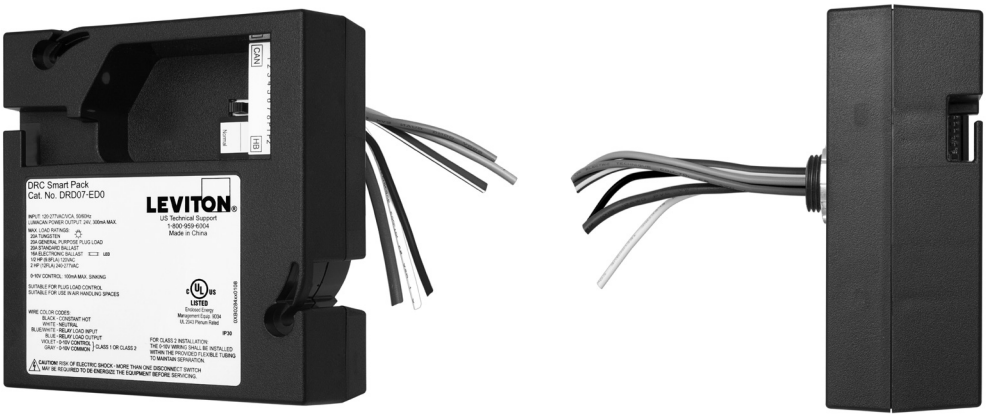
PRODUCT DATA

GreenMAX® DRC 0-10V Smart Pack

Use with GreenMAX DRC System



DESCRIPTION

The GreenMAX DRC 0-10V Smart Pack enables switching and 0-10V dimming control of a single zone of fixtures, allowing for a distributed control solution. Used to control multiple fixtures in a zone or for plug load control solutions, the DRC uses distributed relays, which eliminates the need to run wires back to a cabinet. This distributed system architecture saves on installation and equipment costs. DRC relays can be used as a normal or emergency relay; a remote relay with the GreenMAX® DRC system; or as a single room control relay with the Sapphire™ Touch Screen.

The GreenMAX DRC Room Control System offers a fully distributed room control system, with each room operating independently of others—no dependence on network processors or centralized controllers. This revolutionary system is fully configurable via the GreenMAX DRC app for smartphone devices, and can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, demand response and receptacle control requirements. It is listed on the DesignLights Consortium (DLC) Qualified Products List (QPL) for Networked Lighting Control systems (certification pending).

APPLICATIONS

- Single channel LumaCAN 0-10V relay
- Distributed controls
- GreenMAX® remote relay
- Direct load control from Sapphire™

FEATURES

- Single channel device—(1) 0-10V output plus (1) relay
- Plug load controls
- UL924 Emergency
- Utilizes Leviton High Inrush Stability (H.I.S.) circuitry for increased reliability
- Connects via the LumaCAN network via RJ45 connectors and CAT6 wiring
- 0-10V control can be Class 1 or Class 2 wiring
- Used for both switching only loads and dimming loads controllable with a 0-10V control signal
- All relay models are latching to reduce parasitic energy waste over NO/NC relays

INSTALL NOTES

- Installs as 4" square electrical box cover or via 1/2" nipple
- When Class 2 In Conduit is required, use 4" square extension ring and blank cover on low voltage side
- May be field-painted to match surroundings (requires 4S blank cover to protect Class 2 side)

Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
20497 SW Teton Avenue, Tualatin, OR 97062 **tech line** 800-959-6004 **fax** 503-404-5594
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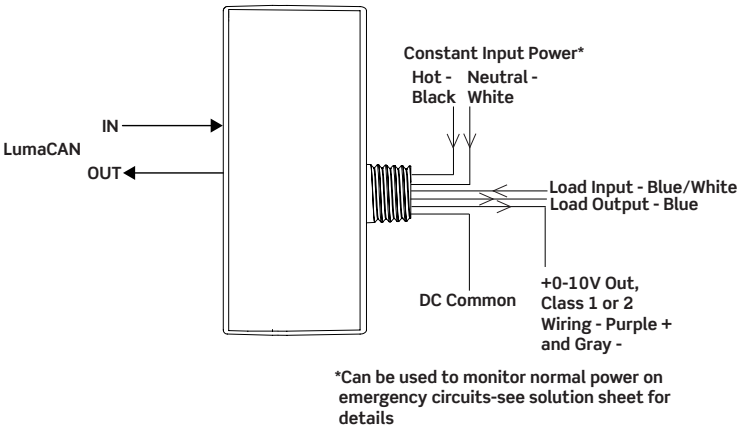
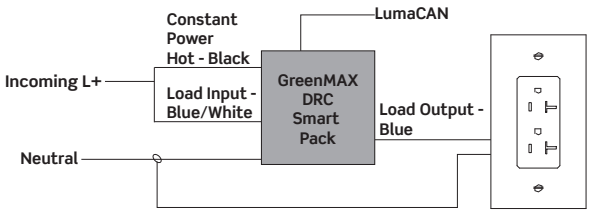
PRODUCT DATA

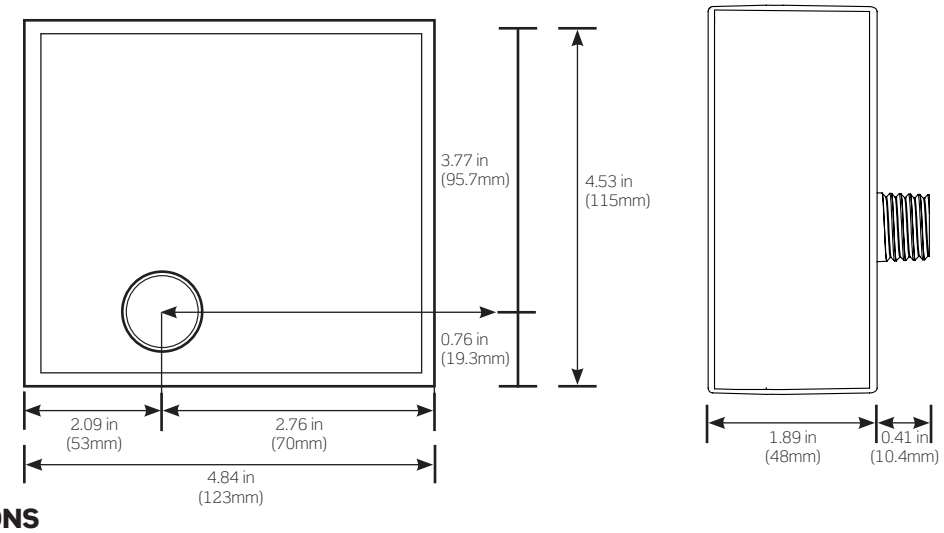
WIRING DIAGRAM



*Can be used to monitor normal power on emergency circuits-see solution sheet for details



DIMENSIONS



SPECIFICATIONS

ELECTRICAL	
Input Voltage	120-277VAC, 50/60 Hz, 20A Max
Supported Loads	20A Tungsten 20A Standard Ballast 16A Electronic Ballast, LED Drivers 20A General Purpose/Plug Load Control Motor: 1/2 HP, 9.8 FLA @ 120V AC; 2HP, 12 FLA @ 240-277V AC
Control Output	0-10V, 100mA sinking, Class 1 or Class 2 wiring
Network requirements	LumaCAN network input and output, RJ45 connectors
ENVIRONMENTAL	
Operating Temperature	23° to 122°F (-5° to 50°C)
Storage Temperature	4° to 185°F (-20° to 85°C)
Ambient Humidity	0-90% non-condensing
Listings	UL, cUL, plenum rated (UL2043), emergency bypass (UL924)

ORDERING INFORMATION

CAT. NO.	DESCRIPTION
DRD07-ED0	GreenMAX DRC Smart Pack, 0-10V, 120-277VAC, 50/60Hz 20A max, 100mA sink current

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G-9664A/F18-tb
REV JUL 2018

GreenMAX® Relay Control Panels

Modular Relay System Offers Unparalleled Flexibility

DESCRIPTION

The Leviton GreenMAX® Relay Control Panel line offers features and performance not available from any competing product on the market today. For increased reliability and durability, GreenMAX Cabinets and Relay Modules have a 25,000A Short Circuit Current Rating (SCCR) at 277VAC. Native communication network protocols—BACnet/IP, Ethernet, and LumaCAN—are built into each GreenMAX Command Module (processor) to offer unparalleled connectivity. No additional parts or adapters are needed to communicate with other products utilizing these protocols.

For increased flexibility, the modular GreenMAX system includes separate Cabinet enclosures, Command Modules (processor, power supply, and low voltage inputs), Relay Insert Panels, Relay Modules, and a Handheld Display Unit (HDU). For easier manageability and accessibility, Leviton ships empty cabinet enclosures separately from the electronic components. This makes the cabinets lighter and easier to handle and requires less effort to install. To further minimize handling and damage to the electronic components, Leviton can ship the electronic components later in the project schedule or as required.

All GreenMAX Relay Modules are 1-pole or 2-pole latching relay types that reduce parasitic energy use. The relay modules are the same physical size, allowing the optimal mix of relays to be customized for each application. Models include a basic control relay module and/or a self-contained dimming and switching relay module that supports daylight harvesting capabilities.

A Handheld Display Unit (HDU) can be detatched from the cabinet mounting location and moved to the most convenient network connection point to connect to any open LumaCAN or port on the same network as the cabinets. Commissioning and start-up functions are easier with the HDU, which allows programming to be done in the space being controlled rather than from the electrical room.

APPLICATIONS

- Heavy retrofit applications
- New construction projects
- Government facilities
- Office buildings
- Hospitals/medical offices
- Universities
- Restaurants
- Large campuses
- Any location requiring Daylight Harvesting and Demand Response

FEATURES

- Cabinets and relay modules with 25,000A Short Circuit Current Rating (SCCR) at 277VAC
- Relay modules rated at 30A General Fluorescent Ballast at 20A Incandescent
- Relay modules are latching with manual actuator
- Industry standard 0-10V dimming and switching relay module
- Programming and monitoring of the system is done with the exclusive Handheld Display Unit (HDU)
- Empty enclosure ships separately from electrical components
- Supports native protocols of BACnet/IP, Ethernet, and LumaCAN
- 8, 16, 32 and 48 relay sizes
- Four programmable levels of demand response
- Can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements

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FEATURES

Relay Cabinet

- GreenMAX cabinet has a 25,000A at 277VAC short circuit current rating (SCCR) for increased reliability and durability
- Modular system includes separate empty cabinet enclosures, a command module, and relay insert panels to minimize handling and subsequent damage during installation
  - Command Module is the processor and power supply of the GreenMAX system and optionally includes a low voltage remote input card for analog devices
  - Relay insert panels feature quick install; each panel takes only two screws to install
- Native communication network protocols—BACnet/IP, Ethernet, and LumaCAN—are built into each command module to offer unparalleled connectivity; no additional devices are needed to communicate with other products utilizing these protocols
- Increased arc flash protection—the cabinet door opens to expose only the low voltage area of the cabinet
  - High voltage areas can be accessed by removing the wire-way covers—this requires the removal of retaining screws
- Voltage barriers can be installed between individual relay modules. This allows voltages from mixed sources in the same cabinet

Relay Modules

- All GreenMAX relay modules have a 25,000A short circuit current rating (SCCR) at 277V for increased reliability and durability
- Rated at 30A general fluorescent ballast (this rating is 20A, 347V in Canada) and 20A incandescent for all GreenMAX relays
- All relays are latching with a manual actuator to reduce parasitic energy waste over NO/NC relays
- Manual actuation lever on all GreenMAX rleays allow users to manually bypass the system to turn lights on or off without a CPU or power
- Self-contained dimming and switching relay module in 1-pole configurations supports daylight harvesting capabilities

GreenMAX Relay Modules

Remote Low Voltage (RLV)

- Remote low voltage input cabinets can be installed closer to the devices they serve (such as occupancy sensors, LV switches and photocells) to reduce wiring and labor and provide additional power; this also makes commissioning and troubleshooting easier
- Additional low voltage input points are available in quantities of 8 and 16
- Power supply input: 70W (max), 100-277VAC single phase input, 24VDC output
- The RLV utilizes CAT6 network cable to interconnect with the system and communicates via LumaCAN

Handheld Display Unit (HDU)

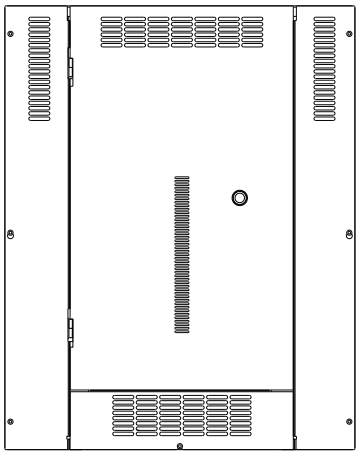
- Manage the GreenMAX system(s) remotely from any network device location
- System configuration and scheduling is performed via the HDU—this can be done while standing in the room or controlled space; programming is no longer confined to the electrical room
- Control entire GreenMAX system from any access point—relay cabinets, switches, or remote low voltage cabinets
- One HDU can be used for multiple systems
- Can be stored in the cabinet or designated docking station
- Communicate via LumaCAN
- 7-hour run time on a single full charge (batteries included)
- Astronomical clock—sunrise/sunset
- HDU does not need to be connected to system during operation. Full system functionality is provided independent of HDU

*Pair GreenMAX relay control panels, GreenMAX relay modules and GreenMAX HDU with GreenMAX digital switches and Leviton low voltage switches for a complete lighting control strategy.

GreenMAX Relay Modules

Comes complete with four (4) rechargeable Ni-MH batteries. Batteries charge when connected to LumaCAN.

DIMENSIONS



RELAY CABINETS	WIDTH	HEIGHT	DEPTH
R08TC-100	21”	22”	4”
R16TC-100	25”	32”	4”
R32TC-100	25”	48”	4”
R48TC-100	25”	64”	4”
REMOTE LOW VOLTAGE CABINET			
RLV08-308	14”	10”	4”
RLV16-316	14”	10”	4”

FEATURES

Electrical

- Power supply input: 70W (max), 100-277VAC single phase input, 24VDC output
- All input voltages: 50/60Hz phase to neutral
- Non-volatile memory and micro-SD card protect programming during blackouts

Wiring

- Internal: factory pre-wired and tested
- System components:
  - LumaCAN requires standard CAT6 network cabling
  - Low voltage Class 2 wiring connects input cards to control devices such as occupancy sensors, low voltage switches, and photocells
  - Hard-wired dedicated emergency input is provided in each cabinet and requires an external normally open (N/O) contact closure; the cabinet provides the source of low voltage +24VDC for this circuit; programmable individual relay response to the emergency signal
- Line voltage:
  - Feed for command module (control electronics) and load wiring only
  - Requires single phase hot and neutral connection
- LumaCAN Network:
  - CAT6 cable
  - RJ45 connectors
  - Wiring configuration (EIA/TIA 568B)
- Power must be injected into LumaCAN cable every 900 feet
  - Use a remote low voltage cabinet or a relay cabinet
  - Power supply—two-sided allowing up to 1500mA per side
- Voltage barriers available to separate circuits of different sources
  - Voltage barriers field install between relay modules

Network Connections

- Maximum LumaCAN communication network segment length is 1600 ft from end of line termination to end of line termination. Longer network lengths can be achieved with the use of a LumaCAN repeater
- Ethernet connectivity is native to each command module
  - Ethernet can be used to connect BACnet/IP system
  - Ethernet can be used to bridge between runs of LumaCAN to extend network length
- BACnet/IP is native to each command module
  - BACnet/IP must be run to each cabinet—may require Ethernet/network switch

Physical

- Enclosure: NEMA type 1, IP20 protection; #16 US gauge steel; indoor only
- Mounting: surface or flush mount

Environmental

- Ambient temperature range: 32°-122°F (0°-50°C)
- Relative humidity: <90% non-condensing

Listings

- UL508, UL924, cUL
- Can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements

Listings

- Relay modules backed by 10-year warranty
- Relay panels backed by 2-year warranty

*ARRA compliant panels available—consult factory for availability

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ORDERING INFORMATION

CAT. NO.	DESCRIPTION
Enclosures (all cabinets are surface mount with a locking door)	
R08TC-100	GreenMAX Relay Cabinet, 8-Relay Size, NEMA 1
R16TC-100	GreenMAX Relay Cabinet, 16-Relay Size, NEMA 1
R32TC-100	GreenMAX Relay Cabinet, 32-Relay Size, NEMA 1
R48TC-100	GreenMAX Relay Cabinet, 48-Relay Size, NEMA 1
Command Modules (includes power supply with main processor unit), option 24VDC low voltage input card	
RPM00-300	Main Command Module, 100-277VAC, 50/60Hz, no inputs, LumaCAN 3
RPM08-308	Main Command Module with 8-port low voltage input card, 100-277VAC, 50/60Hz, LumaCAN 3
RPM16-316	Main Command Module with 16-port low voltage input card, 100-277VAC, 50/60Hz, LumaCAN 3
Panel Interiors	
R0800-000	Relay Insert Panel, empty with (8) spaces
R1600-000	Relay Insert Panel, empty with (16) spaces
R1616-1CB	Relay Insert Panel with (16) 1-pole RTC basic relays
R1616-1DS	Relay Insert Panel with (16) 1-pole dimming and switching relays
R1616-1TB	Relay Insert Panel with (16) 1-pole basic relays
R1616-2CB	Relay Insert Panel with (16) 2-pole RTC relays

CAT. NO.	DESCRIPTION
Handheld Display Unit (HDU)	
RHDU1-300	Handheld Display Unit, cabinet mounting, LumaCAN 3
RHDU1-BKT	Handheld Display Unit, mounting bracket
Remote Inputs with Power Supply (all cabinet power supplies are rated 120-277VAC, 50/60Hz)	
RLV08-308	Remote Low Voltage Input Cabinet, 8 inputs, NEMA 1 enclosure, LumaCAN 3
RLV16-316	Remote Low Voltage Input Cabinet, 16 inputs, NEMA 1 enclosure, LumaCAN 3
Relays (all relays are rated 30A, 120-230-277/347VAC, 50/60Hz), see GreenMAX relay data sheet for complete ratings	
RELAY-1CB	GreenMAX latching relay, 1-pole RTC basic
RELAY-1DS	GreenMAX latching relay, 1-pole, dimming and switching, 0-10VDC dimming, sinking
RELAY-1TB	GreenMAX latching relay, 1-pole basic
RELAY-2CB	GreenMAX latching relay, 2-pole RTC
RELAY-2TB	GreenMAX latching relay, 2-pole basic
RELAY-BFM	Blank filler module
Cabinet Accessories	
RGBAR-008	GreenMAX voltage barriers for 8-relay cabinets, 1 pair
RGBAR-016	GreenMAX voltage barriers for 16-, 32-, and 48-relay cabinets, 1 pair

NOTE: For GreenMAX digital switches and color change kits - see GreenMAX digital switches data sheet

LEVITON SPECIFICATION SUBMITTAL	
JOB NAME:	CATALOG NUMBERS:
JOB NUMBER:	

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G-8284D/A18-tb
REV JAN 2018

LEVITON

GreenMAX® Digital Switches

Offers Programming Flexibility

GreenMAX Digital Switches

GreenMAX Key Switch

Leviton GreenMAX® Digital Switches are 100% digital. Specifically designed for use with GreenMAX Relay Control Panels, GreenMAX Digital Switches utilize LumaCAN protocols for unparalleled programming flexibility. All communication and monitoring functions can be performed from any GreenMAX Digital Switch location. Simply connect the GreenMAX Handheld Display Unit (HDU) to any GreenMAX Digital Switch for easy programming and system control of all devices on the GreenMAX network. Available in 1-, 2-, 4-, 8-button and keyswitch configurations, these switches connect using RJ45 connectors and CAT6 cabling. For dimming applications, use 4-button switch with dimming module for control of 0-10V dimming circuits.

APPLICATIONS

- Heavy retrofit applications
- New construction projects
- Government facilities
- Office buildings
- Hospitals/medical offices
- Universities
- Restaurants
- Large campuses
- Any other location where centralized lighting control, programming and monitoring are required

FEATURES

- Models include 1-, 2-, 4-, 8-button and keyswitch configurations
- RJ45 connectors to provide IN and OUT connections to the LumaCAN network
- Can be used to comply with IECC, ASHRAE 90.1 and 2016 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements
- Any button can be configured to control 0-10VDC dimming circuits
- Easy-to-access port on top of switch provides connectivity for the GreenMAX HDU
- Custom engraved labeling available on switch buttons and screwless wall plates
  - 1, 2, 4 button: up to 8 characters per two lines of text*
  - 8 button: up to 4 characters per one line of text*
- Install a mix of GreenMAX Relay Panels, Remote Input Cabinets and Digital Switches on a single LumaCAN
- Buttons can be programmed for ON, OFF, ON/OFF, dimmed raise/lower or single zone preset ON level
- Status LED for each button provides true relay status
- Matching screwless single-gang wall plate is supplied and digital switches are compatible with all available Decora® wall plates*
- Mounts in a standard depth wall box. All switches can be installed in a multi-gang application. The multi-gang wall plate is sold separately.
- Use with GreenMAX Relay Systems
- Available in White, Ivory, Light Almond and Gray. Color change kit available for Black and Red buttons (key switch stainless only).
- Draws its power from the LumaCAN
- Keyswitch includes a set of 2 keys, stainless steel wall plate, tamper resistant screws and installation tool*
- Keyswitch is spring return to the center position. Quarter turn of the key functions as a momentary switch input. Key can be removed in the center position only.

*Excluding keyswitch

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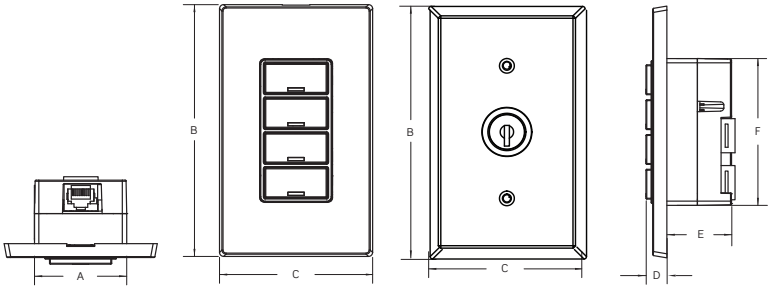
LEVITON

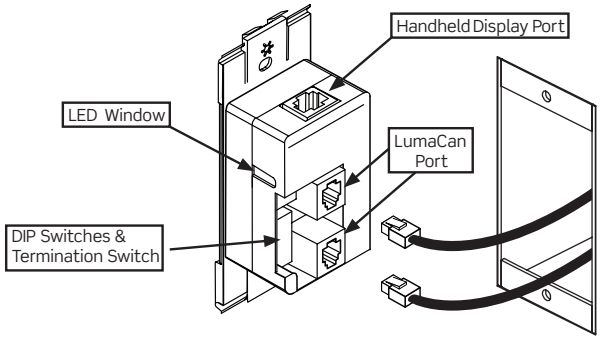
GreenMAX® Digital Switches

DIMENSIONS



	1,2,4,8 Button Switches	Keyswitch
A	1.65" (42.06mm)	1.70" (43.18mm)
B	4.60" (117.07mm)	4.50" (114.30mm)
C	2.75" (69.85mm)	2.75" (69.85mm)
D	0.37" (9.55mm)	0.28" (7.21mm)
E	1.16" (29.51mm)	1.88" (47.88mm)
F	2.68" (68.25mm)	2.70" (68.58mm)

WIRING DIAGRAM



Rear View

SPECIFICATIONS

Electrical
- Input Power: 24VDC (LumaCAN integral)
- Consumption: 1 Unit Load = 25mA (max)
- Connectors: RJ45
- Class 2
- Cables: CAT6

Environmental
- Ambient Temperature Range: 32 - 122°F (0 - 50°C)
- Relative Humidity: <90% non-condensing

Listings
- Complies with energy code requirements for IECC, ASHRAE 90.1 and Title 24

Warranty
- Limited 2-Year Warranty

ORDERING INFORMATION

CAT. NO.*	DESCRIPTION
RDGSW-1Cx	GreenMAX Digital Switch, 1-Button, LumaCAN3 (includes single gang wallplate)
RDGSW-2Cx	GreenMAX Digital Switch, 2-Button, LumaCAN3 (includes single gang wallplate)
RDGSW-4Cx	GreenMAX Digital Switch, 4-Button, LumaCAN3 (includes single gang wallplate)
RDGSW-8CW	GreenMAX Digital Switch, 8-Button, LumaCAN3 (includes single gang wallplate), Color: White
RDGSW-1K3	GreenMAX Keyswitch (includes single gang Stainless Steel wallplate)**
RDGSW-1Ey	GreenMAX 1 Button Color Change Kit (includes single gang wallplate)
RDGSW-2Ey	GreenMAX 2 Button Color Change Kit (includes single gang wallplate)
RDGSW-4Ey	GreenMAX 4 Button Color Change Kit (includes single gang wallplate)
RDGSW-8Ey	GreenMAX 8 Button Color Change Kit (includes single gang wallplate)
RDGSW-1Fy	GreenMAX 1 Button Color Change Kit with Engraving (includes single gang wallplate)
RDGSW-2Fy	GreenMAX 2 Button Color Change Kit with Engraving (includes single gang wallplate)
RDGSW-4Fy	GreenMAX 4 Button Color Change Kit with Engraving (includes single gang wallplate)
RDGSW-8Fy	GreenMAX 8 Button Color Change Kit with Engraving (includes single gang wallplate)

* Replace x to indicate color: (W) = White, (I) = Ivory, (T) = Light Almond, (G) = Gray
Replace y to indicate color: (W) = White, (I) = Ivory, (T) = Light Almond, (G) = Gray (R) = Red, (E) = Black
ARRA compliant models available - consult factory for availability
** Stainless steel wallplate cannot be engraved. Multi-gang keyswitch order requires a custom wallplate

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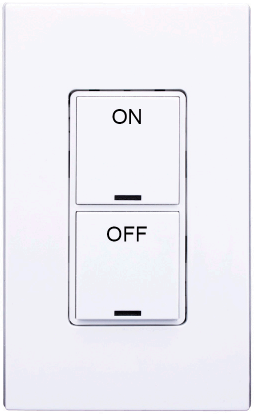
G-8320E/L17-tb
REV DEC 2017

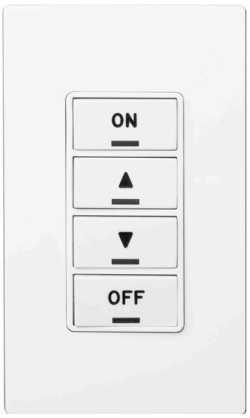
LEVITON

Integrated Room Control (IRC) Lighting Controllers

RLVSW-1LW



RLVSW-2LW



RLVSW-4LW

DESCRIPTION

The Integrated Room Control (IRC) Lighting Controllers are Decora® devices for controlling non-dimmable and dimmable luminaries connected to the IRC Controller. The IRC Lighting Controllers provide a unique control station with multi-function capabilities available in 1-, 2- and 4-button configurations. The devices come in white with a matching wallplate and color change kits are available.

OPERATION

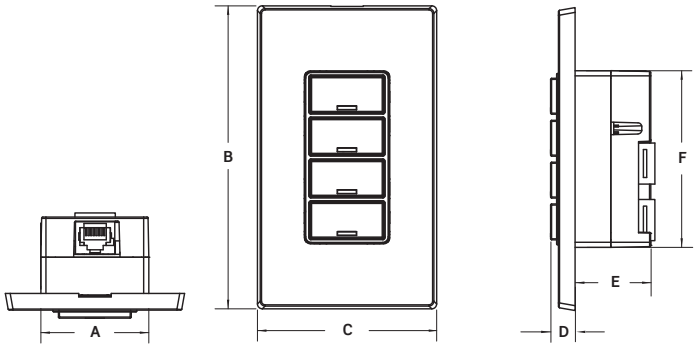
The IRC Lighting Controllers work in conjunction with the features of the IRC which offers daylight harvesting, occupancy sensing, time clock inputs and manual-ON and partial-ON capabilities.

- RLVSW-4LW provides 4-button ON/OFF and Dim/Bright control as well as a Full Bright option
- The RLVSW-1LW provides 1-button ON/OFF control
- The RLVSW-2LW provides 2-button ON/OFF control

FEATURES

- Function description:
  - **ON**—all lights to daylight harvesting level
  - **Bright**—raise light levels with press hold or multiple press, temporary override of daylight harvesting level
  - **Dim**—lower light levels with press hold or multiple press, temporary override of daylight harvesting level
  - **OFF**—turn off lights
- Designer Decora styling complements any interior for sleek aesthetics
- Entry station utilizes industry standard buttons for room lighting control
- Can be used with stand-alone IRC System
- Enables Ladderless Commissioning™ of IRC Systems. Modify the daylight harvesting target level with the 4-button controller

DIMENSIONS



	1,2 & 4 Button Controllers
A	1.65” (42.06mm)
B	4.60” (117.07mm)
C	2.75” (69.85mm)
D	0.37” (9.55mm)
E	1.16” (29.51mm)
F	2.68” (68.25mm)

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PRODUCT DATA

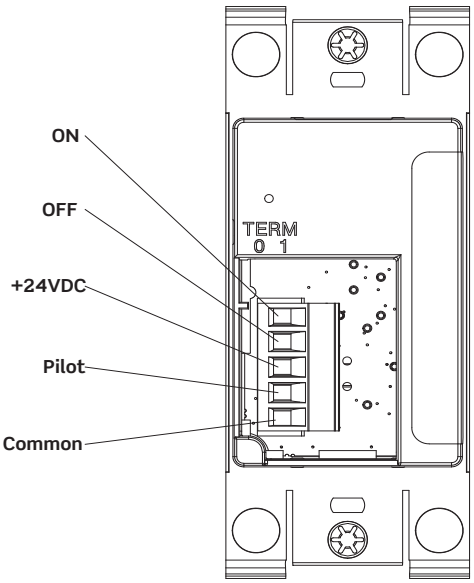
LEVITON

Integrated Room Control (IRC) Lighting Controllers

SPECIFICATIONS

ELECTRICAL	
Input Voltage	24VDC
Input Current	24mA
ENVIRONMENTAL	
Operating Temperature Range	32-104°F (0-40°C)
Storage Temperature Range	14-158°F (-10-70°C)
Relative Non-Humidity	20-90% non-condensing
PHYSICAL	
Color	White, Color Change Kits available
OTHER	
Installation	Low Voltage Class 2 Wiring
Warranty	Limited 2-Year Warranty

WIRING DIAGRAM



ORDERING INFORMATION

CAT. NO.	DESCRIPTION
RLVSW-1LW	1-button ON/OFF Controller for use with IRC System
RLVSW-2LW	2-button ON/OFF Controller for use with IRC System
RLVSW-4LW	4-button ON/OFF Controller for use with IRC System
RDGSW-1Ex*	1-button Color Change Kit
RDGSW-2Ex*	2-button Color Change Kit
RDGSW-4Ex*	4-button Color Change Kit
RDGSW-1Fx*	1-button Custom Engraved Color Change Kit
RDGSW-2Fx*	2-button Custom Engraved Color Change Kit
RDGSW-4Fx*	4-button Custom Engraved Color Change Kit

*Replace x to indicate color: White (W), Ivory (I), Light Almond (T), Gray (G), Black (E) and Red (R).

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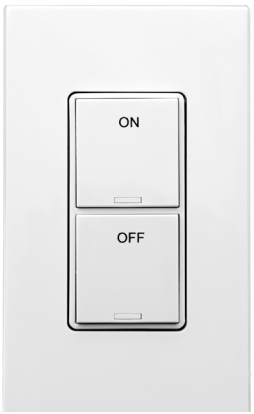
G-9310B/J15-aa
REV OCT 2015

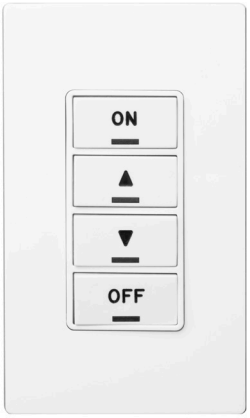
LEVITON

Provolt™ Low Voltage Keypads

PLVSW-1LW



PLVSW-2LW



PLVSW-4LW

DESCRIPTION

Provolt™ Low Voltage Keypads are Decora® devices for controlling non-dimmable and dimmable luminaries connected to Provolt 0-10V Dimming Room Controllers (PRC). The Provolt Keypads provide a unique control station with multi-function capabilities available in 1-, 2- and 4-button configurations with a matching white wallplate. For additional colors, color change kits are available.

OPERATION

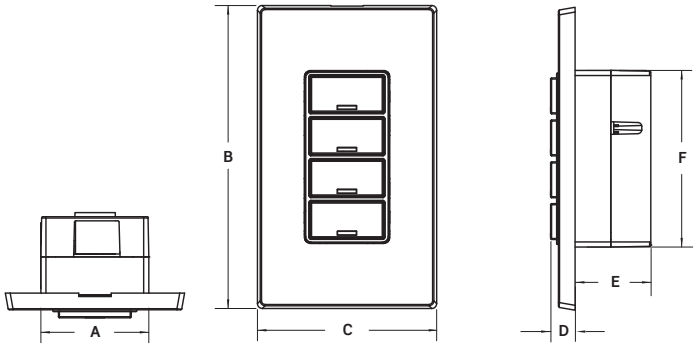
The Provolt Keypads work in conjunction with the features of the PRCs which offer daylight harvesting, occupancy sensing and manual-ON and partial-ON capabilities.

- PLVSW-4LW provides 4-button ON/OFF and Dim/Bright control as well as a Full Bright option
- The PLVSW-1LW provides 1-button ON/OFF control
- The PLVSW-2LW provides 2-button ON/OFF control

FEATURES

- Function description:
  - **ON**—all lights overridden to FULL ON
  - **Bright**—raise light levels with press hold or multiple press, temporary override of daylight harvesting level
  - **Dim**—lower light levels with press hold or multiple press, temporary override of daylight harvesting level
  - **OFF**—turn off lights
- Designer Decora styling complements any interior for sleek aesthetics
- Keypads utilize industry standard buttons for room lighting control

DIMENSIONS



	1,2 & 4 Button Switches
A	1.65” (42.06mm)
B	4.60” (117.07mm)
C	2.75” (69.85mm)
D	0.37” (9.55mm)
E	1.16” (29.51mm)
F	2.68” (68.25mm)

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PRODUCT DATA

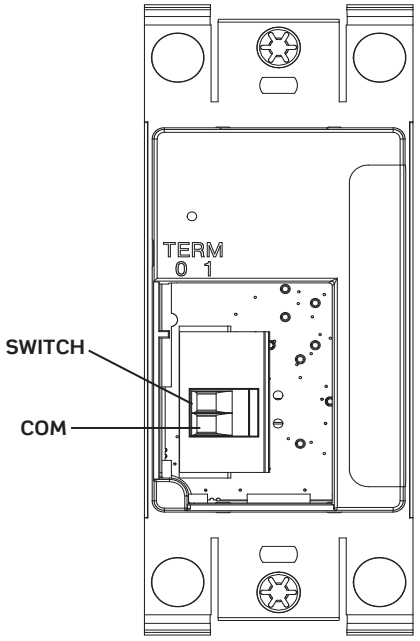
LEVITON

Provolt™ Low Voltage Keypads

SPECIFICATIONS

ELECTRICAL	
Input Voltage	0-28V DC, 2mA-10mA
ENVIRONMENTAL	
Operating Temperature Range	32-104°F (0-40°C)
Storage Temperature Range	14-158°F (-10-70°C)
Relative Humidity	0-90% non-condensing
PHYSICAL	
Color	White, color change kits available
OTHER	
Installation	Low voltage Class 2 wiring, max wiring distance 800 feet
Warranty	Limited 5-Year Warranty

WIRING DIAGRAM



ORDERING INFORMATION

CAT. NO.	DESCRIPTION
PLVSW-1LW	Provolt Keypads, 1-button ON/OFF controller for use with Provolt Room Controllers
PLVSW-2LW	Provolt Keypads, 2-button ON/OFF controller for use with Provolt Room Controllers
PLVSW-4LW	Provolt Keypads, 4-button ON/OFF controller for use with Provolt Room Controllers
RDGSW-1Ex*	1-button Color Change Kit
RDGSW-2Ex*	2-button Color Change Kit
RDGSW-4Ex*	4-button Color Change Kit
RDGSW-1Fx*	1-button Custom Engraved Color Change Kit
RDGSW-2Fx*	2-button Custom Engraved Color Change Kit
RDGSW-4Fx*	4-button Custom Engraved Color Change Kit

*Replace x to indicate color: White (W), Ivory (I), Light Almond (T), Gray (G), Black (E) and Red (R). Color change kits are blank and available for engraving

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Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
20497 SW Teton Avenue, Tualatin, OR 97062 **tel** 800-736-6682 **fax** 503-404-5594 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004

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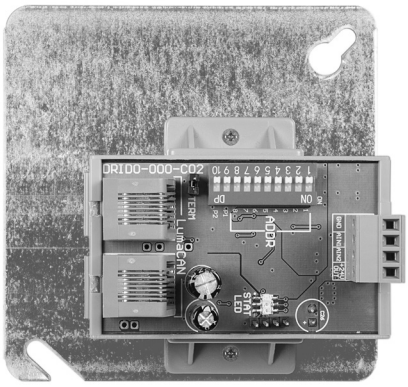
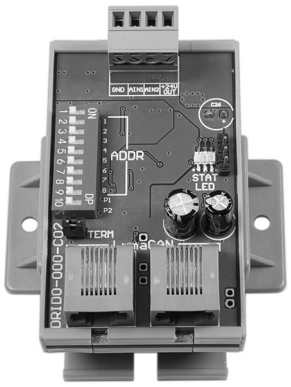
G-9676A/J16-aa
REV OCT 2016

LEVITON

GreenMAX®
DRC 2-Port Analog Interface (AI)





PRODUCT DESCRIPTION

The GreenMAX® DRC 2-Port Analog Interface (AI) allows the integration of low voltage inputs into the system. These inputs commonly include occupancy/vacancy sensors, photocells, and security and/or emergency system inputs.

SYSTEM DESCRIPTION

The GreenMAX DRC Room Control System offers a fully distributed room control system, with each room operating independently of others—no dependence on network processors or centralized controllers. This revolutionary system is fully configurable via the GreenMAX DRC app for smart devices, and can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, multi-level lighting, daylight harvesting, partial-ON, partial-OFF, scheduling, exterior lighting, demand response and receptacle control requirements, and it is listed on the DesignLights Consortium (DLC) Qualified Products List (QPL) for Networked Lighting Control systems (certification pending).

GREENMAX DRC APP

Wirelessly commission, configure, control, monitor and provision the GreenMAX DRC system using the GreenMAX DRC App designed for any WiFi-enabled Android or iOS smart device.

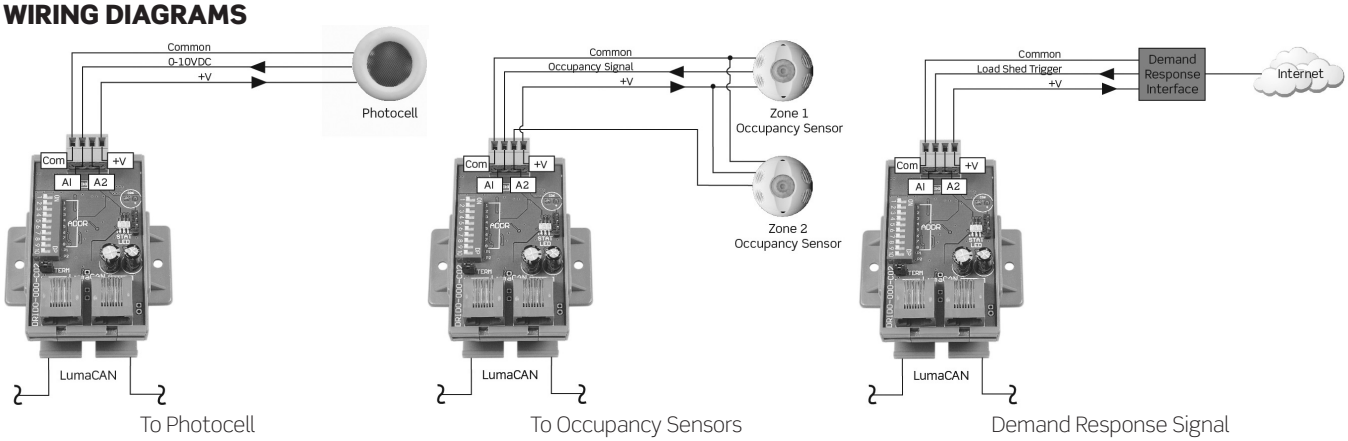
APPLICATIONS

- Integration of any low voltage occupancy sensor with the GreenMAX DRC system
- Integration of any photocell with the GreenMAX DRC system
- Integration of any low voltage switch or contact closure with the GreenMAX DRC system
- Fire alarm or security system “all on”
- Use with GreenMAX DRC Room Controller supporting AI features
- Use with Sapphire™ for remote occupancy sensors, switches, or photocells

USE WITH THESE LEVITON SYSTEMS

- GreenMAX DRC
- GreenMAX relay panels
- Sapphire™ Touchscreen

WIRING DIAGRAMS



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LEVITON

NETWORK COMMANDS & CONFIGURATION PROPERTIES

- Configured through the GreenMAX DRC app
- Configured as Input Type or Command Type
- Each input is configured independently
- When configured as input type:
  - Occupancy sensor
    - Input number
      - Delay time (0-60 seconds, 1-240 minutes)
  - Photocell
    - Input number
    - Max calibration level (0-2,048; default 2,048)
  - Momentary switch
  - Contact closure/maintained switch
  - Potentiometer
- When configured as command type:
  - Load shed
    - Active and inactive settings
    - Load shed 1/2/3; enable/disable
    - Load shed 1 & 2 & 3 disable
    - Do nothing
  - Behavior transition
    - Schedule #
    - Behavior #
    - Sensor delay time
    - Blink warn time override
    - Switch time override
  - Group control
    - Group number
    - Priorities
    - Level active and inactive settings

SPECIFICATIONS

ELECTRICAL	
Power Input	+12-24VDC, 35mA+ connected device consumption
Power Output	As needed and available at the input (pass-through); short-circuit current limited trip point software configurable, default=100mA, max=1500mA
Number of Inputs	(2) contact closure, active high/low, 0-10V, 0-24V
CONNECTIVITY	
Network Connections	(2) RJ45, CAT6 or better for connection to LumaCAN network. Termination provided via local termination switch.
Network Topology	Daisy chain, 1600' max between repeaters Home-run topology and network length up to 10,000' can be achieved when using LumaCAN network repeaters (NPRPT) Maximum 110 nodes between repeaters Maximum 250 nodes on a LumaCAN network
OTHER	
Mounting	Surface or DIN rail
Terminal Torque	7 in/lb
Listings	UL, cUL (File # E148771), RoHS, CE
Energy Codes	Can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, multi-level lighting, daylight harvesting, partial-ON, partial-OFF, scheduling, exterior lighting, demand response and receptacle control requirements
Warranty	Limited 5-year

ORDERING INFORMATION

CAT. NO.	DESCRIPTION
DRID0-C02	GreenMAX DRC 2-Port AI, LumaCAN, DIN rail or surface mount
DRID0-CB2	GreenMAX DRC 2-Port AI, LumaCAN, mounted to blank plate for installation onto 4-11/16" back box

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Request For Information ST2 PB-018

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-018 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Civil items	Civil	Other

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/6/2019**

See questions below from Waynesboro Construction and provide answers accordingly.

1. Addendum # 1 approved Jamestown Advanced Products Trash Cans and Benches. Now are shown on the site. Please clarify.

2. The tentative schedule showing five weeks from award of contract to start of the piping and structure installation is not feasible. It may take four weeks to fabricate and receive the structures after approval of the shop drawings. This is not including time to get contracts out, procure shop drawings and receive approval on the submittals.

3. Plan C-5: Should the Bus exit onto Urbana Pike have a stop sign in addition to the stop bar?

4. Plan C-5A: Are we to provide any of the signage in the “Figure 75-B”?

5. Plan C-5: Clarify the painted fire lane curbs. It is hard to distinguish the markings on the curb line.

6. Plan C-5: Are the interior site sign signs to have a 12” wide stop bar painting on the pavement? Are drawn by not identified.

Suggestion

Answer **Date Answered:**

1. Locations and quantities have been provided in Addendum 2.

2. Per Oak, the Construction Schedule will not be changed.

3. A Stop Sign is required. This will be clarified in Addendum 3

4. Signage is required. This will be clarified in Addendum 3.

5. Per Oak, painted Fire Lane curbs correspond to the indicated Fire Lane signage.

6. Stop bars are required. This will be clarified in Addendum 3.

X

Request For Information ST2 PB-019

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-019 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Frederick County Public Schools	Brad Ahalt	Oak Contracting, LLC	Kerrigan Toth
191 South East Street	Phone: 301-644-5164	1000 Cromwell Bridge Road	Phone: 410-828-1000
Frederick, MD 21701	Fax: 301-644-5175	Towson, MD 21286	Fax: 410-828-7488

Co-Respondent **Author RFI Number**

Subject	Discipline	Category
VOICE OVER INTERNET PROTOCOL (VoIP) AND DATA SYSTEMS	Technology	Other

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/6/2019**

See below questions from Signamax:

1. Per SECTION 27 15 00 part 1.3: We do not see a cable manufacturers specification other than TIA standards and performance characteristics . It does mention AMP is preferred but equivalent is acceptable. How can we submit a proposal for equivalent product ?

2. Per SECTION 27 15 00 part 3.14 A: The specifications state the installation can only be done by FCPS approved cable vendors. Can we get a list of approved vendors ?

Suggestion

Answer **Date Answered:**

1. Per Oak: Products other than listed manufacturer must meet the same characteristics. These will be reviewed during the normal submittal process. Substitution request is not required for these products.

2. FCPS has removed the requirement for prequalified cabling contractors.

Request For Information ST2 PB-020

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-020 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Dave Toth Phone: 410-828-1000 Fax: 410-828-7488	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
VoIP	Technology	Other

Cc: Company Name Contact Name Copies Notes

Question **Date Required: 2/6/2019**

After review of the Urbana Replacement Elementary School RFP; specifically Page 271500-1 (Section 27 15 00 – Voice Over Internet Protocol (VoIP) and Data Systems) Paragraph C. It states: "The computer network installer shall be on the list of pre-qualified cabling contractors and shall be approved by the Frederick County Board of Education."

How does a vendor become a pre-qualified cabling contractor?

Suggestion

Answer **Date Answered:**

See Prebid RFI # 019 for answer to this question.

Request For Information ST2 PB-021

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-021 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent **Author RFI Number**

Subject	Discipline	Category
Concrete footing	Structural	Drawing Discrepancies

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/6/2019**

See below from G. Moehrle Masonry:

Drawing S1.4 cuts detail 4/S4.1 through a section of wall that does not indicate a concrete footing. Detail 4/S4.1 indicates a concrete footing with a CMU foundation continuing to the slab. Please clarify.

Suggestion

Answer **Date Answered:**

Response to RFI # ST2 PB-021

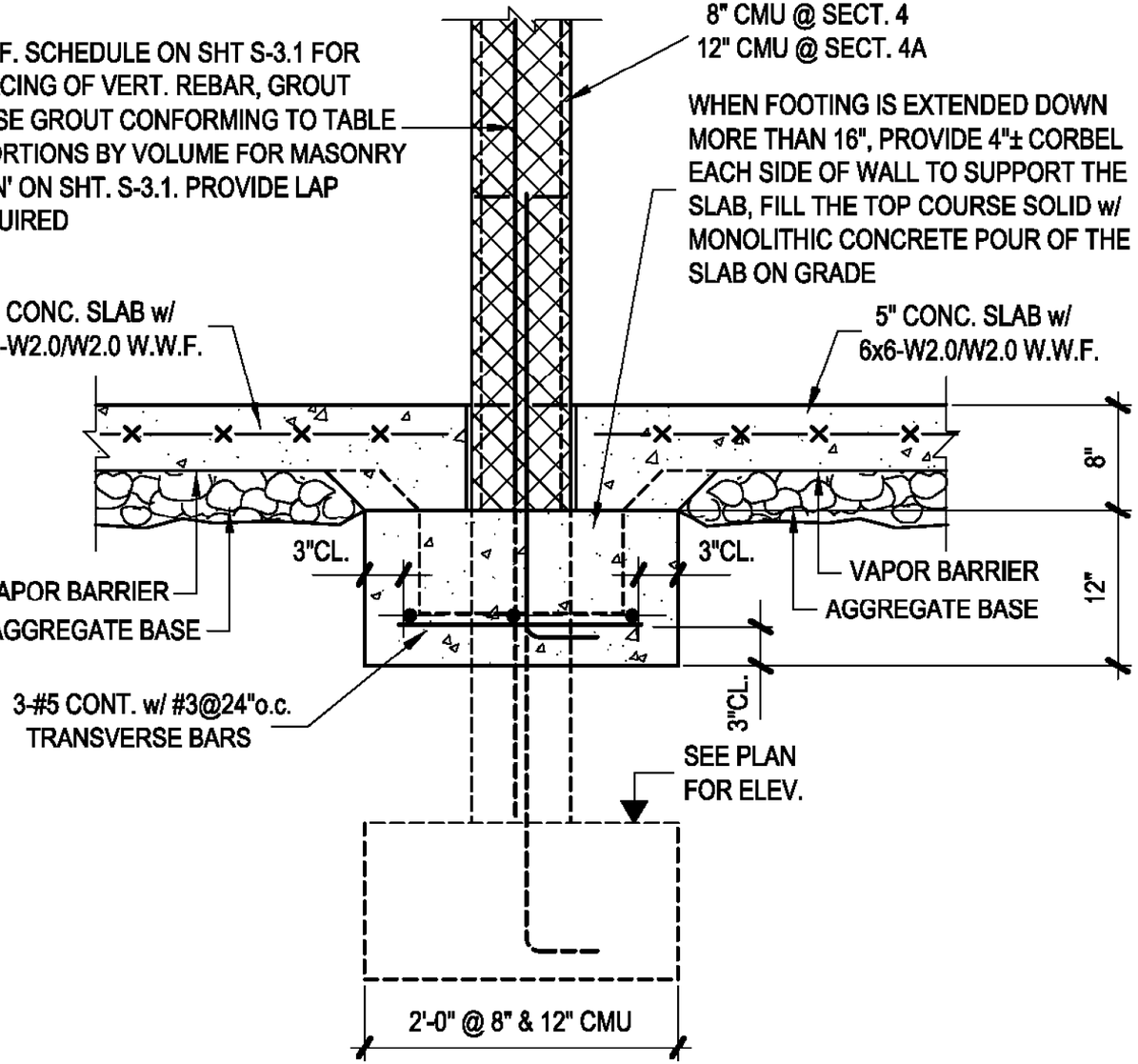
There is no footing required. Just delete the section marks.

WOLFMAN & ASSOCIATES, P.C., Consulting Engineers

By: Steve Jiau Date: 1/30/19

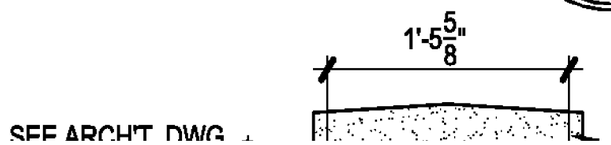
BAR,
COARSE
E 'GROUT
R MASONRY
PROVIDE

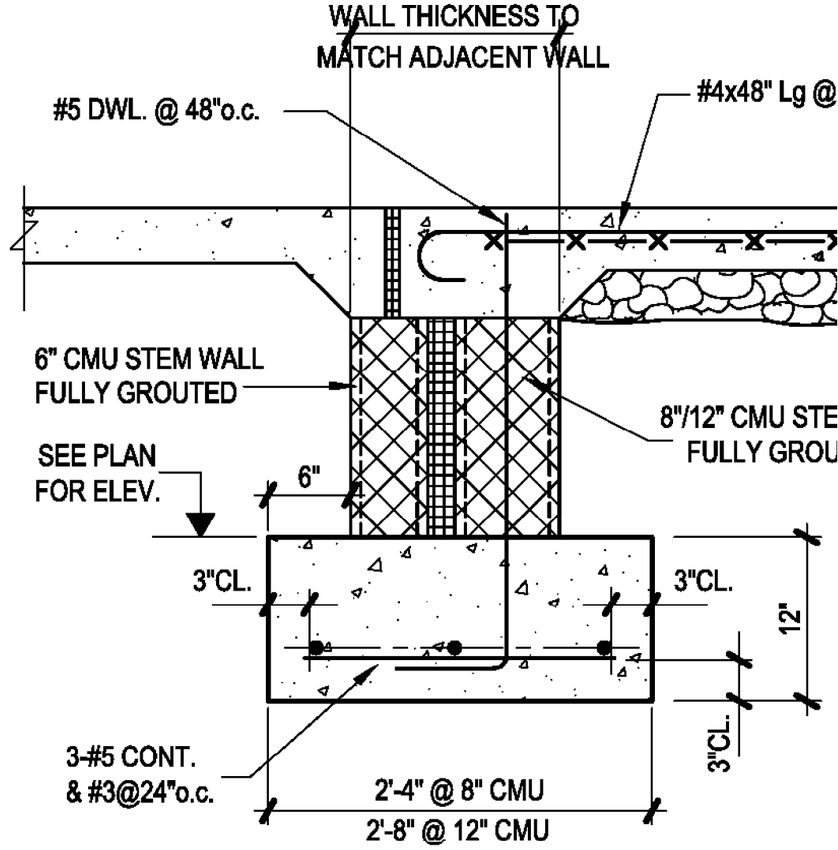
F.



SECTION 4 / 4A
S-4.1 / S-4.1

SCALE: 3/4"=1'-0"





SECTION 5
S-4.1

SCALE: 3/4"=1'-0"

2-#5x10'-0" Lg. ADDED BARS, RE. DETAIL 14/S-5.1

12" CMU

8" CMU

?? no footing shown

DEPRESS SLAB FOR WALK IN FREEZER/REFRIDGOR, REFER TO THE KITCHEN PLANS FOR DEPTH & LOCATION

RECESS KITCHEN SLAB AREA FOR QUARRY TILE. SLOPE TO FLOOR DRAINS, RFER TO KITCHEN/ MECH./ ARCH'T DWGS. FOR RECESS EXTENT

5" CONC. SLAB w/ #4@12"o.c. E.W. PLACED @ THE CENTER OF SLAB

SEE SH

25' - 0" GRADE B

C.J.

29' - 4"

42' - 0"

1' - 3 1/4"

SIMILAR

Request For Information ST2 PB-022

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-022 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent **Author RFI Number**

Subject	Discipline	Category
Wall types	Structural	Drawing Discrepancies

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/6/2019**

See below from G. Moehrle Masonry:

Walls Types 3.1 and 8.1 indicate a “Self Adhered Sheet Air Barrier” and “2-1/2”Foamed-In-Place Insulation”(also part of an air barrier system).

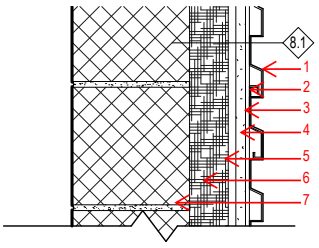
- Please confirm that both systems are required at walls types 3.1 and 8.1
- If confirmed yes, please indicate the positioning of the sheet air barrier, i.e., on the CMU or on the sheathing

Please provide responses accordingly.

Suggestion

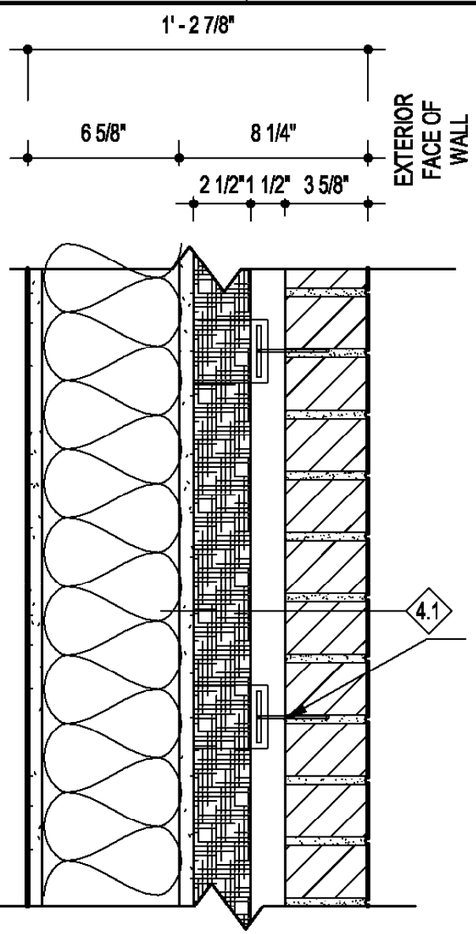
Answer **Date Answered:**

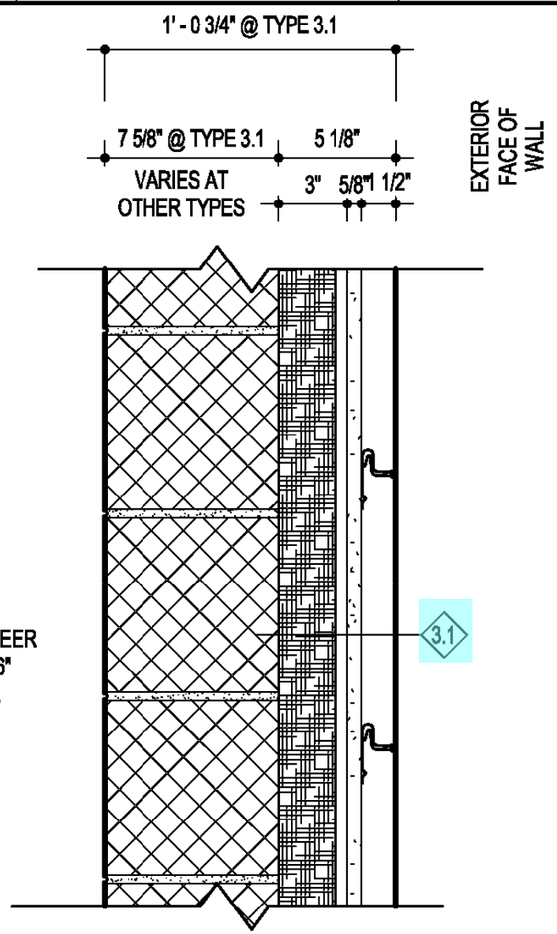
Both systems are required. The contents of all of the exterior wall assemblies are listed in order from exterior to interior, therefore the air barrier is applied to the sheathing.

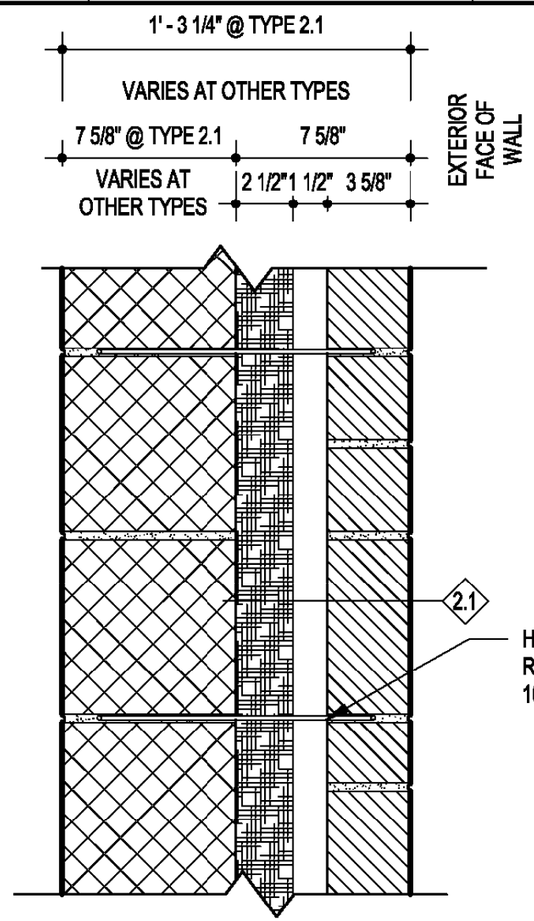


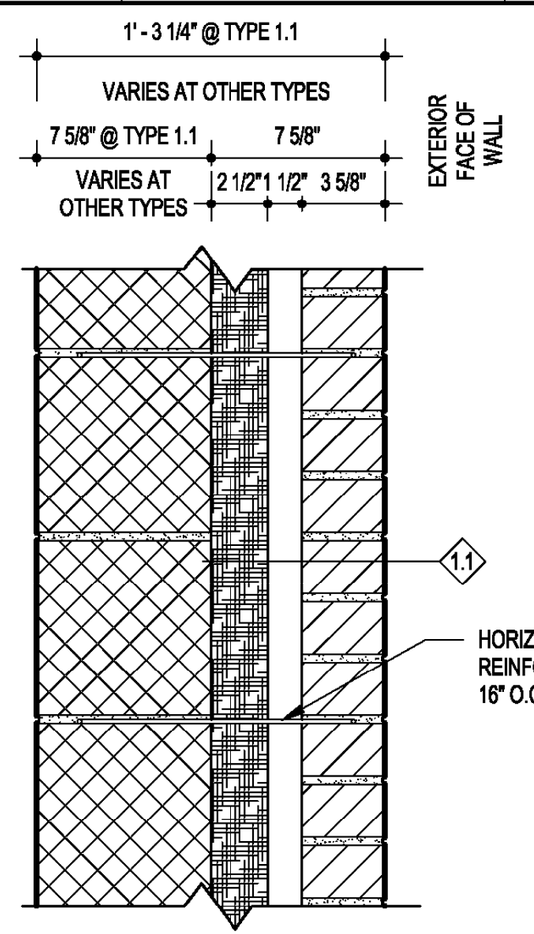
8.1 EXTERIOR WALL CONSISTING OF:

1 7/8" METAL WALL PANEL TYPE 1
2 METAL PANEL MOUNTING CLIPS
3 SELF ADHERED SHEET AIR BARRIER
4 5/8" GYMSUM SHEATHING
5 2-1/2" FOAMED-IN-PLACE INSULATION
6 3" VERT. GALV. Z-GIRT
7 8" NOM. CMU
R-VALUE: 20.0









EXTERIOR WALL CONSISTING OF:

4" NOM. BRICK
1-1/2" AIR SPACE
2-1/2" FOAMED-IN-PLACE INSULATION
5/8" EXT SHEATHING
6" METAL STUDS W/ R-19 BATT INSULATION
5/8" GYPSUM BOARD
R-VALUE: 38.63

3.1 **EXTERIOR WALL CONSISTING OF:**

1 1/2" METAL WALL PANEL TYPE 2
METAL PANEL MOUNTING CLIPS
SELF ADHERED SHEET AIR BARRIER
5/8" GYMSUM SHEATHING
2-1/2" FOAMED-IN-PLACE INSULATION
3" VERT. GALV. Z-GIRT
8" NOM. CMU
R-VALUE: 20.0

3.2 **EXTERIOR WALL CONSISTING OF:**

1 1/2" METAL WALL PANEL TYPE 1 OR 2
METAL PANEL MOUNTING CLIPS
SELF ADHERED SHEET AIR BARRIER
5/8" GYMSUM SHEATHING
2-1/2" FOAMED-IN-PLACE INSULATION
3" VERT. GALV. Z-GIRT
10" NOM. CMU

2.1 **EXTERIOR WALL CONSISTING OF:**

4" NOM. BUILDING STONE VENEER
1-1/2" AIR SPACE
2-1/2" FOAMED-IN-PLACE INSULATION
8" NOM. CMU
R-VALUE: 21.13

2.2 **EXTERIOR WALL CONSISTING OF:**

4" NOM. BUILDING STONE VENEER
1-1/2" AIR SPACE
2-1/2" FOAMED-IN-PLACE INSULATION
10" NOM. CMU
R-VALUE: 21.22

2.3 **EXTERIOR WALL CONSISTING OF:**

4" NOM. BUILDING STONE VENEER

1.1 **EXTERIOR WALL CONSISTING OF:**

4" NOM. BRICK
1-1/2" AIR SPACE
2-1/2" FOAMED-IN-PLACE INSULATION
8" NOM. CMU
R-VALUE: 20.51

1.2 **EXTERIOR WALL CONSISTING OF:**

4" NOM. BRICK
1-1/2" AIR SPACE
2-1/2" FOAMED-IN-PLACE INSULATION
10" NOM. CMU
R-VALUE: 20.6

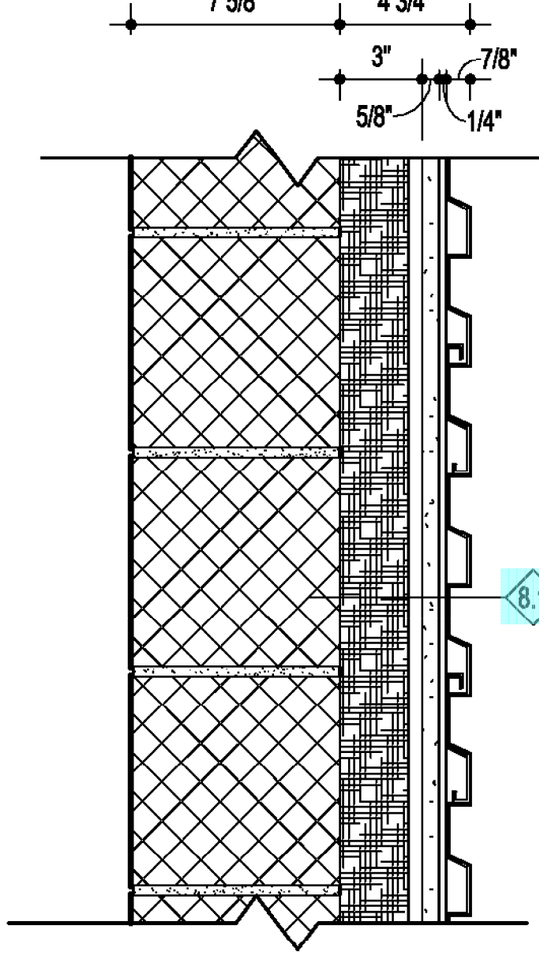
1.3 **EXTERIOR WALL CONSISTING OF:**

4" NOM. BRICK

M

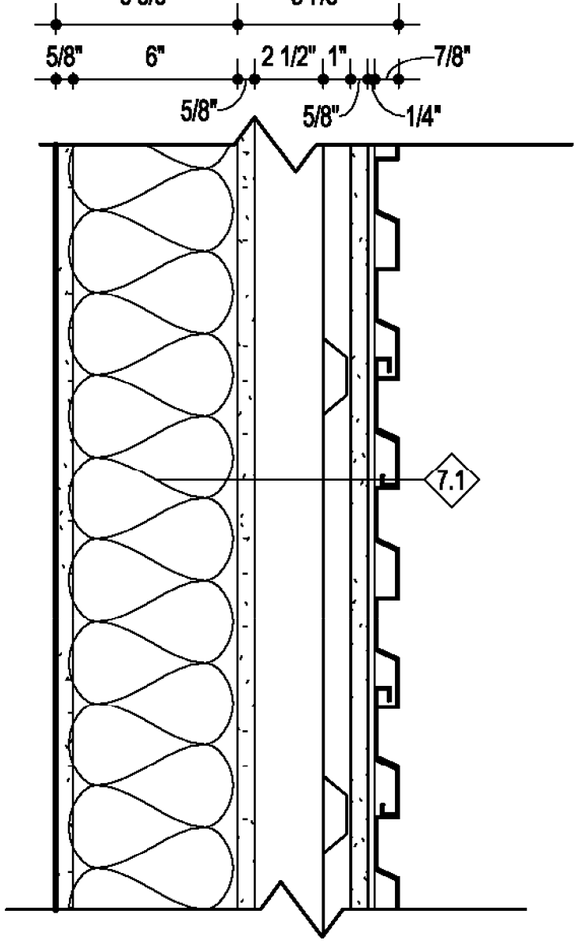
L

K



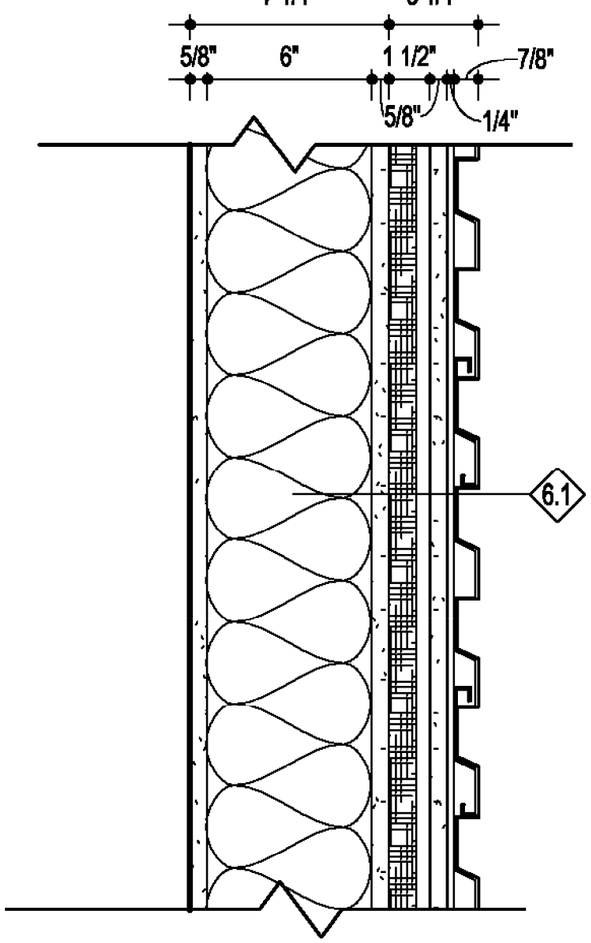
8.1 **EXTERIOR WALL CONSISTING OF:**

7/8" METAL WALL PANEL TYPE 1
METAL PANEL MOUNTING CLIPS
SELF ADHERED SHEET AIR BARRIER
5/8" GYMSUM SHEATHING
2-1/2" FOAMED-IN-PLACE INSULATION
3" VERT. GALV. Z-GIRT
8" NOM. CMU
R-VALUE: 20.0



7.1 **EXTERIOR WALL CONSISTING OF:**

7/8" METAL PANEL TYPE 1
1/4" MOUNTING CLIPS
5/8" GYMSUM SHEATHING
7/8" METAL FURRING CHANNELS
2" FOAMED-IN-PLACE INSULATION BETWEEN
2-1/2" VERT. GALV. Z-GIRT
5/8" EXTERIOR SHEATHING
6" METAL STUDS W/ R-19 BATT INSULATION
5/8" GYPSUM BOARD
R-VALUE: 39.12



6.1 **EXTERIOR WALL CONSISTING OF:**

7/8" METAL PANEL TYPE 1
1/4" MOUNTING CLIPS
5/8" GYMSUM SHEATHING
1" FOAMED-IN-PLACE INSULATION BETWEEN
1-1/2" VERT. GALV. Z-GIRT
5/8" EXTERIOR SHEATHING
6" METAL STUDS W/ R-19 BATT INSULATION
5/8" GYPSUM BOARD
R-VALUE: 29.07

Request For Information ST2 PB-023

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-023 **Date Created: 1/30/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Stone cladding	Structural	Drawing / Spec Discrepancy

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/6/2019**

See below from G. Moerhle Masonry:

Regarding Specification 04 73 23 Manufactured Stone Cladding:

• Section 1.2, Shop Drawings:
-- Reference is made to illustrating a precise layout of the stone pieces, including the numbering of each stone
-- Section 2.1B of the same specification section tells us that this is a 2-piece ashlar pattern
-- The 2-piece ashlar pattern would consist of 2 stone heights of random lengths, installed in a random pattern
-- Neither listed manufacturer can meet the requirement of the Shop Drawing layout requirement of the specification if using a random ashlar pattern
-- An illustration of the stone arrangement, joints, bonding, and anchoring can best be displayed with a mock-up panel
-- Pre-mock-up, general illustration of the pattern can be reviewed from the manufacturers data, such as the attached brochure

• Section 2.1 Products:
-- Item 2.1B1 lists ST-005 and 2-piece Ashlar Pattern
-- The ST-005 is a 8” high x 24” long stone
-- The 2-piece Ashlar Pattern contains only 4” and 6” nominal height stones of various random lengths; see page 3 of the attached brochure
-- Please clarify the stone pattern, random 2-piece or a custom pattern
-- This link, https://schuts.com/stone/building-stone/shouldice-designer-stone will take one to the Shouldice website where the same general observations can be made

Please provide responses accordingly.

Suggestion

Answer	Date Answered:

Requirements have been revised by Addendum 2 per suppliers recommendations.

SECTION 04 73 23 - MANUFACTURED STONE CLADDING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured stone cladding where indicated on the drawings.
   1. Terms "Manufactured Stone Cladding" and "Building Stone" to be interchangeable and of the same meaning within the Construction Documents.

1.2 SHOP DRAWINGS

A. Indicate sizes and sections of stone, arrangements of joints and bonding, anchoring, dowelling and cramping.

B. Each stone indicated on shop drawings must bear corresponding number marked on its back or bed or on the package labeling.

1.3 SUBMITTALS

A. LEED Submittals: Comply with Section 018113.
   1. MR Credit 2: BPDO - Environmental Product Declarations
      a. For stone masonry: Industry-wide or product-specific EPD.

1.4 SAMPLES

A. Submit three samples of limestone dimension stone to illustrate color and pattern range, and finish texture.

1.5 QUALITY ASSURANCE

A. Fabricator: Company having sufficient capacity to quarry, cut, and deliver the stonework on schedule.

B. Installer: Company or person specializing in commercial stone work with 10 years experience. Employ skilled stone fitters at the site to do necessary field cutting as stones are set.

C. Obtain stone from a single quarry source with resources to provide materials of specified consistent quality.

1.6 MOCKUPS

A. Incorporate into mock up specified in Section 04 20 00.

1.7 DELIVERY, STORAGE AND HANDLING

A. Manufacturer shall deliver product to job site as scheduled.

B. Manufacturer shall separate stone layers in each cube with spacers to prevent product damage.

C. Stone cubes shall be shrink wrapped at time of delivery.

D. Product shall be delivered on wooden pallets.

E. Product shall be placed on stable soil.

F. Product shall not be stacked greater than two cubes high.

G. White products shall be stacked one cube high only.

H. Product shall remain shrink wrapped until time of installation.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Conform to requirements of ACI 530.1/ASCE 6/TMS 602, Specifications for Masonry Structures, Part 1.8.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Shouldice Estate Stone, Bradford Blend.

B. Reading Rock; RockCast Caliza Stone Series.
   1. Ashlar Series, Ohio Split ST-005; 2-piece Ashlar Pattern.
   2. Color match to Architect's sample.

2.2 MATERIALS

A. Masonry Units shall meet ASTM C90 Specifications.

B. Units shall be manufactured with integral water repellent additive.

C. Units shall be uniform and consistent in colour

D. Refer to drawings for unit options locations and quantities.

E. Mortar Types: Refer to Section 04 20 00, Unit Masonry.
   1. Loadbearing: Type S based on specifications.
   2. Non-Loadbearing: Type N based on specifications
   3. Mortar color shall be a custom color as selected by Architect.
   4. Mortar joint shall be concave unless otherwise specified.

F. Veneer Anchorage and Ties: Refer to Section 04 20 00, Unit Masonry.

2.3 ACCESSORIES

A. Anchors, Cramps, Dowels: to ASTM C1242, stainless steel, Type 304 as recommended by manufacturer.

B. Bed Reinforcement: as specified in Section 04 20 00.

C. Through-Wall and Flexible Flashing: as specified in Section 04 20 00.

D. Weep Vents: as specified in Section 04 20 00.

E. Sealant and Backer Rod: as specified in Section 07 90 05.

PART 3 EXECUTION

3.1 PREPARATION

A. Apply asphalt emulsion to concrete surfaces, shelf angles, structural steel supports against which stone is to be applied.

B. Clean stone surfaces by washing with stiff fiber brush and water.

3.2 SETTING STONE - GENERAL

A. Set stones plumb, true, and level, to requirements indicated on drawings and approved shop drawings.

B. Align stone edges and faces according to established relationships and indicated tolerances.

C. Provide movement joints of widths and at locations indicated on drawings. Do not fill movement joints with mortar.

LILLY WHITE + STONE CREEK

COMMONWEALTH

OLD OHIO +SAVANNAH

ASHLAR SERIES

UNLIMITED PATTERN DESIGNS

MANUFACTURED BY READING ROCK, INC.

ROCKCAST®

ROCKCAST© ASHLAR SERIES

Reading Rock, manufacturer of quality masonry products for more than 65 years, combines cutting edge technologies with industry experience to deliver unlimited cast stone design options for your projects. The Ashlar Series patterns are limited only by your imagination with availability in 4 sizes, 4 textures, 2 mix designs and 30 colors.

Like all RockCast products, Ashlar Series units are supported by the experienced and tenured professionals at Reading Rock who will partner with you to ensure success. We are your single source provider for project veneer designs.

ADVANTAGES

The Ashlar Series offers dramatic benefits with variances in color, spec and design. All RockCast products are manufactured to the highest quality and testing standards in the industry.

- **Design Flexibility –** Choose from two similar mix designs, RockCast Architectural Modular Veneer (AMV) or Caliza Stone Series.
- Available in **4 textures and 4 unit heights.**
- **Pattern Flexibility –** Design a repeating pattern utilizing the Cut Stone program. Or, achieve a random pattern with the Chiseled Tumbled texture.
- **Ready Order –** Availability in 5 - 6 weeks.
- **Continuity** in your design is easily achieved by combining with RockCast Custom Cast Stone profiles in matching or complementing colors throughout the project. Reference our custom cast stone Standard Color Selection for monotone and blends available in 5 - 6 weeks.
- **Experience –** Backed by industry experience and professionals who've been producing masonry products since 1947. Consistently produced to ASTM standards, ensuring product performance.
- Install using **standard masonry practices.**
- **Durability –** Can be used at grade.
- **Moisture control –** Manufactured with Rheopel Plus integral water repellent for enhanced long-term performance, per ACI530.

SPECIFICATIONS/INSTALLATION

MODULAR VENEER SPECIFICATIONS

PARAMETER	ASTM TEST METHOD	ASTM C90 SPEC. LIMITS	ROCKCAST AMV	CALIZA STONE SERIES
Density (lbs. per cu. ft.)	C140	N.A.	>120 pcf	>120 pcf
Compressive Strength	C140	1900 psi	3000-5000 psi	2500 - 3500 psi
Absorption	C140	13%	<6%	<6%
Linear Shrinkage	C426	0.065%	<.05%	.065%

CALIZA STONE SERIES SPECIFICATIONS

Caliza Stone Series units, in Chiseled Tumbled texture (Cantera), with physical dimensions and characteristics comply with ASTM C55 (concrete brick) and the physical properties of ASTM C568 (limestone dimension stone).

- Ashlar Series products are shipped and sold in "FULL CUBES ONLY" and packaged by height. Pulling from random cubes is required to create the desired patterns.
- Once the Chiseled Tumbled texture units are tumbled, some units will be broken. The broken pieces will not be culled but will be packaged/shipped providing additional random lengths. Smaller units (4" and 6") are more likely to break during the tumbling process than larger units, therefore, providing more random lengths in those sizes.

LIFETIME WARRANTY

All of our RockCast products go through the same rigorous product testing and are backed with warranties to support our guarantees for quality.

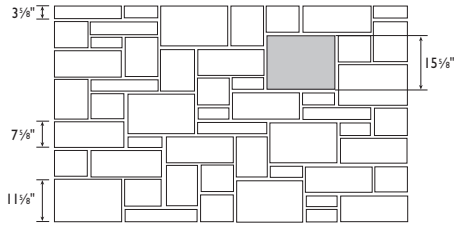
PATTERNS/SETTING GUIDELINES

PATTERN SAMPLES

Cut Stone Pattern

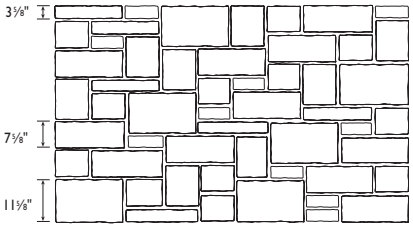
Repeating patterns under the Cut Stone program can be pre-designed using Smooth, Split, and Chiseled textures only. 16" x 24" full size smooth is available to be used in a 4 piece Cut Stone pattern only.

SMOOTH PATTERN



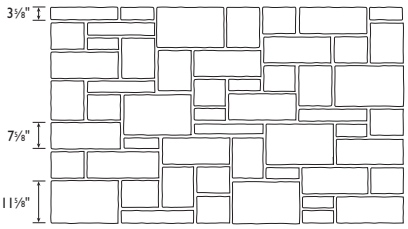
4": 12 pieces
12": 10 pieces
8": 16 pieces
16": 1 piece

SPLIT PATTERN



4": 11 pieces
12": 10 pieces
8": 17 pieces

CHISELED PATTERN

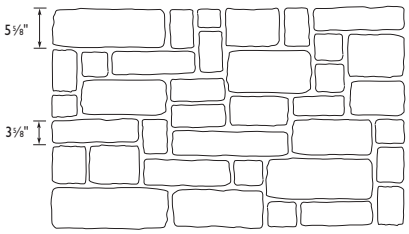


4": 11 pieces
12": 10 pieces
8": 17 pieces

Random Pattern

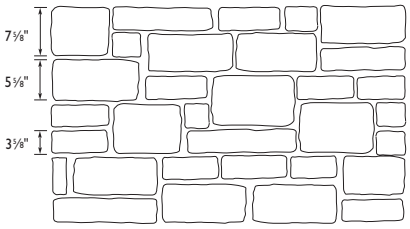
Random patterns available only in Chiseled Tumbled texture.

2-PIECE PATTERN



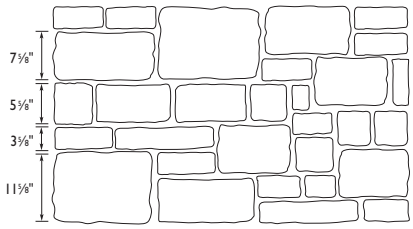
4": 55%
6": 45%

3-PIECE PATTERN



4": 45%
6": 40%
8": 15%

4-PIECE PATTERN



4": 40%
6": 35%
8": 15%
12": 10%

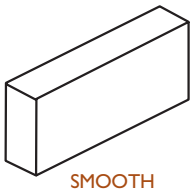
*NOTE: The above size mix is a guideline for the Ashlar Series patterns and should be verified by the designer. The desired look may vary depending on the amount of openings, wall height and corners. Cutting and dressing ends will be required in the field.

SELECTIONS

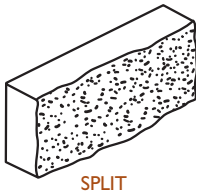
COLOR OPTIONS

Units are available in monotone and blended colors. Select from 22 standard colors in the RockCast Modular Veneer Series mix design. Caliza Stone Series units are available in 8 standard colors. Reference each Series' standard color selection on **www.readingrock.com**.

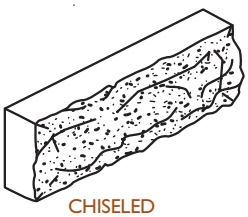
TEXTURE OPTIONS



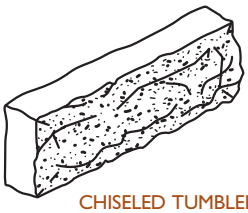
SMOOTH



SPLIT



CHISELED



CHISELED TUMBLED

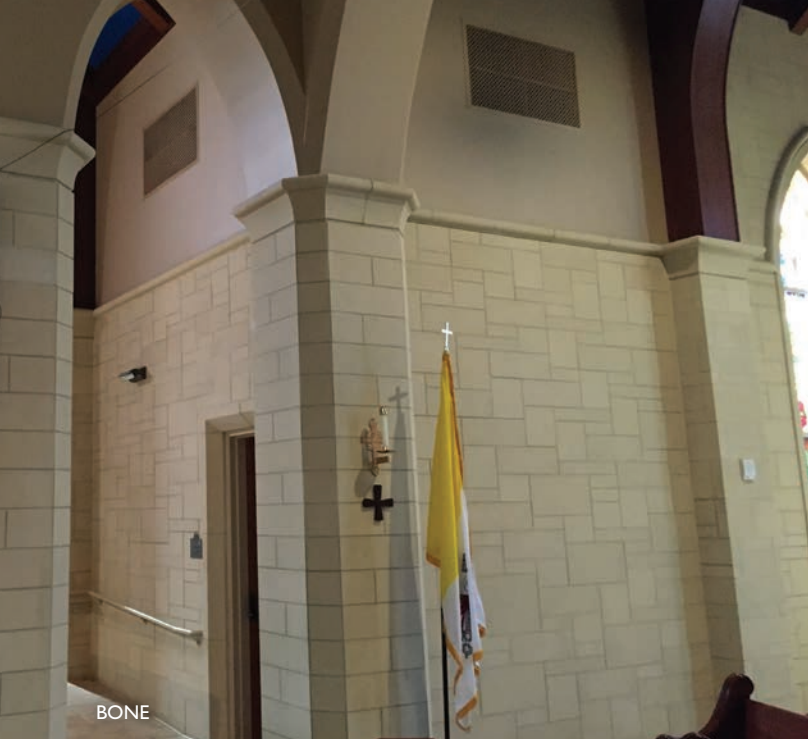
SIZE AVAILABILITY

HEIGHT	3⅝"	5⅝"	7⅝"	11⅝"

- Cut Stone Series units originate from 12" and 24" length pieces. 16" x 24" full size Smooth is available to be used in a 4 piece Cut Stone pattern only.
- Chiseled Tumbled units are shipped in random lengths after tumbling.

LEADERS IN LEED®

Many Reading Rock products contribute to the achievement of LEED credits on projects. We proudly support the development of green product innovations and are committed to developing and improving our entire product line with respect to the environment. In fact, Reading Rock was one of the first cast stone manufacturers to devote resources to products with supplementary cementitious materials (SCM).



BONE

SPECIAL BLEND-CUSTOM COLOR

COMMONWEALTH

ABOUT READING ROCK

Since 1947, Reading Rock has had a passion for manufacturing quality building material products and providing exceptional services. While our level of dedication began on a small scale as a block manufacturer, today Reading Rock is recognized for solutions and services including: hardscapes, tile, architectural stone, brick, thin veneer, CMU and hearth. From the plant floor to the job site, we are committed to enhancing our customer partnerships through quick product turnaround, on-time delivery and our resolute focus on continuous improvement. At Reading Rock, we never relent on ways to improve our processes to ensure we exceed expectations. With state-of-the-art technology, certified technicians, in-house LEED® APs and GAs and engineers, we're confident you'll experience the Reading Rock difference by receiving the right products, on time, every time.

Rettsyndrome.org

ACCELERATING RESEARCH. EMPOWERING FAMILIES.

Reading Rock's purpose is to help support and finance the initiatives of RettSyndrome.org. Every one of our associates helps to contribute to help those who can't help themselves. For more information, visit RettSyndrome.org.

Rettsyndrome.org's mission is to fund research for treatments and a cure for Rett syndrome while enhancing the overall quality of life for those living with Rett syndrome by providing information, programs, and services.

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800.482.6466 ◆ www.readingrock.com

REV 10.16

Request For Information ST2 PB-025

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-025 **Date Created: 1/31/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 3400 Stone Barn Drive Frederick, MD 21704	Anthony Kukowski Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent **Author RFI Number**

Subject	Discipline	Category
CMU Dowelling in Slab	Structural	

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/7/2019**

Reference Drawings S1.1, S1.2, A1.1, A1.2, and ST2 PB-021 The CMU walls at classroom entrances are shown to be supported by the normal slab thickness with no provisions for dowelling the CMU to the slab. In addition, the response to ST2 PB-021 confirmed the CMU walls along the Maintenance Corridor are supported directly on the slab. Please review and advise if the slab should be thickened along the corridor wall lines and advise if drilled and epoxied dowels are acceptable. Please provide direction for dowelling requirements.

Suggestion

Answer **Date Answered:**

Response to RFI#: ST2 PB-025

1. The footings or thickened slabs are not required for interior non load-bearing walls.
2. See Note 3 at Exterior Wall Reinforcing Schedule on S-3.1 for reinforcing bars if required and these reinforcing bars do not need to be doweled into the slab-on-grade.

WOLFMAN & ASSOCIATES, P.C., Consulting Engineers

By: Steve Jiau Date: 2/1/19

Request For Information ST2 PB-026

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-026 **Date Created: 1/31/2019**

Answer Company	Answered By	Author Company	Authored By
Oak Contracting, LLC 3400 Stone Barn Drive Frederick, MD 21704	Anthony Kukowski Phone: 410-828-1000 Fax: 410-828-7488	Oak Contracting, LLC 3400 Stone Barn Drive Frederick, MD 21704	Anthony Kukowski Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number
GMM 03

Subject	Discipline	Category
Slab Doweling Scope Clarification	Architectural	

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/7/2019**

Received from Moehrle Masonry:

In conditions where CMU walls bear on slab, no details or notes have been observed indicating that the CMU is to be doweled to the slab via a drilled and epoxied dowel. There are various details that do show 'L' shaped rebar cast into the slab, terminating in the CMU cores.
Please confirm that drilled & epoxied doweling of CMU walls are not part of Bid 4A.

Suggestion

Answer **Date Answered: 1/31/2019**

If dowels are required for CMU walls supported directly on slab, the 4A contractor will responsible to furnish and install.

Request For Information ST2 PB-027

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-027 **Date Created: 2/1/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Mondo substitution request	Architectural	Contractor Suggestion / Upgrade

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/8/2019**

See attached substitution request from Dynamic Sports Construction, Inc. recommending their products be accepted for the athletic flooring system. Please review and advise.

Suggestion

Answer **Date Answered:**

Not an acceptable substitution. This appears to be a poured in place system. Specified system is prefabricated surfacing.

Advancement of Construction Technology

SUBSTITUTION REQUEST

Project: Urbana Elementary School Replacement

Substitution Request Number: N/A

From: Dynamic Sports Contruction, In.

To: Oak Contracting

Date: 1/31/2019

A/E Project Number: N/A

Re: Urbana Elementary School

Contract For: Substitution Product

Specification Title: Resilient Athletic Flooring

Description: Product

Section: 096566 Page: 2

Article/Paragraph: Part 2 Paragraph 2.1 & 2.2

Proposed Substitution: DynaForce

Manufacturer: Dynamic Sports Address: 301 Sonny Drive, Leander, TX 78641 Phone: 512-260-6722

Trade Name: N/A Model No.: N/A

Installer: Dynamic Sports Address: same as above Phone: same as above

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☑ More than 10 years old

Differences between proposed substitution and specified product:

Products are equal.

☑ Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: Competitive biding.

Similar Installation:

Project: Henrietta Recreation Center

Address: 605 Caulkins Rd.
Rochester, NY 14623

Architect: Passerro Associates

Owner: Town of Henrietta

Date Installed: October 2016

Proposed substitution affects other parts of Work: ☑ No ☐ Yes; explain

Savings to Owner for accepting substitution: N/A ($).

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] days.

Supporting Data Attached: ☐ Drawings ☑ Product Data ☐ Samples ☐ Tests ☐ Reports ☐

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601 Madison Street, Alexandria, VA 22314-1791

September 1996
CSI Form 13.1A

SUBSTITUTION REQUEST
(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: Kirby Foray

Signed by: Kirby foray

Firm: Dynamic Sports Contruction, Inc.

Address: 301 Sonny Drive,
Leander, TX 78641

Telephone: 512-260-6722

Attachments:

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

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601 Madison Street, Alexandria, VA 22314-1791

Dynamic SPORTS CONSTRUCTION, INC.

DYNAFORCE® FLOOR SYSTEM
FLUID APPLIED RESILIENT FLOORING

PART 1 – GENERAL

1.1 DESCRIPTION

A. The DynaForce® synthetic flooring system as supplied and installed by Dynamic Sports Construction, Inc. is a high quality, true dual-durometer system. This system incorporates a 4mm to 14mm base-mat and a seamless 2mm polyurethane surface.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Terms and Conditions of the Contract and Division 1 of the specifications shall apply to this section.

1.3 SECTION INCLUDES

A. Seamless, 2mm polyurethane resin over prefabricated rubber base-mat including adhesive, finish coating and gameline markings.

1.4 REFERENCES

A. Applicable Publications: The following publication forms a part of this specification to the extent referenced thereto:

1. American Society of Testing and Materials.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Shop Drawings: Indicating gameline layouts and track markings in accordance with the NCAA and NFSHSA regulations. Include borders, logos, free-throw zones/lanes and keys as applicable.

C. Product Data: Specifications for all materials and manufacturers installation instructions.

D. Samples: 4" x 6" samples of each indicating color and texture of that specified. Submit all available linestriping colors.

E. Submit to owner complete instructions for care and maintenance.

F. Submit copy of manufacturers sample warranty.

1.6 QUALITY ASSURANCE

A. Qualifications: Installer shall be a full-time employee of flooring contractor with a minimum of 3 years experience with specified floor system.

B. Contractor shall have completed at least ten (10) facilities with the specified system in the last year.

1.7 WARRANTY

A. Resilient sports flooring is warranted against defects in materials and workmanship for a period of one (1) year from the date of installation. The warranty excludes damage or defects caused by improper construction or design of the sub-floor, by subsequent deterioration of the sub-floor, moisture migration, hydrostatic pressure, neglect, lack of maintenance, vandalism, abuse or acts of God.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include but are not limited to the following:

1. DynaForce® by Dynamic Sports Construction, Inc. Leander, Texas.
2. Floor system is based on Dynamic Sports Construction, Inc. products.
3. Other floor systems meeting the requirements of this specification must submit technical data to Architect ten (10) days prior to bid.

2.2 PHYSICAL PROPERTIES

A. Polyurethane top layer shall meet the following physical properties:

1. Consistency .....Liquid
2. Non Volatile percentage.....100%
3. Shore Hardness (DIN 53505) .....80 Shore A
4. Tensile Strength (53517) .....min. 1400 psi
5. Elongation at Break (DIN 53504)....300%
6. Tear Strength .....min. 35 N/mm
7. Inflammability of Top Layer (DIN 51960) .....Class 1/Not flammable

B. Prefabricated rubber base layer shall meet the following physical properties:

1. Density (ASTM D-297) .....0.45 pcf
2. Tensile Strength (ASTM D-412) 88%
3. Elongation (ASTM D-412).....97%
4. Compressibility (ASTM F-36A)
   at 50 psi .....20 % Compression...87% of Recovery
   at 100 psi .....91% recovery
   at 200 psi .....91% recovery
   (25% deflection, 22 hours at 158 degrees F)
5. Die Tear PPI (ASTM-624) 30ppi
6. Thickness .....from 4mm to 14mm
7. Flexibility (ASTM F-147).....0-1
8. Compression Set B
   (ASTM D-395) .....26 % of Recovery @ 25% deflection
   (158F / 22 hrs)

C. Floor system shall meet the following performance properties:

1. Compression Set (DIN 53517).....1.9 %
2. Ball Bounce (DIN 18032) .....> 98 %
   lower value for 14 mm + 3 mm system
3. Coefficient of Friction
   (DIN 18032) ..... 0.4 - 0.7
4. Shock Absorption DIN 18032 (force reduction) ...20%-45%
5. Impact Resistance .....11 Nm
6. Inflammability (DIN 51960) .....Class I
7. Resistance Rolling Load (DIN 18032)..No Damage
8. Remaining Indentation..... <0.5mm
9. Wear Resistance- 1000 cycles .....<.4 grams loss
10. Moisture Absorbption..... a. Surface 0%
    b. Base Mat 20.8%
11. Heat Resistance..... .098 m2K/W
    (Unaffected from -20F to 135F)

301 Sonny Drive • Leander Texas 78641 • Ph: 512.260.6722 • Toll Free 1.800.517.0015 • Fax: 512.260.9118

Web: dynamicsportsconstruction.com

2.3 DynaForce™ Base-mat Adhesive

A. Two-component polyurethane adhesive applied at a rate of 750g/m2 (0.15lb/sf).

2.4 DynaForce™ Base-mat

A. Prefabricated rubber mat made of all recycled rubber granules bound with MDI polyurethane binder with a constant thickness of 4mm to 14mm (as specified). No liquid-applied polyurethane base layers will be accepted.

2.5 DynaForce™ Sealer

A. A two-component, thixotrophic polyurethane sealer applied at a rate of 600g/m2 (0.12lb/sf).

2.6 DynaForce™ Resin

A. Pigmented, two-component polyurethane wear layer shall be applied at a rate of 1350g/mm (0.278lb/sf @ 1mm thickness). The wear layer shall be self-leveling and result in a total polyurethane thickness of 2 mm (0.556lb/sf total).

2.7 DynaForce™ Finish Coating

A. Two-component pigmented polyurethane matte-finish shall be applied at a rate of 140g/m2 (0.03lb/sf), either by spray application, or lambs wool roller. Color to be selected from manufacturers standard color range. Total thickness of flooring system shall be as specified by architect.

PART 3 – EXECUTION

3.1 WORKING CONDITIONS

A. The building shall be dry, closed in, lighted and permanently heated. The temperature shall be maintained at a minimum of 65 degrees F and relative humidity at a maximum of 50% for 48 hours prior to, during and 48 hours after installation. The concrete shall be dry with a smooth steel troweled finish. No curing agents or compounds shall be used on the concrete. Variations in the sub-floor shall not exceed plus or minus 1/8" within a 10' radius. The installation area shall be closed to all traffic for a period of ten (10) days.

3.2 BASE-MAT

A. Thoroughly mix the DynaForce® Base-mat adhesive and apply directly to the concrete sub-floor with a notched trowel at a rate of 0.15 lbs./sf.

B. Roll base-mat into fresh adhesive. Do not allow compression fit at any seams. Roll all base-mat applications with a 100lb. linoleum roller, continue to repeat rolling process as necessary to ensure adhesive transfer.

3.3 SEAL COAT

A. Thoroughly mix the DynaForce® Sealer. Apply to the base-mat with a flat steel trowel. Allow the sealer coat to cure before applying Resilient Layer.

3.4 RESILIENT LAYER

A. Thoroughly mix the DynaForce® Resin to achieve 2mm thickness. Sand any imperfections and tack clean floor prior to application of matte finish.

3.5 MATTE FINISH

A. Mix pigmented DynaForce® Finish Coating. Apply with airless sprayer or roller; apply at a rate of 0.03lbs/sf.

3.6 GAME LINES

A. Lay out and tape game lines using approved taping machine. Mix two-component game line paint and roller apply. Remove tape.

COMPLIANCE TESTED by berkeley analytical

VOC Emission Test Certificate

Product Name: DynaForce

Product Sample Information	
Company:	Dynamic Sports Construction, Inc
Company Website:	www.dynamicsportsconstruction.com
Product Type:	Flooring (all types)
Date Produced:	9/26/2018

Certificate Information	
Certificate No:	181019-01
Certified By:	Raja S. Tannous, Laboratory Director
Date:	October 19, 2018

Reference Standard: California Department of Public Health CDPH/EHLB/Standard Method Version 1.2, 2017 (Emission testing method for CA Specification 01350)

Acceptance Criteria and Results Demonstrating Compliance of Product Sample to Referenced Standard:

Exposure Scenario[1]	Individual VOCs of Concern[2]		Formaldehyde[3]		TVOC[4]
	Criterion	Compliant?	Criterion	Compliant?	Range
School Classroom	≤½ Chronic REL	YES	≤9.0 µg/m³	YES	> 0.5 - 4.9 mg/m³
Private Office	≤½ Chronic REL	YES	≤9.0 µg/m³	YES	> 0.5 - 4.9 mg/m³

Product Coverage[5]: Not applicable

1. Exposure scenarios & product quantities for classroom & office are defined in Tables 4-2 – 4-5 (CDPH Std. Mtd. V1.2-2017)
2. Maximum allowable concentrations of individual target VOCs are specified in Table 4-1 (*ibid.*)
3. Maximum allowable formaldehyde concentration is ≤9 µg/m³, effective Jan 1, 2012; previous limit was ≤16.5 µg/m³ (ibid.)
4. Informative only; predicted TVOC Range in three categories, i.e., ≤0.5 mg/m³, >0.5 – 4.9 mg/m³, and ≥5.0 mg/m³
5. Informative and applicable only to tests of wet-applied products; grams of sample applied per square meter of substrate

Standards & Codes Recognizing CDPH Standard Method V1.2 (partial list)

- USGBC LEED Version 4, BD&C, ID&C
- The WELL Building Standard
- ANSI/GBI 01, Green Building Assessment Protocol
- Green Guide for Healthcare V2.2

Narrative: Dynamic Sports Construction, Inc selected a sample representative of its DynaForce, a polyurethane resilient rubber athletic flooring product and submitted it on 9/27/2018 for testing. Berkeley Analytical measured and evaluated the emissions of VOCs from this sample following CDPH/EHLB/Standard Method V1.2-2017. The results of the test are presented in Berkeley Analytical report, 649-002-01A-Oct1918.

Berkeley Analytical is an independent, third-party laboratory specializing in the analysis of organic chemicals emitted by and contained in building products, finishes, furniture, and consumer products. We are an ISO/IEC 17025 accredited laboratory (IAS, TL-383); all standards used in performing this test are in Berkeley Analytical's scope of accreditation.

DISCLAIMER: THIS CERTIFICATE OF COMPLIANCE AFFIRMS THAT: 1) A SAMPLE OF THE LISTED PRODUCT WAS TESTED ACCORDING TO THE REFERENCED STANDARD; 2) THE MEASURED VOC EMISSIONS FROM THE SAMPLE WERE EVALUATED FOR THE DEFINED EXPOSURE SCENARIO(S); AND 3) THE RESULTS MEET THE ACCEPTANCE CRITERIA OF THE REFERENCED STANDARD(S). BERKELEY ANALYTICAL IS NOT RESPONSIBLE FOR ANY CLAIMS REGARDING A PRODUCT OR PRODUCTS ENTERED INTO COMMERCE THAT MAY BE BASED ON THIS TEST. BERKELEY ANALYTICAL PROVIDES THIS CERTIFICATE OF COMPLIANCE "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

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College of Southern Maryland

Matapeake MS – Stevensville, MD

PHYSICAL PROPERTIES COMPARISON -		
Urbana Replacement Elementary School Section 096566 Resilient Athletic Flooring		
Test Analysis	**DynaForce**	**Project Performance Criteria 2.2 E**
Elongation at Break	**min 300%**	**230%**
Tensile Strength, psi	**Min 1400**	**240psi**
Coefficient of Friction	**0.56**	**0.5**
Hardness Shore (ASTM/D2240) Wear Layer	**80 Shore A +/- 5%**	**Shore A 68 +/- 5%**
Critical Radient Flux /Flamibility	**Class 1 not Flammable (Din 519610)**	**Class 1**
Static Load Limit	**≥ 0.004**	**0.009**
Green Guard Certification	******Please see Air Quality Report**	**Yes**
Total Thickness	**8mm**	**8mm**
Made in the USA	**yes**	**No**
Warranty	**As Per specification**	**As Per Specifications**
****Standards & Codes Recognizing CDPH Standard Method V1.2 (partial list) • USGBC LEED Version 4, BD&C, ID&C • The WELL Building Standard • ANSI/GBI 01, Green Building Assessment Protocol • Green Guide for Healthcare V2.2		

Request For Information ST2 PB-028

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-028 **Date Created: 2/1/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 3400 Stone Barn Drive Frederick, MD 21704	Anthony Kukowski Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent

Author RFI Number

Subject	Discipline	Category
Custodial Office Locker Type	Architectural	

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/8/2019**

Received from Waynesboro Constrcution:

Reference Drawing A9.4. What type of lockers are to be provided at Custodial Office 123?

Suggestion

Answer **Date Answered:**

Lockers at C123 to be type L4. This will be included in Addendum 3.

Request For Information ST2 PB-030

Urbana Elementary School Replacement
3554 Urbana Pike
Frederick, Maryland 21704

Project # 1707
Tel: Fax:

RFI #: ST2 PB-030 **Date Created: 2/1/2019**

Answer Company	Answered By	Author Company	Authored By
Grimm + Parker Architects 11720 Beltsville Drive Suite 600 Calverton, MD 20705	Don Porter Phone: 240-965-0713 Fax: 301-595-0089	Oak Contracting, LLC 1000 Cromwell Bridge Road Towson, MD 21286	Kerrigan Toth Phone: 410-828-1000 Fax: 410-828-7488

Co-Respondent **Author RFI Number**

Subject	Discipline	Category
Steel misc		Contract Package Responsibility

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/8/2019**

See questions below from Kinsley and provide responses accordingly.

1. In regard to the entry sign, E18/A-0.5 indicates mounting post is by sign manufacturer. Contract package 5A-2.39 indicates 5A is responsible for any steel. Contract package 2A-2.52 seems to assign signposts to 2A. Please clarify if 5A is responsible for any sign posts and if so, which ones.

2. A6 & A10/A-1.12 call out a ¼" continuous galv. steel bent plate by CFMF contractor. Please confirm the plate isn't in the 5A package.

3. A6 & A12/A-3.7 call out a ¼" continuous galv. steel bent plate by CFMF contractor. Please confirm the plate isn't in the 5A package.

4. J18, J6 & A6/A3.9 call out a ¼" continuous galv. steel bent plate by CFMF contractor. Please confirm the plate isn't in the 5A package.

5. A6 & E6/A3.10 call out a ¼" continuous galv. steel bent plate by CFMF contractor. Please confirm the plate isn't in the 5A package.

6. The following items in Spec 05 50 00 can be ambiguous. Are these part of the 5A package? If so, please identify specific items for each and reference the details pertaining to each.
a. Steel framing and supports for countertops
b. Steel framing and supports for mechanical and electrical equipment.
c. Steel framing and supports for applications where framing and supports are not specified in other sections.
d. Miscellaneous metal trim.

e. Miscellaneous storm drainage piping specialties.
f. Pipe grid.

7. Regarding Spec 05 50 00-2.3-B. Shop Finish (stairs, ladders, frames, etc.): the only items I see called out as galvanized and powder coated are the exterior rails at the loading dock. Please indicate which stairs, ladders and frames (or any other items) are galvanized and powder coated.

8. Our understanding is that 05A will furnish interior items as primed only (no galvanizing unless specifically indicated) and exterior items as galvanized only, without primer or finish coat (except for rails at loading dock and other items depending on response to question above). Please confirm this is correct.

9. I'm not seeing any stair gates. Spec 05 50 00-2.3-C gives instructions for shop finish on stair gates, where are these located?

Suggestion

Answer **Date Answered:**

1. Per Oak: 5A Contractor is responsible for 4"x4" galvanized steel post and associated anchor bolts for the site sign. All other exterior sign posts are by 2A Contractor.

2. Per Oak: 5A Contractor shall supply plate in accordance with 5A Scope Item 2.38.

3. Per Oak: 5A Contractor shall supply plate in accordance with 5A Scope Item 2.38.

4. Per Oak: 5A Contractor shall supply plate in accordance with 5A Scope Item 2.38.

5. Per Oak: 5A Contractor shall supply plate in accordance with 5A Scope Item 2.38.

6. Per Oak: These items are clarified in the Specification Cross-Reference sections for each contract package.
5A Contractor is responsible to review all scope items (i.e. 2.12 and 2.24) and the remainder of the contract documents for responsibility of all referenced sections.

7. Exterior Guards and Handrails have been revised to Aluminum per Addendum 2. Ladders are noted and specified as galvanized. Roof stair is noted and specified as galvanized.

8. It is the responsibility of the bidder to review the Contract Documents thoroughly to determine the extent of the requirements. All exterior steel shall be hot-dipped galvanized unless specifically noted otherwise. Interior steel requiring hot-dipped galvanized will be where specifically noted.

9. Stair gates are not required. This will be deleted by Addendum 3.

GRIMM AND PARKER

February 1, 2019

URBANA ELEMENTARY SCHOOL REPLACEMENT
BID PACKAGE
ADDENDUM NO. 2
21740.00

TO THE CONTRACT DRAWINGS AND SPECIFICATIONS FOR THE REFERENCED PROJECT, DATED JANUARY 10, 2019, AS PREPARED BY GRIMM AND PARKER ARCHITECTS, 11720 BELTSVILLE DRIVE, SUITE 600, CALVERTON, MARYLAND 20705.

This Addendum includes changes and clarifications to the Contract Documents. The information includes the following:

SPECIFICATION ITEMS:

ITEM NO. 1: SECTION 00 01 03 TABLE OF CONTENTS
TOC-2 DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES
ADD 06 12 19 STRUCTURAL INSULATED PANELS
TOC-7 DIVISION 31 – EARTHWORK
ADD 316317 SHORT AGGREGATE PIER FOUNDATION SYSTEMS

ITEM NO. 2: SECTION 04 73 23 MANUFACTURED STONE CLADDING
047323-1 Paragraph 1.3
DELETE Paragraph B.
047323-2 Paragraph 2.1.B.1
SUBSTITUTE Ashlar Series, Caliza "Ohio", Split tumbled finish; 2-piece Ashlar Pattern consisting of 4 inch and 6 inch high nominal stone pulled from two pallets, in random lengths.

ITEM NO. 3: SECTION 06 12 19 STRUCTURAL INSULATED PANELS
ADD This section in its entirety included in this Addendum.

ITEM NO. 4: SECTION 08 71 00 DOOR HARDWARE
SUBSTITUTE This section in its entirety with section included in this Addendum.

ITEM NO. 5: SECTION 09 65 00 RESILIENT FLOORING
096500-3 Paragraph 2.1
ADD

D. Luxury Vinyl Tile (See Alternate) complying with ASTM F 1700, Class III, Type B.
   1. Acceptable Products
      a. Basis-of-Design: Amtico -Abstract Series, by Mannington Commercial www.manningtoncommercial.com
   2. Thickness: 2.5 mm.
   3. Wear Layer: 40 mil. Reduced wear layer will be acceptable contingent on meeting the applicable warranty listed below.
   4. Edge: Micro-beveled Edges.
   5. Size: 12 inches x 12 inches.
   6. Color: As selected by Architect from the full line of colors and patterns.
   7. Floor Pattern: Match pattern provided by Architect.
   8. Indoor Air Quality: FloorScore Certification.
   9. Warranty: 20 year commercial warranty and 20 year wear warranty.

Grimm + Parker Architects
11720 Beltsville Dr, Ste #600
Calverton, MD 20705
Tel: 301.595.1000

Visit online at grimmandparker.com

Calverton Tysons Charlottesville

ITEM NO. 6: SECTION 10 14 00 SIGNAGE
10 14 00-5 Paragraph 2.6.A.3
SUBSTITUTE Size: 4'-0" high by 8'-0" wide by 1'-0" deep.

ITEM NO. 7: SECTION 22 42 16.13 COMMERCIAL LAVATORIES
224216.13-3 Paragraph 2.3.A.1
ADD e. Moen, Inc.
224216.13-4 Paragraph 2.3.B.1
ADD e. Moen, Inc.

ITEM NO. 8: SECTION 22 42 16.16 COMMERCIAL SINKS
224216.16-7 Paragraph 2.4.B.1
ADD g. Moen, Inc.
224216.16-7 Paragraph 2.4.C.1
ADD g. Moen, Inc.
224216.16-8 Paragraph 2.4.D.1
ADD g. Moen, Inc.

ITEM NO. 9: SECTION 22 42 23 COMMERCIAL SHOWERS, RECEPTORS, AND BASINS
224223- Paragraph 2.1.B.1
ADD d. Moen, Inc.

ITEM NO. 10: SECTION 316317 SHORT AGGREGATE PIER FOUNDATION SYSTEMS
ADD This section in its entirety included in this Addendum.

ITEM NO. 11: SECTION 32 30 10 MODULAR PLAYGROUND EQUIPMENT
SUBSTITUTE This section in its entirety with section included in this Addendum.

DRAWING ITEMS: TITLE SHEET

ITEM NO. TS1: SHEET TS-2 LIST OF DRAWINGS
ADD Drawing C-4P SWM PROFILES to Civil List of Drawings.

DRAWING ITEMS: CIVIL

ITEM NO. C1: SHEET C-0 Cover Sheet
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Sheet index.

ITEM NO. C2: SHEET C-1A DEMOLITION PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Extent of sidewalk to be removed.
ADD Demo trees in water meter easement.

ITEM NO. C3: SHEET C-1B DEMOLITION PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
ADD Demo of sidewalk and deck.

ITEM NO. C4:	SHEET C-2A	EROSION AND SEDIMENT CONTROL PLAN
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Sheet sequence callout notes numbers updated.	
ITEM NO. C5:	SHEET C-2B	EROSION AND SEDIMENT CONTROL PLAN
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Sheet sequence callout notes numbers updated.	
ITEM NO. C6:	SHEET C-2E	EROSION AND SEDIMENT CONTROL DETAILS
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Sequence Of Construction.	
ITEM NO. C7:	SHEET C-2G	EROSION AND SEDIMENT CONTROL PROFILES
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Basin A Sections.	
ITEM NO. C8:	SHEET C-2H	EROSION AND SEDIMENT CONTROL DETAILS
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
ADD	Filter Log Detail.	
REVISE	Trap B Profile.	
ITEM NO. C9:	SHEET C-3A	SITE PLAN
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Pumpstation PS3 Manhole and 4" Force Main Layout. Provided Stationing Along Waterline A snd 4" Force Main.	
REVISE	Layout of Pre-K Play Area and Out Door Educational Classroom.	
REVISE	Water Meter Size.	
REVISE	Pipe Size I-30 To MH-39, I-21 to SWM-1, I-11 to MH-4, I-50 to MH-42.	
REVISE	Alignment of MH-10 to HW-8.	
ITEM NO. C10:	SHEET C-3B	SITE PLAN
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Layout Of Intermediate Play Area. Revised Alignment of MH-42 To EW-44.	
ADD	Sidewalk And Concrete Bridge Over Outfall At EW-44.	
ITEM NO. C11:	SHEET C-3E	SITE DETAILS
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Call Out For Detail 5.	
REVISE	Detail 11.	
ADD	Detail 12 Concrete Handicap Ramp Section.	
ITEM NO. C12:	SHEET C-3F	PLAY STRIPING DETAILS
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Renumber Detail Callouts.	
ADD	Intermediate Striping Plan View.	
ITEM NO. C13:	SHEET C-3J	SEWER PROFILE
SUBSTITUTE	This sheet in its entirety with revised sheet included in this Addendum.	
REVISE	Profile From S-4 To Property Line.	

ITEM NO. C14: SHEET C-3K SEWER PROFILE
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Profile From S-4 To Property Line.

ITEM NO. C15: SHEET C-3M WATER PROFILE
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Profile Stationing and Length.

ITEM NO. C16: SHEET C-3N WATER PROFILE
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Profile Stationing and Length.

ITEM NO. C17: SHEET C-4A GRADING PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Grading Swm-8. Revised Pipe Size I-30 to MH-39, I-21 to SWM-1, I-11 to MH-4, I-50 to MH-42.
REVISE Location Of MH-26.
REVISE Revised Alignment of Stormdrain MH -10 to HW-8.
ADD Handicap Ramps at Both School Entrances.

ITEM NO. C18: SHEET C-4B GRADING PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Grading and Location Of I-47.
REVISE The Alingment of Storm Drain MH-42 to EW-44.
REVISE Grading at EW-44 and Added Riprap and Sidewalk.

ITEM NO. C19: SHEET C-4C STORMDRAIN PROFILES
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Profile from MH-41 to EW-44.

ITEM NO. C20: SHEET C-4D STORMDRAIN PROFILES
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Profile from MH-6 to HW-8.

ITEM NO. C21: SHEET C-4K STORMDRAIN PROFILES
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Microbioretension Faciltiy Typical Section.

ITEM NO. C22: SHEET C-4L SWM PROFILES
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE SWM-1 and SWM-2 Profiles.

ITEM NO. C23: SHEET C-4M SWM PROFILES
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE SWM-3 and SWM-4 Profiles.

ITEM NO. C24: SHEET C-4N SWM PROFILES
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE SWM-6 and SWM-7 Profiles.

ITEM NO. C25: SHEET C-4P SWM PROFILES
ADD This sheet in its entirety with sheet included in this Addendum.

ITEM NO. C26: SHEET C-5 SIGNAGE & STRIPING PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
ADD Handicap Signs in After Hour Parking.

DRAWING ITEMS: LANDSCAPE ARCHITECTURE

ITEM NO. L1: SHEET L-2.1 LANDSCAPE PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
ADD Trees in Courtyard
REVISE SWM Plantings

ITEM NO. L2: SHEET L-2.3 LANDSCAPE PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
ADD Additional Species.
REVISE Plant Quantities.

DRAWING ITEMS: ARCHITECTURAL

ITEM NO. A1: SHEET A-0.5 ARCHITECTURAL SITE PLAN
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A2: SHEET A-0.6 SITE DETAILS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A3: SHEET A-1.3 PARITIAL FIRST FLOOR PLAN – AREA C1
REVISE Exterior Handrails and Guardrails at loading dock ramp to be Aluminum in lieu of Powder Coated Galvanized.

ITEM NO. A4: SHEET A-1.6 PARTIAL SECOND FLOOR PLAN – AREA B
CLARIFY This sheet was not substituted by Addendum 1. The sketch SKA-1.6.1 was the only revision to this sheet.

ITEM NO. A5: SHEET A-3.1 FINISH SCHEDULE
REVISE Room No. A204 base to PT, and all walls to HPC.
REVISE Room No. B106C base to PT, and all walls to HPC.
REVISE Room No. B202 base to PT, and all walls to HPC.
REVISE Room No. C126 all walls to HPC.

ITEM NO. A6: SHEET A-3.2 DOOR SCHEDULE
SUBSTITUTE This sheet in its entirety with revised sheet included with this Addendum.

ITEM NO. A7: SHEET A-4.11 WALL SECTIONS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A8: SHEET A-5.2 STAIR PLANS AND SECTIONS
REVISE Details F14 and H14: Exterior Handrails and Guardrails to Aluminum in lieu of Powder Coated Galvanized.

ITEM NO. A9: SHEET A-5.8 MISCELLANEOUS DETAILS
REVISE Details H5, H9, H12, H15: Exterior Handrails and Guardrails to Aluminum in lieu of Powder Coated Galvanized.

ITEM NO. A10: SHEET A-6.1 INTERIOR ELEVATIONS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A11: SHEET A-6.2 INTERIOR ELEVATIONS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A12: SHEET A-6.3 INTERIOR ELEVATIONS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A13: SHEET A-6.4 INTERIOR ELEVATIONS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A14: SHEET A-9.1 PARTIAL FIRST FLOOR FURNISHING PLAN – AREA A
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A15: SHEET A-9.2 PARTIAL FIRST FLOOR FURNISHING PLAN – AREA B
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A16: SHEET A-9.3 PARTIAL FIRST FLOOR FURNISHING PLAN – AREA C1
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A17: SHEET A-9.6 PARTIAL SECOND FLOOR FURNISHING PLAN – AREA B
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

ITEM NO. A18: SHEET A-9.8 PARTIAL SECOND FLOOR FURNISHING PLAN –AREA C2
REVISE Plan per attached sketch SKA-9.8.1.

DRAWING ITEMS: STRUCTURAL

ITEM NO. S1: SHEET S-1.4 PARTIAL FIRST FLOOR PLAN – AREA C2
REVISE Plan per sketch ASK-2.

ITEM NO. S2: SHEET S-1.14 OUT BUILDINGS AND DETAILS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.

DRAWING ITEMS: MECHANICAL

ITEM NO. M1: SHEET M-2.3 PARTIAL FIRST FLOOR PLAN – AREA C1
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Ductwork layout for DSS-5.
ADD Note outlining structural support for DSS-5.

ITEM NO. M2: SHEET M-7.1 MECHANICAL DETAILS
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Geothermal Pipe sizes on detail #2.

ITEM NO. M3: SHEET M-9.1 MECHANICAL EQUIPMENT SCHEDULES
ADD Note outlining structural support for DSS-5. Refer to attached sketch SKM-9.1.2.

DRAWING ITEMS: PLUMBING

ITEM NO. P1: SHEET P-0.1 PARTIAL FOUNDATION PLAN – AREA A
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P2: SHEET P-0.2 PARTIAL FOUNDATION PLAN – AREA B
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P3: SHEET P-0.3 PARTIAL FOUNDATION PLAN – AREA C1
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P4: SHEET P-0.4 PARTIAL FOUNDATION PLAN – AREA C2
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P5: SHEET P-2.1 PARTIAL FIRST FLOOR PLAN – AREA A
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P6: SHEET P-2.2 PARTIAL FIRST FLOOR PLAN – AREA B
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P7: SHEET P-2.3 PARTIAL FIRST FLOOR PLAN – AREA C1
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes and 4" SW overflow nozzle size and location.

ITEM NO. P8: SHEET P-2.4 PARTIAL FIRST FLOOR PLAN – AREA C2
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

ITEM NO. P9: SHEET P-3.1 KITCHEN PART PLAN - PLUMBING
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum. Additions include pipe sizes.

DRAWING ITEMS: ELECTRICAL

ITEM NO. E1: SHEET E-1.4 PARTIAL FIRST FLOOR PLAN – AREA C2 - POWER
SUBSTITUTE This sheet in its entirety with revised sheet included in this Addendum.
REVISE Location of Projection Screen in Gym C133. Refer to revised sheet for additional information.

ITEM NO. E2:	SHEET E-2.3 PARTIAL FIRST FLOOR PLAN – AREA C1 - LIGHTING
REVISE	Exterior lighting fixture Type N1 location near Column Line 15' outside Room C104. Refer to sketch SKE-2.3.1.
ADD	Exterior lighting fixture Type N1 near Column Line 13' outside Room C104. Refer to sketch SKE-2.3.1.

*****

SECTION 06 12 19 - STRUCTURAL INSULATED PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Structural insulated panels for roofs.

B. Fasteners and adhesives.

C. Accessories.

1.2 RELATED REQUIREMENTS

A. Section 07 31 13 - Asphalt Shingles: Underlayment over structural insulated roof panel.

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.

B. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples; 2017.

C. ICC-ES AC05 - Acceptance Criteria for Sandwich Panel Adhesives; 2009, with Editorial Revision (2015).

D. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

1.5 SUBMITTALS

A. Product Data: Provide structural insulated panel manufacturer's product literature including structural properties, design load capacities and installation instructions.

B. Shop Drawings: Fully dimensioned fabrication and installation details for structural insulated panels. Indicate dimensions, materials, connections and arrangement of joints. Include anchorage, size and type of fasteners, and accessories.

1. Include calculations that indicate compliance with the applicable building code and the structural insulated panel manufacturer's requirements.
2. Include seal of Professional Engineer registered in the State of Maryland on drawings and calculations.

C. Design Data: As required by authorities having jurisdiction.

D. Designer's Qualification Statement.

E. Manufacturer's Qualification Statement.

F. SIP Code Compliance Report: Submit manufacturer's ICC-ES evaluation report for the International Building Code.

G. Sustainable Design Submittals: LEED Rating System for New Construction.

1. Include statement that the composite wood products used in the panel system contain no added urea-formaldehyde resins.

H. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State of Maryland.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
   1. Member of Structural Insulated Panel Association (SIPA).
   2. Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

C. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver structural insulated panels in manufacturer's packaging, if any, and with manufacturer labels and markings intact.

B. Cover structural insulated panels with waterproof covering during transportation and storage. Keep dry.

C. Protect edges of wood construction panels and foam cores.

D. Fully support structural insulated panels off the ground.

E. Do not lift structural insulated panels by wood construction panel layer.

1.8 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

B. Provide twenty year manufacturer warranty on structural insulated panel material and workmanship.

PART 2 PRODUCTS

2.1 STRUCTURAL INSULATED PANELS

A. Structural Insulated Panels: Provide structural insulated panels capable of withstanding design loads including dead load, live load, wind load and seismic load.

B. Structural Insulated Roof Panel: Oriented strand board construction panel laminated to both sides of rigid polyurethane closed cell insulation board.
   1. Panel Width: 4 feet
   2. Overall Thickness: 5-5/8 inches, nominal.
   3. Edge Treatment: Manufacturer's tongue and groove edge profile; cam locks located on maximum 2'-0" centers.
   4. Thermal Resistance: R-value of 34.

2.2 MATERIALS

A. Oriented Strand Board: 7/16 inch thick, APA Exposure 1, DOC PS-2 span rating 24/16, minimum.

B. Polyurethane Closed Cell Foam: Minimum of 2.2 pcf (35 kg/cu m) insulation meeting manufacturers quality standards and the following:
   1. K Factor (aged foam): .145, ASTM C 518.
   2. Compressive Strength: 23 psi, ASTM D 1621.
   3. Compressive MOE: 682 psi, ASTM D 1621.

4. Shear Strength: 31 psi, ASTM C 273.
5. Shear Modulus: 203 psi, ASTM C 273.
6. Flexure MOR: 52 psi, ASTM C 203.
7. Flexure Modulus (MD): 587 psi, ASTM C 203.
8. Tensile Strength: 37 psi, ASTM D 1623.
9. Tensile Modulus: 611 psi, ASTM D 1623.
10. WVT/Perm Inches: 1.0, ASTM E 96.
11. Foam Fire Rating: Class 1, UL723.
12. Flame Spread: 20, UL723.
13. Smoke Developed: 300, UL723.
14. Transverse Load: ASTM E 72.
15. Combined Axial and Bending: ASTM E 72.

C. Laminating Adhesive: Manufacturer's standard; complying with ICC-ES AC05.

D. Dimension Lumber:
1. Sizes: Nominal sizes as indicated on drawings, S4S.
2. Moisture Content: S-dry or MC19.

E. Cam Locks: Installed in the panel during the manufacturing process.

F. Wiring Chases: If indicated or required, shall be formed into the panel during the manufacturing process.

G. Foam Sealant: Compatible with all components of the panel and adjacent materials, provided by manufacturer.

2.3 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel per ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
3. Common Nails: ASTM F1667.
4. Panel Screws: Pancake head; minimum thread diameter 0.255 inch, minimum shank diameter of 0.190 inch and minimum head diameter 0.625 inch.
5. Heavy Duty Metal Screws: 1/8 inch to 1/4 inch diameter.
6. Light Duty Metal Screws: 1/8 inch or less diameter.

B. Underlayment for Asphalt Shingles: As specified in Section 07 31 13.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine surfaces to receive structural insulated panels. Verify conditions suitable for installation. Report unsatisfactory conditions to Architect. Do not proceed with structural insulated panel work until unsatisfactory conditions corrected.

3.2 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.3 INSTALLATION

A. Install structural insulated panels in accordance with manufacturer's instructions.

1. Comply with manufacturer's written recommendation for number, size and placement of fasteners.
2. Join structural insulated panel edges according to manufacturer's written recommendation.

B. Restrictions:
1. Do not over cut oriented strand board or plywood face when field-cutting openings.
2. Do not install electrical chases inside structural insulated panels.
3. Do not install plumbing inside structural insulated panels without consulting manufacturer and obtaining written recommendations.
4. Protect structural insulated panel core from solvents and solvent vapors.

C. Prevent damage to structural insulated panels.

D. Seal panel joints with manufacturer's recommended sealant.

E. Repair or replace damaged panels.

3.4 PROTECTION

A. Do not leave panels exposed to moisture. Remove wet panels or allow to dry completely before installation of sealants, tape, weather barrier.

B. Protect installed structural insulated panels from subsequent construction operations.

C. Cover top and edges of unfinished panel work. Protect from weather and prevent accumulation of water in cores.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware for:

a. Swinging doors.

2. Electronic access control system components, including:

a. Electronic access control devices.

3. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
3. Division 26 sections for connections to electrical power system and for low-voltage wiring.
4. Division 28 sections for coordination with other components of electronic access control system.

1.03 REFERENCES

A. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Key Systems and Nomenclature

C. ANSI - American National Standards Institute

1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

1.04 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article, herein.

B. Action Submittals:

1. Product Data: Technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:

    a. Wiring Diagrams: For power, signal, and control wiring and including:
        1) Details of interface of electrified door hardware and building safety and security systems.
        2) Schematic diagram of systems that interface with electrified door hardware.
        3) Point-to-point wiring.
        4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:

    a. Door Index; include door number, heading number, and Architects hardware set number.
    b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
    c. Quantity, type, style, function, size, and finish of each hardware item.
    d. Name and manufacturer of each item.
    e. Fastenings and other pertinent information.
    f. Location of each hardware set cross-referenced to indications on Drawings.
    g. Explanation of all abbreviations, symbols, and codes contained in schedule.
    h. Mounting locations for hardware.
    i. Door and frame sizes and materials.
    j. Name and phone number for local manufacturer's representative for each product.
    k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include operational descriptions for: egress, ingress (access), and fire/smoke alarm connections.
        1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.

5. Key Schedule:

    a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
    b. Use ANSI/BHMA A156.28 “Recommended Practices for Keying Systems” as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
    d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
    e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
        1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.

    f. Prepare key schedule by or under supervision of supplier, detailing Owner’s final keying instructions for locks.

6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.

C. Informational Submittals:

1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
2. Product data for electrified door hardware:

   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.

3. Certificates of Compliance:

   a. UL listings for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
   b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in “QUALITY ASSURANCE” article, herein.
   c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in “QUALITY ASSURANCE” article, herein.

4. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:

   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Factory order acknowledgement numbers (for warranty and service)
   d. Name, address, and phone number of local representative for each manufacturer.
   e. Parts list for each product.
   f. Final approved hardware schedule, edited to reflect conditions as-installed.
   g. Final keying schedule
   h. Copies of floor plans with keying nomenclature
   i. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
   j. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.05 QUALITY ASSURANCE

A. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

1. Warehousing Facilities: In Project's vicinity.

2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
4. Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.

    a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

B. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:

1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
2. Can provide installation and technical data to Architect and other related subcontractors.
3. Can inspect and verify components are in working order upon completion of installation.
4. Capable of producing wiring diagrams.
5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.

C. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

D. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

F. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in “REFERENCES” article, herein.

G. Keying Conference

1. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:

    a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
    b. Preliminary key system schematic diagram.
    c. Requirements for key control system.
    d. Requirements for access control.
    e. Address for delivery of keys.

H. Pre-installation Conference

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

I. Coordination Conferences:

1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

1. Deliver each article of hardware in manufacturer’s original packaging.

C. Project Conditions:

1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
2. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

D. Protection and Damage:

1. Promptly replace products damaged during shipping.
2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

F. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.07 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.08 WARRANTY

A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Beginning from date of Substantial Completion, for durations indicated.

a. Closers:
   1) Mechanical: 30 years.
   2) Electrified: 2 years.

b. Automatic Operators: 2 years.
c. Exit Devices:
   1) Mechanical: 3 years.
   2) Electrified: 1 year.

d. Locksets:
   1) Mechanical: 3 years.
   2) Electrified: 1 year.

e. Continuous Hinges: Lifetime warranty.
f. Key Blanks: Lifetime

2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.09 MAINTENANCE

A. Maintenance Tools: Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to insure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: “No Substitute.”

1. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.

B. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.

C. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Ives 5BB series.
2. Acceptable Manufacturers and Products: Hager BB series, Bommer BB5000 series.

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:

   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:

   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

4. 2 inches or thicker doors:

   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

7. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.

2.04 CONTINUOUS HINGES

A. Aluminum Geared

1. Manufacturers:

   a. Scheduled Manufacturer: Ives.
   b. Acceptable Manufacturers: Hager.

2. Requirements:

   a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
   b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
   c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.

d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
g. Install hinges with fasteners supplied by manufacturer.
h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 ELECTRIC POWER TRANSFER

A. Manufacturers:

a. Scheduled Manufacturer: Von Duprin EPT-10.
b. Acceptable Manufacturers: ABH PT1000, Securitron CEPT-10.

B. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.

C. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.07 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.08 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage L9000 series.
2. Acceptable Manufacturers and Products: No substitution.

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3 hour fire doors.
2. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
3. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to “KEYING” article, herein.
4. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
5. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
6. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.

    a. Lever Design: Schlage 06A.

2.09 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Best 9K series.
2. Acceptable Manufacturers and Products: No substitution.

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.

5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.

    a. Lever Design: Best 15 lever.

2.10 AUXILIARY LOCKS

A. Deadlocks:

1. Manufacturers and Products:

    a. Scheduled Manufacturer and Product: Schlage L400 series.
    b. Acceptable Manufacturers and Products: No substitution.

2. Requirements:

    a. Provide mortise deadlock series conforming to ANSI/BHMA A156 and function as specified.
    b. Cylinders: Refer to “KEYING” article, herein.
    c. Provide deadlocks with standard 2-3/4 inches (70 mm) backset. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
    d. Provide manufacturer’s standard strike.

2.11 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 99/33A series.
2. Acceptable Manufacturers and Products: No substitution.

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide flush end caps for exit devices.
7. Provide exit devices with manufacturer’s approved strikes.
8. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
9. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.

10. Provide cylindrical or hex-key dogging as specified at non fire-rated openings.
11. Provide dogging indicators (CDSI) for visible indication of dogging status.
12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
15. Top latch mounting: double or single tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.12 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer: Best.

B. Requirements:

1. Provide interchangeable cylinders/cores to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.

C. Construction Keying:

1. Replaceable Construction Cores.

a. Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
   1) 3 construction control keys
   2) 12 construction change (day) keys.

b. Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2.13 KEYING

A. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Provide cylinders/cores keyed into Owner's existing factory registered keying system.

C. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

D. Requirements:

1. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.

a. Master Keying system as directed by the Owner.

2. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
3. Provide keys with the following features:

a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
b. Patent Protection: Keys and blanks protected by one or more utility patent(s).

4. Identification:

a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication “Keying Systems and Nomenclature” for identification. Do not provide blind code marks with actual key cuts.
b. Identification stamping provisions must be approved by the Architect and Owner.
c. Stamp cylinders/cores and keys with Owner’s unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with “DO NOT DUPLICATE” along with the “PATENTED” or patent number to enforce the patent protection.
d. Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
e. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.

5. Quantity: Furnish in the following quantities.

a. Change (Day) Keys: 3 per cylinder/core.
b. Permanent Control Keys: 3.
c. Master Keys: 6.

2.14 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer: Telkee.
2. Acceptable Manufacturers: No substitution.

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.

a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
b. Provide hinged-panel type cabinet for wall mounting.

2.15 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN 4040XP series.
2. Acceptable Manufacturers and Products: No substitution.

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2 inch (38 mm) diameter with 3/4 inch (19 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.16 ELECTRO-MECHANICAL CLOSER/HOLDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN 4040SE/4310ME/4410ME series.
2. Acceptable Manufacturers and Products: No substitution.

B. Requirements:

1. Provide single-point or multi-point hold-open electro-mechanical closer/holders as specified. Coordinate voltage requirements and provide transformer if necessary.
2. Provide multi-point electro-mechanical closer/holders with swing free arms.
3. Provide closer/holders that function as full rack and pinion door closer when current is interrupted or continuous hold-open is not engaged.
4. Provide door closers with fully hydraulic, full rack and pinion action with high strength cylinder and full complement bearings at shaft.
5. Cylinder Body: 1-1/2 inch (38 mm) diameter with 5/8 inch (16 mm) diameter double heat-treated pinion journal.

6. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
7. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
8. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
9. Pressure Relief Valve (PRV) Technology: Not permitted.
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.17 ELECTRO-MECHANICAL AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN Senior Swing.
2. Acceptable Manufacturers and Products: No substitution.

B. Requirements:

1. Provide low energy automatic operator units that are electro-mechanical design complying with ANSI/BHMA A156.19.

    a. Opening: Powered by DC motor working through reduction gears.
    b. Closing: Spring force.
    c. Manual, hydraulic, or chain drive closers: Not permitted.
    d. Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
    e. Cover: Aluminum.

2. Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 2 to 30 seconds, and logic terminal to interface with accessories, mats, and sensors.
3. Provide drop plates, brackets, or adapters for arms as required to suit details.
4. Provide hard-wired motion sensors and/or actuator switches for operation as specified. Provide weather-resistant actuators at exterior applications.
5. Provide key switches, with LED’s, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to “KEYING” article, herein.
6. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
7. Provide units with inputs for smoke evacuation doors, where specified, which allow doors to power open upon fire alarm activation and hold open indefinitely or until fire alarm is reset, presence detector input, which prevents closed door from opening or door that is fully opened from closing, hold open toggle input, which allows remote activation for indefinite hold open and close second time input is activated, vestibule inputs, which

allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.18 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
2. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
4. Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
6. Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
7. Provide wire pulls of solid bar stock, diameter and length as scheduled.
8. Provide decorative pulls as scheduled. Where required, mount back to back with pull.

2.19 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:

    a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
    b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
    c. Armor Plates: 36 inches (914 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

2.20 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers: Glynn-Johnson.
2. Acceptable Manufacturers: ABH.

B. Requirements:

1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

2.21 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

2.22 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer: Zero International.
2. Acceptable Manufacturers: National Guard, Reese.

B. Requirements:

1. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.

2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Size of thresholds:

    a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
    b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width

4. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

2.23 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Hager, Rockwood.

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.24 MAGNETIC HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: LCN.
2. Acceptable Manufacturers: Rixson.

B. Requirements:

1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

2.25 DOOR POSITION SWITCHES

A. Manufacturers:

1. Scheduled Manufacturer: Schlage.
2. Acceptable Manufacturers: GE-Interlogix, Sargent.

B. Requirements:

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

2.26 FINISHES

A. Finish: BHMA 626/652 (US26D); except:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Weatherstripping: Clear Anodized Aluminum
9. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.

C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each hardware item in compliance with manufacturer’s instructions and recommendations, using only fasteners provided by manufacturer.

C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

H. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as indicated in keying section.

I. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

J. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

K. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

L. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

M. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

N. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

O. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

P. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

Q. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, Installer's Architectural Hardware Consultant must examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. Hardware items are referenced in the following hardware. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

B. Hardware Sets:

HARDWARE GROUP NO. 01

FOR USE ON MARK #(S):
A010 B010B

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	CONT. HINGE	112XY-EPT	628	IVE
1	EA	POWER TRANSFER	EPT-10	628	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
1	EA	ELEC PANIC HARDWARE	QEL-XP99-EO	626	VON
2	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH

1	EA	DOOR PULL	VR910 NL	630	IVE
2	EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
2	EA	DOOR SWEEP	8192AA	AA	ZER
1	EA	CREDENTIAL READER	BY OTHERS		
1	EA	POWER SUPPLY	PS904-4R-KL		VON

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE OR KEY OVERRIDE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED.

HARDWARE GROUP NO. 02

FOR USE ON MARK #(S):
A010A B010A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	LD-XP99-EO	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
2	EA	DOOR SWEEP	8192AA	AA	ZER

HARDWARE GROUP NO. 03

FOR USE ON MARK #(S):
XB03 XC11

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE

1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	LD-XP99-EO	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
2	EA	DOOR CONTACT	679-05HM	BLK	SCE

DOOR MONITORED

HARDWARE GROUP NO. 03A

FOR USE ON MARK #(S):
XA01 XC34

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	LD-XP99-EO	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
2	EA	DOOR CONTACT	679-05HM	BLK	SCE

DOOR MONITORED

HARDWARE GROUP NO. 04

FOR USE ON MARK #(S):
XA03 XA08 XB02 XC08 XC09
XA04 XB01 XC17

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD EPT	628	IVE
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO	626	VON
1	EA	ELEC PANIC HARDWARE	QEL-XP99-EO	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH
1	EA	DOOR PULL	VR910 DT	630	IVE
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS904 900-2RS-KL		VON

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED

HARDWARE GROUP NO. 04A

FOR USE ON MARK #(S):
XA02 XC36

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD EPT	628	IVE
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
1	EA	PANIC HARDWARE	LD-XP99-EO	626	VON
1	EA	ELEC PANIC HARDWARE	QEL-XP99-EO	626	VON

2	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH
1	EA	DOOR PULL	VR910 NL	630	IVE
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS904 900-2RS-KL		VON
1	EA	INTERCOM/REMOTE RELEASE (@XA02 ONLY)	SUPPLIED BY OTHERS		AIP

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE OR KEY OVERRIDE OR @XA02 ONLY, BY REMOTE RELEASE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED

DOOR MONITORED

HARDWARE GROUP NO. 05

FOR USE ON MARK #(S):
A011 B010 B011 C010

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
1	EA	FIRE EXIT HARDWARE	9949-EO-F-LBL	626	VON
1	EA	FIRE EXIT HARDWARE	9949-L-F-06-LBL	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830	689	LCN
2	EA	MEETING STILE	328AA-S	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER

MAGNETIC HOLD OPENS TO BE TIED TO FIRE ALARM SYSTEM AND RELEASE UPON ACTIVATION OF FIRE ALARM.

HARDWARE GROUP NO. 07

FOR USE ON MARK #(S):
A012 A022 B012 B022

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
2	EA	FIRE EXIT HARDWARE	9949-EO-F-LBL	626	VON
2	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
2	EA	MEETING STILE	8194AA 84" (2134MM)	AA	ZER

MAGNETIC HOLD OPENS TO BE TIED TO FIRE ALARM SYSTEM AND RELEASE UPON ACTIVATION OF FIRE ALARM.

HARDWARE GROUP NO. 08

FOR USE ON MARK #(S):
A114A A102D A122 A128
A204B B101BA C106

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 08A

FOR USE ON MARK #(S):
A101

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES

1	EA	ELECTRIC STRIKE	6400	630	VON
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	OVERHEAD STOP	100S-ADJ	630	GJ
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
2	EA	DESK PUSH BUTTON	660-T4	628	SCE
1	EA	POWER SUPPLY	PS902-4R-FA-KL (SHARE WITH A101C)		VON

DURING OCCUPIED HOURS, DOORS (A101 & A101C) NORMALLY UNLOCKED BY ACCESS CONTROL TIME ZONE OR PUSH BUTTON
DOORS LOCK WITH ACCESS CONTROL TIME ZONE OR DESK MOUNTED PUSH BUTTON OR DURESS BUTTON
AFTER HOURS, DOORS NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH KEY OVERRIDE OR WHEN UNLOCKED WITH PUSH BUTTON OR ACCESS CONTROL TIME ZONE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED

HARDWARE GROUP NO. 08B

FOR USE ON MARK #(S):
A110B B102A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	ELECTRIC STRIKE	6400	630	VON
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	OVERHEAD STOP	100S-ADJ	630	GJ
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	DOOR CONTACT	679-05	BLK	SCE
1	EA	CREDENTIAL READER	SUPPLIED BY OTHERS		
1	EA	POWER SUPPLY	PS902-4R-FA-KL		VON

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR KEY OVERRIDE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED

HARDWARE GROUP NO. 09

FOR USE ON MARK #(S):

C118	A102	A112	A130	A222	B104
B102	C105	C122	C123	A113A	B101EB
C119	B211				

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 09A

FOR USE ON MARK #(S):

A101C

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC STRIKE	6400	630	VON
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
		DESK MOUNTED PUSH BUTTON	REFERENCE HW08A		
		POWER SUPPLY	REFERENCE HW08A		

DURING OCCUPIED HOURS, DOORS (A101 & A101C) NORMALLY UNLOCKED BY ACCESS CONTROL TIME ZONE OR PUSH BUTTON
DOORS LOCK WITH ACCESS CONTROL TIME ZONE OR DESK MOUNTED PUSH BUTTON OR DURESS BUTTON
AFTER HOURS, DOORS NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH KEY OVERRIDE OR DESK MOUNTED PUSH BUTTON OR ACCESS CONTROL TIME ZONEUPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED

HARDWARE GROUP NO. 10

FOR USE ON MARK #(S):

A103	A105	A105A	A106	A107	A110
A113	A132	A201	A202	A204	A205
A208	A209	A210	A211	A220	A221
A227	B101AB	B101BB	B101EA	B106	B106C
B107	B109	B116	B118	B203	B206
B207	B208	B209	B210		
	B213	B219	B220	B221	B222
C101A	C102	C102A	C114		
C121	C127A	C201	C203	C205	

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 10A

FOR USE ON MARK #(S):

B211A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	EXIT LOCK	9K37D15	626	BES
1	EA	TOUCH SENSOR BUTTON	TS100	628	LOCK
1	EA	ELECTRIC STRIKE	6400-FS	630	VON
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	SURFACE CLOSER	4040XP-EDA	689	LCN
1	EA	POWER SUPPLY	PS904-4R-FA-KL		VON
2	EA	MAGNETIC LOCK	GF3000		SCE

DOOR NORMALLY CLOSED AND ELECTRIC STRIKE UNLOCKED
ENTRY WITH PASSAGE FUNCTION LEVER
WHEN IN USE, TOUCH SENSOR BUTTON @ B211A OR B211B LOCKS MAGNETIC LOCKS
RELEASING TOUCH SENSOR BUTTON UNLOCKS MAGNETIC LOCKS ON BOTH DOORS
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION, MAGNETIC LOCKS AND ELECTRIC STRIKE UNLOCK
DOORS MONITORED

HARDWARE GROUP NO. 10B

FOR USE ON MARK #(S):
B104A B211B

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	TOUCH SENSOR BUTTON	TS100	628	LOCK
1	EA	PUSH PLATE	8200 6" X 16"	626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP-EDA	689	LCN
1	EA	POWER SUPPLY	PS904-4R-FA-KL		VON
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
2	EA	MAGNETIC LOCK	GF3000		SCE

DOOR NORMALLY CLOSED AND ELECTRIC STRIKE UNLOCKED
ENTRY WITH PASSAGE FUNCTION LEVER
WHEN IN USE, TOUCH SENSOR BUTTON @ B211A OR B211B LOCKS MAGNETIC LOCKS ON BOTH DOORS
RELEASING TOUCH SENSOR BUTTON UNLOCKS MAGNETIC LOCKS ON BOTH DOORS
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION, MAGNETIC LOCKS AND ELECTRIC STRIKE UNLOCK
DOORS MONITORED

HARDWARE GROUP NO. 11

FOR USE ON MARK #(S):

A104	A214	A215	A216	A217	A223
	B103	B110	B112	B214	B215
B216	A102A				

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	OH STOP	100S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 12

FOR USE ON MARK #(S):

A102E	A111	A114		A116	A117
A119	A120	A123	A124	A125	
		B201	C101		C114A
C135	C207				

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	OH STOP	100S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 13

FOR USE ON MARK #(S):
A204A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 14

FOR USE ON MARK #(S):
B202

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 15

FOR USE ON MARK #(S):
C013A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 16

FOR USE ON MARK #(S):
C104

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP HEDA/62G	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 17

FOR USE ON MARK #(S):
C107

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE

1	EA	GASKETING	870AA-S	AA	ZER
1	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 18

FOR USE ON MARK #(S):
C128

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 19

FOR USE ON MARK #(S):
A101A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	DOOR KNOB	9558 BY HAGER		HAG
1	EA	BI-FOLD DR HW	9570 SERIES BY HAGER	626	HAG

HARDWARE GROUP NO. 20

FOR USE ON MARK #(S):
C118A C118B C118C C118D C118E C118F

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	DEAD LOCK	L462HD L283-721	626	SCH
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	PUSH PLATE	8200 6" X 16"	626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP/HOLDER	FS495	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 22

FOR USE ON MARK #(S):

A102B	A116A	A117A	A119A	A120A	A123A
A124A	A125A	A208A	A209A	A210A	A211A
A214A	A215A	A216A	A217A	A220A	A221A
B103A		B107A	B110A	B112A	B116A
B118A	B207A	B209A	B210A	B213A	B214A
B215A	B216A	B219A	B220A	B222A	C201A
C205A	C207A				

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY SET	9K30N15	626	BES
1	EA	OH STOP	100S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 23

FOR USE ON MARK #(S):

B201A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACYSET	9K3015	626	BES
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 23A

FOR USE ON MARK #(S):

B106D

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	PRIVACYSET	9K3015	626	BES
1	EA	OVERHEAD STOP	100S-ADJ	630	GJ
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 24

FOR USE ON MARK #(S):
A108 A113AA B106A C202 C206

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	FACULTY RESTROOM	L9485HD 06A L283-722	626	SCH
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 25

FOR USE ON MARK #(S):
C115 C120A C123A C123B C135A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	L9040 06A L283-722	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 26

FOR USE ON MARK #(S):
B020

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB358	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
2	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 27

FOR USE ON MARK #(S):
C012A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB358	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
2	EA	OH STOP	100S	630	GLY
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 28

FOR USE ON MARK #(S):
C103 C111 C134

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB358	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	SURFACE CLOSER	4040XP HCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 29

FOR USE ON MARK #(S):
C204

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB358	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES

1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
2	EA	OH STOP	100S	630	GLY
2	EA	MEETING STILE	328AA-S	AA	ZER
1	EA	GASKETING	870AA-S	AA	ZER
2	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 30

FOR USE ON MARK #(S):
B101A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	CDSI-XP99-EO	626	VON
4	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	MORTISE CYLINDER	80-132 XQ11-948	626	SCH
1	EA	DOOR PULL	VR910 DT	630	IVE
1	EA	DOOR PULL	VR910 NL	630	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
2	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	BY ALUM DR MFG		B/O

HARDWARE GROUP NO. 31

FOR USE ON MARK #(S):
C116

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	CDSI-XP99-EO	626	VON
4	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	MORTISE CYLINDER	80-132 XQ11-948	626	SCH
1	EA	DOOR PULL	VR910 DT	630	IVE
1	EA	DOOR PULL	VR910 NL	630	IVE

1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	OVERHEAD STOP	100S-ADJ	630	GJ
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	WALL STOP/HOLDER	WS495	630	IVE
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 31A

FOR USE ON MARK #(S):
C116A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	CDSI-XP99-EO	626	VON
3	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	MORTISE CYLINDER	80-132 XQ11-948	626	SCH
2	EA	DOOR PULL	VR910 DT	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	OVERHEAD STOP/HOLDER	100H	630	GJ
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	WALL STOP/HOLDER	WS495	630	IVE
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 32

FOR USE ON MARK #(S):
C133

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	CDSI-XP99-EO	626	VON
4	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH

2	EA	MORTISE CYLINDER	80-132 XQ11-948	626	SCH
1	EA	DOOR PULL	VR910 DT	630	IVE
1	EA	DOOR PULL	VR910 NL	630	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	OVERHEAD STOP/HOLDER	100H	630	GJ
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 32A

FOR USE ON MARK #(S):
C133A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	CDSI-XP99-EO	626	VON
3	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	MORTISE CYLINDER	80-132 XQ11-948	626	SCH
2	EA	DOOR PULL	VR910 DT	630	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	BLADE STOP SPACER	4040XP-61	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	OVERHEAD STOP/HOLDER	100H	630	GJ
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR BOTTOM	369AA	AA	ZER

HARDWARE GROUP NO. 33

FOR USE ON MARK #(S):
S3.1A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT-10	628	VON

1	EA	ELEC FIRE EXIT HARDWARE	E-99-L-F-E996L-06	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS FA900-KL	LGR	SCE

DURING OCCUPIED HOURS, DOOR NORMALLY UNLOCKED
AFTER HOURS, DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH ACCESS CONTROL TIME ZONE OR KEY OVERRIDE OR LOSS OF POWER OR FIRE ALARM ACTIVATION
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR UNLOCKS
DOOR MONITORED

HARDWARE GROUP NO. 34

FOR USE ON MARK #(S):
C012 C126 C127

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 35

FOR USE ON MARK #(S):
C108 C109

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM DEAD LOCK	L463HD L283-721	626	SCH
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	PUSH PLATE	8200 6" X 16"	626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16"	630	IVE

1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 35A

FOR USE ON MARK #(S):
C120

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CYL X THUMB TURN DEAD LOCK	L460HD L283-721	626	SCH
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	PUSH PLATE	8200 6" X 16"	626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 36

FOR USE ON MARK #(S):
C130

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	FIRE EXIT HARDWARE	99-EO-F	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 37

FOR USE ON MARK #(S):
S1.1

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	FIRE RATED REMOVABLE MULLION	KR9954 STAB	689	VON
1	EA	FIRE EXIT HARDWARE	99-EO-F	626	VON
1	EA	ELEC FIRE EXIT HARDWARE	E-99-L-F-E996-06-FS	626	VON
2	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	CREDENTIAL READER	BY OTHERS		
1	EA	POWER SUPPLY	PS902 900-2RS FA900-KL	LGR	SCE

DURING OCCUPIED HOURS, DOORS NORMALLY HELD OPEN
AFTER HOURS, DOORS NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR KEY OVERRIDE OR LOSS OF POWER OR FIRE ALARM ACTIVATION
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOORS UNLOCK
DOORS MONITORED

HARDWARE GROUP NO. 38

FOR USE ON MARK #(S):
S2.2 S3.2 S4.2

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	FIRE RATED REMOVABLE MULLION	KR9954 STAB	689	VON

1	EA	FIRE EXIT HARDWARE	99-EO-F	626	VON
1	EA	ELEC FIRE EXIT HARDWARE	99-L-F-E996-06-FS	626	VON
2	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	CREDENTIAL READER	BY OTHERS		
1	EA	POWER SUPPLY	PS902 900-2RS FA900-KL	LGR	SCE

DURING OCCUPIED HOURS, DOORS NORMALLY HELD OPEN
AFTER HOURS, DOORS NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR KEY OVERRIDE OR LOSS OF POWER OR FIRE ALARM ACTIVATION
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOORS UNLOCK
DOORS MONITORED

HARDWARE GROUP NO. 39

FOR USE ON MARK #(S):
XA05 XP01

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	LOCK GUARD	LG10	630	IVE
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	MEETING STILE	328AA-S	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER

HARDWARE GROUP NO. 39A

FOR USE ON MARK #(S):
XC05

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	CONT. HINGE	224HD-EPT	628	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	9K37D15 EU RQE	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	LOCK GUARD	LG10	630	IVE
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	MEETING STILE	328AA-S	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS904 900-2RS-KL		VON

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL KEY OVERRIDE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED

HARDWARE GROUP NO. 40

FOR USE ON MARK #(S):
XB20 XC25 XC26

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	INSTITUTION LOCK	9K37W15	626	BES
2	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR SWEEP	8198AA	AA	ZER

1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

DOOR MONITORED

HARDWARE GROUP NO. 41

FOR USE ON MARK #(S):
XC01A XC02A

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	PANIC HARDWARE	LD-XP99-EO	626	VON
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
1	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	GASKETING	BY ALUM DR MFG		B/O
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

DOOR MONITORED

HARDWARE GROUP NO. 42

FOR USE ON MARK #(S):
C117 XC04 XP04

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	MORTISE CYLINDER	80-132	626	SCH

HARDWARE GROUP NO. 42A

FOR USE ON MARK #(S):

GATE 1	GATE 2	GATE 3	GATE 4	GATE 5	GATE 6
GATE 7	GATE 8	GATE 9			

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	PADLOCK	KS41D1200	625	SCH

HARDWARE GROUP NO. 43

FOR USE ON MARK #(S):

XC03	XC13	XC15

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER

HARDWARE GROUP NO. 44

FOR USE ON MARK #(S):

XC06	XC14

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	QEL-XP99-EO	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS904 900-2RS-KL		VON

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE OR KEY OVERRIDE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED

HARDWARE GROUP NO. 44A

FOR USE ON MARK #(S):
XC01 XC02 XC10 XB04

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	QEL-XP99-EO	626	VON
1	EA	DOOR PULL	VR910 DT	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS904 900-2RS-KL		VON

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED

DOOR MONITORED

HARDWARE GROUP NO. 45

FOR USE ON MARK #(S):
XC07

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	ELECTRIC STRIKE	6400	630	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR SWEEP	8192AA	AA	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	THRESHOLD	656A-223	A	ZER
1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	INTERCOM/REMOTE RELEASE STATION	SUPPLIED BY OTHERS		AIP
1	EA	POWER SUPPLY	PS902 900-2RS FA900-KL	LGR	SCE

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE OR REMOTE RELEASE OR KEY OVERRIDE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED

HARDWARE GROUP NO. 46

FOR USE ON MARK #(S):
A101B

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	9K37D15	626	BES
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	ELECTRIC STRIKE	6400	630	VON
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR SWEEP	8192AA	AA	ZER

1	EA	CREDENTIAL READER	SUPPLIED BY OTHER		B/O
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS FA900-KL	LGR	SCE
1	EA	INTERCOM/REMOTE RELEASE STATION	SUPPLIED BY OTHERS		AIP

DOOR NORMALLY CLOSED AND LOCKED
FREE EGRESS AT ALL TIMES
ENTRY WITH VALID CREDENTIAL OR ACCESS CONTROL TIME ZONE OR KEY OVERRIDE OR REMOTE RELEASE
UPON LOSS OF POWER OR FIRE ALARM ACTIVATION DOOR REMAINS LOCKED
DOOR MONITORED

HARDWARE GROUP NO. 49

FOR USE ON MARK #(S):
C110

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	PANIC HARDWARE	CDSI-XP99-EO	626	VON
2	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES
1	EA	RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-132 XQ11-948	626	SCH
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	DOOR BOTTOM	369AA	AA	ZER
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 50

FOR USE ON MARK #(S):
S1.2 S2.1 S3.1 S4.1

EACH TO HAVE:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	FIRE RATED REMOVABLE MULLION	KR9954 STAB	689	VON
2	EA	FIRE EXIT HARDWARE	99-L-BE-F-06	626	VON
1	EA	PERMANENT CORE	TO MATCH EXISTING SYSTEM	626	BES

1	EA	MORTISE CYLINDER	80-132	626	SCH
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7830	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER

MAGNETIC HOLD OPENS TO BE TIED TO FIRE ALARM SYSTEM AND RELEASE UPON ACTIVATION OF FIRE ALARM.

END OF SECTION

SECTION 32 30 10 - MODULAR PLAYGROUND EQUIPMENT

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 RELATED WORK:

A. Section 31 20 00 "Earthmoving”

1.3 DESCRIPTION OF WORK:

A. This Section shall be used as a standard of quality for equipment.

B. Provide and install modular playground structure, complete with all play components, fasteners, supports and footings, ground cover and timber edging. Locate in area indicated on Drawings. Provide ground cover and edging in profile and extent as indicated. Provide rubber tile surfacing at Pre-K/Kindergarten play area.

C. Delegated Design: Modular Playground Equipment design and layout will be provided by the Equipment Supplier to fit in the areas shown on the drawings. Equipment layouts shall comply with the requirements included at the end of this section.

1.4 QUALITY ASSURANCE:

A. Safety Requirements: Design playground components to avoid snagging of clothing and entrapment of hands, arms, or other body parts. Equipment shall conform to the following:
   1. US Consumer Product Safety Commission (US CPSC) Guidelines: Handbook for Public Playground Safety.

B. Single Source Responsibility: All playground components and accessories shall be supplied by one manufacturer.

C. Erection of the equipment shall be performed by an installer authorized and approved by the Manufacturer.

1.5 SUBMITTALS:

A. Product Data: Submit Manufacturer's technical data for materials, including catalog information for major components, anchors, fasteners and other accessories along with information on finishes. Provide Manufacturer's standard installation procedures.
   1. Submit location of product manufacture and of extraction/recovery of primary raw materials.

2. Submit recycled-content data, designating percentages of post-consumer and post-industrial recycled material.
3. Submit certification of non-CCA wood treatment for timber edging.

B. Shop Drawings: Submit shop drawings indicating layout of specified components, details for anchoring and fastening of individual components, details of support and foundations, and any other fabrication or erection information not fully described by the product literature.

1.6 WARRANTIES:

A. Provide Manufacturer's standard warranty on main support components to cover structural failure due to corrosion, deterioration or defects in workmanship.

B. Provide Manufacturer's standard one (1) year warranty covering defects in materials and workmanship for playground components except as noted below:
1. Structural (Main Components): ten (10) years
2. Plastic: five (5) years
3. Rubber Tile Playground Surfacing: fifteen (15) years.

PART 2 – PRODUCTS

2.1 APPROVED MANUFACTURERS:

A. Game Time c/o West Recreation
a. Vendor ID # 6694
b. P.O. Box 487, Queenstown, Maryland 21658
c. 800.233.0529

B. Max Play Fit, LLC
a. Vendor ID # 15341
b. 1945 Melson Way, Hockessin, Delaware 19707
c. 800.574.3033

C. Playground Specialists, Inc.
a. Vendor ID # 12519
b. 17352 North Seton Avenue, Emmitsburg, Maryland 21727
c. 301.271.9234

D. Taylor Sports and Recreation
a. Vendor ID # 974
b. P.O. Box 1706, Martinsburg, West Virginia 25402
c. 304.263.7857

2.2 MATERIALS:

A. General Design Requirements
1. Straight Slides (including pipe slides) without transition sections at the base of the slide shall not exceed 30 degrees of incline. Slide "fall zones" shall comply with US CPSC guidelines.

2. Provide adequate "no encroachment zone" around entire perimeter of playground area.
3. Overall height of equipment shall not exceed 6'-6", except for fireman's poles which shall not exceed 10 feet in height.
4. Fastening, Fabrication and Finish details: Protruding bolts, sharp or jagged edges, non-capped open-ended pipes or other openings shall not be acceptable. Piping or other supports shall not extend more than 2" beyond a locking collar.
5. Foundations: The minimum specifications for the diameter, depth and excavation of footings shall be as follows:
   a. Poles up to and including 6" in diameter: 12" in diameter and 3 feet in depth.
   b. Poles exceeding 6" in diameter: Diameter shall be twice the pole diameter and 3 feet in depth.

B. Ground Cover and Drainage: Provide treated wood mulch over the entire area indicated on the drawings, to a minimum depth of 12". Coordinate with drawings to ensure adequate drainage under the ground cover, and to avoid ponding. Maximum allowable slope shall be 2%.
1. Acceptable ground covers: "Surflex", "Fibar", "Wood Carpet", or approved equal.

C. Edging: Provide timber border around entire perimeter. Timber shall be pressure treated for ground contact with non-CCA treatment materials (0.40 #2 or better; ACQ is an acceptable wood treatment)); recycled and/or creosoted timber shall not be acceptable.
1. All edges shall be 1/2" radius.
2. All lumber shall be free from splinters.
3. Two tiers of lumber shall be provided with rowlock or half-lapped joints. Bottom tier of lumber shall be staked to the ground with steel rods reinforcing bars, 1/2" round, 36" on center, and 24" deep.
4. Top and bottom tiers shall be spiked together using galvanized fasteners.

D. Support Posts: 5" O. D., 11 gauge minimum galvanized steel with plastic coated end caps.

E. Fasteners: Provide self-locking nuts or other devices to prevent loosening of assemblies. All fasteners shall be galvanized, cadmium plated, or otherwise treated to prevent rusting.

F. Metal Decks: Perforated, non-skid.

G. Fireman's Pole (Sliding Pole): Fabricated from 1 5/8" O. D. galvanized steel pipe.

H. Spiral Slide: Polyethylene composition with the following features:
1. Center Tube: 3 1/2" O. D. 11 gauge minimum galvanized steel.
2. Front Leg: 1 1/2" O. D. 11 gauge minimum galvanized steel.
3. Slide shall rest flush on the upper platform.

I. "Ring Trek" Traveling Rings: Provide six (6) high tensile strength aluminum rings, plastic coated, with swivel joint and clamp attachment to supports. Beam: 2 3/8" O. D., galvanized.

J. "Curly" Climber:
1. General: Climber shall have no gaps greater than 3 1/2", and less than 9" between coils. Design shall not allow passage of children into the interior of the coil.
2. Coils shall be fabricated from not less than 1 5/6" O. D. galvanized steel pipe.
3. Center support post shall be fabricated from not less than 1 5/8" O. D. galvanized steel pipe.

K. Double Wide Plastic Slide: Single piece, UV stabilized molded polyethylene with average thickness of 5/16" and integral color. Sides shall be 8" high above the slide surface; center divider shall not have gaps. Width of slide bedway shall be 16" minimum.

L. Horizontal "Challenge" Ladder: 2 3/8" O. D. galvanized plastic-covered outside rails, with eight (8) rungs consisting of 1 1/4" O. D. galvanized steel welded to the rails at 12" on center.

M. Arched Chain Climber: One-piece, all welded construction. Side rails shall be 1 5/8" O.C. galvanized steel pipe, arched, and spaced 30" center to center. Chain: 4/0 steel with oven cured PVC "no pinch coating"; or galvanized coating.

N. Recycled-plastic: Recycled HDPE or other recycled plastic components may be used if approved in advance by FCPS.

O. Rubber Tile Playground Surfacing: 100% post-consumer SBR (Styrene Butadiene Rubber) tire rubber and EPDM colored granules bound together by a wear and weather resistant polyurethane and a 3 mm top wear layer with tapered, conical support legs. Tile thickness to be determined by the playground equipment supplier dependent on ASTM F1292 requirements for critical fall height.
1. Colors/Pattern: Provide up to 4 colors of tiles, including specialty pattern tiles. Layout to be provided by Architect.
2. Acceptable Products: Subject to compliance with specific requirements, provide one of the following:
a. Game Time – RecycledTiles1
b. Max Play Fit – Rubber Tiles
c. Playground Specialists – PlayGuard Tiles
d. Taylor Sports and Recreation – Ultratile Play by SurfaceAmerica.

PART 3 – EXECUTION

3.1 INSPECTION:

A. Installer and Owner's Representative shall examine the area and conditions under which the playground equipment will be installed. Do not proceed until all conditions, which would be detrimental to the installation, are corrected.

3.2 INSTALLATION:

A. General: Install the playground equipment in accordance with the Manufacturer's recommended procedures and installation sequence. All equipment shall be rigid, straight, plumb and level. Secure all equipment with Manufacturer's fastening devices.

B. Foundations: All support holes shall be filled with concrete to the full-required depth. The top of the concrete shall be 6" below finished grade. All primary supports shall be temporarily supported until concrete has sufficiently cured.

C. Secure timber edging in place by spiking as specified herein. Rods shall not protrude beyond the face of the timber.

D. Fasteners: All in-place bolts shall be cut flush with the nut, and peened and filed. Self-locking nuts or other devices must be provided to prevent nut and bolt assemblies from loosening or coming apart.

E. Welds: Ensure that all welds are protected with rust inhibiting paint.

F. Metal Connectors: Secure with pins or spot welding to prevent loosening of the connection.

3.3 CLEAN-UP:

A. Remove all debris, excess materials, tools and excess excavation spoils from the project area and dispose of legally.

3.4 WASTE MANAGEMENT:

A. Recycle waste materials in accordance with Division 1 “Construction Waste Management” requirements.

Playgrounds and Playground Equipment Educational Specifications

Overview

Recess is an essential component of a comprehensive school physical activity program and of the total educational experience for elementary students. Recess is integral to all aspects of a child's development. Free play is a universal need for all children. Benefits of play include social, cognitive, physical, and emotional benefits. Playscapes, including playground apparatus, hardscapes, and athletic fields provide a safe setting for play to occur. These facilities are also vital to the school's physical education program.

Goals

Students will derive physical, social, cognitive, and emotional benefits through play. Physical benefits include increased cardio-reparatory endurance, muscular endurance and strength, flexibility, balance, spatial awareness, motor planning, motor development, and neurological development. The joy of movement is a byproduct. Social benefits include the development of cooperative skills, sharing, conflict resolution, respect for rules, self-discipline, respect for others, interaction with peers not possible in the regular classroom, development of friendship, and communication/negotiation skills. Brain research also shows the cognitive benefits of play such as language development, increased attention and focus, and decreased restlessness and boredom. Finally, emotional benefits such as a reduction in stress and anxiety, increased perseverance, self-directions, responsibility, self-acceptance are derived from play. Students can practice skills and rehearse behaviors as well as healthy risk-taking during play.

Number of Participants

Elementary school students participate in structured recess activities for a minimum of 20 minutes per day. The number of students may range from one class of approximately 30 students, an entire grade level of students, to multiple grade levels at the same time of approximately 200 students. Each playground apparatus (one for grades 3-5, one for grades 1-2, and one for grades PreK/K) shall allow for a child capacity of at least 75 students and include the elements listed below.

Space Requirements

1. Four separate All-Weather Play Areas (hardscapes) shall be included:
   a. Pre-Kindergarten and Kindergarten Play Area 40' x 60'
   b. Primary area 90' x 125'
   c. Intermediate area 110' x 175'
   d. Physical Education Class area 50' x 80'
2. Three separate Playground Apparatus Areas shall be included that are adjacent to the all-weather play area for the grade level, including minimum space requirements:
   a. Pre-Kindergarten and Kindergarten Play Area (certified for ages 2-5) – 5,625 ft^2
   b. Primary area (certified for ages 5-12) – 7,500 ft^2
   c. Intermediate area (certified for ages 5-12) – 7,500 ft^2
3. The Pre-K/K area should be fenced.
4. Hardscapes should be asphalt and contain markings for both traditional playground games and games from the Peaceful Playgrounds program. The specific diagram for lines and markings will be issued by the FCPS Project Manager.
5. All weather access paths shall be provided from the school to the hardscape area and to the playground apparatus area. A ramped berm shall be placed between the surfaces if necessary so that there is wheelchair accessibility.
6. Safety surfacing such as engineered wood fiber for all three playground apparatus areas shall be in place. ADA accessibility surfacing such as rubber tile surfacing will be provided at the Pre-K/Kindergarten area.

7. Playground apparatus hardware should be stainless steel that resists rust and corrosion and are tamper resistant.
8. Playground apparatus decks and tubing shall be constructed with 12-gauge steel.
9. Playground apparatus powder coating shall be resistant to chipping and color resistant.
10. Playground apparatus shall have a minimum of 5-inch diameter posts shall be used for grade 1-5. 3 ½ inch diameter posts are the minimum for the preK-K area.
11. Playground apparatus component attachments should not overlap deck surfaces.
12. There shall be an eight foot maximum deck height for the grades 3-5 area, a six foot maximum deck height for the grades 1-2 area, and a five foot maximum deck height for the preK-K area.
13. There shall be an element of flow and continuous movement among all of the elements of the playground apparatus. This element of flow shall allow students to develop their cardio-respiratory endurance as well as their muscular strength and endurance as they move through the playground apparatus.
14. Active play where students can increase their physical activity levels in a main priority in design.

Elements of Each Playground Apparatus:

1. Spinning/ Swinging/ Swiveling
2. Climbing and Brachiating
3. Sliding
4. Balancing
5. Rocking
6. Linking Components and Ramps
7. Panels and ground level play components
   **Many playground apparatus components can incorporate multiple elements.

Spinning/ swinging/ swiveling components develop muscular strength and balance. This movement leads to greater neurological development as the body automatically adjusts to the movement through space. It also provides engagement for students. There shall be a minimum of four swinging/ spinning/swiveling elements. "Traditional" swings (with bays as a separate apparatus) shall not be included.

Climber and overhead component play contribute to upper body strength and muscular development. The dynamic parts provide higher levels of challenge. Height provides students with an element of risk-taking and challenge. Children build self-esteem and problem-solving skills as they maneuver through the playground. A minimum of 6 components shall be provided for climber and overhead component play. At least two of these components shall provide for brachiating skill development. At least one component shall be a climbing wall that links to a deck no higher than 6 feet. At least one component shall be a net climber. At least one component shall have dynamic motion. At least one component shall link to a deck or other component. At least one component will allow students to perform a pull-up/chin-up exercise. Climbing poles (like a "fireman's pole") shall not be included.

Slides develop students' balance and spatial awareness. Neurological development also takes place when students get the feeling of sliding. Slides also connect deck heights with ground level or other decks. A minimum of 3 slides shall be in place. No tube slides shall not be included.

Balancing activities allow students to develop important physical skill. A minimum of two balance activities shall be included. Log roll type elements shall not be included.

Linking components give students giving choices about where to go next as well as providing challenge. A minimum of 3 linking components shall be used. At least one component shall

incorporate brachiating (arm-over-arm) skills. At least one component shall incorporate balance skills. At least one component shall incorporate climbing skills. No crawl tubes, tunnels, or track rides type elements shall be included.

Ramps are linking components used as access for all children, but are necessary for children with disabilities. A minimum of one ADA wide-ramp should be provided to allow access for students to a higher deck height (deck height that is a minimum of 3 feet). The width of this ramp should be a minimum of 74 inches. This ramp should provide access to at least four ADA-accessible components.

Panels can be used by students in a wheelchair and can provide a side-by-side activity. Panels can also provide a way to integrate classroom content with play. Panels give adults and children a place to interact together. A minimum of two interactive panels shall be included. At least one panel shall be placed in the "crow's nest" position adjacent to the ramp so that a student in a wheelchair can fully access the component.

The space under platforms and decks are places for children to congregate and interact. The roofs provided by this create an enclosed space, and add to its appeal as gathering space. These spaces shall include ground level components; however, supervision of these components shall be considered in their placement.

Ground level play components promote socialization, manipulation, imagination, balance, auditory stimulation, and more. They also provide opportunities for integrating play for children for all abilities. A minimum of 5 ground level play components that address a variety of needs shall be included.

There shall be a minimum of 5 elevated ADA compatible activities and 5 ground ADA accessible activities.

SUMMARY OF PLAYGROUND EXPERIENCES FOR PreK/K PLAYGROUNDS

2018
Experiences for Students in PreK/Kindergarten
All equipment certified for ages 2-5 years.
Minimum Capacity of 75 students playing simultaneously.

Spinning/Swinging/Swiveling – Pre-K & K
- Minimum of 3 elements for Pre-K and K play sets
- Must have at least (1) spinning, (1) swinging, and (1) swiveling element
- Traditional belt swings not permitted

Climbing and Brachiating –Pre-K & K
- Minimum of 2 elements
- At least 1 element for overhead brachiating (arm/arm) experiences
- At least 1 element for climbing

Sliding – All age levels
- A minimum of 3 slides per play set
- No tube slides shall be included
- No spiral slides shall be included

Balancing and Rocking – All age levels
- A minimum of 2 balancing experiences shall be included
- Log roll type elements shall not be included

Linking Components and Ramps
- Bridges and ramps included as needed to match play and flow of the experience
- Bridges and ramps included in compliance with ADA regulations

Panels and Ground Play Components – Age Appropriate – 2-5 yrs.
- A minimum of 4 ground level play components that address a variety of needs, including socialization, manipulation, imaginative play, balance, and/or auditory stimulation shall be included

Inclusive Play Elements – Age Appropriate – 2-5 yrs.
- A minimum of 2 inclusive play elements
- IMPORTANT: These elements can also be satisfied by company's product identification in any of the categories listed above

Shade Structures
- Full or Partial Shade over all sliding elements
- Shade structures shall be bid as an alternate (follows FCPS past practice)

Additional Specifics
- Maximum Deck Heights – 5 feet for PreK/K playsets

SUMMARY OF PLAYGROUND EXPERIENCES FOR PRIMARY PLAYGROUNDS

2018
Experiences for Students in Primary Grades 1&2 (Ages 5-8)
All equipment certified for ages 5-12
Minimum Capacity of 75 students playing simultaneously.

Spinning/Swinging/Swiveling

1. Minimum of 4 elements
2. At least 1 spinning; 1 swinging; 1 swiveling experience
3. Traditional belt swings with bays shall NOT be included

Climbing and Brachiating

1. Minimum of 6 elements
2. At least 2 brachiating elements
3. At least 1 element provide a pull-up or chin-up experience
4. At least 1 element shall be a climbing wall that links to a deck, no higher than 6 feet
5. At least 1 element shall have dynamic motion
6. At least 1 element shall link to a deck or other component
7. Climbing poles (like a “fireman’s pole) shall not be included

Sliding

1. A minimum of 3 slides per play set
2. No tube slides shall be included
3. No spiral slides shall be included
4. Climbing poles (like a “fireman’s pole) shall not be included
5. Sliding elements should have full or partial shade

Balancing and Rocking

1. A minimum of 2 balancing experiences shall be included
2. Log roll type elements shall NOT be included
3. Spring rocking elements shall NOT be included

Linking Components and Ramps

1. Minimum of 3 components be included
2. Bridges and ramps included as needed to match play and flow the experience
3. Bridges and ramps included in compliance with ADA regulations; Ramps are linking components used as access for all children, but are necessary for children with disabilities. A minimum of one ADA wide-ramp should be provided to allow access for students to a higher deck height (deck height that is a minimum of 3 feet). The width of this ramp should be a minimum of 74 inches in order to provide dual access for handicapped and typical students. This ramp should provide access to at least four ADA-accessible components.
4. Suspension Bridges with ropes/cables shall NOT be included
5. At least 1 linking component – brachiating
6. At least 1 linking component - balancing
7. At least 1 linking component – climbing

Panels and Ground Play Components – All age levels

1. A minimum of 4 ground level experiences
2. A minimum of 2 interactive play panels
3. All panels and ground play components shall address a variety of needs, including socialization, manipulation, imaginative play, balance, and/or auditory stimulation.
4. The space under platforms and decks are places for children to congregate and interact. The roofs provided by this create an enclosed space, and add to its appeal as a gathering space. These spaces shall include ground level components. However, supervision of these components shall be considered in their placement.

Shade Structures

1. Full or Partial Shade over all sliding elements
2. Shade structures shall be bid as an alternate (follows FCPS past practice)

Additional Specifics

1. Maximum Deck Heights – 6 feet
2. Entire play experience should allow for at least 75 students

SUMMARY OF PLAYGROUND EXPERIENCES FOR INTERMEDIATE PLAYGROUNDS

2018
Experiences for Students in Intermediate Grades 3-5 (Ages 8-12)
All equipment certified for ages 5-12
Minimum Capacity of 75 students playing simultaneously.

Spinning/Swinging/Swiveling

1. Minimum of 4 elements
2. At least 1 spinning; 1 swinging; 1 swiveling experience
3. Traditional belt swings with bays shall NOT be included

Climbing and Brachiating

1. Minimum of 6 elements
2. At least 2 brachiating elements
3. At least 1 element provide a pull-up or chin-up experience
4. At least 1 element shall be a climbing wall that links to a deck, no higher than 6 feet
5. At least 1 element shall have dynamic motion
6. At least 1 element shall link to a deck or other component
7. Climbing poles (like a “fireman’s pole) shall not be included

Sliding

1. A minimum of 3 slides per play set
2. No tube slides shall be included
3. No spiral slides shall be included
4. Climbing poles (like a “fireman’s pole) shall not be included
5. Sliding elements should have full or partial shade

Balancing and Rocking

1. A minimum of 2 balancing experiences shall be included
2. Log roll type elements shall NOT be included
3. Spring rocking elements shall NOT be included

Linking Components and Ramps

1. Minimum of 3 components be included
2. Bridges and ramps included as needed to match play and flow the experience
3. Bridges and ramps included in compliance with ADA regulations; Ramps are linking components used as access for all children, but are necessary for children with disabilities. A minimum of one ADA wide-ramp should be provided to allow access for students to a higher deck height (deck height that is a minimum of 3 feet). The width of this ramp should be a minimum of 74 inches in order to provide dual access for handicapped and typical students. This ramp should provide access to at least four ADA-accessible components.
4. Suspension Bridges with ropes/cables shall NOT be included
5. At least 1 linking component - brachiating
6. At least 1 linking component - balancing
7. At least 1 linking component – climbing

Panels and Ground Play Components – All age levels

1. A minimum of 4 ground level experiences
2. A minimum of 2 interactive play panels
3. All panels and ground play components shall address a variety of needs, including socialization, manipulation, imaginative play, balance, and/or auditory stimulation.
4. The space under platforms and decks are places for children to congregate and interact. The roofs provided by this create an enclosed space, and add to its appeal as a gathering space. These spaces shall include ground level components. However, supervision of these components shall be considered in their placement.

Shade Structures

1. Full or Partial Shade over all sliding elements
2. Shade structures shall be bid as an alternate (follows FCPS past practice)

Additional Specifics

1. Maximum Deck Heights – 8 feet
2. Entire play experience should allow for at least 75 students

END OF SECTION

SECTION 316317- SHORT AGGREGATE PIER FOUNDATION SYSTEMS

PART 1 - GENERAL

0.1 RELATED DOCUMENTS:

A. Drawings and general provisions of the contract including General and Supplementary Conditions, and Division 1, Specification Sections apply to work in this section.

1.2 RELATED WORK:

A. Refer to Section 312000 "Earthmoving"

1.3 SUMMARY

A. Work shall consist of designing, furnishing and installing aggregate pier foundations to the lines and grades designated on the project site and foundation plans and as specified herein. The aggregate piers shall be constructed by compacting aggregate in an excavated hole using special high-energy impact densification equipment. The aggregate piers shall be in a columnar-type configuration and shall be used to produce an intermediate foundation system for support of foundation loads.

1.4 PERFORMANCE REQUIREMENTS

A. Installers of aggregate pier foundation systems shall be licensed by Geopier Foundation Company, Inc., or pre-bid approved equal, and shall have demonstrated experience in the construction of similar size and types of projects. Installers of other rammed, vibrated column systems meeting the requirements of this specification shall demonstrate that their system is equivalent in all respects for providing the necessary support to the foundation. The installer must be pre-approved by the Owner two weeks prior to bid date.

B. Accepted Installers of aggregate pier foundation system:
1. Geostructures Inc. (703) 771-9844
2. Terra Systems (540) 882-4130
3. Hayward Baker (410 551-1980

C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1.

1.5 REFERENCE STANDARDS

A. Design
1. “Control of Settlement and Uplift of Structures Using Short Aggregate Piers”, by Every C. Lawton (Assoc. Prof., Dept. of Civil Eng., Univ. of Utah), Nathaniel S. Fox (President, Geopier Foundation Co., Inc.), and Richard L. Handy (Distinguished Prof. Emeritus, Iowa State Univ., Dept. of Civil Eng.), reprinted from *IN-SITU DEEP SOIL IMPROVEMENT, Proceedings of sessions sponsored by the Geotechnical Engineering Division/ASCE in conjunction with the ASCE National Convention held October 9-13, 1994, Atlanta, Georgia.*
2. “Settlement of Structures Supported on Marginal or Inadequate Soils Stiffened with Short Aggregate Piers”, by Every C. Lawton and Nathaniel S. Fox.

Geotechnical Special Publication No. 40: Vertical and Horizontal Deformations of Foundations and Embankments, ASCE, 2, 962-974.

B. Modulus Load Testing
   1. ASTM D-1143 - Pile Load Test Procedures
   2. ASTM D-1194 - Spread Footing Load Test

C. Materials and Inspection
   1. ASTM D-1241 - Aggregate Quality
   2. ASTM STP 399 - Dynamic Penetrometer Testing
   3. ASTM D-422 - Gradation of Soils

D. Where specifications and reference documents conflict, the Architect/Engineer shall make the final determination of the applicable document.

1.6 CERTIFICATIONS AND SUBMITTALS

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

B. Design Submittal:
   1. The Contractor shall submit seven (7) sets of detailed design calculations, construction drawings including pier layout, and shop drawings for approval at least four (4) weeks prior to the beginning of construction. A detailed explanation of the design properties for settlement calculations shall be submitted with the design. Additionally, the Contractor's quality control test program for aggregate piers, meeting these design requirements, shall be submitted. All computer-generated calculations and drawings shall be prepared and sealed by a Professional Engineer, licensed in the State of Maryland, where the piers are to be constructed.

C. The Contractor shall submit a notarized manufacturer's certification prior to the start of work, stating that the aggregate and other materials used meet the requirements of this specification.

D. Daily Aggregate Pier Progress Reports: The Contractor shall furnish a complete and accurate record of aggregate pier installation to the Construction Manager, Testing Agency, Structural Engineer, and Architect. The record shall indicate the pier location, length, average lift thickness, and final elevations of the base and top of pier. The record shall also indicate the type and size of the densification equipment used. The Contractor shall immediately report any unusual conditions encountered during installation to the Construction Manager and to the Testing Agency.

E. Contractor shall provide as-built record drawings.

1.7 MEASUREMENT AND PAYMENT

A. Quantities and sizes of piers shall be based on the aggregate pier design provided by the Contractor as required to provide the necessary support for the building foundations as shown on the Foundation Plan provided in the plans. If building foundation requirements change, increasing wall foundation lengths or the number of column footings, or if directed by the Architect, additional aggregate piers may be required. Measurement and payment for additional piers required to address foundation plan changes shall be per each in

accordance with the unit prices provided in the Contract as provided by the Contractor on the Form of Proposal.

PART 2 - PRODUCTS

2.1 AGGREGATE

A. Aggregate used for piers constructed above the water table shall be Type I Grade B in accordance with ASTM D-1241-68, or shall be other graded aggregate selected by the Contractor and successfully used in the load test. It shall be compacted to a densification and strength which provides resistance to the dynamic penetration test (ASTM STP 399) of a minimum average of 15 blows per 1.75 inch vertical movement.

B. The number of tests performed during a workday by the Testing Agency shall depend on the consistency of achieving this minimum penetration resistance. Penetration tests need not be performed on every pier, nor on a continuous basis. If average penetration resistances measured exceed 15 blows, and less than 10% of tests fall below 15 blows, then testing may be reduced to spot checks. A pattern of successful tests is sufficient to reduce testing to several tests per day. Observation of questionable aggregate moisture content or questionable aggregate gradation appearance may determine the need for additional dynamic penetration testing to verify that proper densification and strength are being achieved.

C. For aggregate used for piers constructed below the water table, the gradation shall be the same as Type I Gradation B, except that particles passing the No. 40 sieve shall be eliminated. Alternately, No. 57 stone or other stone selected by the Aggregate Pier Installer may be used. Dynamic penetration resistance testing is inappropriate for this material.

PART 3 - DESIGN REQUIREMENTS

3.1 DESIGN REQUIREMENTS - GENERAL

A. The design submitted by the Contractor shall consider the bearing capacity and settlement of all footings supported by aggregate piers, and shall be in accordance with acceptable engineering practice and these specifications. Total and differential settlement shall be considered.

3.2 AGGREGATE PIER DESIGN

A. Aggregate piers shall be designed in accordance with generally accepted engineering practice and the method described in “Control of Settlement and Uplift of Structures Using Short Aggregate Piers”, by Every C. Lawton, Nathaniel S. Fox, and Richard L. Handy, reprinted from *IN-SITU DEEP SOIL IMPROVEMENT, Proceedings of sessions sponsored by the Geotechnical Engineering Division/ASCE in conjunction with the ASCE National Convention held October 9 - 13, 1994, Atlanta Georgia.* The design shall meet the following criteria:

1.	Allowable Bearing Pressure for Aggregate Pier Improved Soil	5,000 (min.) psf
2.	Minimum Aggregate Pier Area Coverage (Spread Footings)	30%*
3.	Estimated Total Long-Term Settlement for footings	$\leq$ 1 inch *

4. Est. Long-Term Differential Settlement for Adjacent Footings $\leq$ 0.5 inches*

3.3 CAPACITY AND SIZE OF THE AGGREGATE PIERS

A. The Contractor shall be responsible for delivering a system that will support the structure, while controlling settlement in accordance with these specifications. Any modifications to the size and spacing of the aggregate piers shall be approved by the Structural Engineer, Testing Agency, and Architect.

PART 4 - EXECUTION

4.1 GENERAL

A. Survey Work: The Contractor shall engage a Maryland Licensed land surveyor or professional engineer to perform surveys, layouts and measurements for aggregate pier-supported footings, mats, or grade beams for this project, including layout of piers. The Contractor shall provide ground elevations in sufficient detail to estimate drilling depth elevations to within 2 inches. Before excavating, lay out each drilled pier to lines and levels required. Record actual measurements of each drilled pier's location, shaft diameter, bottom and top elevations, deviations from specified tolerances and other specified data.
1. Record and maintain information pertinent to each drilled pier and cooperate with the Owner's Testing and Testing Agency to provide data for required reports.

B. Locate existing underground utilities prior to excavating drilled piers. Protect all existing and adjacent property structures, utilities, pavements and other facilities from damage caused by settlement, lateral movement, vibration and other hazards created by drilled pier operations.

C. Tolerances: Construct drilled piers to within ACI 336.1 tolerances.
1. If location or out-of-plumb tolerances are exceeded, provide corrective construction.

4.2 EXCAVATION

A. Unclassified Excavation: Excavation is unclassified to subgrade (for the aggregate peirs, subgrade is defined as the bottom of the pier) and includes excavation to design bearing elevations regardless of character of materials or obstructions encountered. Should any obstruction be encountered during drilling or excavation for aggregate piers, the Contractor shall notify the Construction Manager, Testing Agency, Architect, and Structural Engineer in writing at once. Obstructions include, but are not limited to: boulders, timbers, concrete, bricks, utility lines, etc., which shall prevent placing the piers to the required depth, or shall cause the pier to drift from the required location. Dense natural rock or weathered rock layers shall not be deemed obstructions, and piers may be terminated short of design lengths on such materials as approved by the Structural Engineer and the Testing Agency. Payment for additional or relocated piers shall be in accordance with the unit prices as submitted on the Form of Proposal. No additional cost will be considered for down time.

B. Excavate shafts for drilled piers to required elevations. Remove loose material from bottom of excavation. Notify and allow Testing Agency to test and inspect bottom of excavation. If unsuitable bearing stratum is encountered, make adjustments to drilled piers as directed by Testing Agency at no additional cost.

C. Excavate shafts for closely spaced drilled piers and those occurring in fragile strata only after adjacent drilled piers are filled with aggregate.

B. Dewatering: Remove all water from excavated shafts before placing aggregate. The methods of dewatering shall be as selected and designed by the Contractor. Dewatering shall remove, from the start of excavation until completion of backfilling, all water from excavations and drilled pier shafts. All groundwater, including water from such sources as springs, seepage, leakage, perched water and all surface water from such sources as rain, snow, runoff, accident spillage and all liquid mud, from whatever source shall be removed. Water and its removal shall be considered unclassified excavation, fully the responsibility of the Contractor, without additional cost to the Owner. The responsibility for the performance of Dewatering methods and devices shall lie entirely with the Contractor. The correction of settlement and damage to persons and property due to settlement shall be the responsibility of the Contractor. All water, mud, etc., removed from excavations shall be directed to an approved Sediment Control Device.

4.3 BOTTOM STABILIZATION VERIFICATION TEST

A. At the beginning of the project, the Testing Agency may require a bottom stabilization verification test be performed to provide quantitative information on pier stabilization. This test may also be required when a new soil formation is encountered. After completion of the bottom pier bulb, or at anytime during the process of constructing the pier, the energy source may be turned off, and a bottom stabilization verification test may be performed. A reference bar is placed over the cavity, and a mark is made on the tamper shaft that has been placed on top of the compacted aggregate. The energy to the tamper is restarted. If the measured vertical movement exceeds 150% of the value achieved during the load test, added energy is applied to re-densify the bulb. The procedure for measuring is then repeated. If there is still movement greater than 150% of the value achieved during the load test and greater than ½ inch, a lift of loose aggregate may be placed on top of the compacted aggregate. The verification test may then be performed on this next lift after it is densified. If there is excessive movement on this lift, another lift may be placed and tested. Movement must be limited to below 150% of the values achieved for the load test before completion of 2/3 of the pier depth unless unusually powerful modified hydraulic hammers are being used with tamper heads smaller than 26 inches in diameter.

4.4 REJECTED AGGREGATE PIERS

A. Aggregate piers improperly located or installed beyond the maximum allowable tolerances shall be abandoned and replaced with new piers, unless the Testing Agency approves other remedial measures. All materials and labor required to replace rejected aggregate piers shall be provided at no additional cost to the Owner.

4.5 PLAN LOCATION AND ELEVATION OF AGGREGATE PIERS

A. The location of each pier shall be established by the Contractor based on the foundation plan provided in the documents. The Contractor shall develop a pier location plan based on this foundation plan and the required pier design. The center of each installed pier shall be within 6-inches of the approved locations submitted with the Contractor's design layout. The final measurement for the top of aggregate piers shall be the lowest point on the

aggregate in the last compacted lift. Piers installed outside of the above tolerances and deemed not acceptable shall be rebuilt at no additional expense to the Owner.

4.6 QUALITY ASSURANCE

A. The Contractor shall have a full-time Quality control representative to verify and report all QC installation procedures. The Owner's Testing Agency shall provide Quality Assurance services and shall monitor the load tests when load tests are to be performed. The Testing Agency shall monitor the installation of load test aggregate piers to document procedures and criteria used for constructing the load test pier(s). The Contractor shall provide and install all dial indicators and other measuring devices. The Testing Agency shall monitor the installation of aggregate piers. The Contractor shall adhere to all methods, standards, and codes described herein, unless authorized in writing by the Construction Manager.

1. A written drilled-pier report will be prepared by the Contractor and provided to Construction Manager and Testing Agency for each drilled pier as follows:
   a. Actual top and bottom elevations
   b. Top of rock elevation (if encountered)
   c. Description of soil materials
   d. Description, location and dimensions of obstructions
   e. Final top centerline and deviations from requirements
   f. Variation of shaft from plumb
   g. Shaft excavating method
   h. Design and tested bearing capacity of bottom
   i. Ground water conditions and water-infiltration rate, depth and pumping
   j. Date and time of starting and completing excavation
   k. Inspection report

B. Trial Drilled Pier: Construct trial drilled pier of diameter and depth and at location indicated by Testing Agency, of same diameter and depth as drilled piers located at least three diameters clear of permanent piers, to demonstrate Installer's construction methods, equipment, standards of workmanship and tolerances.

C. Load Test: Load Test: Two Aggregate Pier Modulus Tests shall be performed at locations agreed upon by the Aggregate Pier Designer and the Testing Agency to verify or modify Aggregate Pier designs. Aggregate Piers that are tested to provide a safe design, and that meet the tolerances described in this specification, may be used in the finished work. Aggregate Piers shall be tested to 150 percent of the maximum design stress as shown in the aggregate pier design submittal. Modulus Test Procedures shall utilize appropriate portions of ASTM D 1143 and ASTM D 1194, as outlined below. The modulus schedule shall be as follows.

Increment	Approximate Load (percent design)	Minimum Duration (min)	Maximum Duration (min)
Seat	< 9	0	N/A
1	17	15	60
2	33	15	60
3	50	15	60
4	67	15	60
5	83	15	60
6	100	15	60
7	117	60	120

8	133	15	60
9	150	15	60
10	100	N/A	N/A
11	66	N/A	N/A
12	33	N/A	N/A
13	0	N/A	N/A

Each load increment shall be held for the minimum duration shown. For each load increment the deflection of the top plate shall be measured. The top plate shall be located on top of the Aggregate Pier or on top of concrete cast on top of the Aggregate Pier. If the rate of the Aggregate Pier deflection exceeds 0.01 inches per hour, the load shall be held in 15 minute increments until the rate of the Aggregate Pier deflection is less than 0.01 inches per hour (0.0025 inches per 15 minutes), or the maximum duration is reached. Test Aggregate Pier deflections of each plate shall be measured using a minimum of two dial gauges graduated to 0.001 inches. Dial gauges shall be anchored to the loading jack base, with gauge plungers set on reference beams anchored at least two diameters from the Aggregate Pier. The test jack, pump and pressure gauges shall have been calibrated within no longer than six months from the date of the test. If there are any questions regarding jack, pump and gauge accuracy, a confirmation calibration shall be performed after the modulus test. The results of the modulus test shall be reported on a deflection versus stress graph. The Aggregate Pier modulus shall be calculated as the maximum design stress divided by the deflection of the top plate. The deflection of the top plate shall not exceed the upper zone settlement as shown in the design calculations for any pier location.

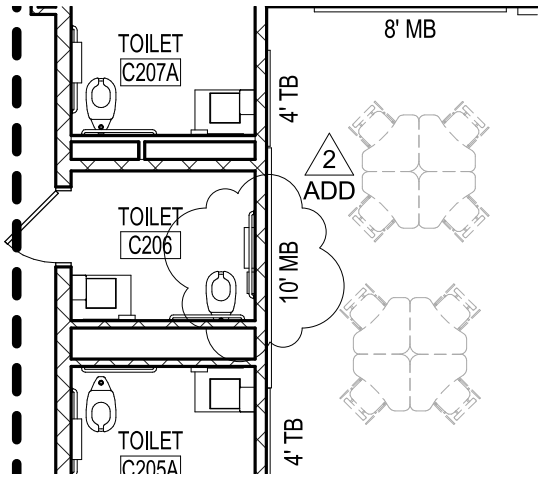
4.7 FOOTING BOTTOM

A. All excavations for footing bottoms supported by aggregate pier foundations shall be prepared in the following manner by the 3A - Concrete Contractor: Over excavation below the bottom of the footing elevation shall be limited to 3-inches. A toothless grading bucket or hand-excavating will be required by the 3A Contractor to trim footing bottom accordingly in order to minimize disturbance to top of Aggregate Pier.

B. Compaction of surface soil and top of aggregate piers shall be prepared using a standard, hand-operated impact compactor (“Whacker Packer”, “Jumping Jack”, or equal). Compaction shall be performed over the entire footing bottom to compact any loose surface soil and loose surface pier aggregate. This work will be by the 3A - Concrete Contractor.

C. Excavation and surface compaction of all footings shall be the responsibility of the 3A - Concrete Contractor.

END OF SECTION 316317



URBANA ELEMENTARY SCHOOL REPLACEMENT

REVISION TO SHEET A-9.8

SCALE	DATE	ADD 02
1/8"=1'-0".	02/01/19	SKA-9.8.1

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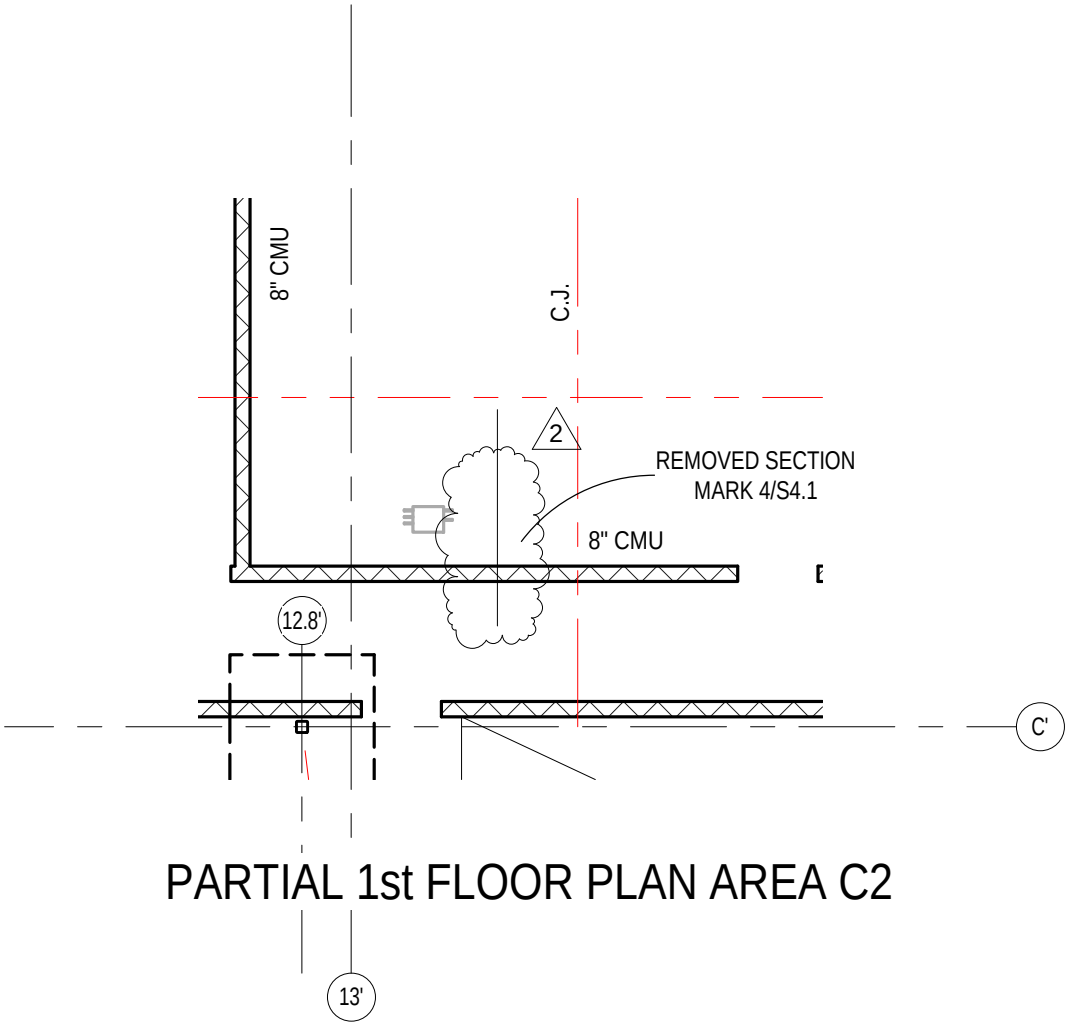

PARTIAL 1st FLOOR PLAN AREA C2

URBANA E.S.			
REVISION TO SHEET S-1.4	SCALE: 1/8" = 1'-0"	DATE 02/01/19	ADD2 ASK-2

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4. DUCTLESS SPLIT HEAT PUMP SYSTEM NO. 5 (DSS-5)

(SERVES PLATFORM C110)

GENERAL:

BASED ON DAIKIN MULTI-POSITION AIR HANDLING UNIT W/ WIRELESS INTERFACE ADAPTER OR EQUAL OF MITSUBISHI.
R410A REFRIGERANT, LOW AMBIENT COOLING TO 0°F
PROVIDE HARD WIRED WALL MOUNTED CONTROLLER
PROVIDE REFRIGERANT PIPING BETWEEN CONDENSER AND INDOOR UNIT.
SIZE PIPING ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
PROVIDE W/ FACTORY SUPPLIED SUPPORT

2 ADD

CAPACITY:

3-TON TOTAL COOLING CAPACITY
95°F DB/78°F WB OUTDOOR CONDITIONS

URBANA ELEMENTARY SCHOOL REPLACEMENT	SCALE	DATE	ADD 02
REVISION TO SHEET M-9.1	N.T.S.	02/01/19	SKM-9.1.2

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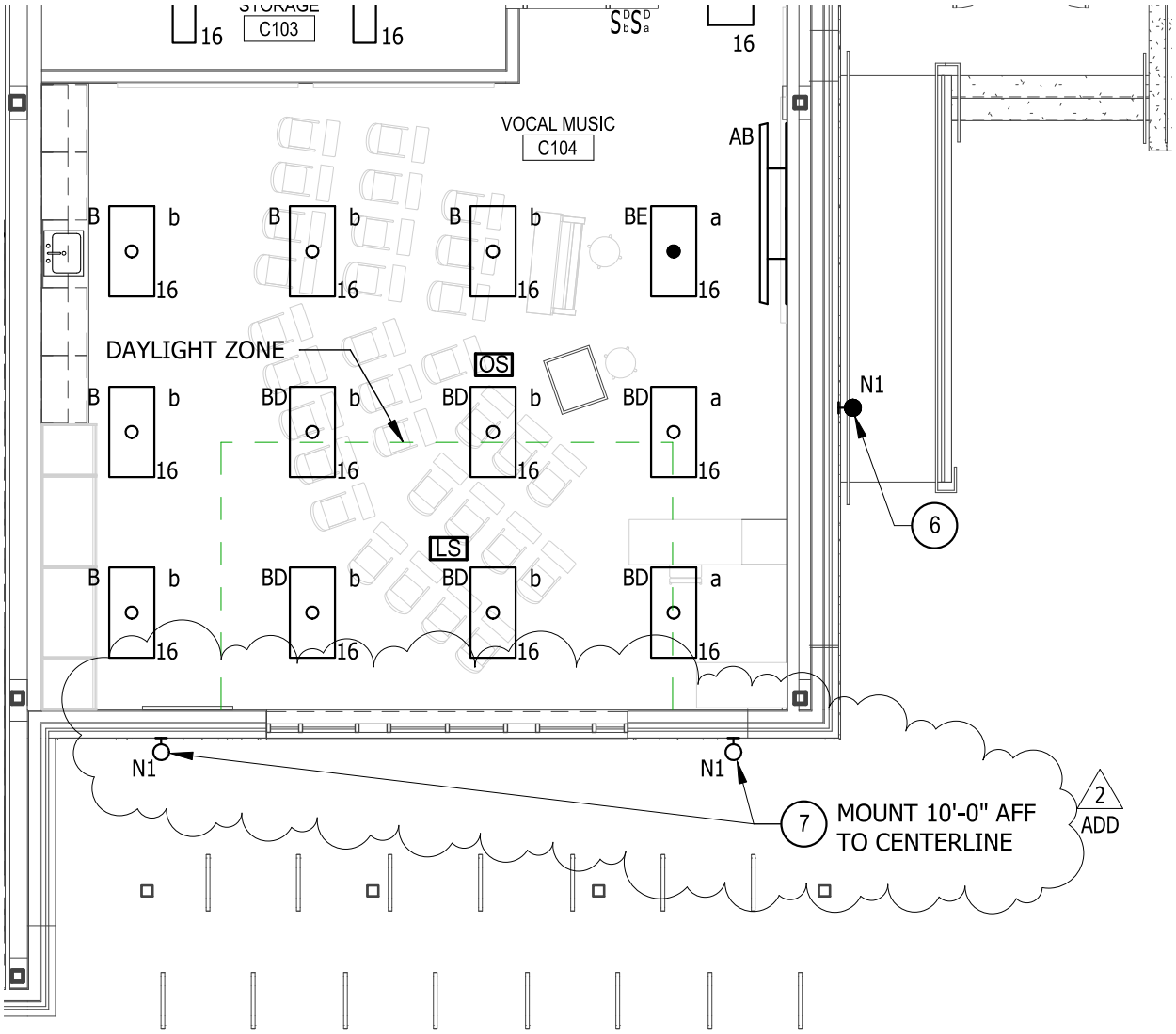

URBANA ELEMENTARY SCHOOL REPLACEMENT

REVISION TO SHEET E-2.3

SCALE	DATE	ADD 02
1/8"=1'-0".	02/01/19	SKE-2.3.1

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URBANA ELEMENTARY SCHOOL IMPROVEMENT PLAN

SITE NOTES

1. SITE IS KNOWN AS "URBANA ELEMENTARY SCHOOL" AND IS SHOWN ON FREDERICK COUNTY TAX MAP NO. 96 PARCEL 71 LIBER 00611 FOLIO 00272. THE SITE IS ZONED R1 PER FREDERICK COUNTY ZONING MAP, AND THE LAND USAGE PER THE FREDERICK COUNTY COMPREHENSIVE PLAN IS "INSTITUTIONAL". THE TAX ID IS 07-191790. THE PLANNING REGION IS URBANA. THE SITE IS A PROPOSED ELEMENTARY SCHOOL ON AN EXISTING ELEMENTARY SCHOOL SITE AND IS SITUATED ALONG URBANA PIKE. THE SITE IS BEING DEVELOPED FOR A 725 STUDENT ELEMENTARY SCHOOL.

2. THIS PLAN WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT AND MAY NOT INDICATE ALL ENCUMBRANCES ON THE PROPERTY.

3. UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE VERIFIED BEFORE COMMENCEMENT OF ANY CONSTRUCTION.

4. THE PROJECT SITE IS SHOWN OUTSIDE THE BOUNDARY OF THE 100-YEAR FLOODPLAIN AS DEPICTED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEMA, FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 24002C0445D.

5. SOILS INFORMATION TAKEN FROM "SOILS SURVEY OF FREDERICK COUNTY", 2001 EDITION.
   LyB LINGANORE-HYATTSTOWN CHANNERY SILT LOAM. 3 TO 8 PERCENT SLOPES
   LyC LINGANORE-HYATTSTOWN CHANNERY SILT LOAM. 8 TO 15 PERCENT SLOPES
   MvA MYERSVILLE SILT LOAM. 0 TO 3 PERCENT SLOPES
   MvB MYERSVILLE SILT LOAM. 3 TO 8 PERCENT SLOPES
   RoB ROHRERSVILLE-LANTZ SILT LOAMS. 0 TO 8 PERCENT SLOPES

6. LIMITS OF WETLAND HAVE BEEN SHOWN ON PLAN. JOINT MDE/ACOE PERMIT WILL BE REQUIRED FOR ALL WORK IN WETLANDS.

7. SETBACKS ARE AS FOLLOWS, PER FREDERICK COUNTY ZONING R1:
   FRONT 40FT
   SIDE 50FT
   REAR 50FT

8. THE SEWAGE TREATMENT PLANT SERVICE AREA IS BALLENGER-McKINNEY WWTP.

9. WATER PRESSURE ZONE = 2. MAXIMUM GROUND ELEVATION IS 472.00 AND MINIMUM GROUND ELEVATION IS 438.40.

10. ALL RIGHT OF WAY WORK IS BY OPEN CUT TRENCHING AND MUST BE APPROVED BY OFFICE OF HIGHWAY OPERATION. BORING AND JACKING WILL BE DETERMINED AS PART OF PERMIT WORK WITH IN RIGHT-OF-WAY FROM OFFICE OF HIGHWAY OPERATIONS.

11. THERE ARE NO EXISTING OR PROPOSED WELLS WITHIN 50' OF THE PROPOSED SEWER.

12. CURRENT WATER CLASSIFICATION OF THE PROPERTY IS W-3, PER FREDERICK COUNTY WATER SERVICE AREA MAP, DATED APRIL 13, 2018. CURRENT SEWER CLASSIFICATION IS S-3, PER FREDERICK COUNTY PLANNING COMMISSION MEETING (#WS-18-02) APPROVAL, DATED MAY 9, 2018.

13. ALL ON-SITE, OFF-SITE TRAFFIC AND MAINTENANCE OF TRAFFIC CONTROL (SIGNAL, MARKING, ETC.) SHALL MEET LATEST EDITION OF THE MDOT-SHA MUTCD.

14. APFO FINDING:
   - TOTAL AM PEAK TRIPES GENERATE, NET NEW AM TRIPS GENERATED (43 BASED ON 100K GFA).
   - APFO MITIGATION IS IN THE FORM OF AND EXECUTED LOU IDENTIFYING CONTRIBUTIONS TO EXISTING ESCROW ACCOUNTS.

15. THE TOTAL SQUARE FOOTAGE OF THE BUILDING IS 97,811 GROSS.

16. A WASTE FIXTURE COUNT MUST BE PERFORMED BY FREDERICK COUNTY DUSWM, DIVISION OF ENGINEERING AND PLANNING BEFORE A BUILDING PERMIT CAN BE APPROVED. EACH TENANT OR OWNER SHALL COMPLETE AN INDUSTRIAL QUESTIONNAIRE AND COMPLY WITH FREDERICK COUNTY INDUSTRIAL WASTE ORDINANCE. FURNISHMENT AND INSTALLATION OF MONITORING MANHOLES, GREASE TRAPS OR OTHER PRETREATMENT DEVICES SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACT PURCHASER OR THE LOT. THE FINAL LOCATION OF SAID DEVICE(S) IS SUBJECT TO REVIEW AND APPROVAL BY FREDERICK COUNTY DUSWM AS PART OF THE SITE IMPROVEMENT PLAN.

17. THE PROPERTY ADDRESS SHALL BE INCORPORATED INTO THE SITE SIGN AND SHALL BE POSTED ON THE BUILDING IN ACCORDANCE WITH FREDERICK COUNTY PREMISE IDENTIFICATION ORDINANCE #05-01-362

18. PROVIDE AND INSTALL PLOWABLE FIRE HYDRANT MARKERS IN THE ROADWAY. THE MARKERS SHALL BE LOCATED 6-INCHES FROM THE CENTERLINE OF THE ROADWAY/TRAVEL LANE ON THE SIDE CLOSEST TO THE FIRE HYDRANT. THE REFLECTOR SHALL BE BLUE IN COLOR.

19. SITE SIGN WILL BE 32 SQUARE FEET MAXIMUM AND WILL BE INTERNALLY LIT. WILL BE LOW ILLUMINATION. SIGN WILL NOT EXCEED 12' HIGH. SETBACKS FOR SIGN ½ FRONT, SIDES, AND REAR REFER TO NOTE #7.
   PROVIDED SIZE – 22 SQUARE FEET
   PROVIDED SETBACKS – FRONT: 20', SIDES: 215' & 442', REAR:603'

20. FLOW RATES FOR THE SITE ARE AS FOLLOWED:

DOMESTIC DEMAND	221 GPM
SPRINKLER FLOW	400 GPM
HOSE STREAM ALLOWANCE	100 GPM
FIRE PUMP	500 GPM

   AVERAGE WATER USE FOR THE SITE IS 52,500 GPD

21. SWM WILL BE PROVIDED BY IMPLEMENTING ESD TO THE MEP IN ACCORDANCE WITH THE MARYLAND STORMWATER MANAGEMENT ACT OF 2007.

22. LOADING SPACES REQUIRED 7 LARGE. ONLY 1 LARGE LOADING SPACE PROVIDED AS FCPS TRADITIONALLY ONLY NEEDS THIS MANY FOR PROGRAMMATIC PURPOSES.

23. LIGHTING SHALL BE SHIELDED TO PREVENT GLARE ONTO NEIGHBORING PROPERTIES, ROADWAYS, AND NIGHTTIME SKY. ALSO WILL NOT EXCEED .5 FT CANDLE AT PROPERTY LINE. PHOTOMETRIC CHART WILL BE SUBMITTED PRIOR TO INSTALLATION OF LIGHTS. PARKING LOT LIGHTING WILL BE PLACED ON A TIMER THAT WILL LIMIT THE TIMES THAT THE LIGHTS ARE ON AT NIGHT. LIGHTING WILL BE ON LONGER FOR SECURITY REASONS DURING SPECIAL AFTER SCHOOL NIGHTTIME EVENTS (I.E. SPORTING EVENTS, SCHOOL PLAYS, ETC.)

24. BACKFLOW PREVENTION WILL BE PROVIDED WITHIN THE BUILDING WITH REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS.

25. ALL ACCESSIBILITY DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE OF MARYLAND ACCESSIBILITY CODE (COMAR 05.02.02) AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.

26. ALL PERIMETER AND MAIN DRIVE AISLES SHALL BE MARKED AS FIRE LANES WITH NO PARKING. FIRE LANES SHALL BE PAINTED TRAFFIC YELLOW AND APPROVED SIGNS SHALL BE POSTED A MAXIMUM OF 75' APART.

27. FRO PLAN AND FRO MODIFICATION FOR SPECIMEN TREE REMOVAL IS UNDER REVIEW (AP 18414). FRO HAS BEEN MITIGATED BY ONSITE RETENTION AND AFFORESTATION PLANTING.

28. TEMPORARY PORTABLES, NOTED AS (NIC) TO BE INSTALLED IN THE FUTURE AS NEEDED BY FCPS.

29. A MANDATORY SIDEWALK PRE-CONSTRUCTION MEETING IS REQUIRED WITH DPW STAFF, CONTACT BLAIR HOVATTER AT 301-600-3508 TO SCHEDULE.

PARKING TABULATION

PARKING REQUIRED
- NUMBER OF CLASSROOMS.....41
- NUMBER OF CLASSROOMS IN PORTABLES.....6
- NUMBER OF ASSEMBLY SEATS.....575
- PARKING REQUIRED (2X NUMBER OF CLASSROOMS PLUS ONE PER 8 ASSEMBLY SEATS) TOTAL REQUIRED.....166

PARKING PROVIDED:
- VISITOR.....70
- FACULTY/STAFF.....70
- AFTER HOURS.....45
- TOTAL.....185

ACCESSIBLE PARKING REQUIRED.....6
ACCESSIBLE PARKING PROVIDED.....6
LOADING PROVIDED.....1 SPACE
FCPS STATES THAT DELIVERIES ARE BY STEP VANS ONLY. (NO TRACTOR TRAILERS)

BIKE RACK.....41
(1 RACK FOR EACH CLASS ROOM)

GENERAL NOTES

1. ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FREDERICK COUNTY GENERAL CONDITIONS AND STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAINS, SANITARY SEWER AND RELATED STRUCTURES, SPECIAL PROVISIONS AND AMENDMENTS THERETO.
2. ALL "PUBLIC" FITTINGS AND VALVES ARE TO BE RESTRAINED BY USE OF 'MEGA-LUGS' OR EQUAL. IF NO RESTRAINED JOINT LENGTH IS SHOWN ON THE DRAWINGS, INSTALL CONCRETE BUTTRESSES/ANCHORS AT FITTINGS PER THE STANDARD DETAILS OR SUBMIT AN RFI TO THE ENGINEER TO HAVE RESTRAINED JOINT LENGTH CLARIFIED.
3. THE CONTRACTOR SHALL NOT TAP OR PENETRATE EXISTING WATER AND/OR SEWER MAINS WITHOUT APPROVAL FROM FREDERICK COUNTY DUSWM.
4. THE CONTRACTOR SHALL NOT OPERATE VALVES ON EXISTING COUNTY-OWNED WATER MAINS.
5. THE CONTRACTOR IS RESPONSIBLE TO AVOID THE SPILLAGE OF RAW SEWAGE. THE CONTRACTOR SHALL FURNISH NECESSARY EQUIPMENT (SEWER PLUGGING, PUMPING, CONTAINMENT, ETC.) TO PREVENT SAID SPILLAGE.
6. EXCAVATION WITHIN A COUNTY ROAD RIGHT-OF-WAY FOR THE PURPOSE OF THE INSTALLATION OF UTILITIES, STORM DRAINS, ETC. SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS IN THE PERMIT ISSUED BY THE FREDERICK COUNTY DIVISION OF HIGHWAY OPERATIONS. CONTACT UTILITY COORDINATOR AT 301-600-1555.
7. EXISTING UTILITIES ARE SHOWN FROM BEST AVAILABLE RECORDS. THE CONTRACTOR SHALL TEST PIT IN THE AREA OF KNOWN UTILITIES TO VERIFY SIZE, ELEVATION, LOCATION AND TYPE PRIOR TO PERFORMING ANY WORK. ANY UTILITY, WHETHER SHOWN OR NOT, THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER.
8. ANY NECESSARY ADJUSTMENTS TO EXISTING MANHOLES, VALVE BOXES, ETC. ARE TO BE DONE SO BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING FENCES, DRIVEWAYS, SIGNS, DRAINAGE PIPES, MAILBOXES, SHRUBS, TREES, ETC., DAMAGED OR REMOVED DURING CONSTRUCTION. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER.
9. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-257-7777) FIVE (5) DAYS PRIOR TO START OF CONSTRUCTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING SILT AND DEBRIS OUT OF THE STORM DRAINAGE SYSTEM FOR THE DURATION OF THE CONTRACT.
11. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTY OWNERS AT ALL TIMES. THE CONTRACTOR, WITH OWNER, APPROVAL WILL COORDINATE WITH PROPERTY OWNERS IF ACCESS MUST BE INTERRUPTED FOR SHORT TIME PERIODS.
12. THE SITE SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF MARYLAND ACCESSIBILITY CODE (MAC), THE AMERICAN DISABILITY ACT 2010 (ADA) AND ANSI A117.1-2009. IF THERE ARE CONFLICTING REQUIREMENTS, THE MOST STRINGENT SHALL APPLY.

PROJECT SUMMARY

THE PROJECT CONSIST OF TWO PHASES. IN PHASE 1 THE DEMOLITION OF EXISTING SCHOOL BUILDING WAS PERFORMED AND THE SITE WAS BROUGHT TO BUILDING PAD GRADE. WHICH HAS BEEN COMPLETED. PHASE 2 CONSIST OF DEMOLITION OF THE REMAINING SITE FEATURES AND THE CONSTRUCTION OF A NEW 725 STUDENT ELEMENTARY SCHOOL AND SITE FEATURES.

DISTURBED AREA QUANTITY

NOT FOR BIDDING PURPOSES

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 579,090 SQ. FT. (13.29 AC.) AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 1,268 CU. YDS. OF EXCAVATION AND APPROXIMATELY 9,642 CU. YDS. OF FILL.

NAME:_____ DATE:_____

PRINTED NAME: SHAWN P. BENJAMINSON, P.E.

ENGINEER/ARCHITECT DESIGN CERTIFICATION

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 08.05.01 AND 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

SIGNATURE	26524 REG. NO.	DATE

PRINTED NAME: SHAWN P. BENJAMINSON, PE

OWNER/DEVELOPER CERTIFICATION

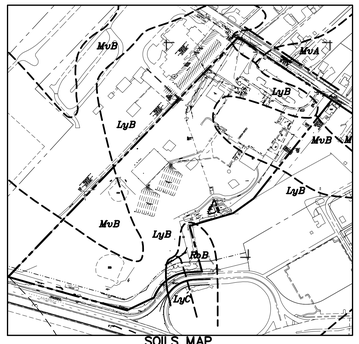
I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

BRAD AHALT, SENIOR PROJECT MANAGER
OWNER/DEVELOPER (NAME & TITLE PRINTED) DATE

SIGNATURE 301-644-5164 TELEPHONE

QUANTITIES

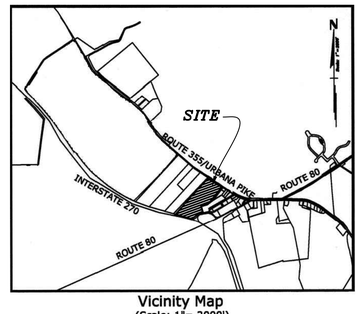
ITEM	ESTIMATED	UNITS	AS-BUILT (TO BE COMPLETED BY COUNTY)	SUPPLIER/MATERIAL
6" WM/ VAULT		1		



SOILS MAP
SCALE: 1" = 300'

SHEET NO.	SHEET TITLE
C-0	COVER SHEET
C-1	OVERALL EXISTING CONDITIONS PLAN
C-1A	DEMOLITION PLAN
C-1B	DEMOLITION PLAN
C-2	OVERALL EROSION AND SEDIMENT CONTROL PLAN
C-2A	EROSION AND SEDIMENT CONTROL PLAN
C-2B	EROSION AND SEDIMENT CONTROL PLAN
C-2C	EROSION AND SEDIMENT CONTROL DETAILS
C-2D	EROSION AND SEDIMENT CONTROL DETAILS
C-2E	EROSION AND SEDIMENT CONTROL DETAILS
C-2F	EROSION AND SEDIMENT CONTROL NOTES
C-2G	EROSION AND SEDIMENT CONTROL PROFILE
C-2H	EROSION AND SEDIMENT CONTROL PROFILE
C-3	OVERALL SITE PLAN
C-3A	SITE PLAN
C-3B	SITE PLAN
C-3C	SITE DETAILS
C-3D	SITE DETAILS
C-3E	SITE DETAILS
C-3F	PLAY STRIPING DETAILS
C-3J	SEWER PROFILES
C-3K	SEWER PROFILES
C-3L	SEWER PROFILES
C-3M	WATER PROFILES
C-3N	WATER PROFILES
C-3P	WATER & SEWER DETAILS
C-3Q	SEWER PUMP DETAILS
C-3R	SEWER PUMP DETAILS
C-4	OVERALL GRADING PLAN
C-4A	GRADING AND STORMWATER MANAGEMENT PLAN
C-4B	GRADING AND STORMWATER MANAGEMENT PLAN
C-4C	STORMDRAIN PROFILES
C-4D	STORMDRAIN PROFILES
C-4E	STORMDRAIN PROFILES
C-4F	STORMDRAIN PROFILES
C-4G	STORMDRAIN PROFILES
C-4H	STORMDRAIN PROFILES
C-4J	STORMDRAIN PROFILES
C-4K	STORMDRAIN PROFILES
C-4L	SWM PROFILES
C-4M	SWM PROFILES
C-4N	SWM PROFILES
C-4P	SWM PROFILES
C-5	SIGNAGE & STRIPING PLAN
C-5A	SIGNAGE & STRIPING DETAIL
L-2.1	LANDSCAPE PLAN
L-2.2	LANDSCAPE PLAN
L-2.3	LANDSCAPE PLAN
L-2.4	LANDSCAPE PLAN
E-0.3.1	PHOTOMETRIC PLAN

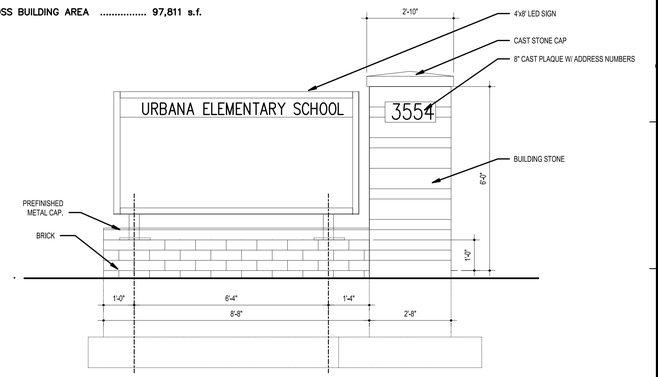
2 ADD



Vicinity Map
(Scale: 1"= 2000')
ADC MAP 4687 GRID A-7

SITE TABULATION

TOTAL SITE	866,181 s.f. or 19.88 acres
TOTAL DISTURBANCE	563,180 s.f. or 12.93 acres
BUILDING FOOTPRINT	64,851 s.f. or 1.49 acres
BUILDING HEIGHT	32'-0"
BUILDING COVERAGE	7.50% (of total site)
TOTAL IMPERVIOUS	242,618 s.f. or 5.57 acres 28.0% (of total site)
TOTAL PERVIOUS	623,563 s.f. or 14.31 acres 72.0% (of total site)
PARKING AREA	74,058 s.f. or 1.70 acres
GREEN SPACE IN PARKING LOT	19,299 s.f. or 0.44 acres 26.00% (of parking area)
GROSS BUILDING AREA	97,811 s.f.



SCHOOL SIGN ELEVATION
1/2" = 1'-0" SEE ARCHITECTURAL DRAWINGS FOR DETAILS

ENGINEER:
ADTEK ENGINEERS, INC.
150 SOUTH EAST STREET, SUITE 201
FREDERICK, MARYLAND 21701
ATTN: SHAWN BENJAMINSON, P.E.
PHONE: 301-662-4408

ARCHITECT:
GRIMM + PARKER ARCHITECTS, P.C.
11720 BELTSVILLE DRIVE, SUITE 600
CALVERTON, MARYLAND 20705
ATTN: DON PORTER, AIA
PHONE: 301-595-1000
FAX: 301-575-0089

OWNER/APPLICANT
FREDERICK COUNTY PUBLIC SCHOOLS
191 SOUTH EAST STREET
FREDERICK, MARYLAND 21701
ATTN:BRAD AHALT
TEL: 301-644-5164 FAX: 301-644-5027

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY:_____ DISTRICT MANAGER

DATE:_____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

W/S CONTRACT 333B-W
SP-07-20
AP#18412
FRO #18414
AAPFO #18413
AP #18990

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED:_____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED:_____ STORMWATER MANAGEMENT DATE

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

REV.#	DATE	REVISION DESCRIPTION * FILL IN THESE BLOCKS FOR REVISION ONLY *	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

ADTEK
CIVIL STRUCTURAL SPECIALTY ENGINEERING
150 South East Street, Suite 201
Frederick, MD 21701
Phone: 301-662-4408
www.adtekengineers.com

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26524, EXPIRATION DATE: 19 JULY 2019.

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Suite 600
Calverton, MD 20705
Tel 301.595.1000
www.grimmandparker.com

GRIMM AND PARKER

GP# 21740

COVER SHEET
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-0

1/10/2019
BID SET

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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCT. NO.: 0700417821
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

COVER SHEET
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

C-0

01/10/2019
BID SET
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I:\Proj\174004 - Urbana ES\Drawings 17404A\DWG\C-0 COVER SHEET.dwg PLOTTED Feb 01, 2019

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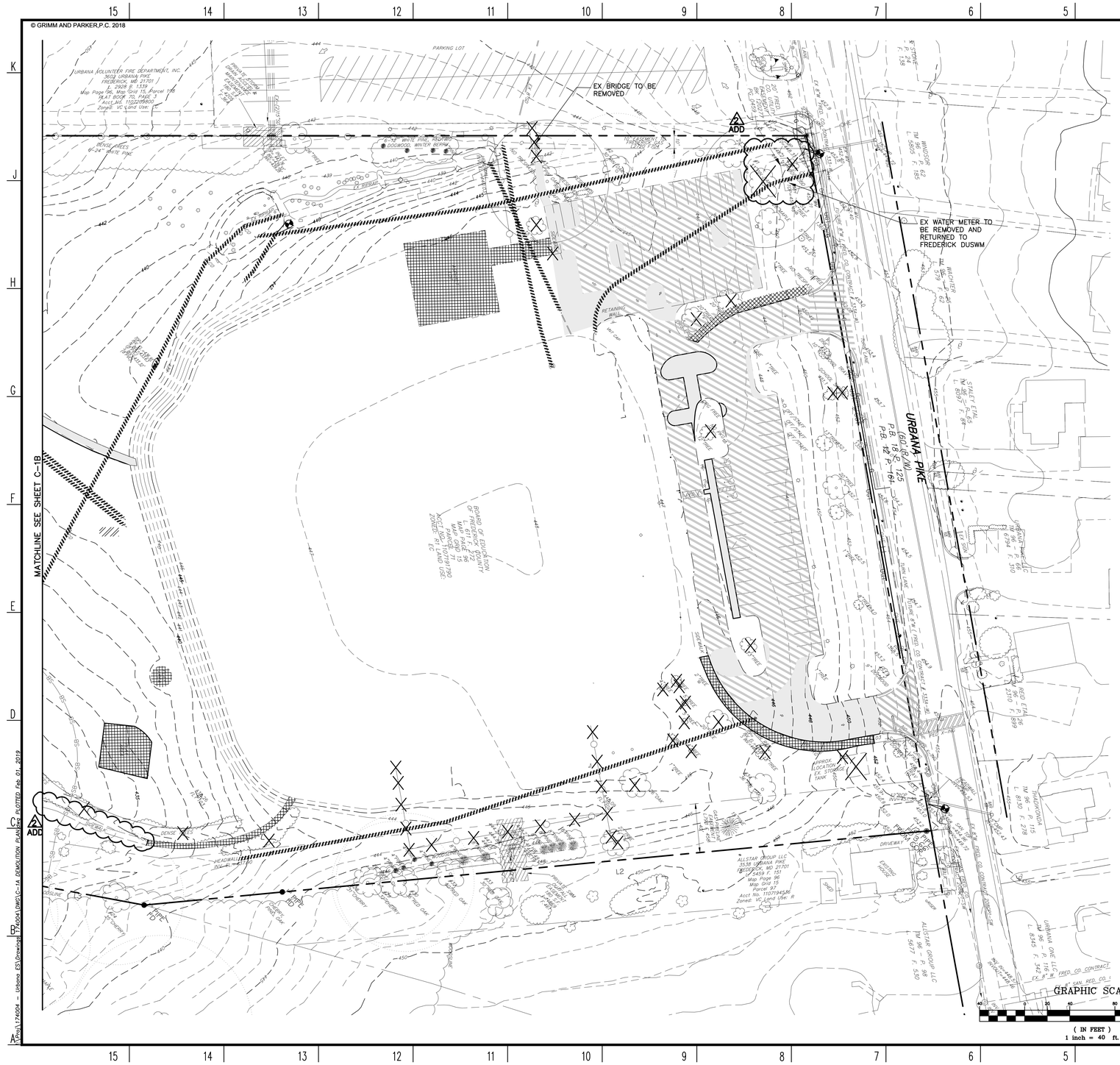

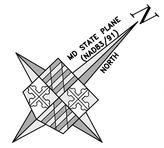

EXISTING LEGEND

- EXISTING UTILITY (TBA) (TO BE ABANDONED)
- EXISTING UTILITY (TBR) (TO BE REMOVED)
- FEATURE TO BE REMOVED
- EXISTING ASPHALT DRIVE W/CURB & GUTTER TO BE REMOVED
- EXISTING CONCRETE SIDEWALK & ASPHALT PAVEMENT TO BE REMOVED
- EXISTING ASPHALT TO BE MILLED (2" DEPTH)

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL PROVIDE REQUIRED SIGNAGE AND FLAGMEN ALONG ALL PUBLIC STREETS ADJACENT TO THE SITE, TO ASSURE THE SAFETY OF ALL VEHICULAR AND PEDESTRIAN TRAFFIC. ALL TRAFFIC CONTROLS MUST BE IN ACCORDANCE WITH THE MOST CURRENT MUTCD REQUIREMENTS AND WITH THE MOST CURRENT MONTGOMERY COUNTY DOT WORK ZONE TRAFFIC CONTROL STANDARDS AND DETAILS.
2. ALL WORK SHALL BE PERFORMED IN STRICT CONFORMANCE WITH THE MOST CURRENT APPLICABLE EPA AND OSHA REGULATIONS AND MUST COMPLY WITH THE MOST CURRENT FEDERAL, STATE AND/OR LOCAL REGULATIONS AND CODES APPLICABLE TO SAID WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH REPRESENTATIVE UTILITY COMPANIES AND IMPLEMENTING REQUIRED UTILITY-RELATED WORK ACCORDINGLY.
4. THE CONTRACTOR SHALL NOTIFY THE OWNER AND/OR OWNERS REPRESENTATIVE IMMEDIATELY UPON ENCOUNTERING ANY HAZARDOUS OR CONTAMINATED MATERIALS. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER TO OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
5. WHERE NEW WORK IS TO BE DONE, CARE SHALL BE TAKEN TO PROTECT ALL EXISTING ADJACENT SURFACES AND AREAS FROM DAMAGE. ANY AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH ACCEPTABLE MATERIAL, AS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL SHEET/SHORE AND BRACE ANY AND ALL STRUCTURES EXPOSED BY EXCAVATION/CONSTRUCTION.
8. IN THE EVENT THAT, DURING DEMOLITION OR CONSTRUCTION ACTIVITIES THE CONTRACTOR ENCOUNTERS ANY EXISTING UTILITIES/STRUCTURES NOT SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE OWNER FOR DIRECTION PRIOR TO PROCEEDING WITH ANY WORK.
9. ALL SAWCUTS ARE TO BE STRAIGHT AND EVEN, JAGGED EDGES WILL NOT BE ACCEPTED.
10. IT IS THE INTENT OF THIS DEMOLITION PHASE TO PROVIDE A SITE CLEAR OF ALL PHYSICAL OBSTRUCTIONS THAT WOULD OTHERWISE IMPEDE NEW CONSTRUCTION.
11. REMOVAL OF PLAY AREAS INCLUDES REMOVAL OF EQUIPMENT AND FOUNDATIONS WITHIN PLAY AREAS.
12. THIS PLAN IS INTENDED TO PROVIDE AN OVERALL PICTURE OF DEMOLITION THAT WILL BE PERFORMED THROUGHOUT CONSTRUCTION. SOME DEMOLITION IS PHASED AND PROGRESSES AS CONSTRUCTION CONTINUES. ALL DEMOLITION, AND MOST IMPORTANTLY UTILITY DEMOLITION, MUST BE PERFORMED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLANS AND THE SEQUENCE OF CONSTRUCTION SHOWN ON DWG. NO. C-2B.
13. THERE MAY BE ADDITIONAL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION THAT ARE NOT IDENTIFIED ON THESE PLANS. CONTRACTOR SHALL EXERCISE CAUTION DURING EXCAVATION AND IMMEDIATELY NOTIFY THE OWNER OF ANY ENCOUNTERED UTILITIES NOT PLANNED FOR. CONTRACTOR SHALL AS-BUILT ANY FOUND UTILITIES WITHIN THE LIMITS OF DISTURBANCE.
14. ALL UNDERGROUND UTILITIES ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION SHALL BE ASSUMED TO BE LIVE UNTIL DETERMINED OTHERWISE.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

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Tel 301.595.1000
www.grimmandparker.com

GRIMM AND PARKER

GP# 21740

DEMOLITION PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

B A

KEY MAP

C-1A
1/10/2019
BID SET
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCT. NO.: 0700417621
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

DEMOLITION PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

C-1A
01/10/2019
BID SET
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I:\Proj\174004 - Urbana ES\Drawings 174004\DWG\C-1A DEMOLITION PLAN.dwg PLOTTED Feb 01, 2019

I:\Proj\174004 - Urbana ES\Drawings 174004\DWG\C-1B DEMOLITION PLAN.dwg PLOTTED Feb 01, 2019

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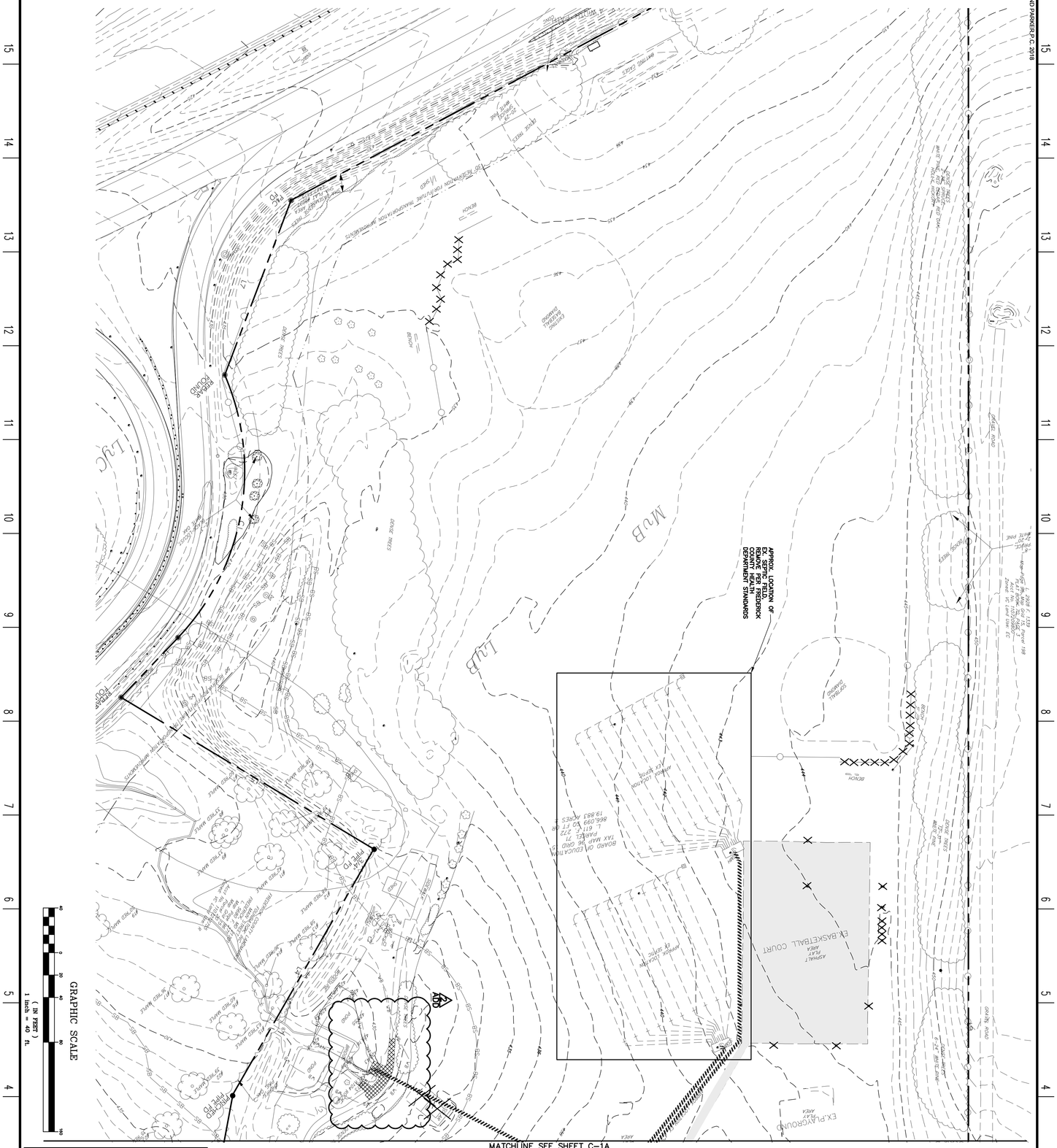

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

DESIGNED IN ACCORDANCE WITH FOREST CONSERVATION REQUIREMENTS. FREDERICK COUNTY PLANNING COMMISSION APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. IF CONSTRUCTION HAS NOT COMMENCED WITHIN THIS PERIOD, APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

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		* FILE NUMBER BLOCKS FOR REVISION ONLY *		

C-1B

01/10/2019
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KEY MAP

DEMOLITION PLAN

URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

GP# 21740

GRIMM AND PARKER

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DEMOLITION PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417821
LIBER: 1747 FOLIO: 35
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

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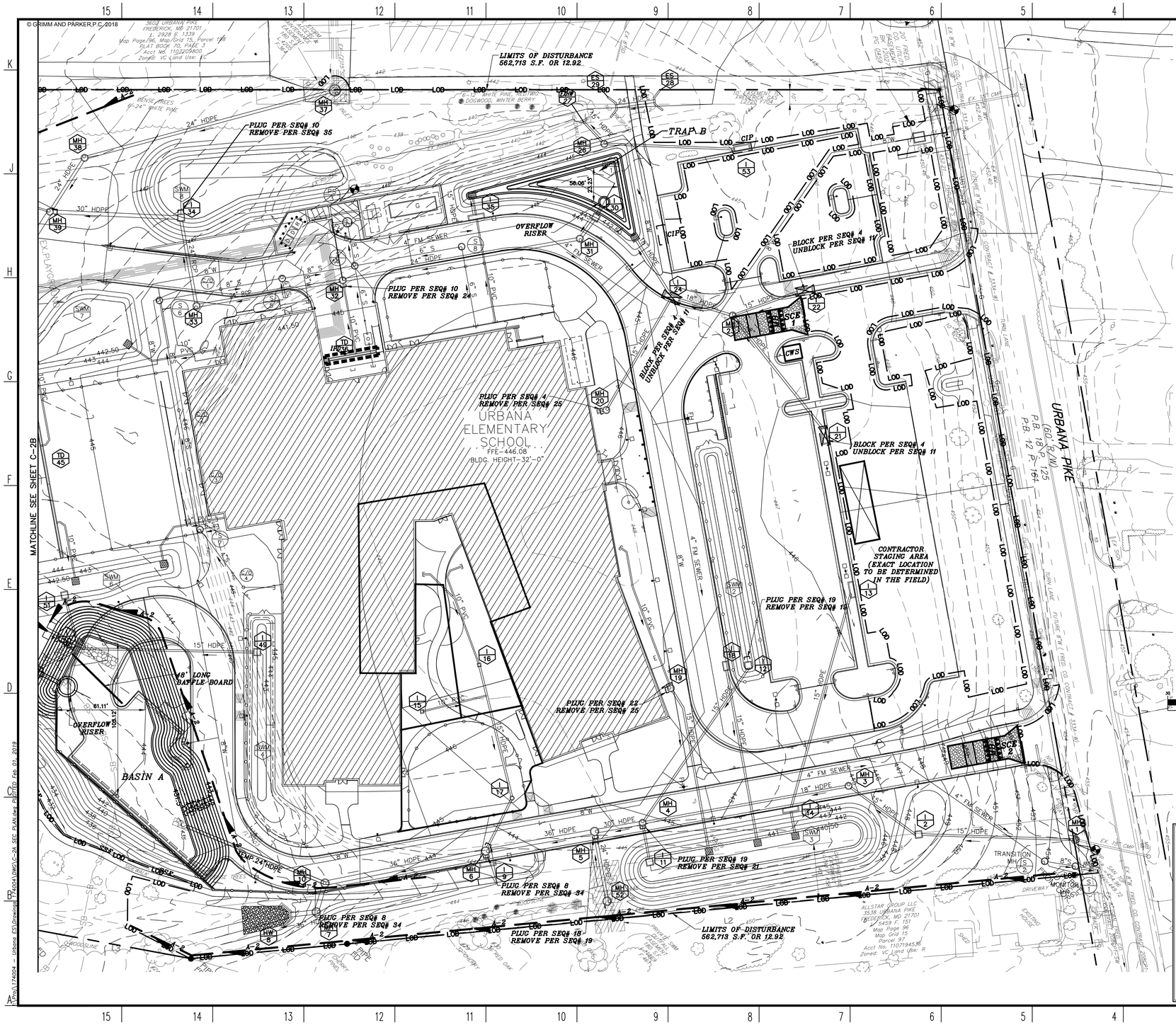

SEDIMENT CONTROL LEGEND

- LIMITS OF DISTURBANCE
- SUPER SILT FENCE — SSF — SSF —
- SILT FENCE — SF — SF —
- STABILIZED CONSTRUCTION ENTRANCE — SCE
- 6' HIGH TEMPORARY CHAIN-LINK FENCE
- PROPOSED EARTH DIKE
- SUMP PIT — SP
- PORTABLE SEDIMENT TANK — FST
- CONCRETE WASHOUT STRUCTURE — CWS
- INLET PROTECTION — CIP

MISS UTILITY

CALL "MISS UTILITY AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. BEFORE EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CALLING TICKET CHECK AT 1-866-821-4226 TO VERIFY THAT ALL UTILITIES HAVE BEEN MARKED, 48 HOURS AFTER CALLING MISS UTILITY.

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY. NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED!

NOTE:
MAINTAIN POSITIVE DRAINAGE TO TRAP AT ALL TIMES.

CAUTION: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED (ORIGINAL SIZE = 24"x 36")

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ DISTRICT MANAGER

DATE: _____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

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B A

KEY MAP

C-2A

1/10/2019
BID SET

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ADTEK
CIVIL STRUCTURAL SPECIALTY ENGINEERING
150 South East Street, Suite 201
Easton, MD 21601
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GRIMM AND PARKER
11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
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GP# 21740

EROSION AND SEDIMENT CONTROL PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

C-2A

01/10/2019
BID SET

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I:\Proj\174004 - Urbana ES\Drawings\174004\DWG\C-2A SEC PLAN.dwg PLOTTED Feb 01, 2019

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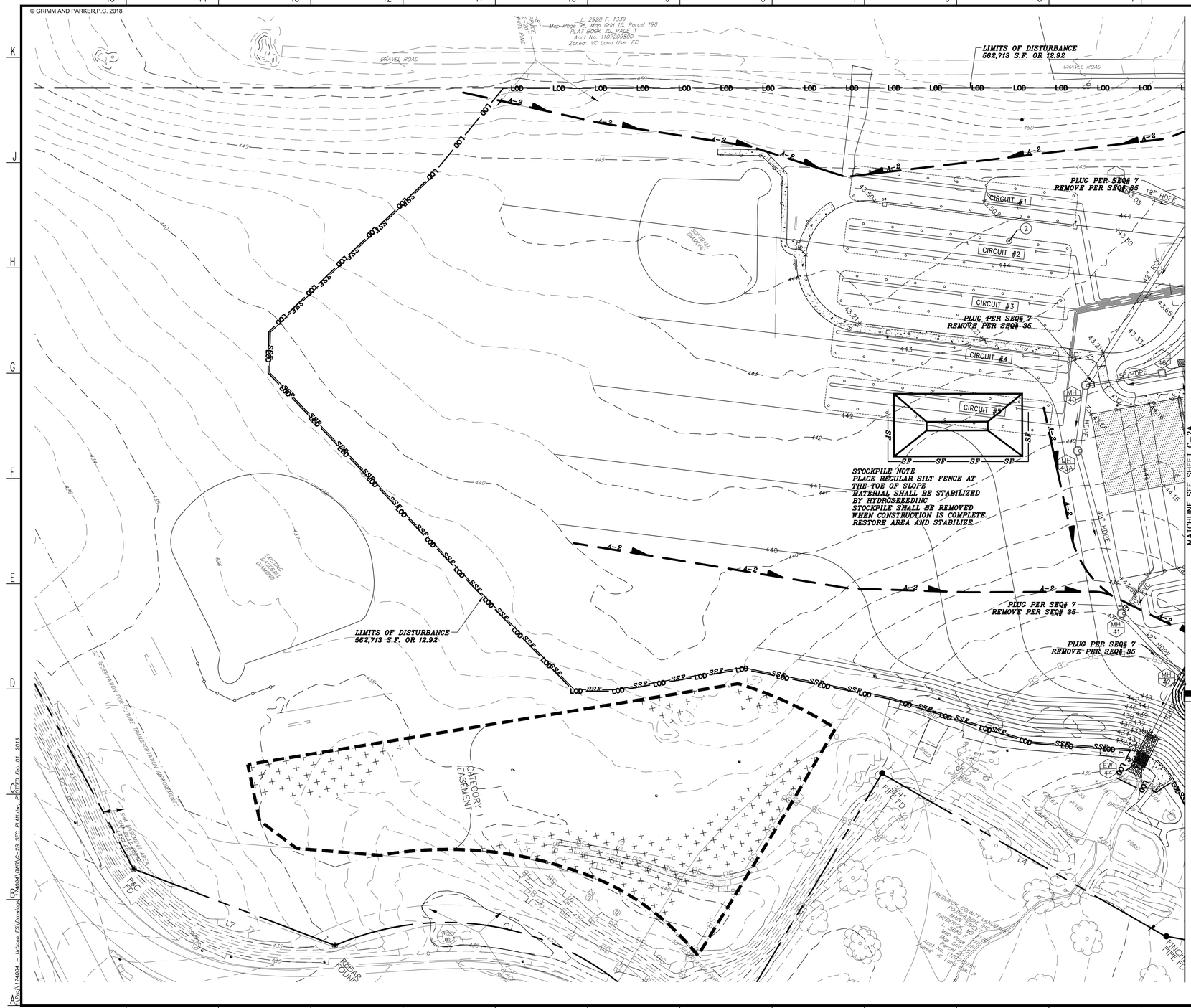

SEDIMENT CONTROL LEGEND

LIMITS OF DISTURBANCE	LOD
SUPER SILT FENCE	SSF
SILT FENCE	SF
STABILIZED CONSTRUCTION ENTRANCE	SCE
6' HIGH TEMPORARY CHAIN-LINK FENCE	
PROPOSED EARTH DIKE	A-2
SUMP PIT	SP
PORTABLE SEDIMENT TANK	PST
CONCRETE WASHOUT STRUCTURE	CWS
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GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ DISTRICT MANAGER

DATE: _____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

REV.#	DATE	REVISION DESCRIPTION * FILL IN THESE BLOCKS FOR REVISION ONLY *	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

ADTEK
CIVIL STRUCTURAL SPECIALTY ENGINEERING
150 South East Street, Suite 201
Easton, Maryland 21601
Phone: 301-602-4468
www.adtekengineers.com

I HEREBY CERTIFY THAT THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26824, EXPIRATION DATE: 19 JULY 2019.

GRIMM AND PARKER
11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
www.grimmandparker.com

KEY MAP

C-2B
1/10/2019
BID SET
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GP# 21740

EROSION AND SEDIMENT CONTROL PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

C-2B
01/10/2019
BID SET
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417821
LIBER: 7177 FOLIO: 735
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

I:\Proj\174004 - Urbana ES\Drawings 174004\DWG\C-2B SEC PLAN.dwg PLOTTED Feb 01, 2019

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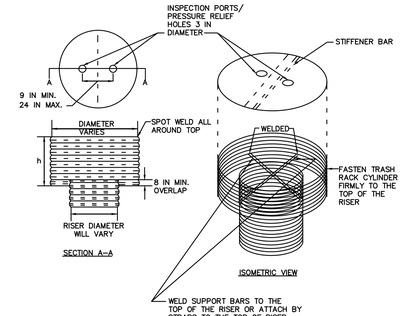
DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL: TR



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL: TR

RISER DIAM. (IN)	TRASH RACK CYLINDER DIAM. (IN)	TRASH RACK CYLINDER THICKNESS (GAUGE)	h (IN)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP THICKNESS (GAUGE)	MINIMUM TOP STIFFENER
12	18	16	14	#6 REBAR	16	N/A
15	21	16	15	#6 REBAR	16	N/A
18	27	16	16	#6 REBAR	16	N/A
21	30	16	19	#6 REBAR	16	N/A
24	36	16	21	#6 REBAR	14	N/A
27	42	16	21	#6 REBAR	14	N/A
36	54	14	25	#8 REBAR	12	N/A
42	60	14	27	#8 REBAR	12	N/A
48	72	12	29	1¼ IN PIPE OR 1⅛ × 1⅛ × ¾ ANGLE	10	N/A
54	78	12	33	1¼ IN PIPE OR 1¼ × 1¼ × ¾ ANGLE	10	N/A
60	90	12	37	1½ IN PIPE OR 1½ × 1½ × ¾ ANGLE	8	N/A
66	96	10	41	2 IN PIPE OR 2 × 2 × 5/16 ANGLE	8	2 × 2 × ¼ ANGLE
72	102	10	44	2 IN PIPE OR 2 × 2 × 5/16 ANGLE	8	2½ × 2½ × ¼ ANGLE
78	114	10	47	2½ IN PIPE OR 2 × 2 × ¼ ANGLE	8	2½ × 2½ × ¼ ANGLE
84	120	10	50	2½ IN PIPE OR 2½ × 2½ × ¼ ANGLE	8	2½ × 2½ × 5/16 ANGLE

NOTE:
THE ABOVE TRASH RACK AND ANTI-VORTEX DEVICE INFORMATION IS FOR CORRUGATED METAL PIPE ONLY. CONCRETE RISERS MUST MEET THE REQUIREMENTS OF MD 378.

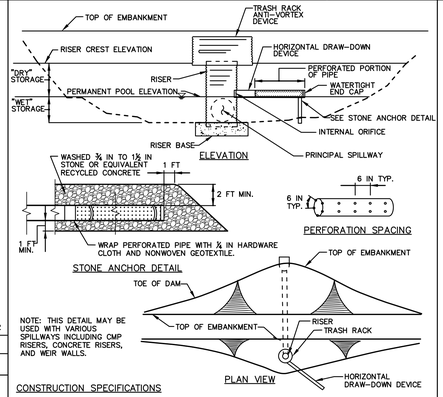
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-2-6 SEDIMENT BASIN SCHEMATIC HORIZONTAL DRAW-DOWN DEVICE

STANDARD SYMBOL: HDDD



NOTE: THIS DETAIL MAY BE USED WITH VARIOUS SPILLWAYS INCLUDING CMP RISERS, CONCRETE RISERS, AND WEIR WALLS.

CONSTRUCTION SPECIFICATIONS

1. PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIALLY OR IN ACCORDANCE WITH APPROVED PLAN.
2. WRAP THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE FIRST WITH ½ INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.
3. AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW-DOWN DEVICE WITH TWO 1 INCH STEEL ANGLES SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW-DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR 12 GAUGE OR HEAVIER WIRE.
4. REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (50% OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.

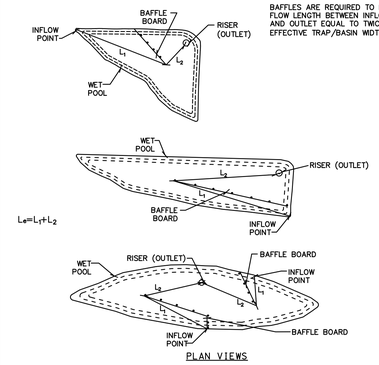
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-2-4 BAFFLE BOARDS

STANDARD SYMBOL: BB

BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

1. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE FREDERICK COUNTY SEDIMENT CONTROL INSPECTOR (301) 600-3507, ENVIRONMENTAL COMPLIANCE (301) 600-3507, FREDERICK COUNTY PUBLIC SCHOOLS' REPRESENTATIVE, (301) 644-5176, & THE DESIGN ENGINEER, (301) 662-4408. MINIMUM OF 48 HOURS NOTICE
2. IF WORK ACTIVITIES ARE TEMPORARILY SUSPENDED FOR ANY REASON, PROVIDE TEMPORARY STABILIZATION PER THE EROSION AND SEDIMENT CONTROL NOTES FOR ALL DISTURBED AREAS.
3. THE CONTRACTOR SHALL NOTIFY MISS UTILITY, (800) 257-7777, A MINIMUM OF 3 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
4. PERFORM CLEARING AND GRUBBING REQUIRED FOR THE INSTALLATION OF THE PERIMETER SEDIMENT CONTROLS AS SHOWN ON THE PLANS, INCLUDING SUPER SILT FENCE, CONSTRUCTION FENCE AND STABILIZED CONSTRUCTION ENTRANCES. INSTALL STORM STRUCTURES AND PIPING FROM SWM-1 (TRAP B) TO I-22 AND I-22 PRIOR TO SCE-1. INSTALL PIPE FROM I-24 TO MH-20 AND SET MH-20. BLOCK ALL INLETS AT THIS TIME.
5. ONCE THE SEDIMENT CONTROLS ARE IN PLACE, OBTAIN APPROVAL FROM THE ECS INSPECTOR PRIOR TO PROCEEDING WITH THE NEXT STEP.
6. PLEASE REMEMBER THAT PHASE 1 INCLUDED THE DEMOLITION OF THE EXISTING SCHOOL AND BRINGING THE BUILDING PAD TO FUTURE GRADE USING STONE TAILINGS AND POSITIVE DRAINAGE OF THE BUILDING PAD THROUGH THE WINTER. EXISTING SEDIMENT CONTROLS MUST BE MAINTAINED AT ALL TIME UNTIL PHASE 2 SEDIMENT CONTROLS ARE IN PLACE. CONTRACTOR TO PROVIDE TEMPORARY STABILIZATION ON ANY DISTURBED AREA THAT HAS NOT HAD ANY WORK DONE IN THE LAST 7 CALENDAR DAYS. STABILIZATION OF THESE AREAS MUST OCCUR ON THE 8 TH CALENDAR DAY.
7. CONTRACTOR MAY BEGIN BUILDING FOUNDATION CONSTRUCTION WITHIN THE CONSTRUCTION STAGE ONE AREA OF THE BUILDING PAD (PHASE ONE) AREA ONLY AND MUST MAKE SURE THAT ALL SEDIMENT CONTROLS ARE IN PLACE AND MAINTAINED AT ALL TIMES. NO WORK OUTSIDE OF THE CONSTRUCTION STAGE ONE AREA (PHASE ONE) MAY PROCEED UNTIL THE CONSTRUCTION ON STAGE 2 (PHASE 2) CONTROLS AND BASIN AND TRAP ARE BROUGHT ONLINE.
8. INSTALL STORM STRUCTURES AND PIPING, EW-44 TO MH-37. INSTALL PIPE FROM MH-40 TO I-46. BLOCK INCOMING PIPE FROM PLAY AREA UNDERDRAIN ❹ MH-41, BLOCK INCOMING PIPES FROM MH-48 AND I-46 ❹ MH- 40. THIS WILL ALLOW FOR THE CLEAN WATER FROM THE FIRE DEPARTMENT PROPERTY TO FLOW THROUGH THE SITE.
9. INSTALL STORM DRAIN FROM MH-40A TO MH-48 TO I-47. ALLOW CLEAN WATER FROM FIRE DEPARTMENT PROPERTY TO FLOW.
10. INSTALL STORM STRUCTURES AND PIPING FROM HW-8 TO MH-6. BLOCK ALL OPENINGS. (THIS MUST OCCUR PRIOR TO WALL 1)
11. BEGIN CONSTRUCTION OF WALL 1.
12. INSTALL STORM PIPING FROM MH-39 TO I-30. BLOCK INCOMING PIPE FROM SWM 8 ❹ I -34, BLOCK INCOMING PIPE FROM TD-36 ❹ MH-32,
13. BUILD TRAP B BRING ONLINE BY TIE-IN TO I-30 FOR OUTFALL; UNBLOCK INLETS I-24, I-21 AND I-22, INCLUDING SAFETY FENCE, DEWATERING DEVICE, DIKES, INFLOW PROTECTION, RISER, AND OUTFALL PROTECTION. DO NOT INSTALL ANY DIKES THAT CONVEY DRAINAGE TO THE BASIN UNTIL THE BASIN IS CONSTRUCTED, STABILIZED AND FULLY FUNCTIONING PROPERLY.
14. INSTALL STORM PIPING FROM EXHW- 27 TO I-25 AND I-53. PROVIDE INLET PROTECTION ON BOTH INLETS.
15. BEGIN SEWER PUMP STATION CONSTRUCTION. COORDINATE WITH WALL 2 CONSTRUCTION
16. BEGIN GRAVITY SEWER CONSTRUCTION.
17. BEGIN SEWER FORCE MAIN CONSTRUCTION
18. BEGIN WATER LINE CONSTRUCTION
19. AFTER WALL 1 IS COMPLETED, BUILD BASIN A, INCLUDING SAFETY FENCE, DEWATERING DEVICE, DIKES, INFLOW PROTECTION, RISER, AND OUTFALL PROTECTION. DO NOT INSTALL ANY DIKES THAT CONVEY DRAINAGE TO THE BASIN UNTIL THE BASIN IS CONSTRUCTED, STABILIZED AND FULLY FUNCTIONING PROPERLY.
20. ONCE BASIN A IS ONLINE, THE REMAINING BUILDING CONSTRUCTION CAN BEGIN IN THE PHASE 2 AREA. THE GEOTHERMAL WELL INSTALLATION CAN BEGIN.
21. INSTALL STORM STRUCTURES AND PIPING FROM BASIN 1 TO MH-10 AND FROM MH-6 TO MH-1. BLOCK OUTGOING PIPE TO MH-7 ❹ MH 10, BLOCK BOTH INCOMING PIPES FROM I-17 & I-9 ❹ MH-6, BLOCK INCOMING PIPE FROM MH-10 ❹ MH-5, BLOCK INCOMING PIPE FROM I-11 ❹MH 4, INSTALL STORM PIPING AND STRUCTURE FROM MH-4 TO I-12.
22. ONCE BASIN A IS BROUGHT ONLINE. SET MH-52 AND CONNECT TO MH-5 AND UNBLOCK.
23. ROUGH GRADE SWM 3, DO NOT INSTALL FILTER MEDIA OR PIPING AT THIS TIME, INSTALL INLET I-11 AND CONNECT TO MH-4 AND UNBLOCK, INSTALL STORM PIPE AND STRUCTURE FROM SWM 3 TO I-13.
24. INSTALL STORM PIPE AND STRUCTURE FROM SWM 3 TO MH-19. DO NOT INSTALL ROOF DRAIN AT THIS TIME.
25. AFTER COURTYARD AREA IS COMPLETE, INSTALL I-15, I-16 AND I-17 AND ROOF DRAINS. INSTALL ES-28 AND ES-29 DURING DRY PERIOD AND STABILIZE IMMEDIATELY.
26. INSTALL STORM PIPE AND STRUCTURE FROM SWM 3 TO I-18.
27. INSTALL TD-36 AND GREASE TRAP IN THE LOADING DOCK.
28. AS BUILDING COMES ONLINE, INSTALL AND TIE-IN ROOF DRAINS.
29. BEGIN C&G AND BASE PAVING INSTALLATION.
30. BEGIN HARD PLAY AREA INSTALLATION. INSTALL TD-45 AND EXTEND OUTFALL TO SWM-6. INSTALL ROOF DRAIN TO I-51.
31. AS GRADING PERMITS, BEGIN SIDEWALK INSTALLATION.
32. INSTALL REMAINING CONCRETE AND ASPHALT IN PARKING AREAS AND DRIVEWAYS.
33. INSTALL SITE APPURTENANCES.
34. BEGIN PERMANENT SITE STABILIZATION.
35. ONCE ALL AREAS ABOVE TRAP B ARE STABILIZED AND THE STORM DRAINS ARE FLUSHED TO BASIN A AND WITH PERMISSION OF THE E&S INSPECTOR, BEGIN CONVERSION OF TRAP B.
36. ONCE ALL AREAS ABOVE BASIN A ARE STABILIZED AND THE STORM DRAINS ARE FLUSHED TO BASIN A AND WITH PERMISSION OF THE E&S INSPECTOR, BEGIN CONVERSION OF BASIN A. AFTER PONDS ARE DRAINED AND CLEANED OUT, OBTAIN DIRECTION FROM GEOTECHNICAL INSPECTOR PRIOR TO BEGINNING BACKFILL OF POND AREAS. INSTALL ROOF DRAIN AND I-35 TO SWM-1
37. AS THE BASIN A AREA IS BROUGHT TO GRADE. BUILD REMAINING STORM DRAIN AND PARKING LOT, STABILIZE ALL AREAS.
38. REMOVE ALL TEMPORARY PLUGS AND TEMPORARY PIPES AT FUTURE STORMWATER MANAGEMENT FACILITIES AND INSTALL STORMWATER MANAGEMENT FACILITIES. ENCOMPASS FACILITIES WITH SILT FENCE UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED.
39. BEGIN CONSTRUCTION OF ALL SWM AREAS. STABILIZE AND PROTECT ALL AREA IMMEDIATELY. PROVIDE AS-BUILT INFORMATION TO CIVIL ENGINEER PRIOR TO PLANTING LANDSCAPE.
40. ONCE AS-BUILTS HAVE BEEN CONFIRMED AND ACCEPTABLE, PROCEED WITH INSTALLATION OF LANDSCAPE PLANTINGS.
41. INSTALL ALL SURFACE ASPHALT AND PAVEMENT MARKINGS.
42. INSTALL REMAINING SITE APPURTENANCES INCLUDING FENCE AND LANDSCAPING. AREAS DISTURBED SHALL BE STABILIZED IMMEDIATELY.
43. ONCE ALL DISTURBED AREAS ARE STABILIZED, OBTAIN WRITTEN APPROVAL FROM ECS INSPECTOR TO REMOVE REMAINING SEDIMENT CONTROL DEVICES.
44. OBTAIN A FREDERICK COUNTY DEPARTMENT OF ENGINEERING APPROVED RECORD DRAWING OF ALL STORMWATER MANAGEMENT FACILITIES. CONTRACTOR SHALL FIELD SURVEY ALL INSTALLED STORMWATER MANAGEMENT DEVICES. FORWARD THE ELECTRONIC SURVEY TO THE ENGINEER OF RECORD FOR SUBMISSION OF AS-BUILT DOCUMENTS TO FREDERICK COUNTY DEPARTMENT OF ENGINEERING. ELECTRONIC COPY OF SURVEY MUST BE ACCOMPANIED BY A HARD COPY OF THE SURVEY SEALED BY A MARYLAND REGISTERED LAND SURVEYOR.
45. PRIOR TO FINAL CLOSEOUT, CONTRACTOR SHALL ENSURE THAT ALL STORMWATER MANAGEMENT FACILITIES ARE FREE OF DEBRIS AND SEDIMENT. SHOULD FACILITIES NEED TO BE CLEANED OUT, THE CONTRACTOR SHALL DO SO AT THIS TIME. ANY MATERIAL REMOVED FROM THESE FACILITIES SHALL NOT BE FLUSHED DOWN THE STORM DRAIN SYSTEM; IT SHALL BE DISPOSED OF OFF-SITE.
46. ARRANGE FOR AND OBTAIN ANY REQUIRED FINAL SITE INSPECTIONS AND CERTIFICATIONS.

SEDIMENT & EROSION CONTROL NOTES

1. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AS APPROVED BY THE COUNTY.
2. ALL DISTURBED AREAS NOT UNDER ANTIVE GRADING TO BE TO BE SEEDED WITHIN 7 DAYS OF INITIAL GRADING. FOR TEMPORARY SEEDING SPECIFICATIONS, SEE SECTION B1, "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AT THE INITIATION OF GRADING.
4. ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS AND NOT SUBJECT TO ACTIVE GRADING ARE TO BE MULCHED & SEEDED WITHIN 7 DAYS AFTER INITIAL BACKFILL.
5. ELECTRIC POWER, TELEPHONE AND GAS LINES NOT IN ACTIVE GRADING AREAS ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 7 DAYS AFTER INITIAL BACKFILL.
6. ALL EARTH BERMS AND SEDIMENT DAMS ARE TO BE MULCHED AND SEEDED (SEE SECTION B OF ABOVE REFERENCE) WITHIN 7 DAYS AFTER GRADING. ALL SOIL STOCKPILES ARE TO BE MULCHED AND SEEDED WITHIN 7 DAYS.
7. DURING CONSTRUCTION, ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IF NECESSARY. SEDIMENT TO BE REMOVED TO A SUITABLE DISPOSAL AREA AND STABILIZED WITH PERMANENT VEGETATIVE COVER. (SEE SECTION B OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER MANAGEMENT ADMINISTRATION, SOIL CONSERVATION SERVICE AND STATE SOIL CONSERVATION COMMITTEE).
8. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEDIMENT EROSION CONTROL MEASURES UNTIL DISTURBED AREAS ARE STABILIZED.
9. AFTER FINE GRADING, ALL DISTURBED AREAS ARE TO BE PERMANENTLY MULCHED AND SEEDED. (SEE SECTION B)
10. NO SLOPE SHALL BE GREATER THAN 2:1.
11. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THIS DOES NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
12. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN CONTINUOUS COMPLIANCE WITH THE LATEST VERSION OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
13. ALL UTILITIES SUCH AS STORM DRAIN, PUBLIC WATER, SANITARY SEWER, ELECTRIC POWER, TELEPHONE CABLE AND GAS LINES, THAT ARE NOT IN PAVED AREAS AND ARE NOT UNDERGOING ACTIVE GRADING SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 3 DAYS OF INITIAL DISTURBANCE.
14. THE OWNER DEVELOPER OR THEIR DESIGNATE IS RESPONSIBLE FOR CONDUCTING ROUTINE MAINTENANCE. THE SITE AND CONTROLS SHOULD BE INSPECTED WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT**. ANY ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN A SUITABLE AREA AND SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED.

** ANY PROJECT THAT HAS A STATE ISSUED N.O.I. PERMIT MUST DOCUMENT EACH INSPECTION AND MAINTAIN AN INSPECTION LOG
(PLEASE SEE NOI FOR DETAILS)

SEDIMENT CONTROL/STORMWATER MANAGEMENT REQUIRED INSPECTIONS

***** NOTICE *****

YOU MUST NOTIFY THE SEDIMENT CONTROL AND STORMWATER MANAGEMENT OFFICE 24 HOURS PRIOR TO THE REQUIRED INSPECTION. (SEE SEQUENCE OF CONSTRUCTION FOR PHONE NUMBER) FAILURE TO NOTIFY THIS OFFICE WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN FREDERICK COUNTY CODES.

TYPE OF INSPECTION	MISC. COMMENTS/INITIALS
1) PRE-CONSTRUCTION	
2) COMPLETION OF SEDIMENT CONTROL MEASURES (IF USING BASIN SEE #6 BELOW)	
3) PRIOR TO MODIFICATION OR REMOVAL OF SEDIMENT CONTROL	
4) INFILTRATION SYSTEMS A. SITE READINESS PER SEQUENCE OF CONSTRUCTION B. INFILTRATION AREA PROTECTED FROM SEDIMENTATION C. DIMENSIONS D. FILTERING MATERIAL (TYPE/DEPTH) E. FILL MATERIAL F. SIZE, PLACEMENT, TYPE OF PIPING (IF APPLICABLE) G. OBSERVATION WELL H. COVER/SEEDING/MULCH/SOD	
5) OPEN CHANNEL FLOW ATTENUATION A. SITE READINESS PER SEQUENCE OF CONSTRUCTION B. CROSS SECTION CONFORMANCE C. MATERIAL (TYPE/SIZE) D. STABILIZATION	
6) RETENTION/DETENTION STRUCTURES (BASINS/PONDS) A. SUBGRADE PREPERATION 1. CORE TRENCH 2. SUITABLE MATERIAL/COMPACTION B. EMBANKMENT CONSTRUCTION 1. SUITABLE MATERIAL/COMPACTION 2. SLOPE GRADE 3. DIMENSIONS C. BARREL AND RISER ASSEMBLY 1. CORRECT MATERIAL ONSITE 2. SIZING 3. ANTI-SEEP COLLARS 4. ANTI-FLOTATION DEVICE 5. CONCRETE CRADLE (RCP ONLY) 6. INSTALLATION/BACKFILL/COMPACTION D. CONTROL STRUCTURES 1. FOOTER DIMENSIONS 2. REINFORCING MATERIAL (TYPE, SIZE, PLACEMENT) 3. WEIR POUR/MATERIAL/SLUMP TEST 4. FORM STRIP AND FINISHING E. IMPOUNDING AREA 1. LOW FLOW CHANNELS/STABILIZATION 2. DEWATERING DEVICE 3. EMERGENCY SPILLWAY 4. EXTENDED DETENTION DEVICE F. OUTFALL AREA (LEVEL SPREADER, RIPRAP CHANNEL, ETC.) G. VEGETATIVE STABILIZATION H. MISCELLANEOUS	

THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. THIS OFFICE ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. THIS OFFICE RECOMMENDS THAT A PROFESSIONAL ENGINEER BE PRESENT FOR EACH OF THE REQUIRED INSPECTIONS.

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY. NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED!

MISS UTILITY

CALL "MISS UTILITY AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. BEFORE EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CALLING TICKET CHECK AT 1-866-821-4226 TO VERIFY THAT ALL UTILITIES HAVE BEEN MARKED, 48 HOURS AFTER CALLING MISS UTILITY.

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ DISTRICT MANAGER

DATE: _____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

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I HEREBY CERTIFY THAT THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28924, EXPIRATION DATE: 19 JULY 2019.

GP
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GP# 21740

EROSION AND SEDIMENT CONTROL DETAILS
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-2E
1/10/2019
BID SET
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DATE	DESCRIPTION
02/7/19	ADDENDUM 2

C-2E
01/10/2019
BID SET
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LIBER: 1158 FOLIO 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 07004178
LIBER: 1158 FOLIO 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 07004179
ELECTION DISTRICT: 7

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I:\Proj\17400A - Urbana ES\Drawings 17400A\DWG\C-2E SEC. DETAILS.dwg PLOTTED Feb 01, 2019

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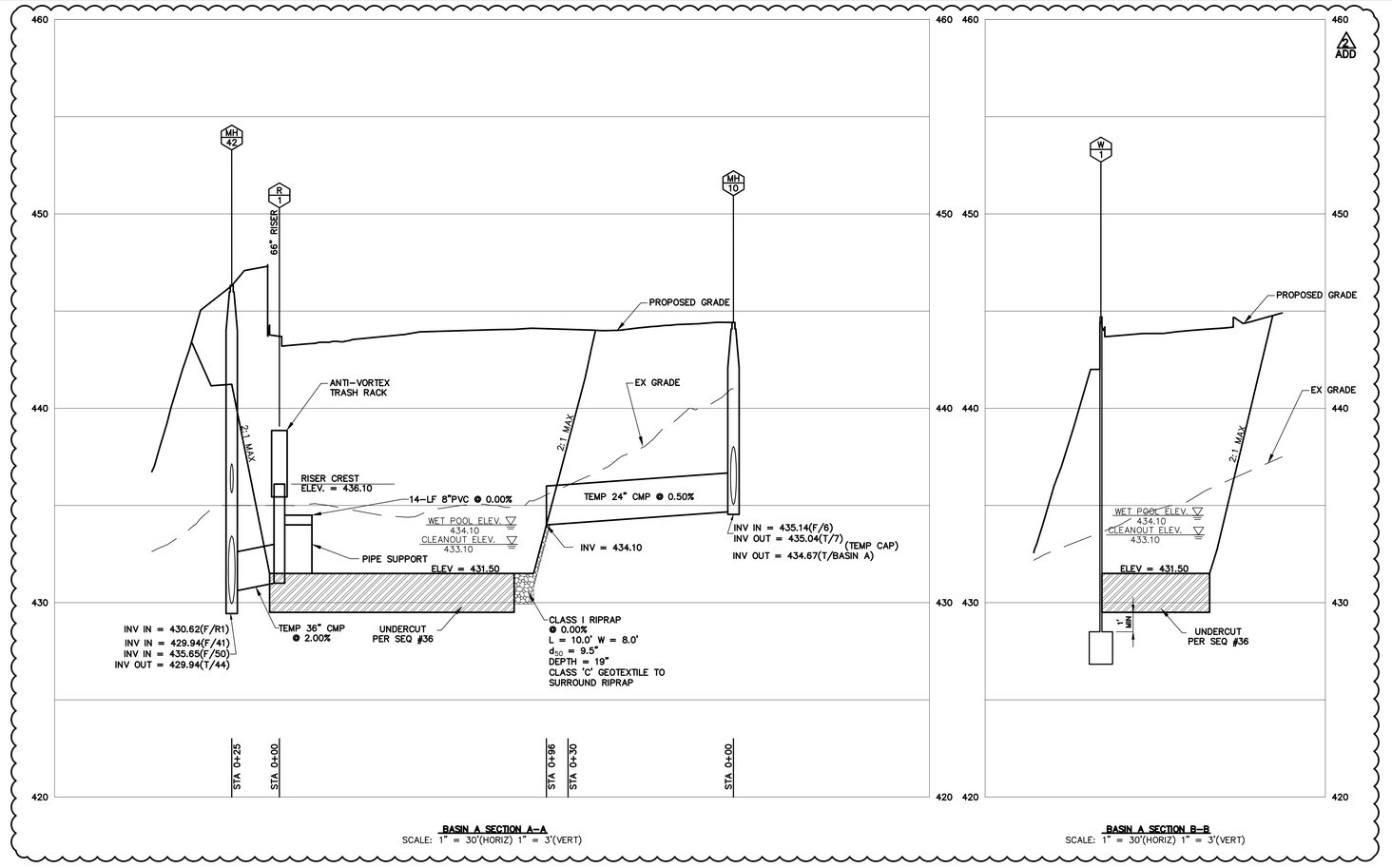

BASIN A SECTION A–A
SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

BASIN A SECTION B–B
SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

Table G.6: Temporary Sediment Basin Design Data Sheet
(Refer to instructions on pages G.27 through G.29)

Computed by: SPB Date: 11/06/18 Checked by: JEB Date: 11/01/18
Project name: Urbana Elementary School Basin #: A
Location:

Design Volumes and Elevations

1. Total area draining to basin = 11.05 acres.
2. Required total storage volume = 3600 ft³/ac. x 11.05 acres of drainage area = 39,780 ft³.
3. Required wet storage volume = 1800 ft³/ac. x 11.05 acres of drainage area = 19,890 ft³.
4. Required dry storage volume = 1800 ft³/ac. x 11.05 acres of drainage area = 19,890 ft³.
5. Basin bottom elevation = 431.50 ft.
6. Riser or weir crest (total storage) elevation = 436.00 ft.
7. Provided total storage volume = 51,342 ft³.
8. Wet storage (permanent pool/draw-down) elevation = 434.00 ft.
9. Provided wet storage volume = 21,005 ft³.
10. Provided dry storage volume = 30,337 ft³.
11. Basin cleanout elevation (located at ½ wet storage depth) = 432.75 ft.
12. Distance from riser crest elevation to cleanout elevation = 3.25 ft.

Surface Area Design

13. Q_{10} = 47.54 cfs. (peak inflow from 10-yr, 24-hr storm event; attach computations)
14. Minimum basin surface area ≥ 0.0035 x Q_{10} = 0.166 ac ≤ 0.431 ac. (required / provided)

Principal Spillway (Q_{10}) (See Figure G.1)

15. Design Q_{10} for barrel = 47.54 cfs. (min. 10% of Q_{10})
16. Barrel head, H = 13.00 ft.; Barrel length, L = 130.00 ft.; Material, CMP
17. Barrel diam. = 36 in. (min. 10 inch); Qps = 64.50 (Q from Table G.7 or G.8) x 1.12 (length correction factor) = 72.24 cfs. **Note: Q_{ps} must be equal or exceed Design Q_{10}**
18. Riser diam. = 60 in.; Riser height = 3.75 ft.; Riser head (h) = 1.25 ft.
19. Trash rack dia. = 90 in.; Trash rack height = 37 in.

Emergency Spillway (Q_{100}) (See Figures G.3 and G.4)

20. Emergency spillway capacity Q_e = Q_{100} - Q_{10} = N/A - N/A = N/A cfs.
21. Width, b = N/A ft.; Hp = N/A ft.
22. Exit channel slope = N/A %
23. Emergency Spillway Crest = N/A ft.
24. Design High Water = N/A ft.
25. Settled top-of-embankment elevation = N/A ft.

Table G.6: Temporary Sediment Basin Design Data Sheet (continued)

Anti-Seep Collar Design (if required) (See Figures G.5 and G.6)

26. y = 4.50 ft; z = 2 :1; pipe slope = 3.00 %; L_1 = 28.13 ft.
27. Use 1 collars, 6.00 ft. x 7.00 ft. square; projection P = 2.11 ft.

Draw-Down Device (See Table G.10 and Details G-2-6 and G-2-7)

28. Q_{wq} = N/A cfs.
29. Calculated A_o = N/A ft².
30. Calculated d_o = N/A in.
31. Maximum diameter from Table G.10 = N/A in.
32. Design d_o = smaller of line 30 or line 31 = N/A in.
33. Draw-down device pipe diam. = N/A in.
34. Minimum A_o = total area of perforations = 4 · A_o = N/A ft².
35. Perforation diam. = N/A in.
36. Minimum number of perforations = N/A
37. Number of longitudinal rows = N/A
38. Perforated pipe length = N/A ft.
39. Actual A_o = (0.0055 ft²) x (line 37 + 0.5 ft) x (line 38) = N/A ft² (must be ≥ line 34)

Baffle Board Design (See Detail G-2-4)

40. A = surface area at wet storage elevation = 7,982 ft²
41. Effective width, W_e = (A / 2) ½ = 63.17 ft
42. Flow length from inflow point to outlet = 20.00 ft.
43. If line 42 is less than W_e x 2, provide baffle boards to lengthen flow path
44. Effective flow length, L_e = L_1 + L_2 + L_3 = 157.00 ft. (must be ≥ W_e x 2 = 126.35 ft.)

Stage Storage Table

Elev.	Area (sq.-ft.)	Area (acres)	Depth (ft.)	Volume (cu.-ft.)	Volume (ac.-ft.)	Cumulative Volume (cu.-ft.)	Cumulative Volume (ac.-ft.)	Remarks
431.50	5,696	0.131	0.00	0	0.000	0	0.000	
432.00	5,900	0.135	0.50	2,899	0.068	2,899	0.067	
433.00	9,354	0.215	1.00	7,627	0.215	10,526	0.242	
434.00	13,655	0.266	1.00	10,480	0.266	21,005	0.482	WET STORAGE
435.00	16,170	0.371	1.00	13,888	0.371	34,893	0.801	
436.00	16,728	0.384	1.00	16,449	0.384	51,342	1.179	DRY STORAGE
437.00	18,777	0.431	1.00	17,753	0.431	69,095	1.586	
438.00	21,600	0.496	1.00	20,189	0.496	89,283	2.050	
439.00	27,850	0.639	1.00	24,725	0.639	114,008	2.617	

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ DISTRICT MANAGER

DATE: _____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

REV.#	DATE	REVISION DESCRIPTION * FILL IN THESE BLOCKS FOR REVISION ONLY *	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

MISS UTILITY

CALL "MISS UTILITY AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. BEFORE EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CALLING TICKET CHECK AT 1–866–821–4226 TO VERIFY THAT ALL UTILITIES HAVE BEEN MARKED, 48 HOURS AFTER CALLING MISS UTILITY.

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY.
NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED!

ADTEK
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCT. NO.: 0700417821
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

GRIMM AND PARKER
11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
www.grimmandparker.com

GP# 21740

EROSION AND SEDIMENT CONTROL PROFILE
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-2G
1/10/2019
BID SET
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DATE	DESCRIPTION
02/1/19	ADDENDUM 2

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28824, EXPIRATION DATE: 19 JULY 2019.

EROSION AND SEDIMENT CONTROL PROFILE
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

C-2G
01/10/2019
BID SET
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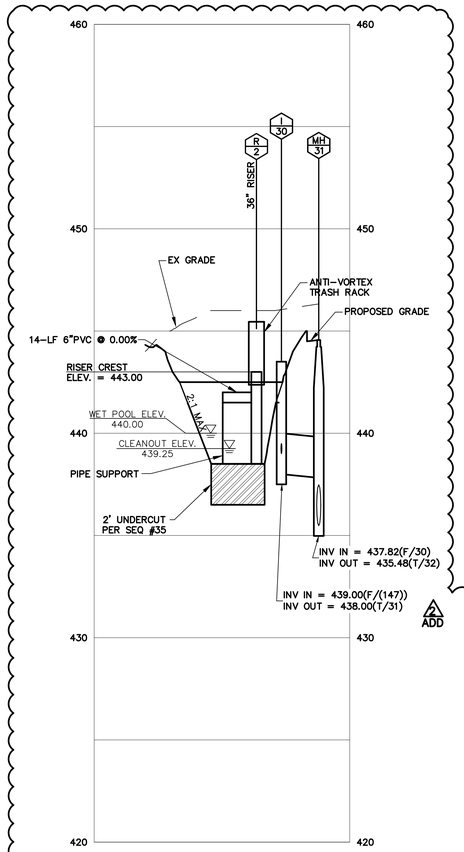
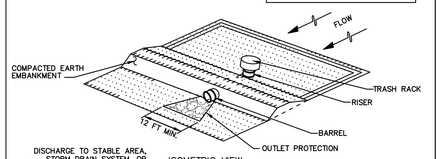


TRAP B SECTION C-C
SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

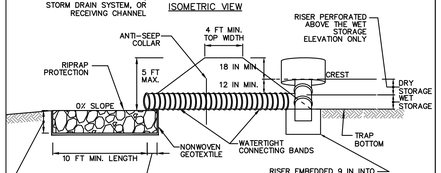
STANDARD SYMBOL: ST-I

MAXIMUM DRAINAGE AREA = 5 ACRES



DISCHARGE TO STABLE AREA, STORM DRAIN SYSTEM, OR RECEIVING CHANNEL

ISOMETRIC VIEW



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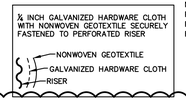


NOTE:
REFER TO DETAIL G-2-1 – TYPICAL ANTI-SEEP COLLARS
REFER TO DETAIL G-2-2 – RISER BASE
REFER TO DETAIL G-2-3 – CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

1 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST-I

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. PERFORATE THE RISER WITH 1 INCH DIAMETER HOLES SPACED 6 INCHES ON CENTER WITH THE LOWEST PERFORATIONS AT THE WET STORAGE ELEVATION OR PROVIDE A HORIZONTAL OR VERTICAL DRAW-DOWN DEVICE PERFORATED ACCORDING TO APPROVED PLAN. DO NOT PERFORATE THE RISER WITHIN 6 INCHES OF THE TOP OF THE HORIZONTAL BARREL.
4. SET RISER/BARREL ASSEMBLY PRIOR TO EMBANKMENT CONSTRUCTION. MAKE ALL PIPE CONNECTIONS WATERTIGHT. OFFSET RISER FROM EMBANKEMENT TO ACCOMODATE PLACEMENT OF THE TRASH RACK. ANCHOR THE RISER WITH EITHER A REINFORCED CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. MAKE CONCRETE BASES AT LEAST TWICE THE RISER DIAMETER AND 18 INCHES THICK WITH THE RISER EMBEDDED 9 INCHES.
5. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
6. HAND COMPACT IN 4 INCH LAYERS FILL MATERIAL AROUND THE PIPE SPILLWAY. PLACE A MINIMUM OF 2 FEET OF HAND COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
7. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE RISER CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
8. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
9. WRAP THE RISER WITH ¼ INCH GALVANIZED HARDWARE CLOTH THEN WRAP WITH NONWOVEN GEOTEXTILE. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE. EXTEND HARDWARE CLOTH AND GEOTEXTILE AT LEAST 6 INCHES ABOVE THE HIGHEST PERFORATIONS AND AT LEAST 6 INCHES BELOW THE LOWEST PERFORATIONS. OVERLAP, FOLD AND FASTEN WHERE ENDS OF GEOTEXTILE COME TOGETHER TO PREVENT BYPASS. REPLACE GEOTEXTILE AS NECESSARY TO PREVENT CLOGGING.
10. USE STRAPS OR CONNECTING BANDS AT THE TOP AND BOTTOM OF THE GEOTEXTILE TO HOLD THE GEOTEXTILE AND HARDWARE CLOTH IN PLACE.
11. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
12. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
13. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO THE APPROVED PLAN AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
14. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.
15. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
16. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST-I

PIPE OUTLET SEDIMENT TRAP ST-I, TRAP NO. B		
DRAINAGE AREA – INTIAL	1.89	ACRES
DRAINAGE AREA – INTERIM	–	ACRES
DRAINAGE AREA – FINAL	2.57	ACRES
TOTAL STORAGE REQUIRED	9,252	CF
TOTAL STORAGE PROVIDED	9,738	CF
WET STORAGE REQUIRED	4,626	CF
WET STORAGE PROVIDED	4,910	CF
DRY STORAGE REQUIRED	4,626	CF
DRY STORAGE PROVIDED	4,828	CF
TRAP BOTTOM ELEVATION	438.50	FT
TRAP BOTTOM DIMENSIONS	30X35	FT x FT
RISER CREST (DRY STORAGE) ELEVATION	443.00	FT
OUTLET (WET STORAGE) ELEVATION	440.00	FT
CLEANOUT ELEVATION	439.25	FT
TOP OF EMBANKMENT ELEVATION	444.00	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	4	FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER, ANTI-SEEP COLLAR)	CMP	
RISER DIAMETER	36	IN
BARREL DIAMETER	24	IN
TRASH RACK DIAMETER	54	IN
TRASH RACK HEIGHT	25	IN
ANTI-SEEP COLLAR DIMENSIONS	N/A	FT
OUTLET PROTECTION – LENGTH	N/A	FT
OUTLET PROTECTION – WIDTH	N/A	FT
OUTLET PROTECTION – DEPTH	N/A	IN
STORAGE DEPTH	4	FT

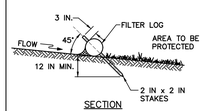
3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



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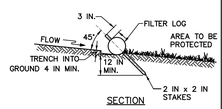

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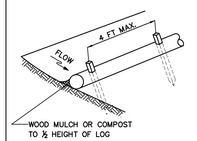
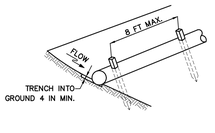


UNTRENCHED INSTALLATION

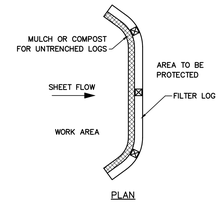
OR



ENTRENCHED INSTALLATION*

*THIS APPLICATION MAY NOT BE USED WITH LOGS SMALLER THAN 12 IN.

ISOMETRIC VIEW



PLAN

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____
DISTRICT MANAGER

DATE: _____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

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REV.#	DATE	REVISION DESCRIPTION * FILL IN THESE BLOCKS FOR REVISION ONLY *	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

ADTEK
CIVIL STRUCTURAL SPECIALTY ENGINEERING
150 South East Street, Suite 201
Opelika, AL 36801
Phone: 301-662-4468
www.adtekengineers.com

I HEREBY CERTIFY THAT THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26824, EXPIRATION DATE: 19 JULY 2019.

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GP# 21740

EROSION AND SEDIMENT CONTROL PROFILE
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-2H
1/10/2019
BID SET
© GRIMM AND PARKER,P.C. 2018

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LIBER: 1158 FOLIO: 255
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ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

EROSION AND SEDIMENT CONTROL PROFILE
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND
C-2H
01/10/2019
BID SET
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I:\Proj\174004 - Urbana ES\Drawings 174004\DWG\C-3A SITE PLAN.dwg PLOTTED Feb 01, 2019

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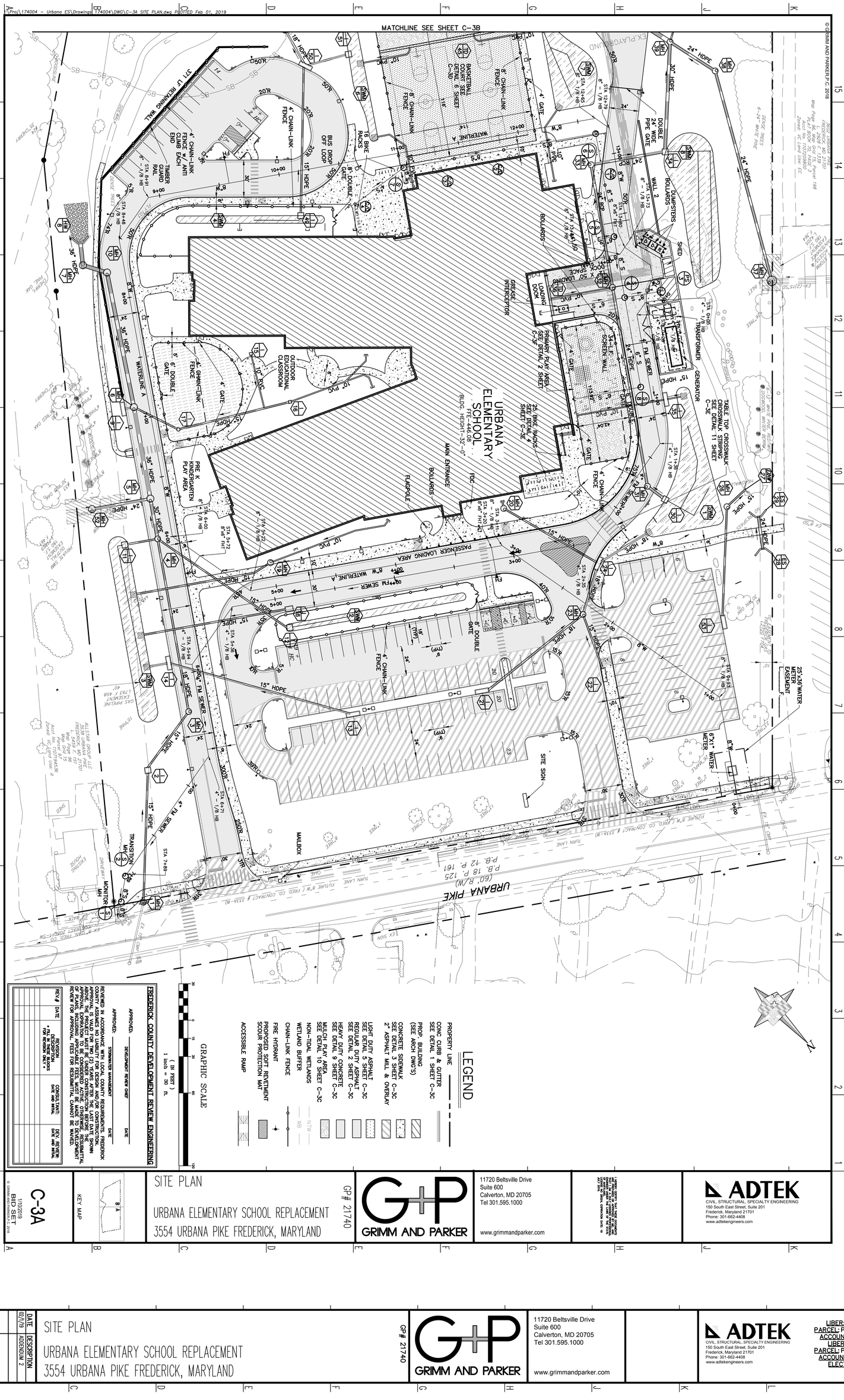
MATCHLINE SEE SHEET C-3B
URBANA ELEMENTARY SCHOOL
FFE=346.00
BLDG. HEIGHT=32'-0"
MAIN ENTRANCE
FLAGPOLE
BOLLARDS
FDC
GREASE INTERCEPTOR
LOADING DOCK
50' LOADING SPACE
DUMPSTERS
SHED
TRANSFORMER
GENERATOR
PRIMARY PLAY AREA SEE DETAIL 2 SHEET C-3F
25' BIKE RACKS SEE DETAIL 7 SHEET C-3E
TABLE TOP CROSSWALK CROSSWALK STRIPING SEE DETAIL 11 SHEET C-3E
OUTDOOR EDUCATIONAL CLASSROOM
PRE K KINDERGARTEN PLAY AREA
PASSENGER LOADING AREA
WATERLINE A
FM SEWER
WATERLINE B
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SITE PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

GP# 21740

DATE	DESCRIPTION
02/7/19	ADDENDUM 2

C-3B
01/10/2019
BID SET
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Frederick, Maryland 21701
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PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 07004176 21
LIBER: 1747 FOLIO: 35
ELECTION DISTRICT: 7

PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 07004176 21
LIBER: 1158 FOLIO: 252

LAYERS, GRIDS, TAB, AND DRAWINGS
THAT ARE NOT TO BE PLOTTED ARE
TURNED OFF OR FROZEN IN THE
CAD FILE.

KEY MAP

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE: _____

APPROVED: _____ STORMWATER MANAGEMENT DATE: _____

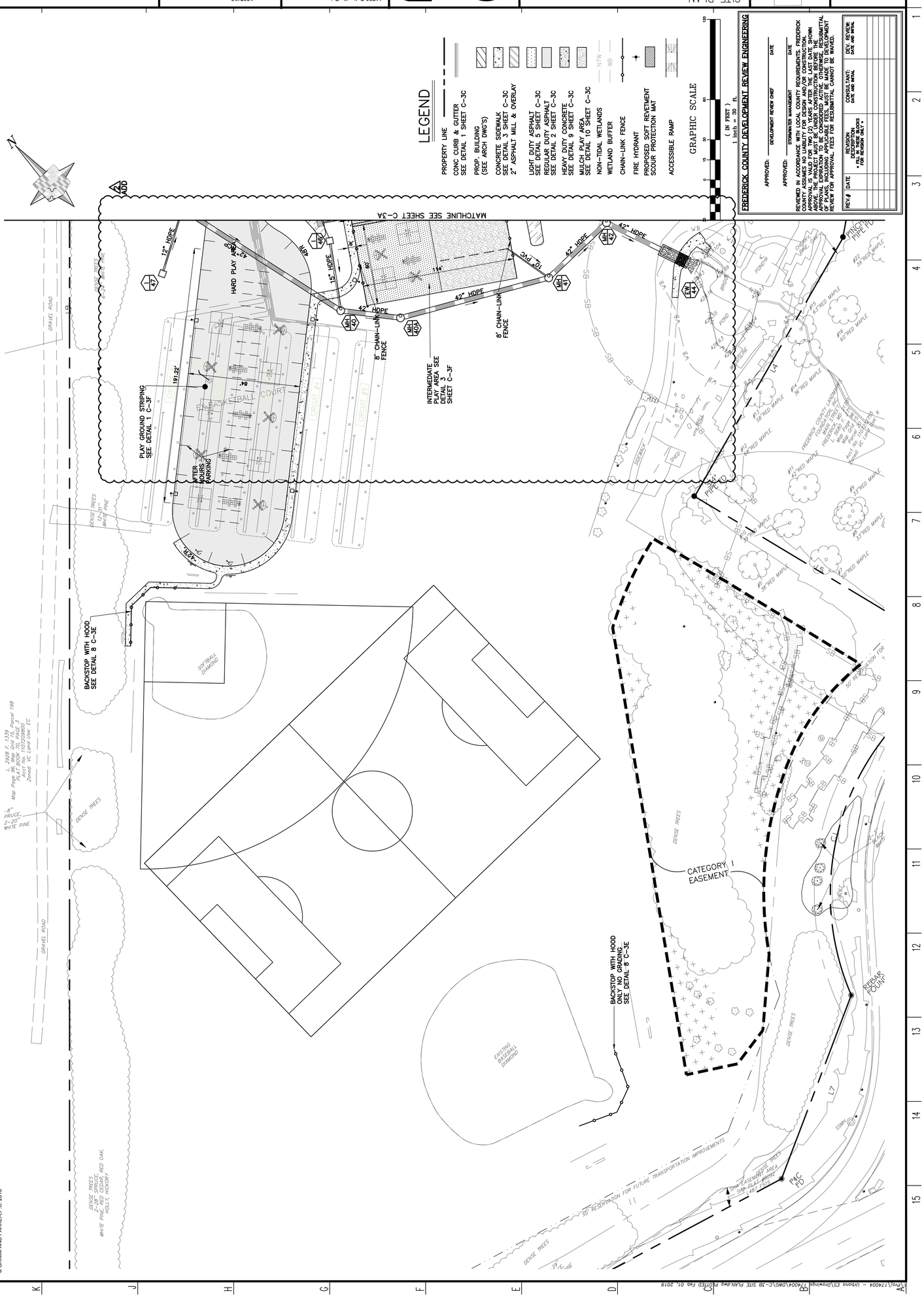
REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION APPROVED ALL PERMITS AND APPROVALS EXPIRE AS SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS AND PAYMENT OF FEES WILL BE REQUIRED. RESUBMITTAL REVIEW FOR APPROVAL, FEES FOR RESUBMITTAL CANNOT BE WAIVED.

REV.#	DATE	DESIGN: DESCRIPTION • FILL IN UNDER ALLOWS FOR REVISION BLOCK	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

LEGEND

- PROPERTY LINE
- CONC CURB & GUTTER — SEE DETAIL 1 SHEET C-3C
- PROP. BUILDING (SEE ARCH DWG'S)
- CONCRETE SIDEWALK — SEE DETAIL 3 SHEET C-3C
- 2" ASPHALT MILL & OVERLAY
- LIGHT DUTY ASPHALT — SEE DETAIL 5 SHEET C-3C
- REGULAR DUTY ASPHALT — SEE DETAIL 2 SHEET C-3C
- HEAVY DUTY CONCRETE — SEE DETAIL 3 SHEET C-3C
- MULCH PLAY AREA — SEE DETAIL 10 SHEET C-3C
- NON-TIDAL WETLANDS (NTW)
- WETLAND BUFFER (WB)
- CHAIN-LINK FENCE
- FIRE HYDRANT
- PROPOSED SOFT REVETMENT SCOUR PROTECTION MAT
- ACCESSIBLE RAMP

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.
0 15 30 60 120



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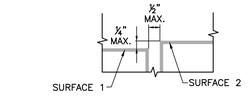
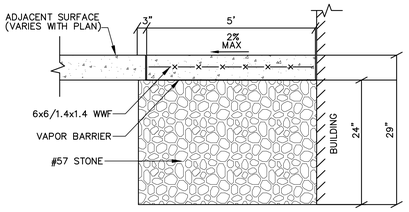


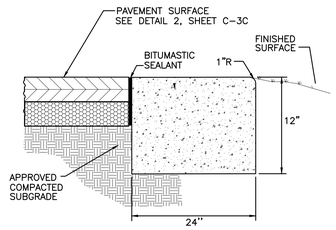
NOTES:
1. ACCESSIBLE WALKS, SIDEWALKS, AND PEDESTRIAN WAYS SHALL HAVE A CONTINUOUS SURFACE, NOT INTERRUPTED BY ABRUPT CHANGES IN VERTICAL ELEVATION EXCEEDING ¼".
2. TRANSITIONS WITHIN THE ACCESSIBLE ROUTE FOR RAMPS TO WALKS, GUTTERS, OR VEHICULAR PATHS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES IN VERTICAL ELEVATION EXCEEDING ¼".
3. THE MAXIMUM OF ANY JOINT, OPENING, OR GAP BETWEEN ANY TWO ADJACENT SURFACES ALONG AN ACCESSIBLE ROUTE SHALL BE ½".

1 C-3E — CHANGES IN VERTICAL ELEVATION DETAIL
NOT TO SCALE

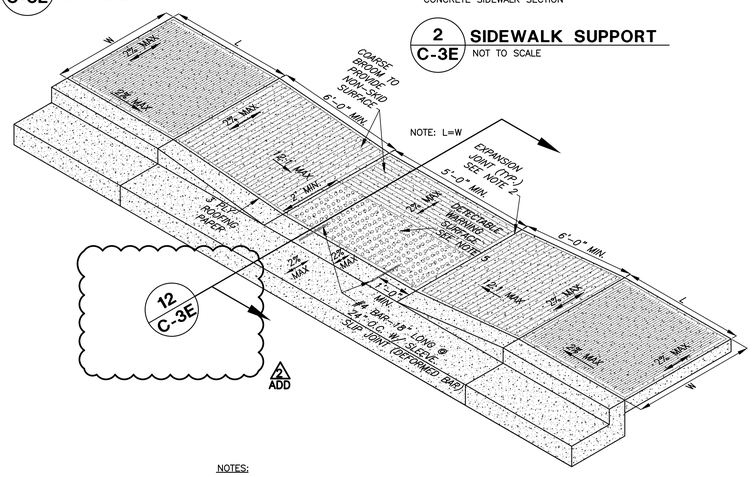


NOTES:
- THIS DETAIL TYPICAL FOR 5' CLEAR OUTSIDE ALL DOORWAYS.
- INSTALL EXPANSION JOINT WHERE BUTTS UP TO REGULAR CONCRETE SIDEWALK SECTION

2 C-3E — SIDEWALK SUPPORT
NOT TO SCALE

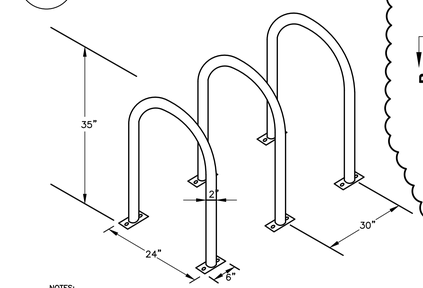


3 C-3E — DEPRESSED CURB DETAIL
NOT TO SCALE



NOTES:
1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. EXPANSION JOINT MATERIAL SHALL BE 1/2 INCH PREFORMED CORK, TRIMMED, AND SEALED WITH NON-STAINING, TWO-COMPONENT POLYSULFIDE OR POLYURETHANE ELASTOMERIC TYPE SEALANT COMPLYING WITH FS TT-S-00227.
3. SCORE THE CONCRETE FOR THE TRANSVERSE JOINTS TO A DEPTH OF 1/3 OF THE THICKNESS TO PROVIDE A WEAKENED PLANE.
4. WHERE SIDEWALK IS BEHIND RAMP, SLOPE 'A' IS 12:1 MAX. WHERE NO SIDEWALK IS BEHIND RAMP, SLOPE 'A' IS 50:1 MAX.
5. REFER TO MDOT-SHA STD. NO. MD-655.40 FOR DETECTABLE WARNING SURFACE. DETACTABLE SURFACE SHALL BE "CAST IN PLACE EZ SET TILE™" BY DETECTABLE WARNING SYSTEMS, INC. OR APPROVED EQUAL. COLOR SHALL BE SAFETY YELLOW.

5 C-3E — ACCESSIBLE RAMP (TYPE I)
NOT TO SCALE

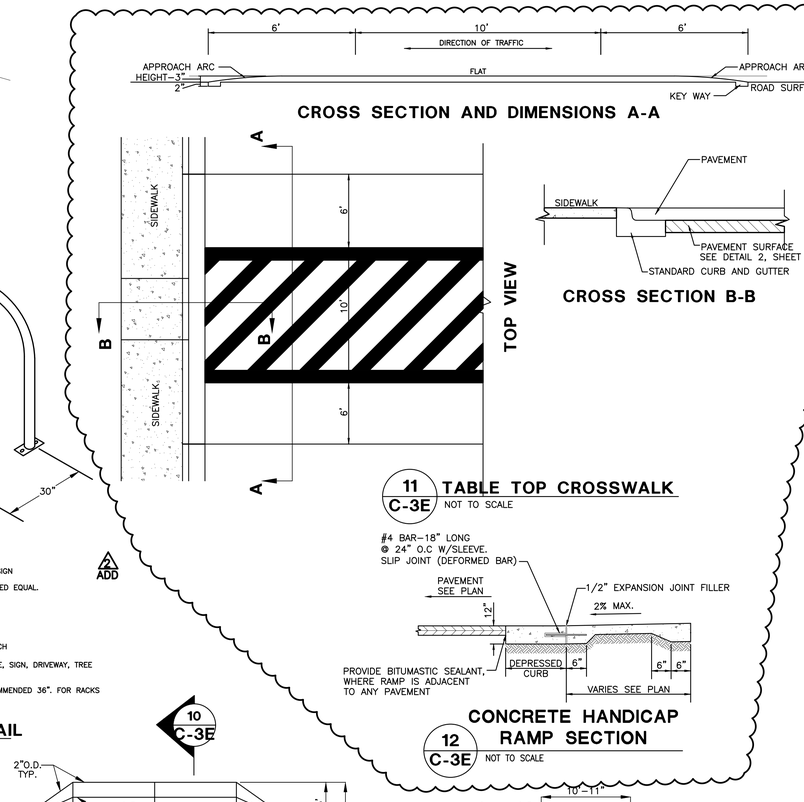


NOTES:
- DETAIL SHOWN PER FREDERICK COUNTY PREFERRED "U RACK" DESIGN
- BIKE RACK TO BE VICTOR STANLEY MODEL BRWS-101 OR APPROVED EQUAL.
- DIMENSIONS SHOWN MAY VARY BY MANUFACTURER AND MODEL
- RACK PLACEMENT RULES:

a. 5' FROM FIRE HYDRANT AND CROSSWALK
b. 4' FROM LOADING ZONE, BUS STOP, BUS SHELTER AND BUS BENCH
c. 2' MIN FROM CURB, RECOMMENDED 3' FROM CURB.
d. 3' FROM PARKING METER, NEWSPAPER RACK, MAILBOX, LIGHT POLE, SIGN, DRIVEWAY, TREE SPACE, TRASH CAN, UTILITY METER & MANHOLE

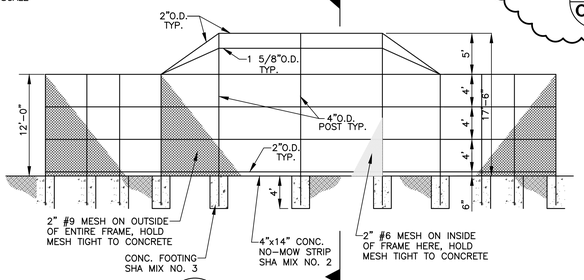
- WALL SETBACKS FOR RACKS SET TO A WALL ARE MIN. 24", RECOMMENDED 36". FOR RACKS SET PERPENDICULAR TO A WALL, MIN. 28" RECOMMENDED 36".

4 C-3E — BICYCLE RACK DETAIL
NOT TO SCALE

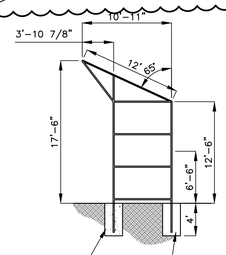


11 C-3E — TABLE TOP CROSSWALK
NOT TO SCALE

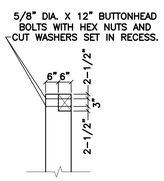
12 C-3E — CONCRETE HANDICAP RAMP SECTION
NOT TO SCALE

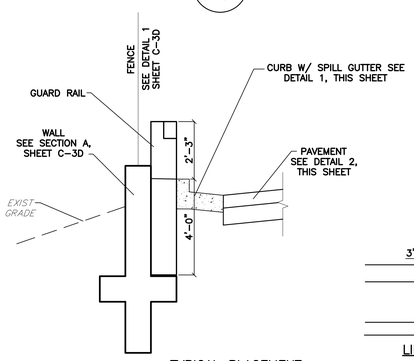


9 C-3E — BACKSTOP ELEVATION
NOT TO SCALE

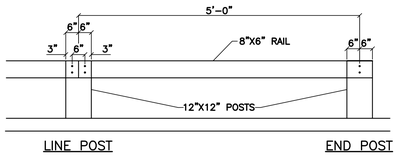


10 C-3E — BACKSTOP SECTION
NOT TO SCALE





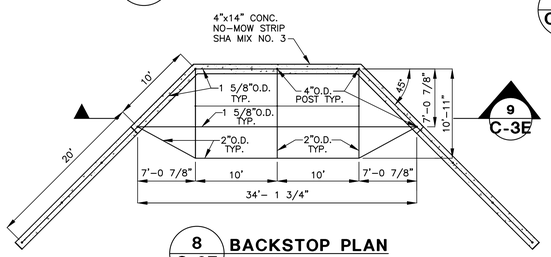
TYPICAL PLACEMENT



TYPICAL SPACING

NOTES:
1. TIMBER USED IN GUARD RAIL SHALL BE ROUGH SAWN, PRESSURE-TREATED SOUTHERN PINE OR APPROVED EQUAL. TREATMENT SHALL CONFORM TO EITHER AWPA STANDARD P5 (PENTACHLOROPHENOL @ 0.60% #/CF), AWPA STANDARD P5 (COPPER ARSENATE @ 0.50#/CF) OR TIMBER MAY BE WOLMANIZED.
2. ALL FASTENER HARDWARE SHALL BE GALVANIZED. BOLTS SHALL CONFORM TO ASTM A307.
3. POST TO BE PLACED IN MECHANICALLY OR HAND-AUGERED HOLE AND SECURELY TAMPED.
4. CONCRETE IF USED SHALL BE INSTALLED MSHA MIX NO. 2 (3.000 PSI).

7 C-3E — TIMBER GUARD RAIL
NOT TO SCALE



8 C-3E — BACKSTOP PLAN
NOT TO SCALE

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

REV.#	DATE	REVISION DESCRIPTION * FILL IN THESE BLOCKS FOR REVISION ONLY *	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

ADTEK
CIVIL STRUCTURAL SPECIALTY ENGINEERING
150 South East Street, Suite 201
Easton, MD 21601
Phone: 301-662-4468
www.adtekengineers.com

I HEREBY CERTIFY THAT THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28824, EXPIRATION DATE: 19 JULY 2019.

11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
www.grimmandparker.com
GRIMM AND PARKER

KEY MAP

C-3E
1/10/2019
BID SET
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417621
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

GP# 21740

SITE DETAILS
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

C-3E
01/10/2019
BID SET
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I:\Proj\174004 - Urbana ES\Drawings 174004\DWG\C-3E SITE DETAILS.dwg PLOTTED Feb 01, 2019

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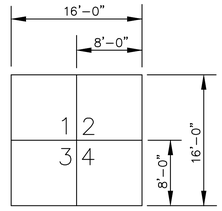
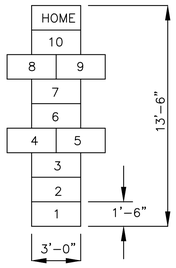
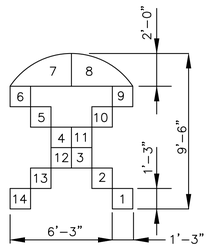


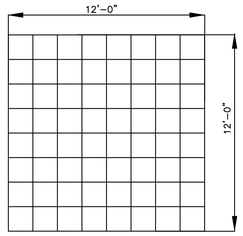
4 C-3F PRIMARY STRIPING
NOT TO SCALE



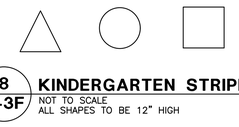
5 C-3F PRIMARY STRIPING
NOT TO SCALE



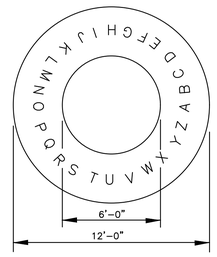
6 C-3F PRIMARY STRIPING
NOT TO SCALE



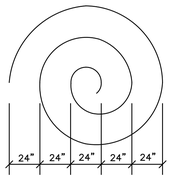
7 C-3F KINDERGARTEN STRIPING
NOT TO SCALE



8 C-3F KINDERGARTEN STRIPING
NOT TO SCALE
ALL SHAPES TO BE 12" HIGH



9 C-3F KINDERGARTEN STRIPING
NOT TO SCALE



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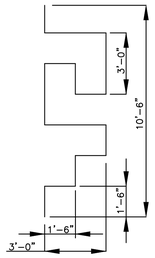
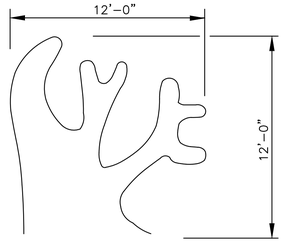
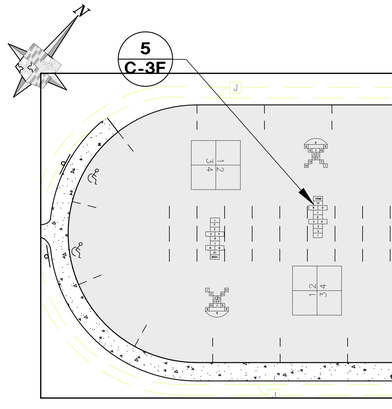
NOT TO SCALE



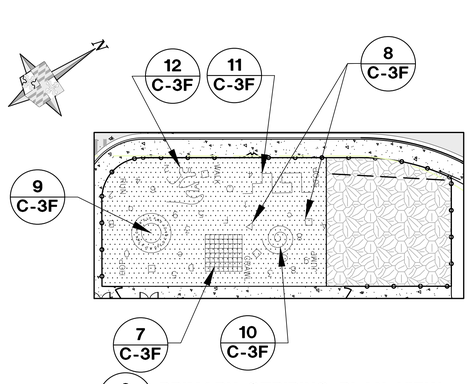
11 C-3F KINDERGARTEN STRIPING
NOT TO SCALE



12 C-3F KINDERGARTEN STRIPING
NOT TO SCALE



1 C-3F INTERMEDIATE STRIPING PLAN VIEW
NOT TO SCALE

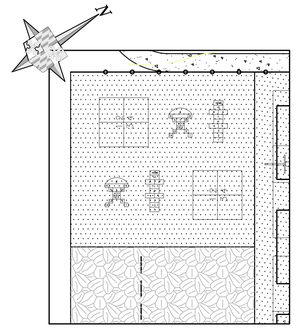


2 C-3F PRIMARY STRIPING PLAN VIEW
NOT TO SCALE

PROVIDE LOWER CASE ALPHABET LETTERS AT RANDOM SPACING.

PROVIDE UPPER CASE ALPHABET LETTERS AT RANDOM SPACING.

PROVIDE NUMERIC NUMBERS 0–9 AT RANDOM SPACING.



3 C-3F INTERMEDIATE STRIPING PLAN VIEW
NOT TO SCALE

NOTE:
APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE MARKINGS, OF DIMENSIONS INDICATED, WITH UNIFORM, STRAIGHT EDGES.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

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APPROVED: _____ STORMWATER MANAGEMENT DATE

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GRIMM AND PARKER

GP# 21740

PLAY STRIPING DETAILS
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-3F
1/10/2019
BID SET
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417621
LIBER: 1158 FOLIO: 135
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

GP# 21740
PLAY STRIPING DETAILS
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND
C-3F
01/10/2019
BID SET
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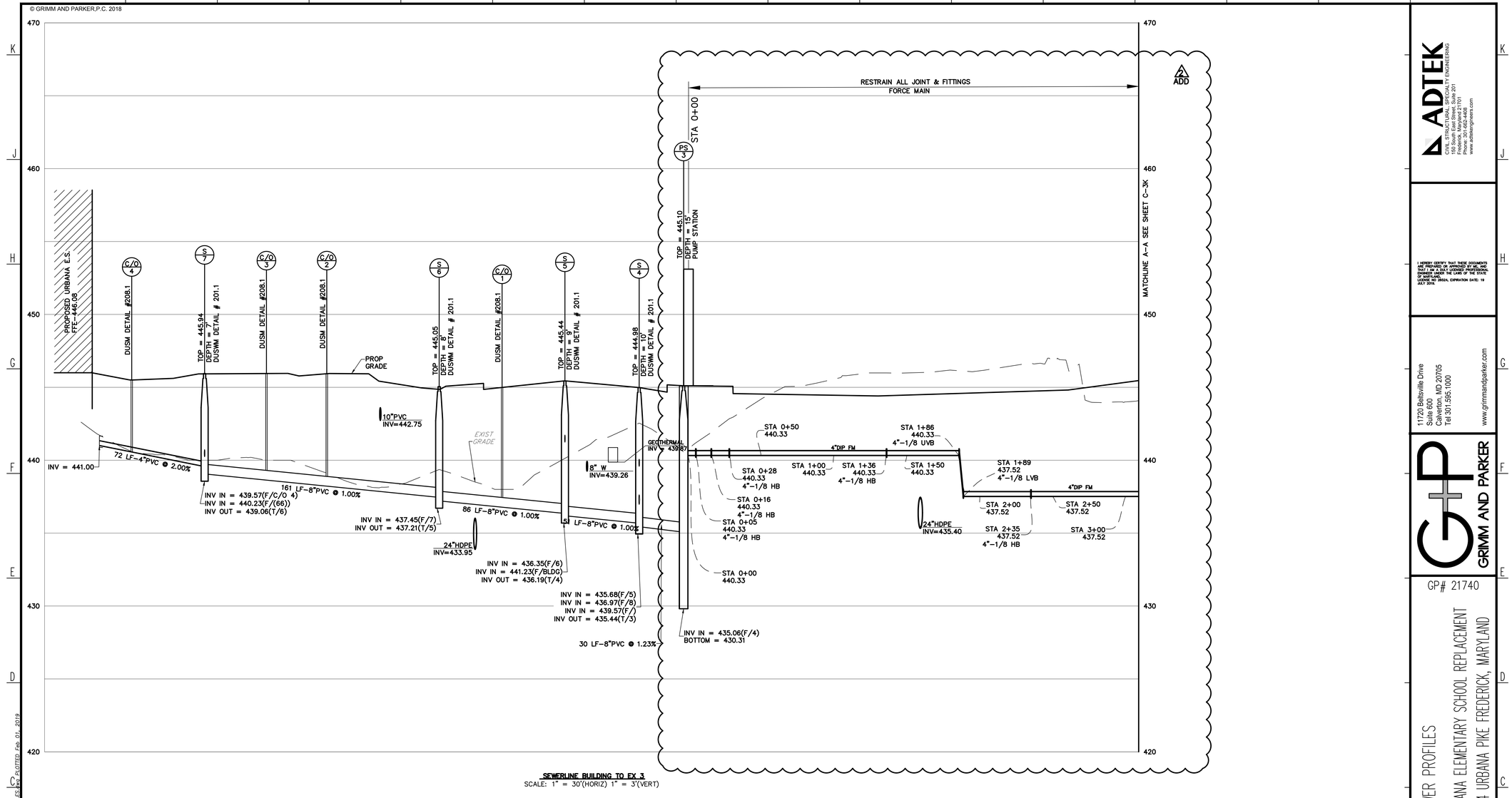

SEWERLINE BUILDING TO EX 3
SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

W/S CONTRACT# 333B-W

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GP# 21740

SEWER PROFILES
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-3J
1/10/2019
BID SET
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417621
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

SEWER PROFILES
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

C-3J
01/10/2019
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SEWER PROFILES
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND
GP# 21740
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KEY MAP
C-3K
01/10/2019
BID SET
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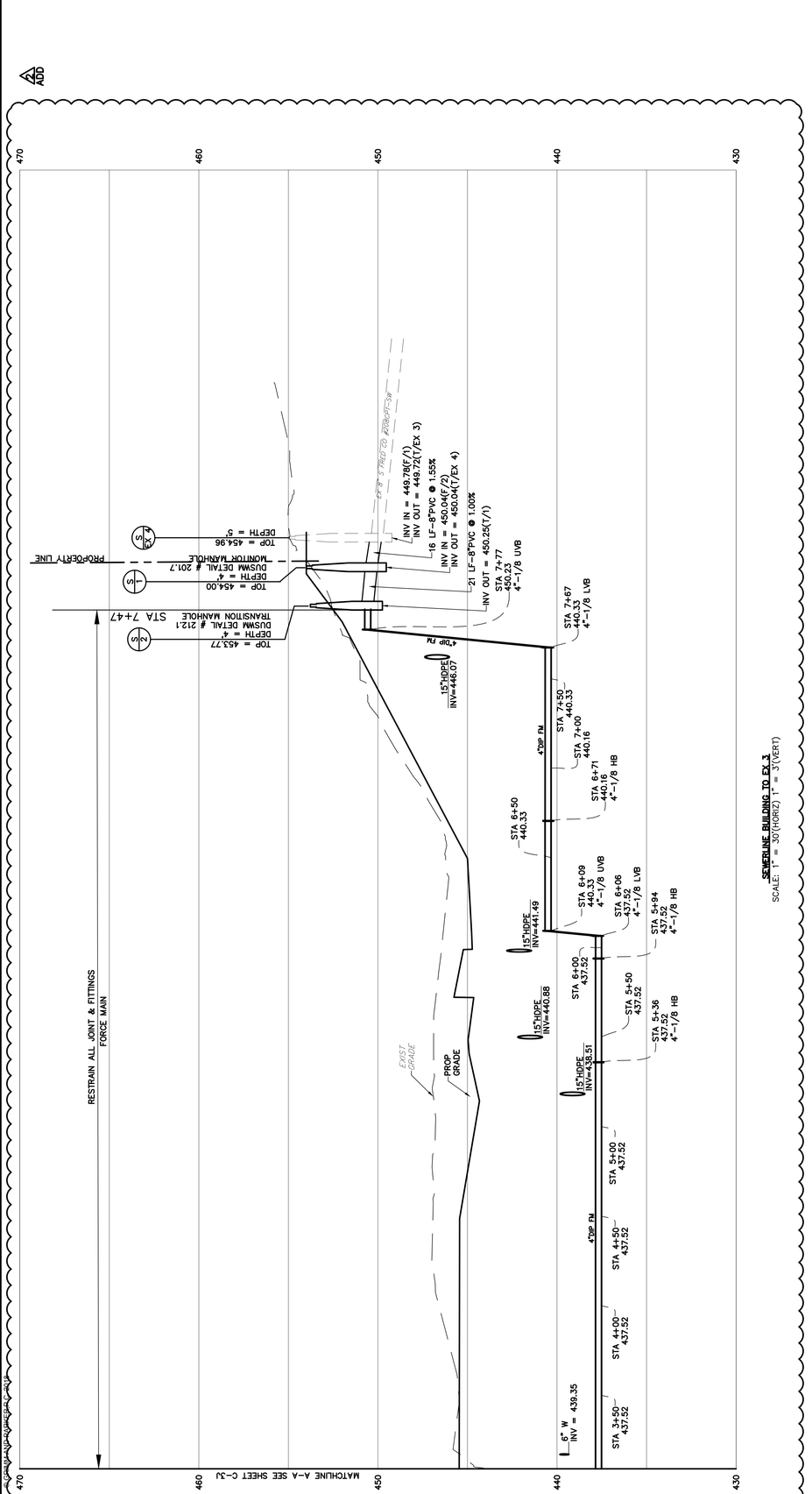
DATE | DESCRIPTION
02/7/19 | ADDENDUM 2

W/S CONTRACT# 333B-W

ADD 2



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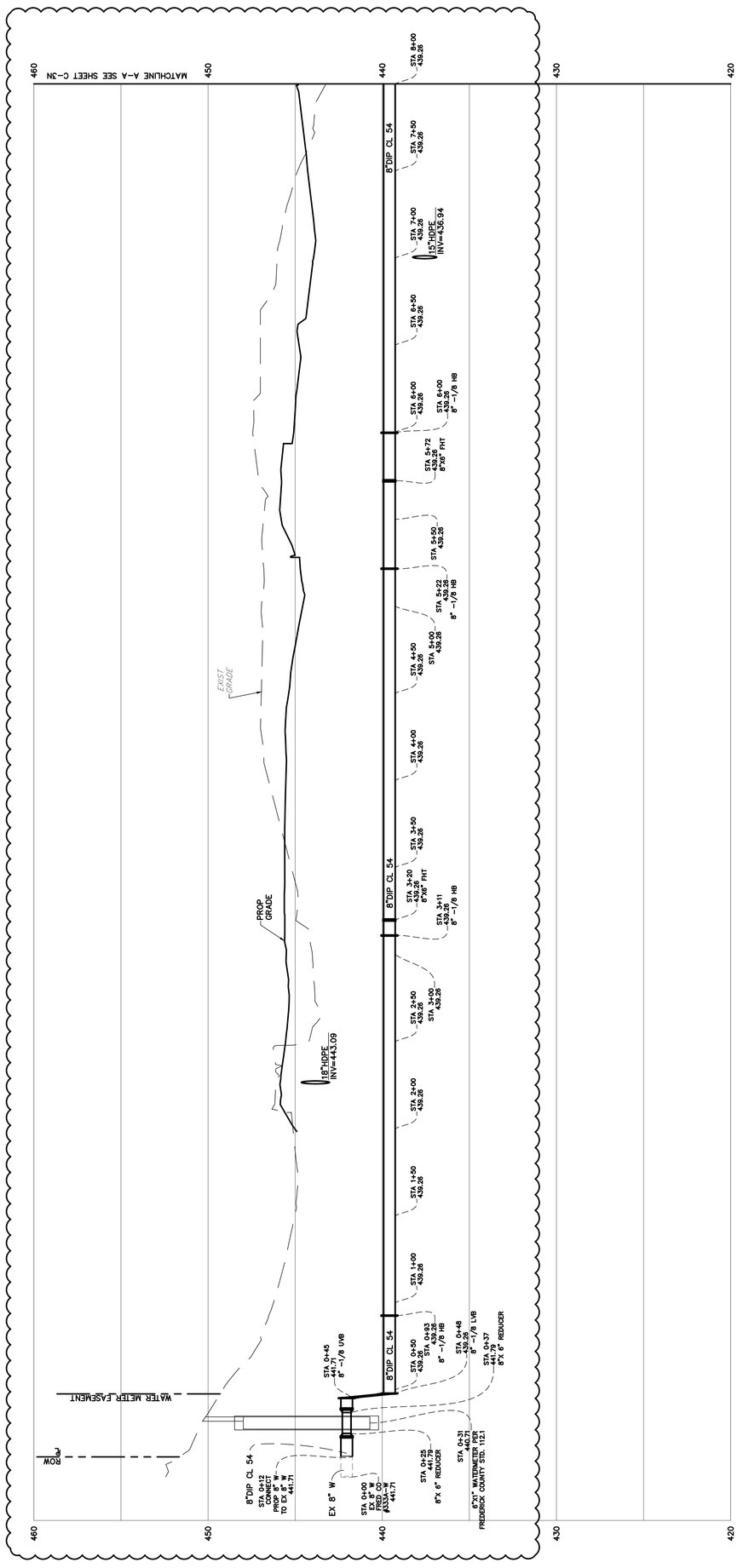

WATERLINE A
SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

W/S CONTRACT# 333B-W

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WATER PROFILES

URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

DATE	DESCRIPTION
02/7/19	ADDENDUM 2

C-3N
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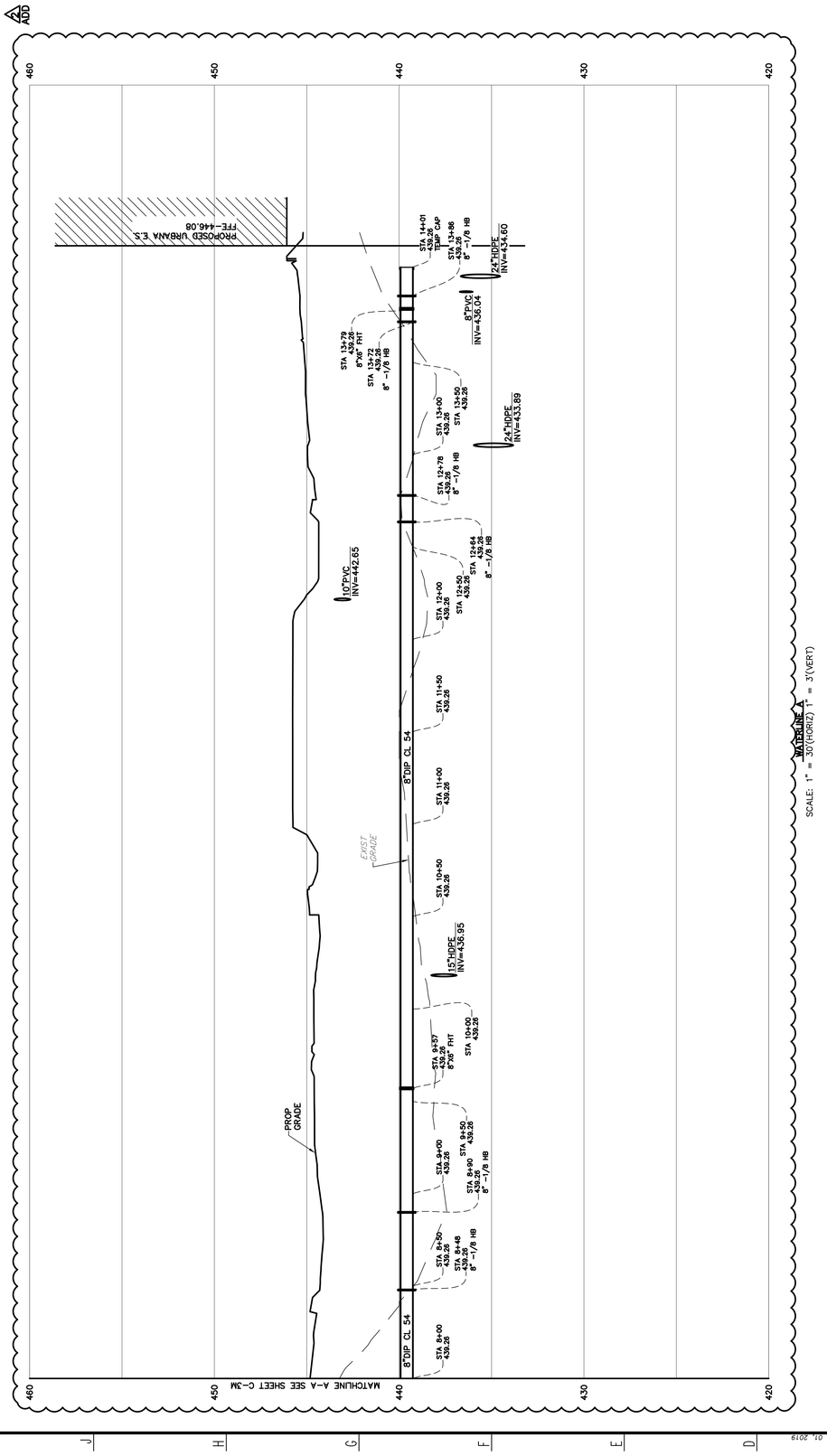
KEY MAP

W/S CONTRACT# 333B-W



SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)
WATERLINE A

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GRADING PLAN

URBANA ELEMENTARY SCHOOL REPLACEMENT

3554 URBANA PIKE FREDERICK, MARYLAND

DATE	DESCRIPTION
02/7/19	ADDENDUM 2

C-4A

01/10/2019

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FARCEL: P108 TAX MAP: HN53
ACCOUNT NO. 07004176 94
LIBER: 1747 FOLIO: 35
ELECTION DISTRICT: 7

FARCEL: P133 TAX MAP: HN43
ACCOUNT NO. 07004176 21
LIBER: 1158 FOLIO: 252

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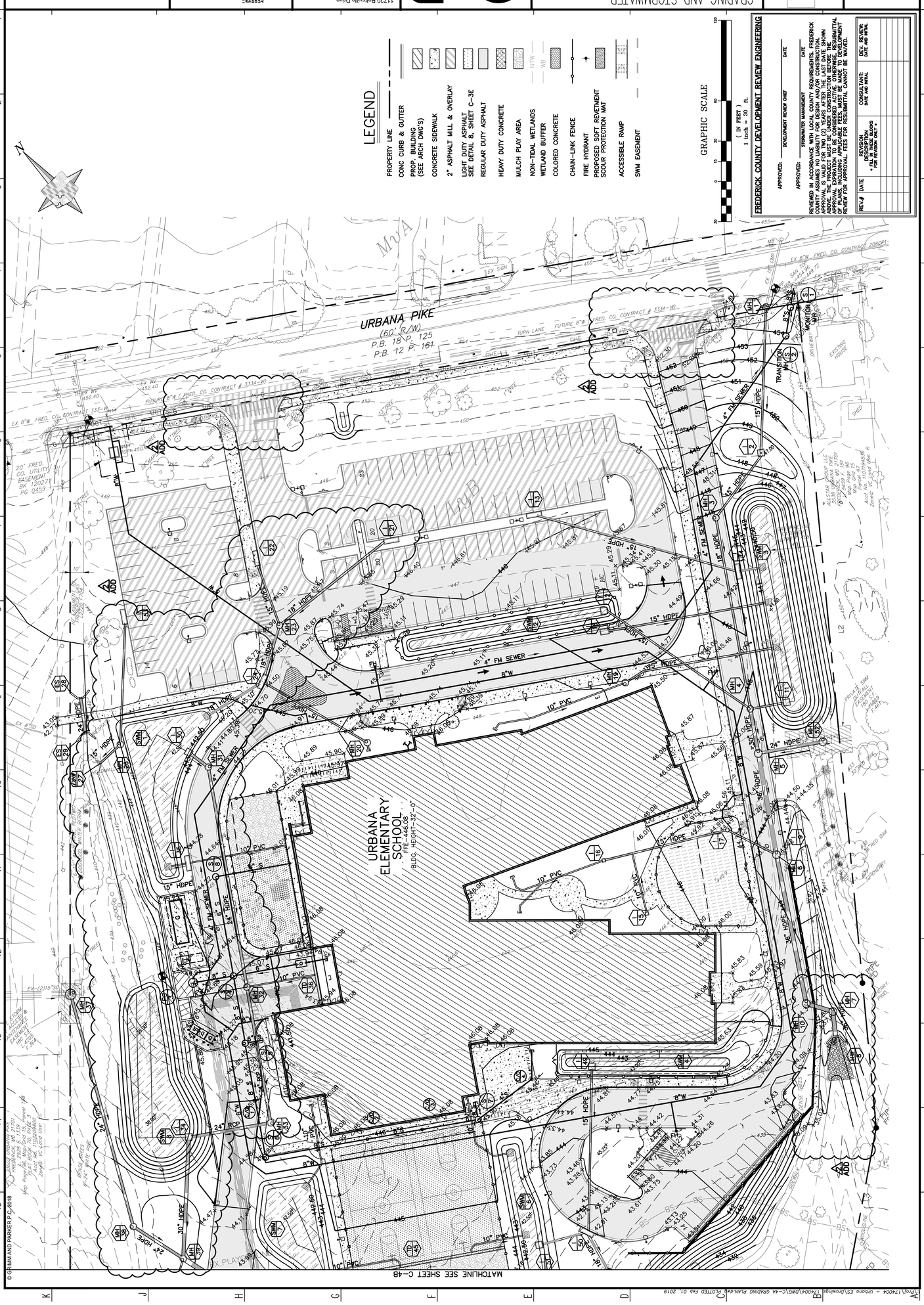
KEY MAP

GRADING AND STORMWATER MANAGEMENT PLAN

URBANA ELEMENTARY SCHOOL REPLACEMENT

3554 URBANA PIKE FREDERICK, MARYLAND



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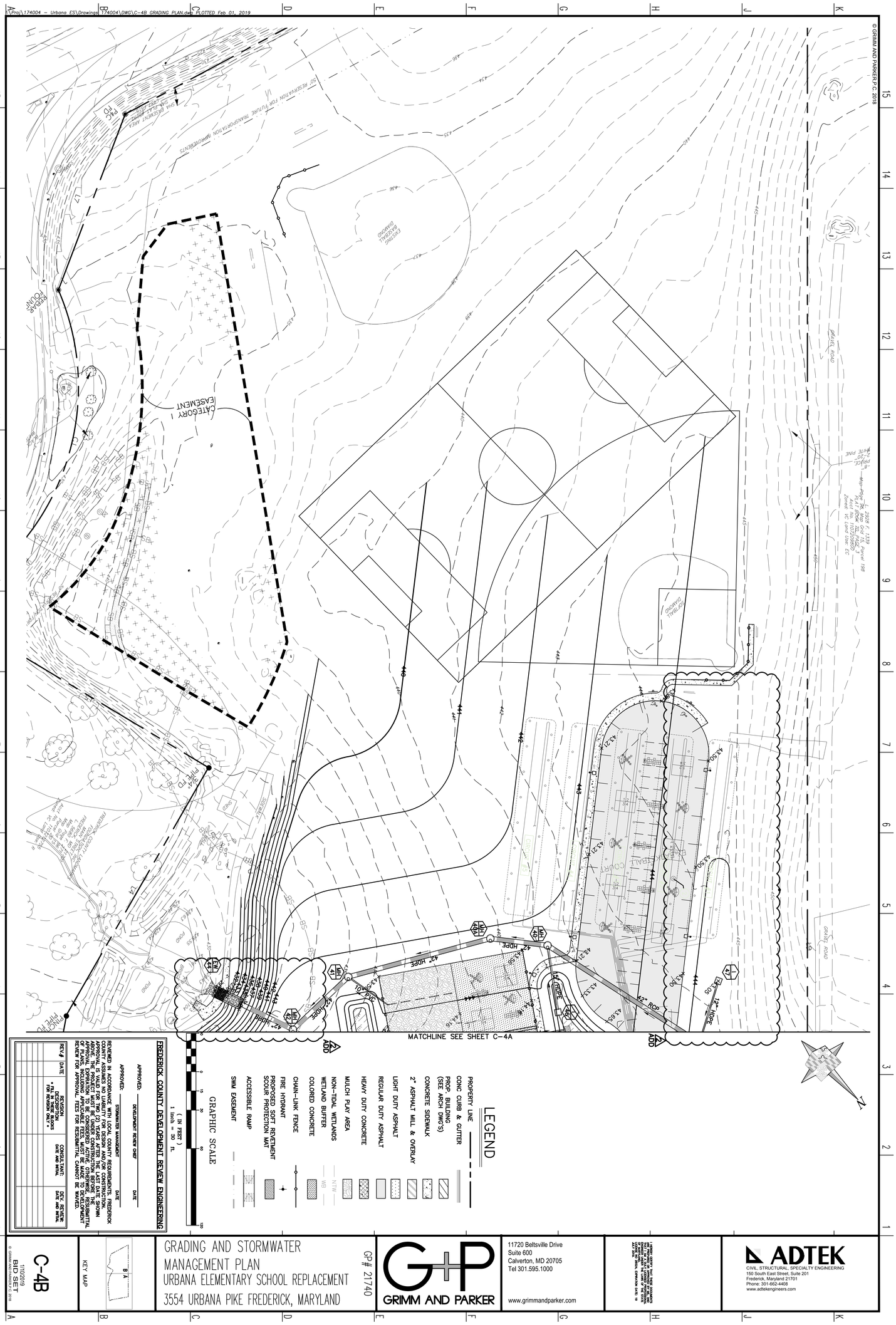

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

REVIEWED AS ACCEPTABLE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY SIGNATURE ON THIS PLAN DOES NOT CONSTITUTE FINAL APPROVAL. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN BELOW. IF CONSTRUCTION HAS NOT BEEN INITIATED BEFORE THIS APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE, OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESIDENTIAL CANNOT BE WAIVED.

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		* FILL IN SHEET BLOCKS FOR REVISION ONLY *		

C-4B
01102019
BID SET
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KEY MAP

GRADING AND STORMWATER MANAGEMENT PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

GP# 21740

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C-4B
01102019
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DATE	DESCRIPTION
02/1/19	ADDENDUM 2

GRADING PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
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GP# 21740

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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417821
LIBER: 1747 FOLIO: 35
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

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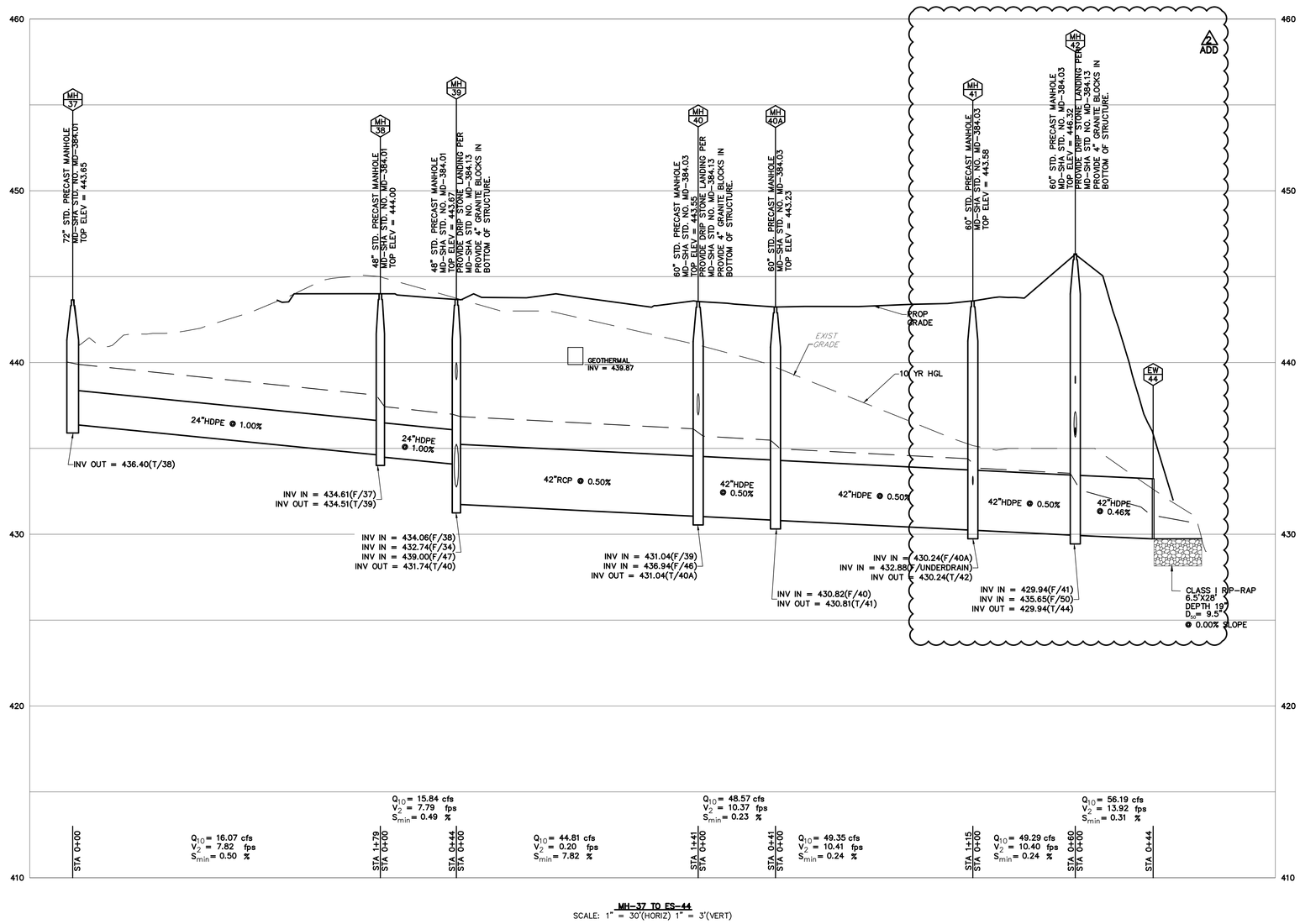

MH-37 TO ES-44
SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

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REV.#	DATE	REVISION DESCRIPTION * FILL IN THESE BLOCKS FOR REVISION ONLY *	CONSULTANT: DATE AND INITIAL	DEV. REVIEW: DATE AND INITIAL

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GP# 21740

STORMDRAIN PROFILES
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-4C
1/10/2019
BID SET
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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700041721
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

DATE	DESCRIPTION
02/1/19	ADDENDUM 2

STORMDRAIN PROFILES
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND
C-4C
01/10/2019
BID SET
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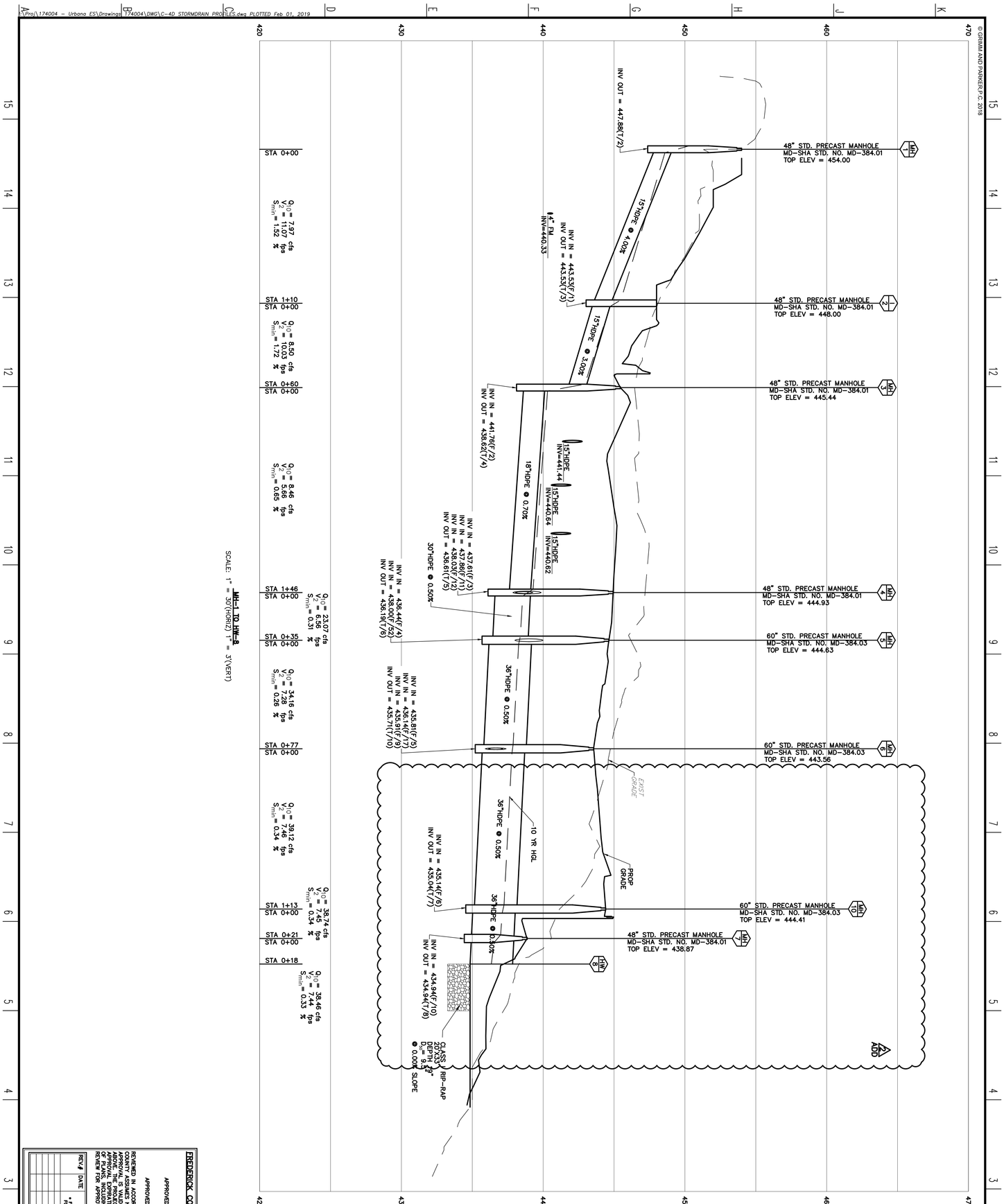

SCALE: 1" = 30'(HORIZ) 1" = 3'(VERT)

MH-1 TO MH-8

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APPROVED: _____ STORMWATER MANAGEMENT DATE

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01/10/2019
BID SET
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C-4D

KEY MAP

STORMDRAIN PROFILES

URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

GP# 21740

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DATE	DESCRIPTION
02/1/19	ADDENDUM 2

STORMDRAIN PROFILES

URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

GP# 21740

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LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417821
LIBER: 1747 FOLIO: 35
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

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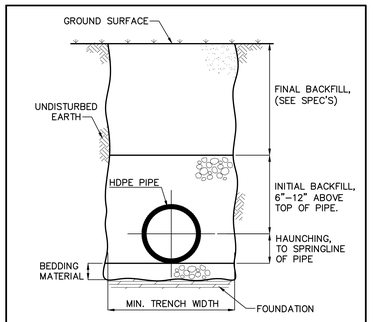


TYPICAL TRENCH CROSS SECTION
NOT TO SCALE

REFERENCE SECTION X–2, "RECOMMENDATIONS FOR INCORPORATION INTO CONTRACT DOCUMENTS" OF ASTM SPECIFICATION D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY–FLOW APPLICATIONS".

NOTES:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY–FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

   UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR FOR 4"–24" AND 42"–48" CORRUGATED POLYETHYLENE PIPE (CPEP); 6" FOR 30"–36" CPEP.
3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
4. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL ⌀ in	MIN. RECOMMENDED TRENCH WIDTH, in
4	21
6	23
8	25
10	28
12	31
15	34
18	39
24	48
30	66
36	78
42	83
48	89
60	102

5. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF PIPE TO THE GROUND SURFACE.

SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in
H25 (FLEXIBLE PAVEMENT)	12*
H25 (RIGID PAVEMENT)	12

*TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT SECTION

ON–SITE STORM DRAIN TRENCH INSTALLATION DETAIL
NOT TO SCALE

MULCH SPECIFICATIONS

THE MULCH LAYER IS AN IMPORTANT PART OF THE MICRO–BIORETENTION DEVICE. MUCH OF THE POLLUTANT REMOVAL CAPACITY OF THE MICRO–BIORETENTION SYSTEM IS WITHIN THE MULCH LAYER. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD DOUBLE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE APPLIED UNIFORMLY TO A DEPTH OF 3 INCHES. YEARLY REPLENISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

SOIL FILTER/PLANTING MEDIA SPECIFICATIONS

PLANTING MEDIAL SHALL BE 24"–48"THICK AND CONSIST OF ⅓ PERLITE OR SOLITE, ⅓ COMPOST AND ⅓ TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. THE TOPSOIL COMPONENT SHALL MEET THE FOLLOWING CRITERIA: CONTAIN NO MORE THAN 10% CLAY, 10%–25% SILT AND 60%–75% SAND AND SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE FIRST LAYER OF THE PLANTING MEDIA SHALL BE LIGHTLY TILLED TO MIX IT INTO THE SAND LAYER, SO NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.

SAND SPECIFICATIONS

WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS IN MONTGOMERY COUNTY. IN ADDITION TO THE ASTM C33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS:

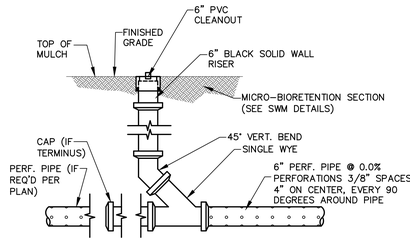
1. SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C–33 FINE AGGREGATE CONCRETE SAND. AASHTO M–6 GRADATION IS ALSO ACCEPTABLE.
2. SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
3. SAND MUST BE CLEAN. NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
4. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.

GRAVEL SPECIFICATIONS

THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPE(S) MUST MEET MSHA SIZE #7, AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE(S), AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN THE FILTER MEDIA. THE GRAVEL MUST BE CLEAN AND MUST BE STORED AND INSTALLED IN SUCH A MANNER THAT IT DOES NOT BECOME CONTAMINATED WITH SEDIMENT BEFORE OR AFTER INSTALLATION.

UNDERDRAIN SPECIFICATIONS

THE UNDERDRAIN PIPE CONSISTS OF 6–INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 12'INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE. WATERTIGHT CLEAN–OUTS FOR EACH PIPE SHALL BE LEVEL WITH THE TOP OF THE MULCH. ALL CLEANOUTS SHALL HAVE A REMOVABLE WATERPROOF CAP. CLEANOUTS MUST BE CAPPED IMMEDIATELY AFTER THE FILTER MEDIUM IS IN PLACE.



NOTE:
1. FOR CLEAN OUTS WITHIN MICRO–BIORETENTION AREA. SEE PLAN FOR EXACT LOCATION.
2. USE COMPRESSION GASKET IN CONJUNCTION WITH CLEANOUT.

1 C-4J **MICRO–BIORETENTION CLEANOUT**
NOT TO SCALE

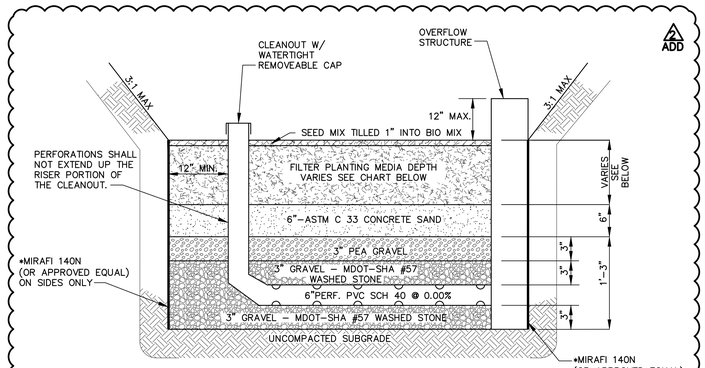
INSPECTION & MAINTENANCE BY OWNER

GRAVEL WETLAND AND MICRO–BIORETENTION FACILITIES

- INSPECTION AND MAINTENANCE SHALL OCCUR ANNUALLY OR AFTER ANY MAJOR RAIN EVENT.
- REMOVE SILT AND SEDIMENT FROM SURFACE OF FACILITY WHEN ACCUMULATION EXCEEDS ONE INCH.
- PRUNE PLANTS AND REMOVE WEEDS AS NEEDED. REMOVE AND REPLACE ANY DEAD VEGETATION AS NEEDED. WATER PLANTS DURING PROLONGED DRY PERIODS AS NEEDED.
- REMOVE TRASH AND DEBRIS FROM FACILITY.
- IN MICRO–BIORETENTION FACILITIES, IF WATER PONDS FOR MORE THAN 48 HOURS, REMOVE AND REPLACE THE HARDWOOD MULCH LAYER AND 2–3 INCHES OF PLANTING SOIL LAYER (AS NEEDED).
- IN MICRO–BIORETENTION FACILITIES, REMOVE AND REPLACE THE HARDWOOD MULCH LAYER ANNUALLY.

INSPECTION/MAINTENANCE SCHEDULE

THE COUNTY SHALL ENSURE THAT PREVENTIVE MAINTENANCE IS PERFORMED BY INSPECTING ALL PRIVATE STORMWATER MANAGEMENT SYSTEMS. INSPECTION SHALL OCCUR DURING THE FIRST YEAR OF OPERATION AND EVERY THREE (3) YEARS THEREAFTER, OR AFTER SEVERE STORMS. COUNTY SHALL NOTIFY OWNER OF ANY DEFICIENCIES DISCOVERED DURING THE INSPECTION. THE OWNER SHALL HAVE THIRTY (30) DAYS TO CORRECT THE DEFICIENCIES.



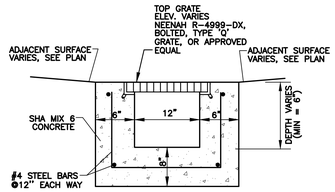
SWM FACILITY	SOIL FILTER DEPTH	AS–BUILT
SWM–1	2.00'	
SWM–2	2.00'	
SWM–3	2.00'	
SWM–4	2.00'	
SWM–6	3.00'	
SWM–7	3.00'	
SWM–8	3.00'	

*NOTE: PROVIDE MIRAFI 140N (OR APPROVED EQUAL) ON ALL SIDES OF FACILITY. NO FILTER FABRIC SHALL BE PLACED ON THE BOTTOM OR HORIZONTALLY ACROSS THE BOTTOM.

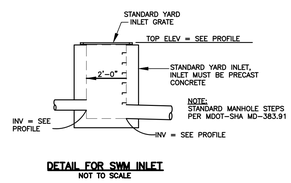
MICROBIORETENTION FACILITY – TYPICAL SECTION
NOT TO SCALE

STORM DRAIN NOTES:

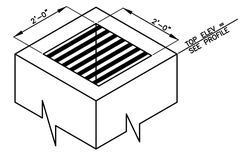
1. HDPE PIPE SHALL BE ADS TYPE N–12 OR APPROVED EQUAL. ALL JOINTS OF THE HDPE PIPE MUST MEET A MODIFIED ASTM 3212 AT 3.5 PSI HELD FOR 10 MINUTES, AS CERTIFIED BY AN INDEPENDENT TESTING LAB, AND HAVE DOUBLE GASKETS.
2. ALL PVC PIPE MUST BE SCH–40 OR THICKER, U.N.O.



2 C-4J **TRENCH DRAIN DETAIL**
NOT TO SCALE



DETAIL FOR SWM INLET
NOT TO SCALE



TOP DIMENSIONS FOR SWM INLET
NOT TO SCALE

STORM STRUCTURE NOTES:

1. CONTRACTOR SHALL SUBMIT CERTIFICATION THAT ALL STRUCTURES SUPPORT H–20 TYPE TRAFFIC LOADING. FOR REVIEW AND APPROVAL BY THE DESIGN ENGINEER.
2. TOP OF CURB HEAD PIECE ON ALL INLETS MUST MATCH ON–LINE AND AT GRADE WITH ADJACENT CURB.
3. INSTALL FLEXIBLE GASKET ADAPTER FOR ALL STRUCTURES WHERE PVC PIPE ENTERS/EXITS A CONCRETE STRUCTURE IN ACCORDANCE WITH WSSC STANDARDS AND SPECIFICATIONS.
4. ALL EXPOSED METAL SURFACES (I.E. LINTELS, GRATES, MANHOLE COVERS, ETC.) SHALL BE PAINTED WITH TWO (2) COATS OF BATTLESHIP GRAY PAINT (ZINC RICH).
5. TOP/GRADE ELEVATIONS ARE TO THE TOP CENTER OF STRUCTURE, NOT TO FLOW LINE.
6. ALL INLET TOP SLAB FRONT FACES SHALL BE PAINTED WITH THE FOLLOWING STORM DRAIN SIGN "CHESAPEAKE BAY DRAINAGE" & "DO NOT DUMP".
7. ALL MANHOLE FRAMES SHALL BE SECURELY ANCHORED TO THE TOP SLAB PER WSSC DETAIL 5/S4.3. (MAX. MANHOLE FRAME HEIGHT = 9")
8. ALL INLET GRATES SHALL BE BOLTED TO FRAME.
9. ALL STORM STRUCTURES INCLUDING MANHOLES, INLETS, END WALLS, AND PIPE SUPPORTS SHALL BE PRECAST. IT IS THE CONTRACTORS RESPONSIBILITY TO HAVE THE PRECAST MANUFACTURER DESIGN AND SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR REVIEW PRIOR TO PRECASTING BY A MARYLAND LICENSED P.E.

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____ DISTRICT MANAGER

DATE: _____

S.C.D. approval for sediment and erosion control is contingent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DEVELOPMENT REVIEW ENGINEERING

APPROVED: _____ DEVELOPMENT REVIEW CHIEF DATE

APPROVED: _____ STORMWATER MANAGEMENT DATE

REVIEWED IN ACCORDANCE WITH LOCAL COUNTY REQUIREMENTS. FREDERICK COUNTY ASSUMES NO LIABILITY FOR DESIGN AND/OR CONSTRUCTION. APPROVAL IS VALID FOR TWO (2) YEARS AFTER THE LAST DATE SHOWN ABOVE. THE PROJECT MUST BE UNDER CONSTRUCTION BEFORE THE APPROVAL EXPIRATION TO BE CONSIDERED ACTIVE. OTHERWISE, RESUBMITTAL OF PLANS, INCLUDING APPLICABLE FEES, MUST BE MADE TO DEVELOPMENT REVIEW FOR APPROVAL. FEES FOR RESUBMITTAL CANNOT BE WAIVED.

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CIVIL STRUCTURAL SPECIALTY ENGINEERING
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www.adtekengineers.com

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GRIMM AND PARKER
11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
www.grimmandparker.com

GP# 21740

STORMDRAIN PROFILES
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-4K
1/10/2019
BID SET
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DATE	DESCRIPTION
02/1/19	ADDENDUM 2

ADD

LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO: 0700417621
LIBER: 1158 FOLIO: 255
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO: 0700417694
ELECTION DISTRICT: 7

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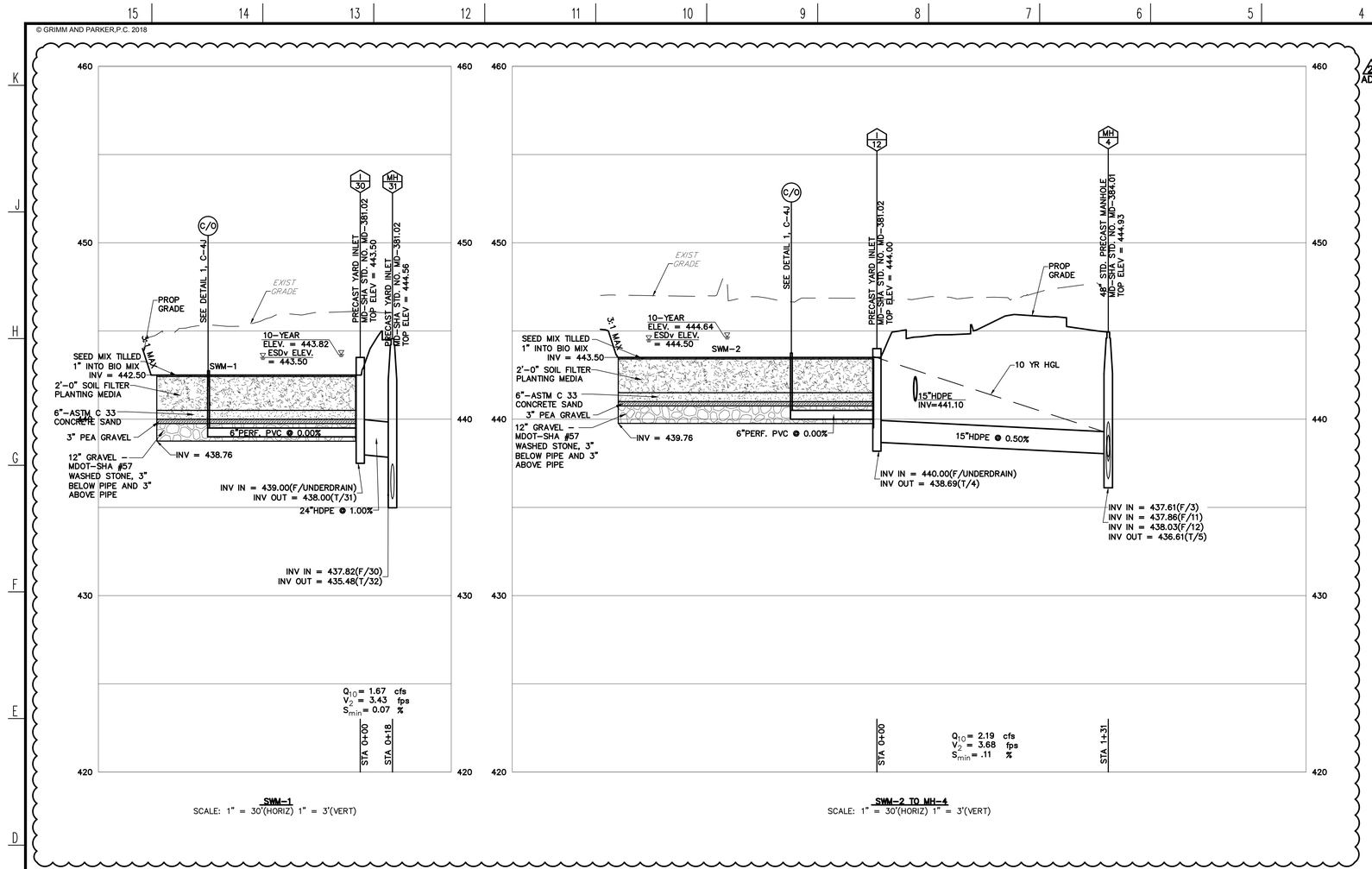

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LIBER: 7777 FOLIO: 135
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
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DATE	DESCRIPTION
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PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 07004176921

UBER: 1747 FOLIO: 35
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 07004176947
ELECTION DISTRICT: 7

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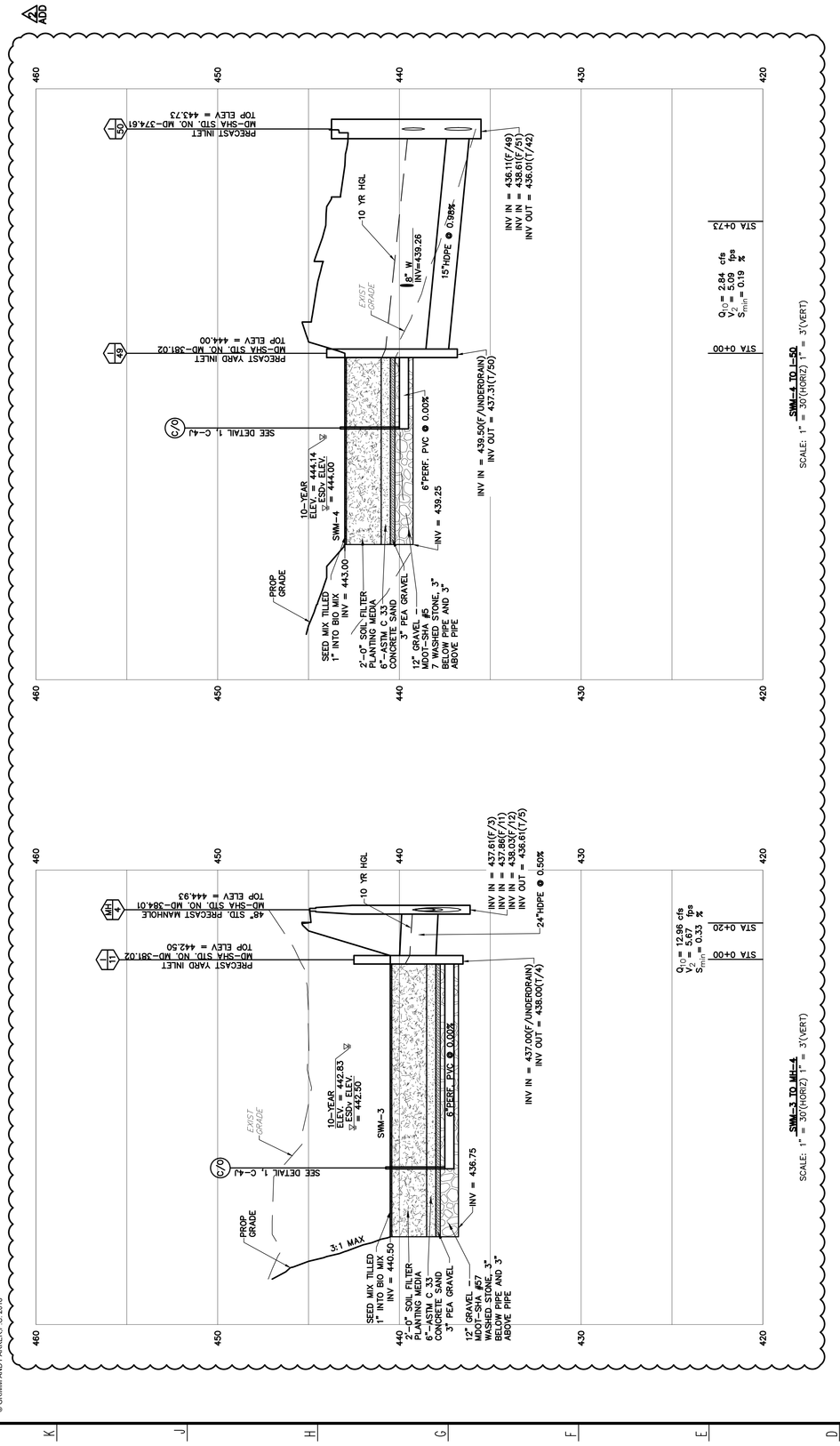

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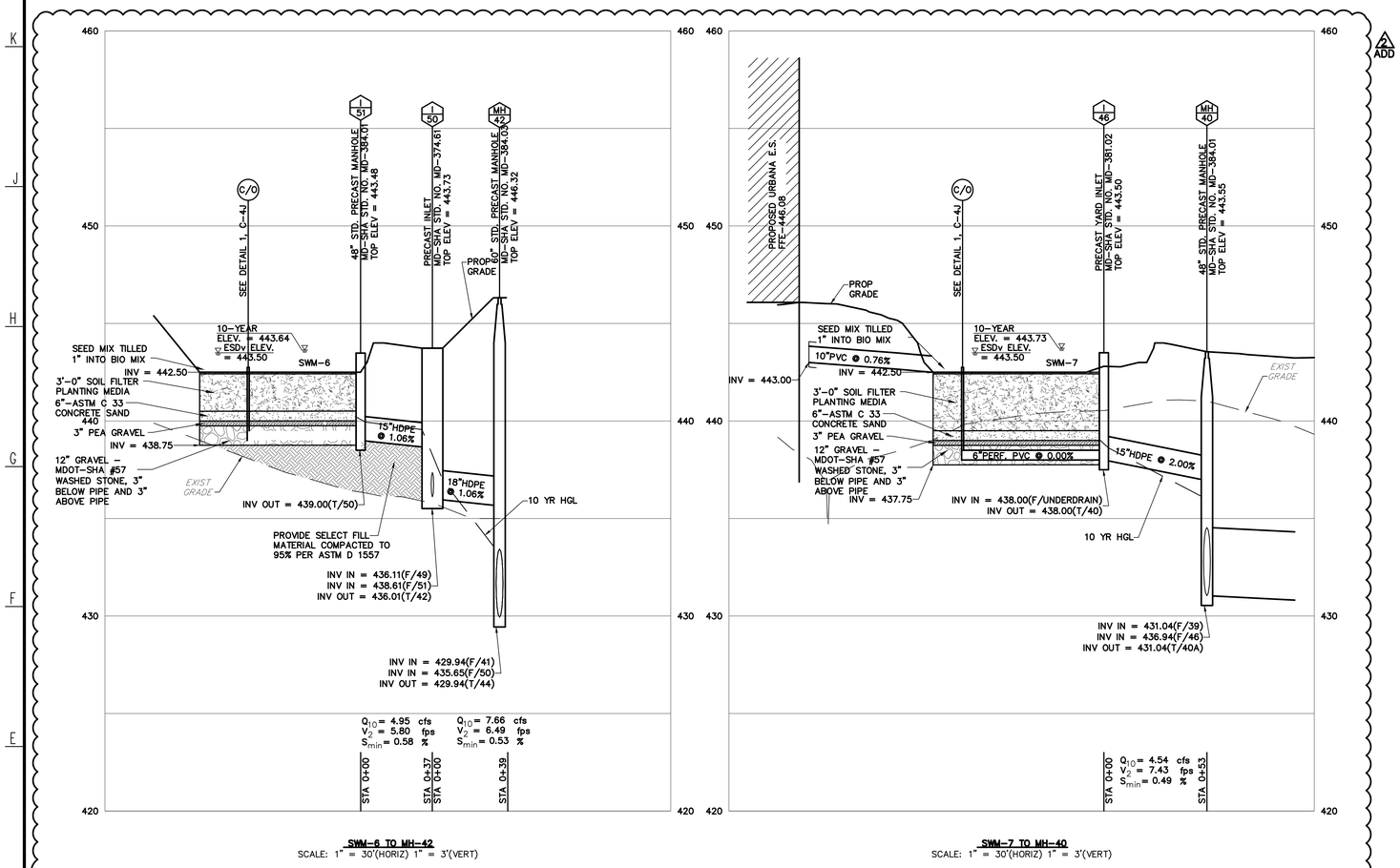

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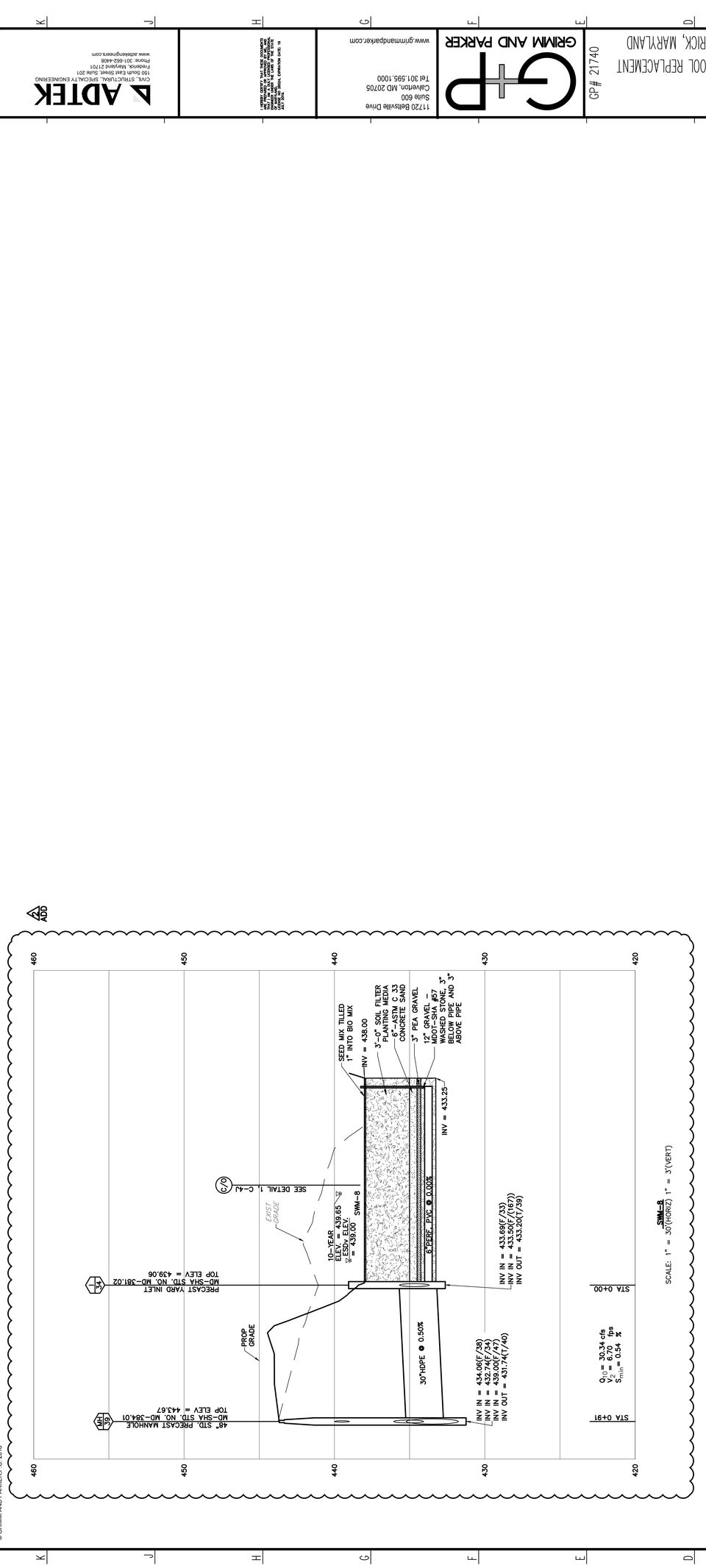

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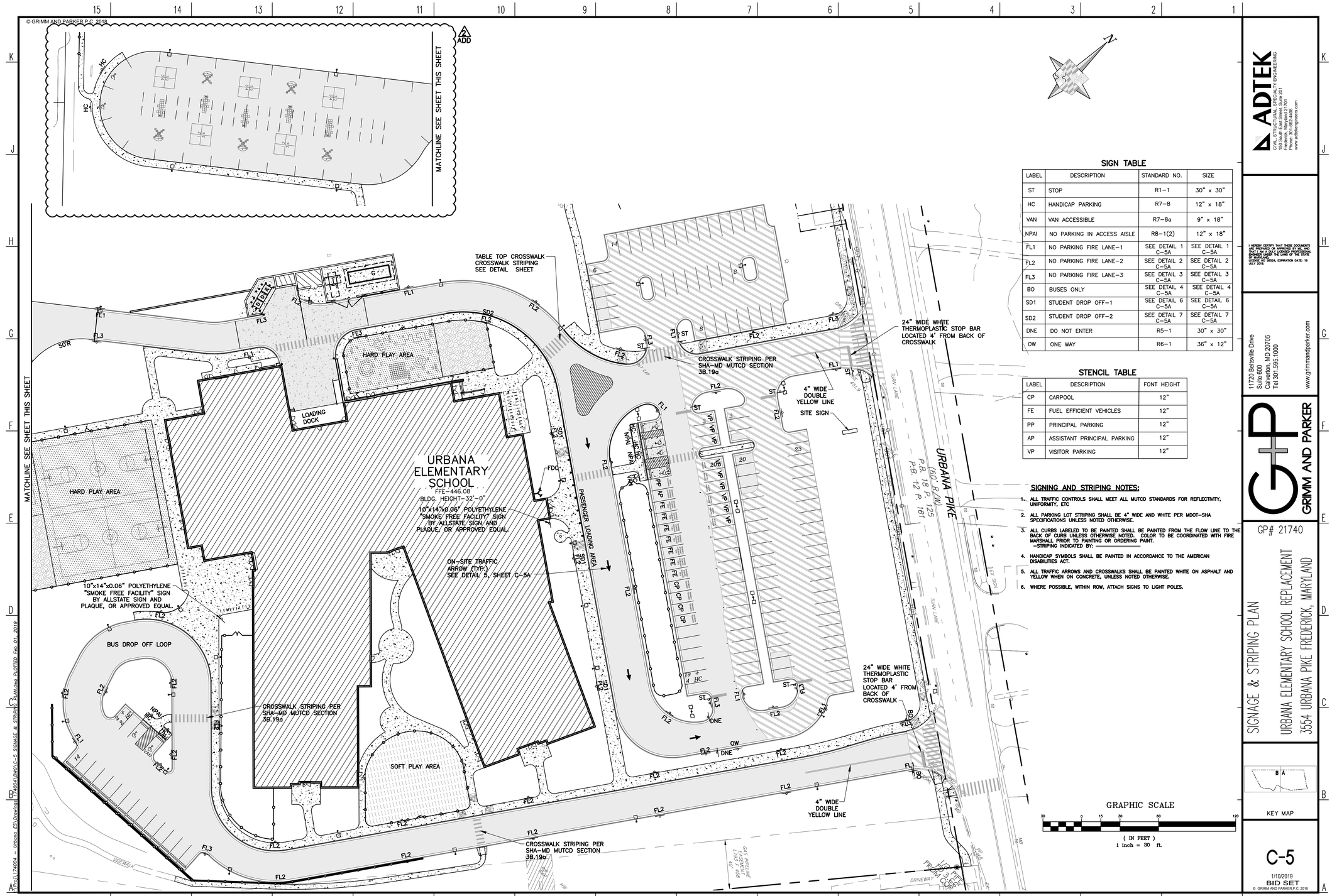

SIGN TABLE

LABEL	DESCRIPTION	STANDARD NO.	SIZE
ST	STOP	R1-1	30" x 30"
HC	HANDICAP PARKING	R7-8	12" x 18"
VAN	VAN ACCESSIBLE	R7-8a	9" x 18"
NPAI	NO PARKING IN ACCESS AISLE	R8-1(2)	12" x 18"
FL1	NO PARKING FIRE LANE-1	SEE DETAIL 1 C-5A	SEE DETAIL 1 C-5A
FL2	NO PARKING FIRE LANE-2	SEE DETAIL 2 C-5A	SEE DETAIL 2 C-5A
FL3	NO PARKING FIRE LANE-3	SEE DETAIL 3 C-5A	SEE DETAIL 3 C-5A
BO	BUSES ONLY	SEE DETAIL 4 C-5A	SEE DETAIL 4 C-5A
SD1	STUDENT DROP OFF-1	SEE DETAIL 6 C-5A	SEE DETAIL 6 C-5A
SD2	STUDENT DROP OFF-2	SEE DETAIL 7 C-5A	SEE DETAIL 7 C-5A
DNE	DO NOT ENTER	R5-1	30" x 30"
OW	ONE WAY	R6-1	36" x 12"

STENCIL TABLE

LABEL	DESCRIPTION	FONT HEIGHT
CP	CARPOOL	12"
FE	FUEL EFFICIENT VEHICLES	12"
PP	PRINCIPAL PARKING	12"
AP	ASSISTANT PRINCIPAL PARKING	12"
VP	VISITOR PARKING	12"

SIGNING AND STRIPING NOTES:

1. ALL TRAFFIC CONTROLS SHALL MEET ALL MUTCD STANDARDS FOR REFLECTIVITY, UNIFORMITY, ETC
2. ALL PARKING LOT STRIPING SHALL BE 4" WIDE AND WHITE PER MDOT-SHA SPECIFICATIONS UNLESS NOTED OTHERWISE.
3. ALL CURBS LABELED TO BE PAINTED SHALL BE PAINTED FROM THE FLOW LINE TO THE BACK OF CURB UNLESS OTHERWISE NOTED. COLOR TO BE COORDINATED WITH FIRE MARSHALL PRIOR TO PAINTING OR ORDERING PAINT.
   -STRIPING INDICATED BY: ———
4. HANDICAP SYMBOLS SHALL BE PAINTED IN ACCORDANCE TO THE AMERICAN DISABILITIES ACT.
5. ALL TRAFFIC ARROWS AND CROSSWALKS SHALL BE PAINTED WHITE ON ASPHALT AND YELLOW WHEN ON CONCRETE, UNLESS NOTED OTHERWISE.
6. WHERE POSSIBLE, WITHIN ROW, ATTACH SIGNS TO LIGHT POLES.

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www.adtekengineers.com

I HEREBY CERTIFY THAT THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26824, EXPIRATION DATE: 19 JULY 2019.

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GRIMM AND PARKER

GP# 21740

SIGNAGE & STRIPING PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

KEY MAP

C-5
1/10/2019
BID SET
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DATE	DESCRIPTION
02/1/19	ADDENDUM 2

LIBER: 1158 FOLIO: 252
PARCEL: P133 TAX MAP: HN43
ACCOUNT NO.: 0700417621
LIBER: 1158 FOLIO: 135
PARCEL: P108 TAX MAP: HN53
ACCOUNT NO.: 0700417694
ELECTION DISTRICT: 7

GP# 21740
SIGNAGE & STRIPING PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND
C-5
01/10/2019
BID SET
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I:\Proj\174004 - Urbana ES\Drawings 17400A\DWG\C-5 SIGNAGE & STRIPING PLAN.dwg PLOTTED Feb 01, 2019

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PARKING LOT CANOPY COVERAGE TABULATION:

MINIMUM CANOPY COVERAGE REQUIRED = 20%

PARKING LOT #1:
PARKING LOT AREA = 14,035 SF
CANOPY COVERAGE PROVIDED = 4,980 SF / 35%

PARKING LOT #2:
PARKING LOT AREA = 39,327 SF
CANOPY COVERAGE PROVIDED = 8,312 SF / 21%

PARKING LOT #3:
PARKING LOT AREA = 10,571 SF
CANOPY COVERAGE PROVIDED = 2,285 SF / 22%

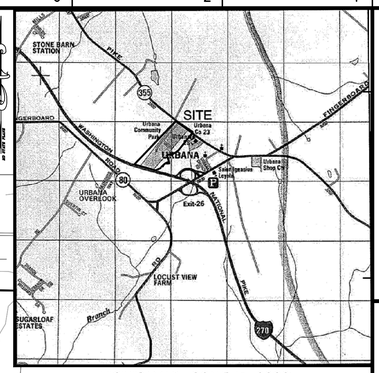
**AFTER HOURS PARKING AND BUS PARKING AREAS WERE NOT TABULATED

PARKING LOT LANDSCAPE TABULATION:

PARKING LOT #1:
PROPOSED GREEN SPACE = 1,500 SF
REQUIRED SHRUB=30
PROVIDED SHRUB=36

PARKING LOT #2:
PROPOSED GREEN SPACE = 8,580 SF
REQUIRED SHRUB=172
PROVIDED SHRUB=172

PARKING LOT #3:
PROPOSED GREEN SPACE = 1,756 SF
REQUIRED SHRUB=36
PROVIDED SHRUB=36



VICINITY MAP SCALE 1"=2000'

LEGEND

- PROPOSED CANOPY TREE
- PROPOSED ORNAMENTAL TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUB MULCHED IN BEDS
- TREE LINE
- SCRUB AREA/ NON-FOREST CANOPY
- WETLANDS
- PARKING AREA FOR GREENSPACE CALCULATIONS
- PROP. SEED MIX
- SUBJECT PROPERTY BOUNDARY
- LOD — LOD — LOD — LIMIT OF DISTURBANCE
- EXISTING STREAM
- PROPOSED CONTOUR
- EXISTING CONTOUR 446
- PROPOSED CANOPY AREA
- PROP. SOD IN PARKING AREA
- EXISTING SPECIMENT TREE >30"DBH WITH CRZ
- EXISTING TREE TO BE REMOVED WITH CRZ

CAUTION: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED (ORIGINAL SIZE = 24"x 36")

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

LANDSCAPE PLAN

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

File #:	SP07-20
A/P #:	18412
Due Date:	

L-2.1
01/10/2019
BIDSET

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MATCHLINE SHEET L-2.2

A/P 18412 SP07-20

K:\FIELD PROJECTS\17-085\DRAWINGS\17-085 LS.dwg PLOTTED Jan 31, 2019

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LANDSCAPE PLANTING PLAN SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY	COMMENTS
TREES:							
AL	*Amelanchier laevis 'Cumulus'*	Comulus Serviceberry	7-8' ht.	B&B	AS SHOWN	16	SINGLE STEM
AR	*Acer rubrum 'Autumn Flame'*	'Autumn Flame' Red Maple	2.5"cal.	B&B	AS SHOWN	7	SINGLE STEM
CC	*Cercis canadensis*	Eastern Redbud	7-8' ht.	B&B	AS SHOWN	4	SINGLE STEM
IO	*Ilex opaca*	American Holly	6-8'	B&B	AS SHOWN	23	SINGLE STEM
JV	*Juniperus virginiana*	Eastern Red Cedar	6'-8'	B&B	AS SHOWN	24	SINGLE STEM
LS	*Liquidambar styraciflua 'Rotundiloba'*	Fruitless Sweet Gum	2.5"cal.	B&B	AS SHOWN	11	
NS	*Nyssa slyvatica*	Black Gum	2.5"cal.	B&B	AS SHOWN	4	
MG	*Magnolia x 'Galaxy'*	Galaxy Magnolia	2.5" cal.	B&B	AS SHOWN	5	
PA	*Picea abies*	Norway Spruce	7'-8'	B&B	AS SHOWN	10	
pp	*Picea pungens Var. Glauca*	Colorado Blue Spruce	6'-7'	B&B	AS SHOWN	8	
PO	*Platanus occidentalis*	American Sycamore	2.5"cal.	B&B	AS SHOWN	3	
QP	*Quercus Phellos*	Willow Oak	2.5"cal.	B&B	AS SHOWN	19	
QR	*Quercus rubra*	Red Oak	2.5"cal.	B&B	AS SHOWN	1	Scarlet Foliage in Autumn
TC	*Tilia cordata*	Littleleaf Linden	2.5"cal.	B&B	AS SHOWN	7	
SHRUBS:							
CA	*Clethra alnifolia*	Summersweet Clethra	3 gal.	Cont.	AS SHOWN	52	
CS	*Cornus sericea 'Cardinal'*	Red-Twig Dogwood	3'-4' ht.	B&B	AS SHOWN	18	
IGS	*Ilex glabra "Shamrock"*	'Shamrock" Inkberry	#3, 2'-2 1/2'	Cont.	AS SHOWN	91	
ITV	*Itea virginica 'Little Henry'*	Sweetspire	3 gal.	Cont.	AS SHOWN	63	Ensure Compact Cultivar
PL	*Prunus laurocerasus "Otto Luyken"*	Otto Luyken Laurel	2'-2 1/2'	B&B	AS SHOWN	18	
VR	*Viburnum rhytidophyllum*	Leatherleaf Viburnum	#3, 2'-2 1/2'	Cont.	AS SHOWN	38	
GRASSES, PERENNIALS AND GROUNDCOVERS:							
SOD	*SOD - Tall Fescue/Kentucky Bluegrass*		SOD	SOD	SQAURE YARD	-	STABILIZATION

ADD 2

ADD 2

SITE STABILIZATION NOTE:

—ALL DISTURBED AREAS ARE TO BE STABILIZED WITH MD CERTIFIED SOD

* FERTILIZER PER SPECS AND SOIL SAMPLE RESULTS.

NOTE: FOR ALL DISTURBED AREAS NOT SHOWN OR COVERED ON THE LANDSCAPE PLAN, SEE PERMANENT SEEDING REQUIREMENTS ON EROSION & SEDIMENT CONTROL DRAWINGS.

ALL SHRUB AREAS ARE TO BE MULCHED IN BEDS. TREES ARE TO BE MULCHED INDIVIDUALLY.

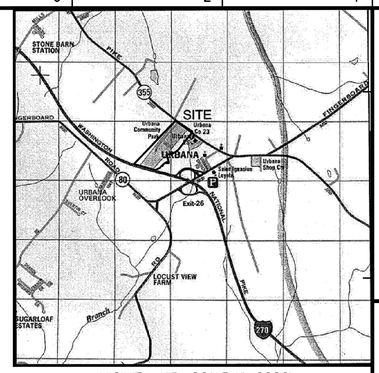
STORMWATER MANAGEMENT & SITE SEED MIX PLANTING SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	TOTAL QUANTITY	COMMENTS
SEED MIXES							
S-2	*RAIN GARDEN GRASS MIX—ERNST		SEED	SEED	15LBS/ACRE	5.5 LBS	STABILIZATION

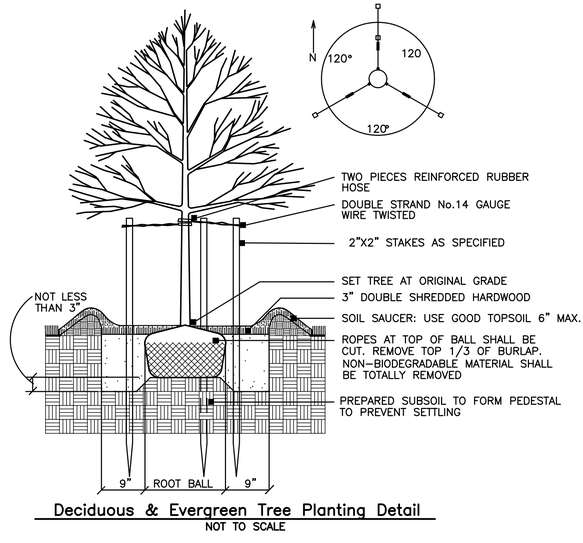
ADD 2

*RAIN GARDEN GRASS MIX

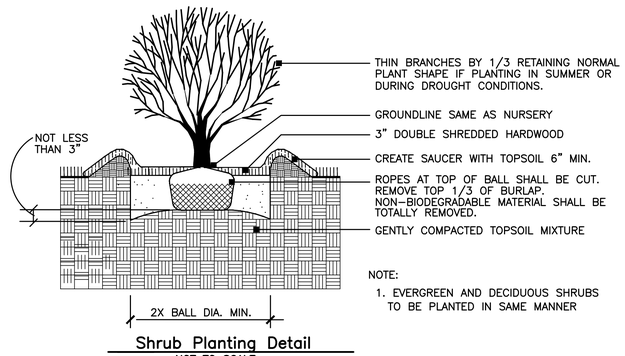
MIX COMPOSITION
38.0% SCHIZACHYRIUM SCOPARIUM (ANDROPOGON SCOPARIUS), FORT INDIANTOWN GAP—PA ECOTYPE (LITTLE BLUESTEM, FORT INDIANTOWN GAP—PA ECOTYPE)
25.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
15.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
10.0% PANICUM RIGIDULUM (P. STIPITATUM), COASTAL PLAIN NC ECOTYPE (REDTOP PANICGRASS, COASTAL PLAIN NC ECOTYPE)
5.0% AGROSTIS PERENNANS, PA ECOTYPE (AUTUMN BENTGRASS, PA ECOTYPE)
5.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
1.0% JUNCUS EFFUSUS (SOFT RUSH)
1.0% JUNCUS TENUIS, PA ECOTYPE (PATH RUSH, PA ECOTYPE)



VICINITY MAP SCALE 1"=2000'

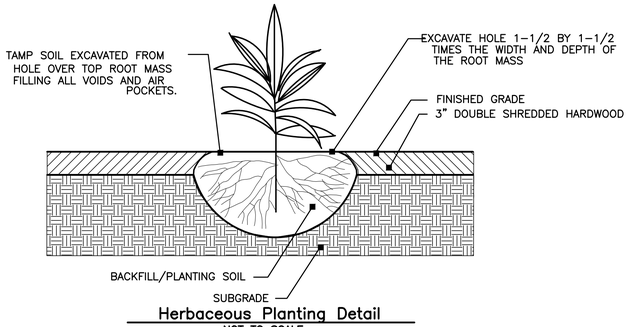


Deciduous & Evergreen Tree Planting Detail
NOT TO SCALE



NOTE:
1. EVERGREEN AND DECIDUOUS SHRUBS TO BE PLANTED IN SAME MANNER

Shrub Planting Detail
NOT TO SCALE



Herbaceous Planting Detail
NOT TO SCALE

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A/P 18412 SP07-20

File #:	SP07-20
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GP# 21740

LANDSCAPE PLAN
URBANA ELEMENTARY SCHOOL REPLACEMENT
3554 URBANA PIKE FREDERICK, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

L-2.3
01/10/2019
BIDSET

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K:\PLD PROJECTS\17-085\DRAWINGS\17-085 LS.dwg PLOTTED: Jan 31, 2019

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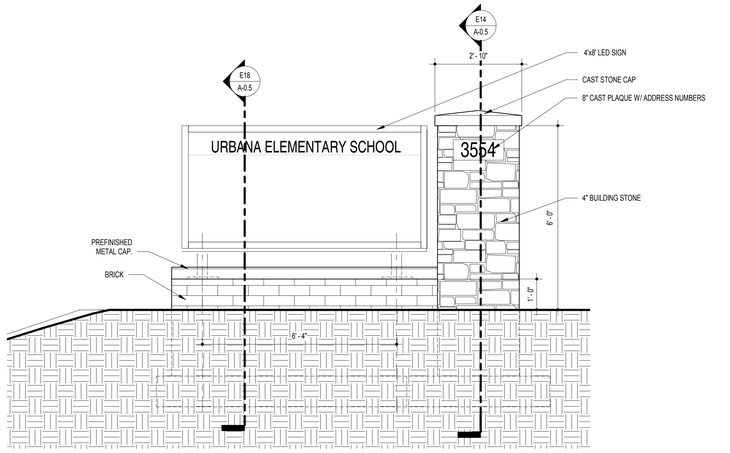
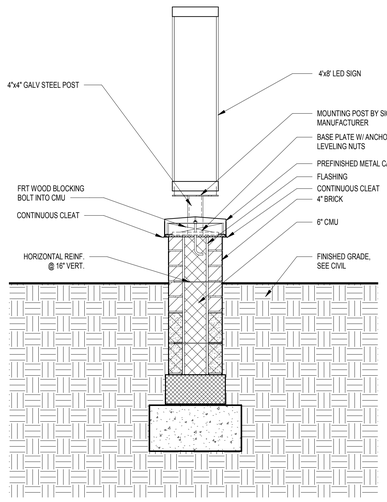
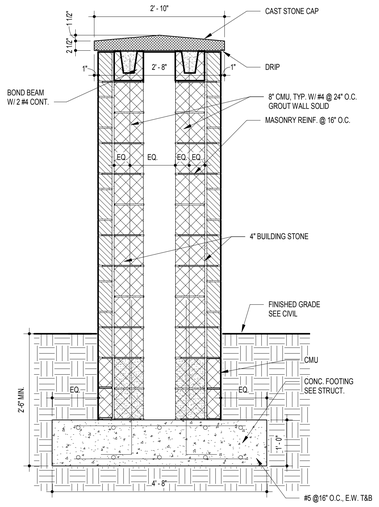


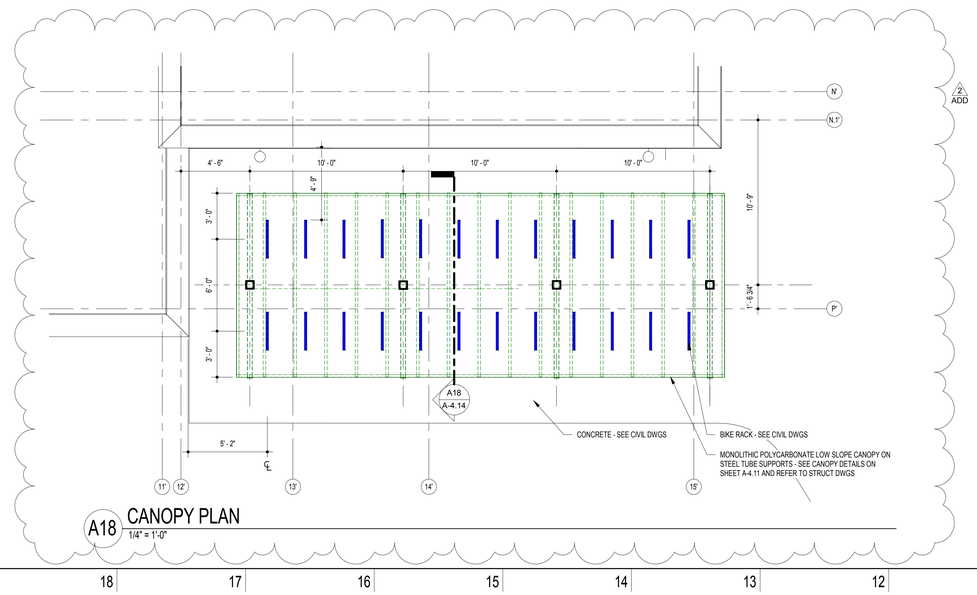
J18 SCHOOL SIGN ELEVATION
1/2" = 1'-0"



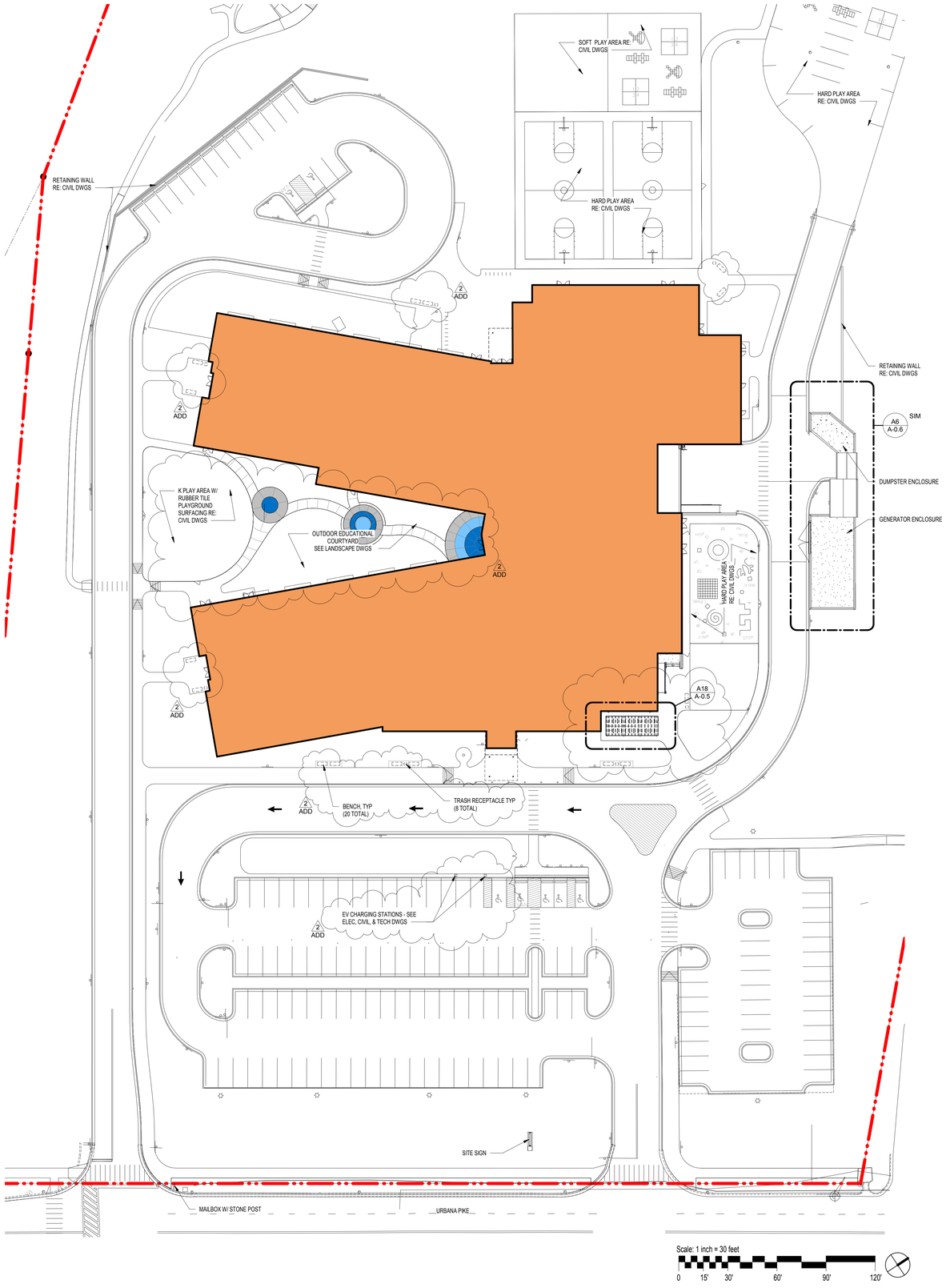
E18 ENTRY SCHOOL SIGN SECTION
3/4" = 1'-0"



E14 SCHOOL SIGN SECTION
3/4" = 1'-0"



A18 CANOPY PLAN
1/4" = 1'-0"



A11 ARCHITECTURAL SITE PLAN
1" = 30'-0"

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GP #21740

ARCHITECTURAL SITE PLAN

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-0.5
01/10/2019
BID SET

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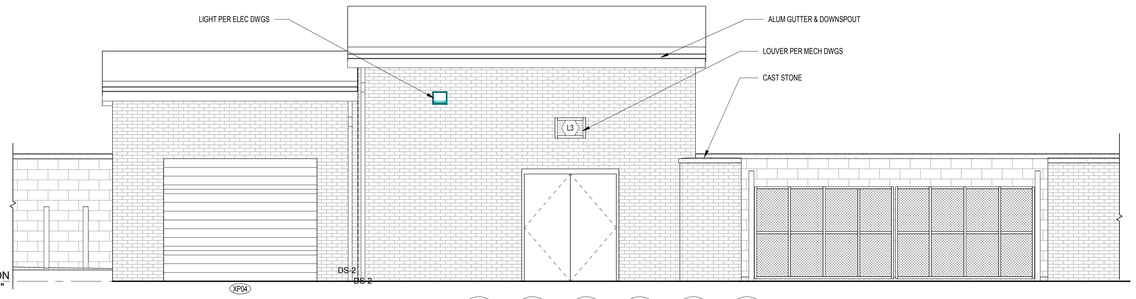
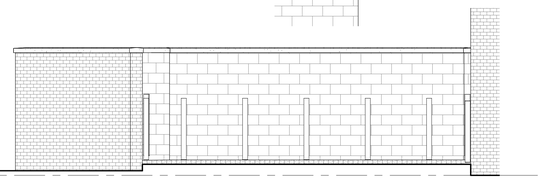
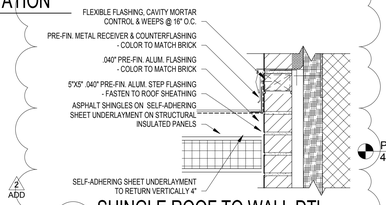
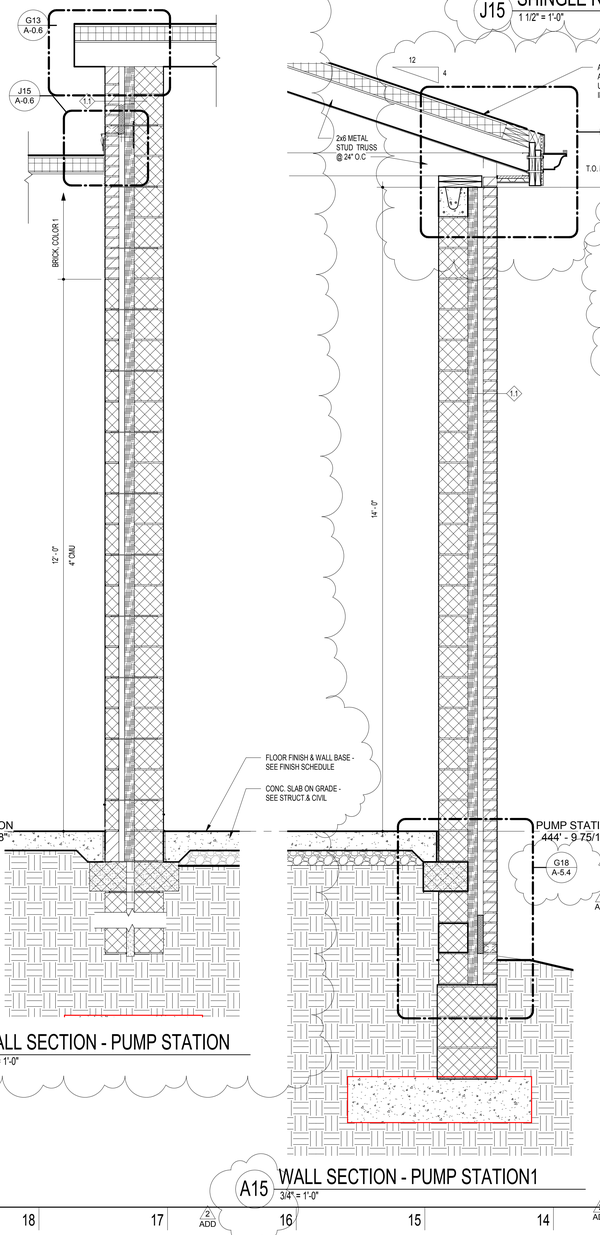


K18 PUMP STATION / GEN ELCOSURE - WEST ELEVATION
1/4" = 1'-0"



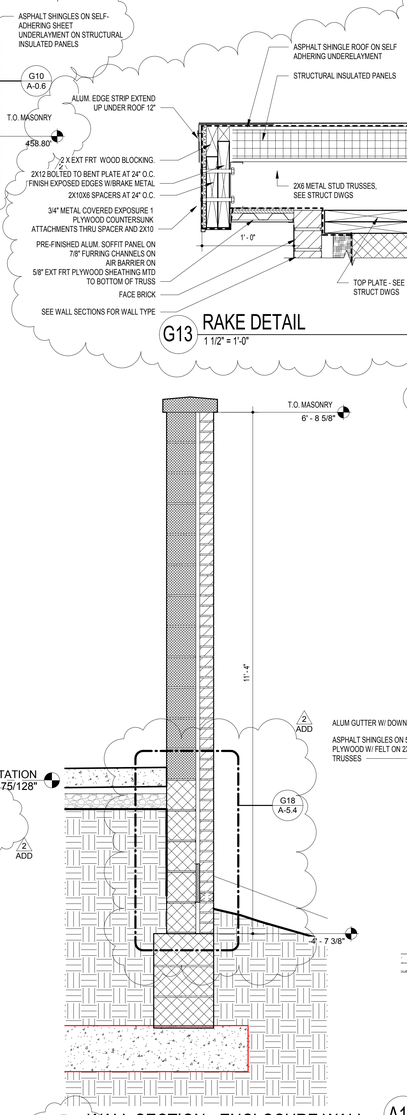


J15 SHINGLE ROOF TO WALL DTL
1 1/2" = 1'-0"

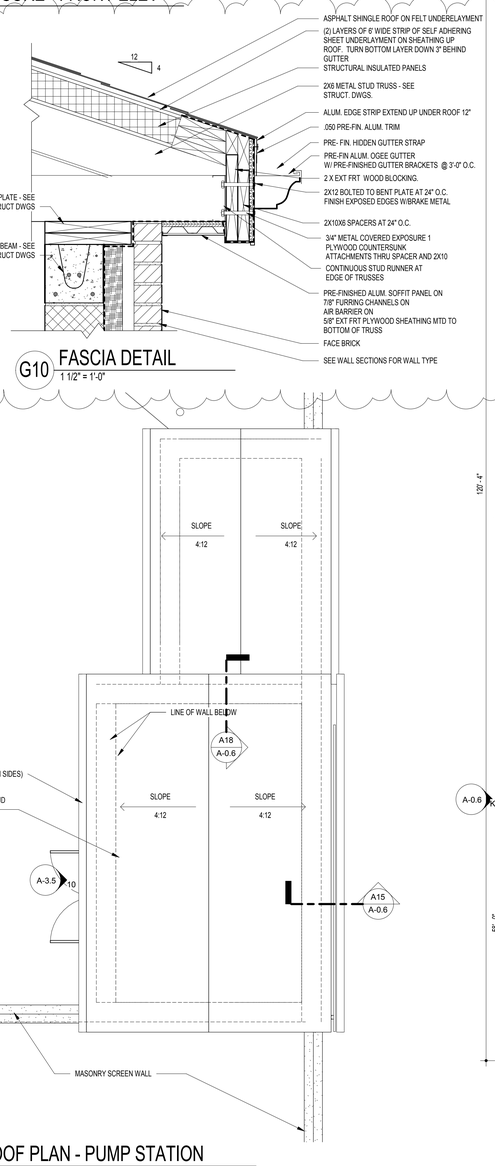


A18 WALL SECTION - PUMP STATION
3/4" = 1'-0"

A15 WALL SECTION - PUMP STATION1
3/4" = 1'-0"



G13 RAKE DETAIL
1 1/2" = 1'-0"

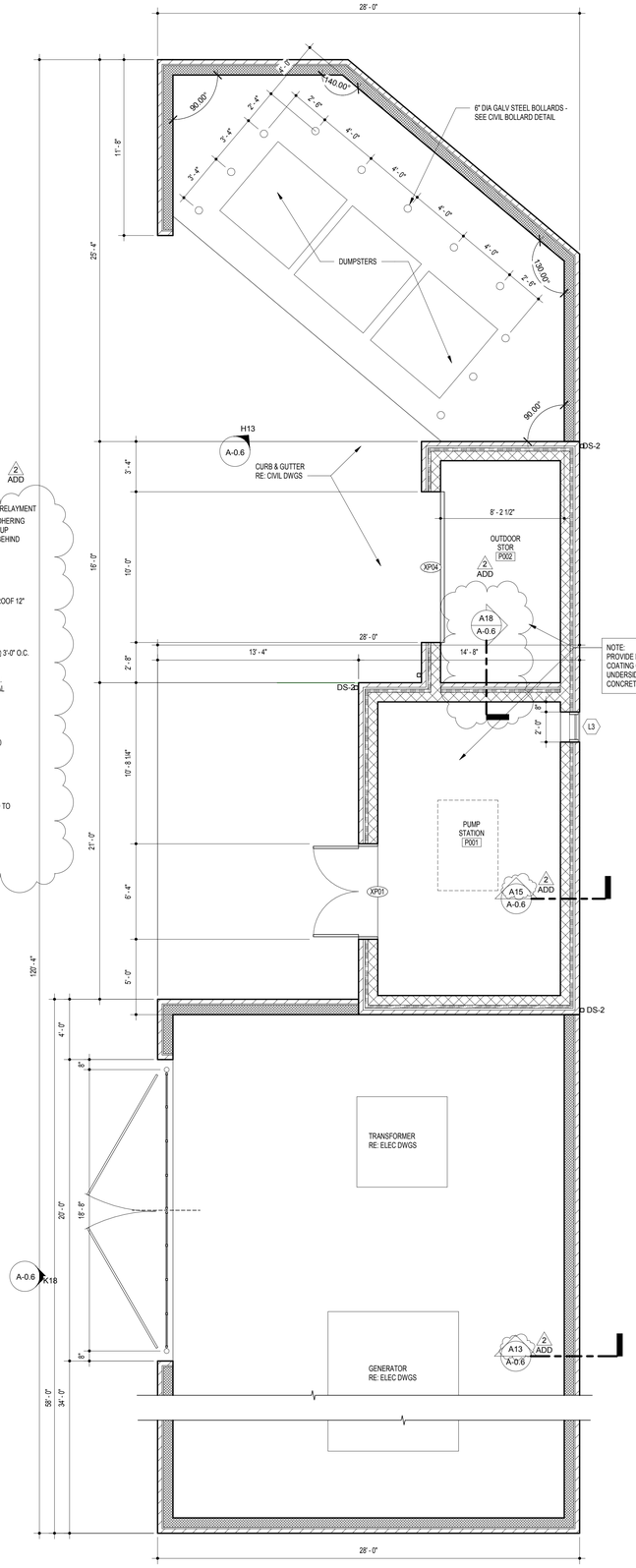


G10 FASCIA DETAIL
1 1/2" = 1'-0"

H13 TRASH ENCLOSURE - FRONT ELEV
1/4" = 1'-0"

A13 WALL SECTION - ENCLOSURE WALL
3/4" = 1'-0"

A11 ROOF PLAN - PUMP STATION
1/4" = 1'-0"



A6 PUMP STATION & GENERATOR ENCLOSURE PLAN
1/4" = 1'-0"

NOTE:
PROVIDE HIGH PERFORMANCE COATING ON ALL WALLS TO UNDERSIDE OF JOIST AND SEALED CONCRETE FLOOR.

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SITE DETAILS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-0.6

01/10/2019
BID SET

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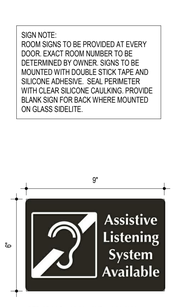
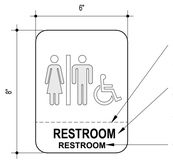
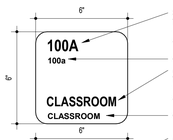
ROOM SIGNAGE

SIGN NOTE:
ROOM SIGNS TO BE PROVIDED AT EVERY DOOR. EXACT ROOM NUMBER TO BE DETERMINED BY OWNER. SIGNS TO BE MOUNTED WITH DOUBLE STICK TAPE AND SILICONE ADHESIVE. SEAL PERIMETER WITH CLEAR SILICONE CAULKING. PROVIDE BLANK SIGN FOR BACK WHERE MOUNTED ON GLASS SIDELITE.

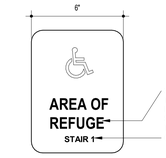


PER ADAAG 4.30.7(4) AND 4.1.3(19)(b)
PROVIDE SIGNAGE AT ROOM A111 AUDITORIUM AND A140 GYM



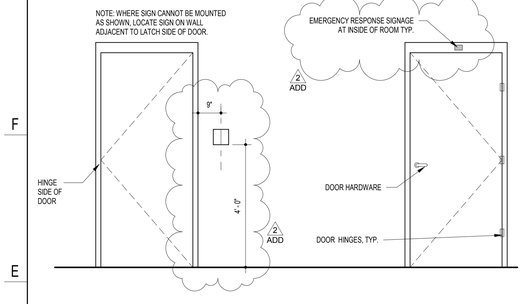


PROVIDE THIS SIGN ADJACENT TO DOOR AT ALL DOORS WITH EXIT LIGHT.



PROVIDE AREA OF REFUGE SIGNAGE FOR EACH AREA INDICATED ON CODE STUDY (IF NOT INDICATED PROVIDE 4). ALSO PROVIDE SIGNAGE AT EACH LOCATION WITH DETAILED INSTRUCTIONS ON HOW TO OPERATE THE SPACE TO MEET IBC 1007.6.4 AND 1007.6.5

ELEVATION - ROOM SIGNAGE



DOOR NO.	DOOR NOMINAL SIZE WIDTH	DOOR NOMINAL SIZE HEIGHT	DOOR NOMINAL SIZE THK.	DOOR TYPE	DOOR MAT'L	FRAME MAT'L	FRAME TYPE	FRAME SECTIONS JAMB	FRAME SECTIONS HEAD	FRAME SECTIONS SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
A010	6' - 0"	7' - 2"	0' - 2"	FG2	ALUM	ALUM	SF27	A18/A-3.8	C15/A-3.7			01	1,2,6, 22
A010A	6' - 0"	7' - 2"	0' - 2"	FG2	ALUM	ALUM	SF27	A18/A-3.8	C15/A-3.7			02	1,2,6
A011	8' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1			05	1,2,5
A012	8' - 0"	7' - 0"	0' - 1 3/4"	NV	HM	HM	2	J1	H1		90 MIN	07	1,2,5,15
A022	8' - 0"	7' - 0"	0' - 1 3/4"	NV	HM	HM	2	J1	H1	S5	90 MIN.	07	1,2,5,15
A101	3' - 0"	7' - 0"	0' - 1 3/4"	FG2	SCWD	HM	11	J1	H1	S2		08A	1
A101A	4' - 0"	7' - 0"	0' - 1 1/2"				2	J2	H2			19	BIFOLD
A101B	3' - 0"	7' - 0"	0' - 1 3/4"	FG2	SCWD	HM	10	J1	H1	S2		46	1, 19, 22
A101C	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		09A	1
A102	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S2		09	1
A102A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2			11	
A102B	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A102D	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		08	1
A102E	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		12	
A103	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2			10	
A104	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2			11	
A105	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J2	H2	S3		10	
A105A	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	3	J2	H2	S2		10	
A106	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2			10	
A107	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J2	H2			10	
A108	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		24	1
A110	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A110B	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		08B	1
A111	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J2	H2	S3		12	
A112	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		09	1
A113	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		10	
A113A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		09	1
A113AA	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		24	1
A114	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A114A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S1		08	1
A116	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A116A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A117	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A117A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A119	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A119A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A120	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A120A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A122	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		08	1
A123	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A123A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A124	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A124A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A125	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
A125A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A128	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		08	1
A130	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		09	1
A132	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		10	
A201	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A202	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A204	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		10	
A204A	3' - 6"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S1		13	1, 11
A204B	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		08	1
A205	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A208	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A208A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A209	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A209A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A210	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A210A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A211	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A211A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A214	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
A214A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A215	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
A215A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A216	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
A216A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A217	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
A217A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A220	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A220A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A221	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
A221A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
A222	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		09	1
A223	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		11	
A227	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B010	8' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1			05	1,2,5
B010A	6' - 0"	7' - 2"	0' - 2"	FG2	ALUM	ALUM	SF27	A18/A-3.8	C15/A-3.7			02	1,2,6
B010B	6' - 0"	7' - 2"	0' - 2"	FG2	ALUM	ALUM	SF27	A18/A-3.8	C15/A-3.7			01	1,2,6
B011	8' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1	S2		05	1,2,5
B012	8' - 0"	7' - 0"	0' - 1 3/4"	NV	HM	HM	2	J1	H1		90 MIN	07	1,2,5,15
B022	8' - 0"	7' - 0"	0' - 1 3/4"	NV	HM	HM	2	J1	H1	S5	90 MIN	07	1,2,5,15
B101A	6' - 0"	7' - 0"	0' - 2"	FG2	SCWD	HM	9	J1	H1	S2		30	1,2
B101AB	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	8	J2	H2	S2		10	
B101BA	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		08	1
B101BB	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J2	H2	S2		10	
B101EA	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	3	J2	H2	S3		10	
B101EB	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		09	
B102	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S1		09	1
B102A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S1		08B	1
B103	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
B103A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B104	3' - 0"	7' - 0"	0' - 1 3/4"	NV2	SCWD	HM	1	J1	H1	S2		09	1, 22
B104A	3' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	1	J2	H2	S2		10B	25
B106	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B106A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		24	1
B106C	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		10	
B106D	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		23A	
B107	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B107A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B109	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		10	
B110	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
B110A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B112	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
B112A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B116	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B116A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B118	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B118A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B201	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
B201A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		23	
B202	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		14	
B203	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B206	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B207	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B207A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B208	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B209	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B209A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S4		22	
B210	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B210A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B211	3' - 0"	7' - 0"	0' - 1 3/4"	NV2	SCWD	HM	1	J1	H1	S2		09	1 ,22
B211A	3' - 0"	7' - 0"	0' - 1 3/4"	NV2	SCWD	HM	1	J1	H1	S2		10A	1, 22
B211B	3' - 0"	7' - 0"	0' - 1 3/4"	NV2	SCWD	HM	1	J2	H2	S2		10B	
B213	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B213A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S4		22	
B214	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
B214A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B215	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
B215A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B216	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		11	
B216A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B219	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B219A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B220	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B220A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
B221	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		10	
B222	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
B222A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	

2 ADD

DOOR NO.	DOOR NOMINAL SIZE WIDTH	DOOR NOMINAL SIZE HEIGHT	DOOR NOMINAL SIZE THK.	DOOR TYPE	DOOR MAT'L	FRAME MAT'L	FRAME TYPE	FRAME SECTIONS JAMB	FRAME SECTIONS HEAD	FRAME SECTIONS SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
C010	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1			05	1,2,5
C012	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		34	1
C012A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	2	J1	H1	S1		27	
C013A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1			15	1
C101	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
C101A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		10	25
C102	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
C102A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		10	25
C103	6' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	2	J1	H1	S1		28	1, 10
C104	3' - 6"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		16	1,11
C105	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		09	1
C106	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S1		08	1
C107	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		17	1,11
C108	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		35	1
C109	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S4		35	1
C110	3' - 6"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		49	1, 2, 11
C111	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1	S2		28	1,10, 25
C114	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		10	
C114A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		12	
C115	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		25	1
C116	6' - 0"	7' - 0"	0' - 2"	FG2	SCWD	HM	14	J1/J5	H2			31	1,2,11
C116A	6' - 0"	7' - 0"	0' - 2"	FG2	SCWD	HM	14	J1/J5	H2			31A	1,2,11
C117	3' - 6"	3' - 6"	0' - 2"	S	SS	SS		G10/A-5.4	K10/A-5.4	K10/A-5.4		42	
C118	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		09	1
C118A	3' - 0"	7' - 2"	0' - 1 3/4"	FG2	SCWD	HM	16	J1/J5	H2	S2		20	
C118B	3' - 0"	7' - 2"	0' - 1 3/4"	FG2	SCWD	HM	16	J5	H2	S2		20	
C118C	3' - 0"	7' - 2"	0' - 1 3/4"	FG2	SCWD	HM	16	J5	H2	S2		20	
C118D	3' - 0"	7' - 2"	0' - 1 3/4"	FG2	SCWD	HM	17	J5	H2	S2		20	
C118E	3' - 0"	7' - 2"	0' - 1 3/4"	FG2	SCWD	HM	17	J5	H2	S2		20	
C118F	3' - 0"	7' - 2"	0' - 1 3/4"	FG2	SCWD	HM	17	J1/J5	H2	S2		20	
C119	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2			09	1
C120	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		35A	1
C120A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		25	1
C121	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
C122	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S2		09	1
C123	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	3	J1	H1	S3		09	1
C123A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S4		25	1
C123B	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S4		25	1
C126	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		34	1
C127	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2	60 MIN	34	1
C127A	3' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	1	J1	H1			10	
C128	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S1	60 MIN	18	1
C130	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1		60 MIN	36	1, 2
C133	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J6	H6	S6		32	1,2,11
C133A	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J6	H6	S6		32A	1,2,11
C134	6' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	2	J6	H6	S6		28	1,10
C135	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J6	H6	S6		12	
C135A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		25	1
C201	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
C201A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J2	H2	S3		22	
C202	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		24	1
C203	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S2		10	
C204	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1	S1		29	10,11
C205	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		10	
C205A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		22	
C206	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		24	1
C207	3' - 0"	7' - 0"	0' - 1 3/4"	HG	SCWD	HM	1	J1	H1	S2		12	
C207A	3' - 0"	7' - 0"	0' - 1 3/4"	F	SCWD	HM	1	J1	H1	S3		22	
S1.1	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1	S2	60 MIN	37	1,2,5
S1.2	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1	S5	60 MIN	50	1,2,5,14
S2.1	6' - 0"	7' - 0"	0' - 1 3/4"	NV	SCWD	HM	2	J1	H1	S3	60 MIN	50	1,2,5,14, 22
S2.

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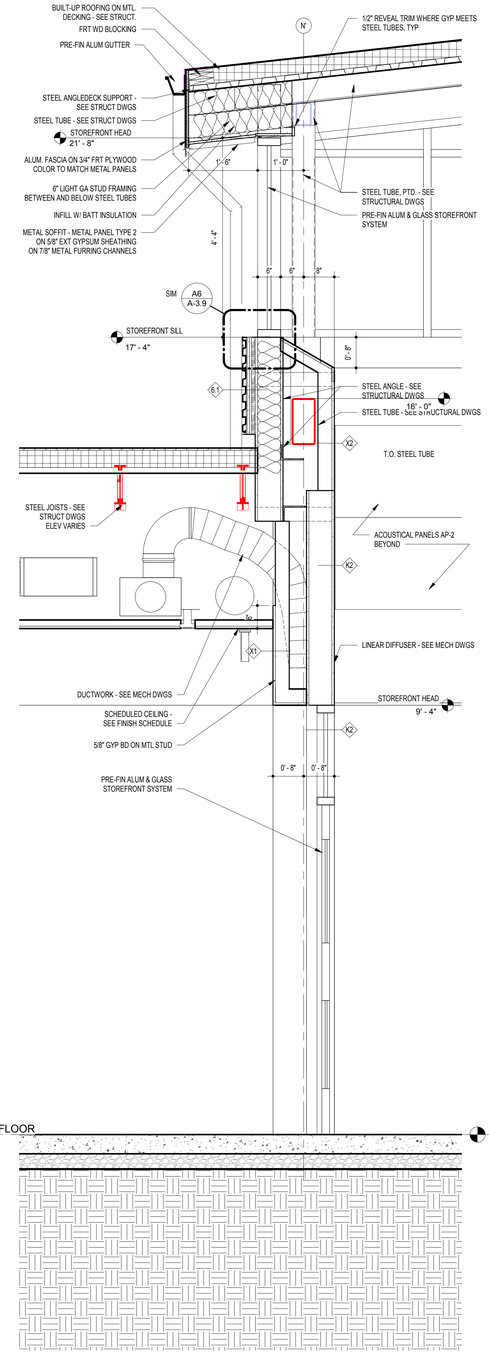
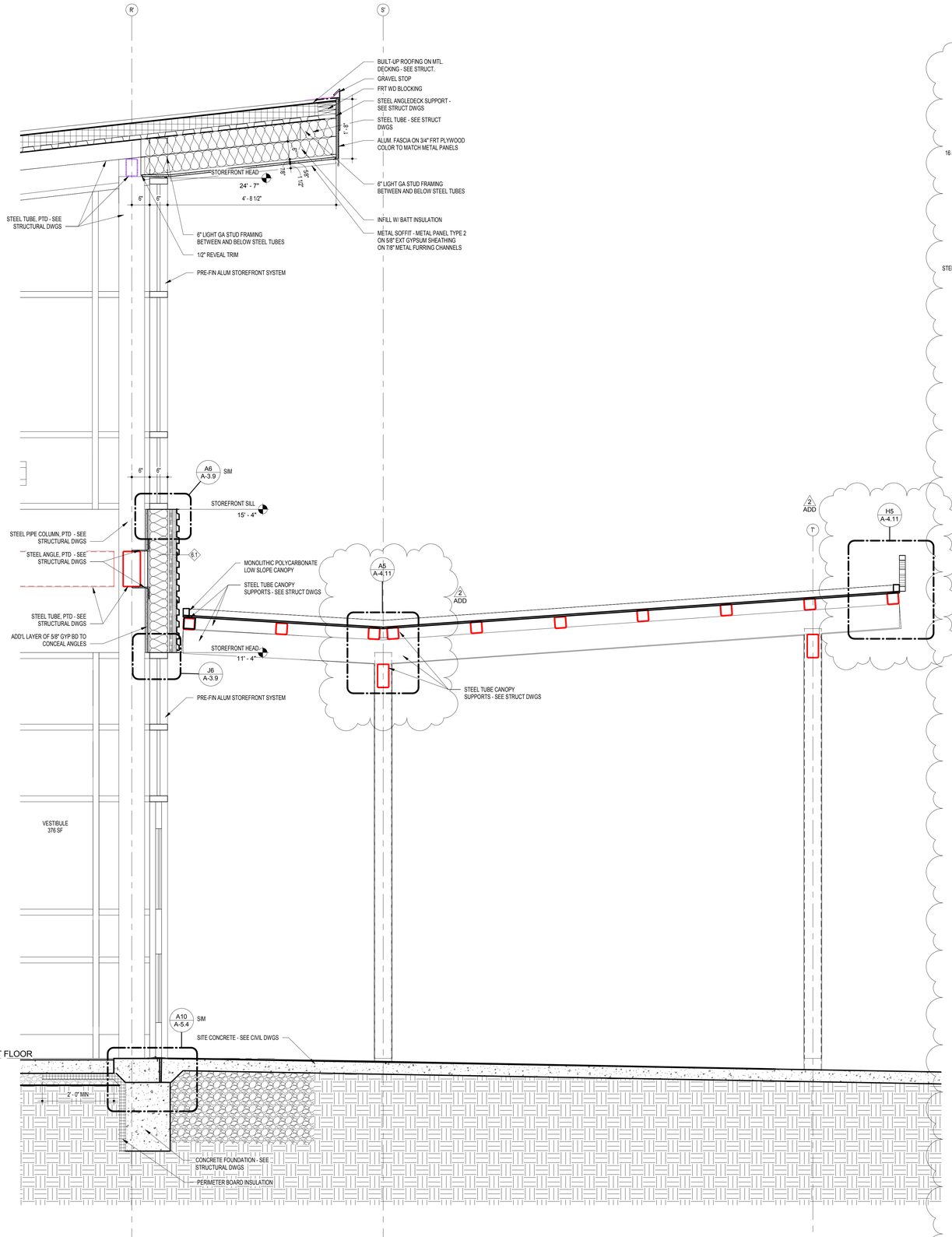
GENERAL SECTION NOTES

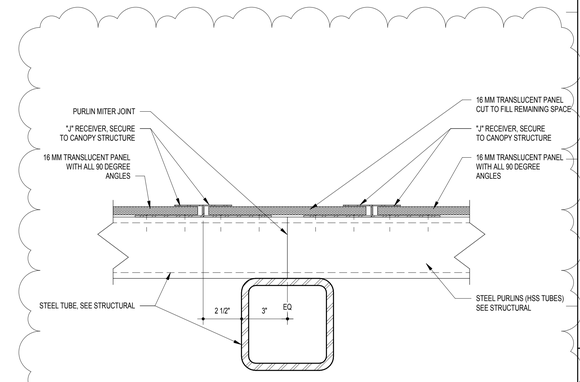
ITEMS AND CONDITIONS DETAILED, NOTED, OR OTHERWISE IDENTIFIED ON ONE OF THESE SECTIONS OR DETAILS ARE APPLICABLE AND BINDING TO ALL OTHER SECTIONS FOR IDENTICAL OR SIMILAR CONDITIONS.



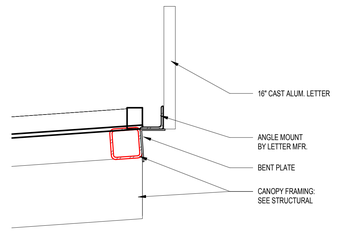
A18 WALL SECTION - VESTIBULE
3/4" = 1'-0"



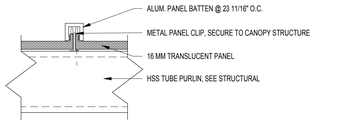
A14 WALL SECTION - VESTIBULE
3/4" = 1'-0"



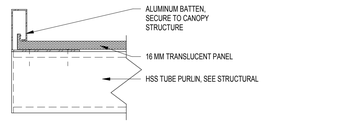
K5 DETAIL AT FILLER PANEL, TYP.
3" = 1'-0"



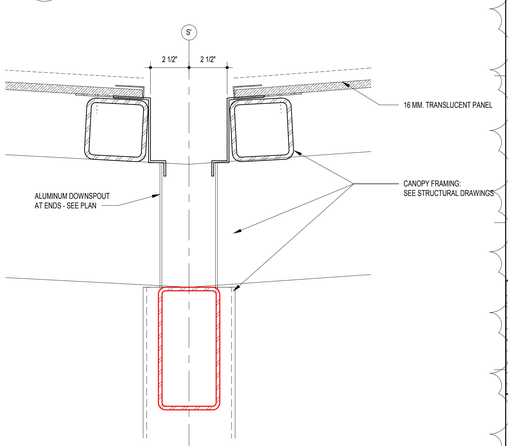
H5 CANOPY LETTER MOUNT DETAIL
1 1/2" = 1'-0"



F5 PANEL DETAIL AT BATTEN, TYP.
3" = 1'-0"



E5 PANEL DETAIL AT EDGE, TYP.
3" = 1'-0"



A5 CANOPY PANEL DETAIL @ GUTTER
3" = 1'-0"

2 ADD

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GRIMM AND PARKER

GP #21740

WALL SECTIONS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-4.11
01/10/2019
BID SET

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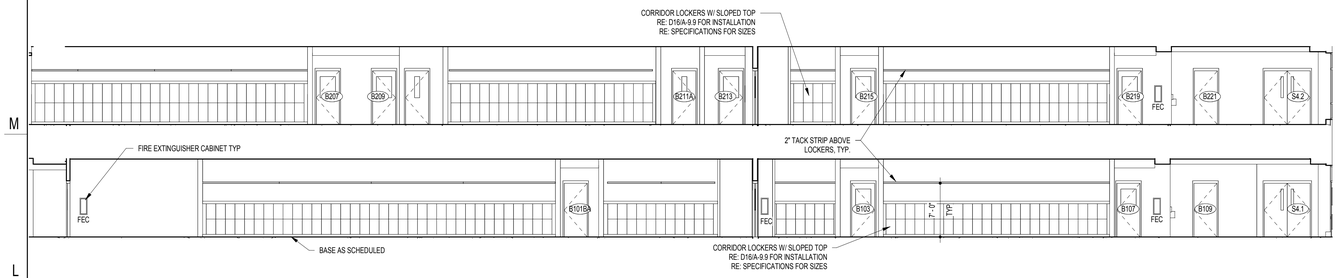
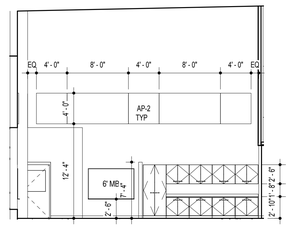
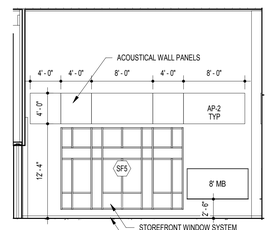


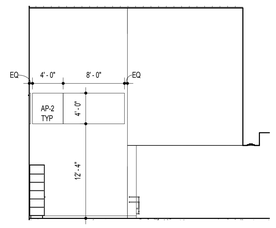
L18 CORRIDOR B011- NORTH ELEVATION
1/8" = 1'-0"



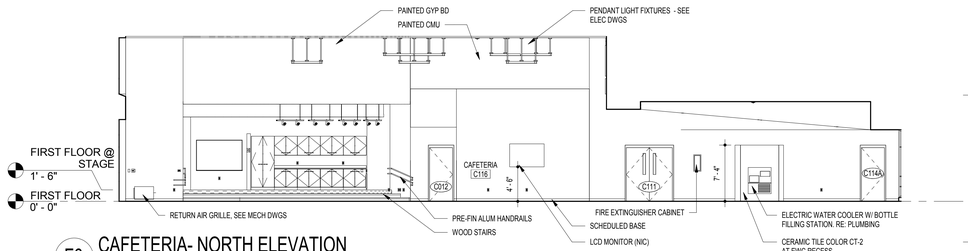
L8 PLATFORM C110 SOUTH ELEV
1/8" = 1'-0"



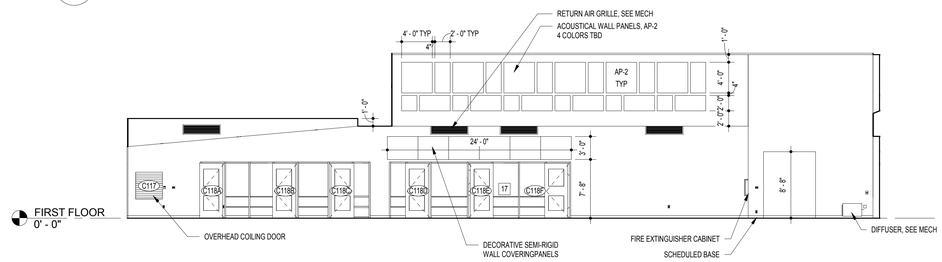
L6 PLATFORM C110 EAST ELEV
1/8" = 1'-0"



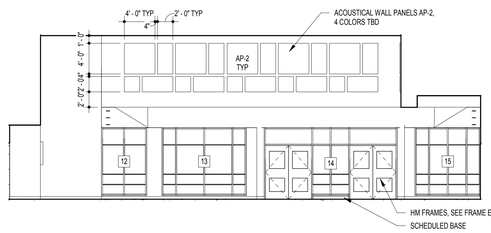
L3 PLATFORM C110 WEST ELEV
1/8" = 1'-0"



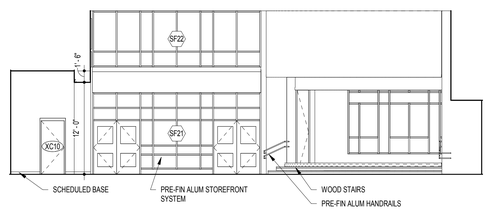
F6 CAFETERIA- NORTH ELEVATION
1/8" = 1'-0"



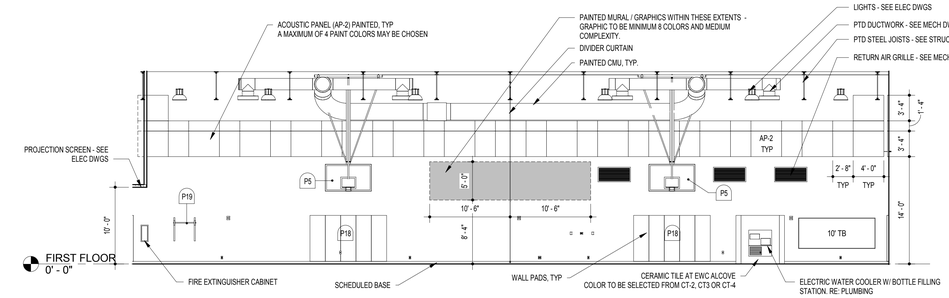
D6 CAFETERIA- SOUTH ELEVATION
1/8" = 1'-0"



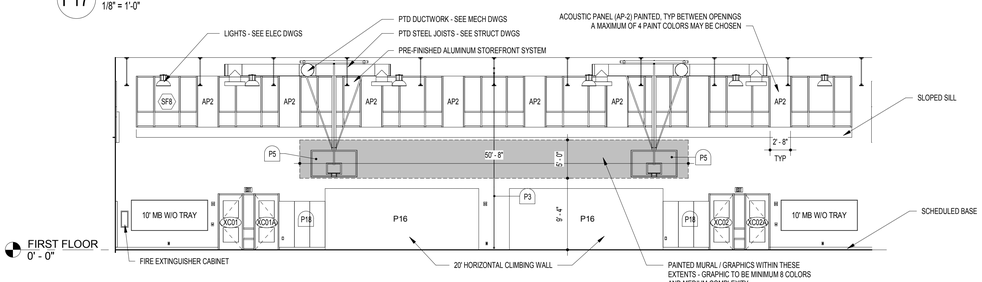
C4 CAFETERIA- WEST ELEVATION
1/8" = 1'-0"



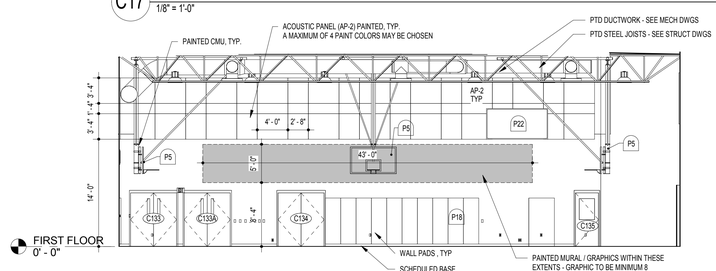
A4 CAFETERIA- EAST ELEVATION
1/8" = 1'-0"



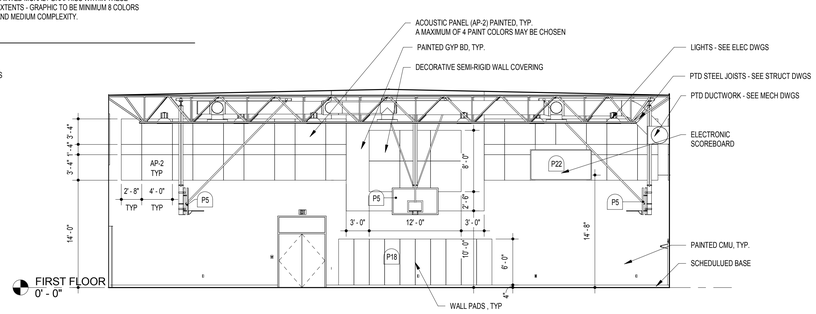
F17 GYM- NORTH ELEVATION
1/8" = 1'-0"



C17 GYM- SOUTH ELEVATION
1/8" = 1'-0"



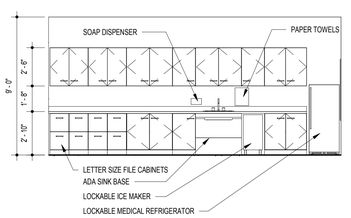
A17 GYM- WEST ELEVATION
1/8" = 1'-0"



A13 GYM-EAST ELEVATION
1/8" = 1'-0"

DISPLAY BOARD MOUNTING HEIGHTS

CLASSROOM SPACES: FIRST FLOOR	2'-0 AFF
CLASSROOM SPACES: SECOND FLOOR	2'-6 AFF
ART/MUSIC SPACES	2'-6" AFF
ADMIN/ADULT SPACES	3'-0" AFF
*DO NOT PROVIDE CHALK TRAYS AT DISPLAY BOARDS IN THE GYMNASIUM	



A7 HEALTH SUITE
1/4" = 1'-0"

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GRIMM AND PARKER

GP #21740

INTERIOR ELEVATIONS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-6.1

01/10/2019
BID SET

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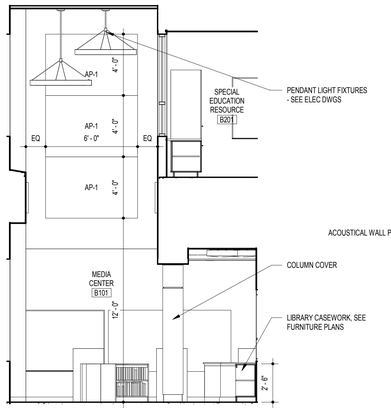
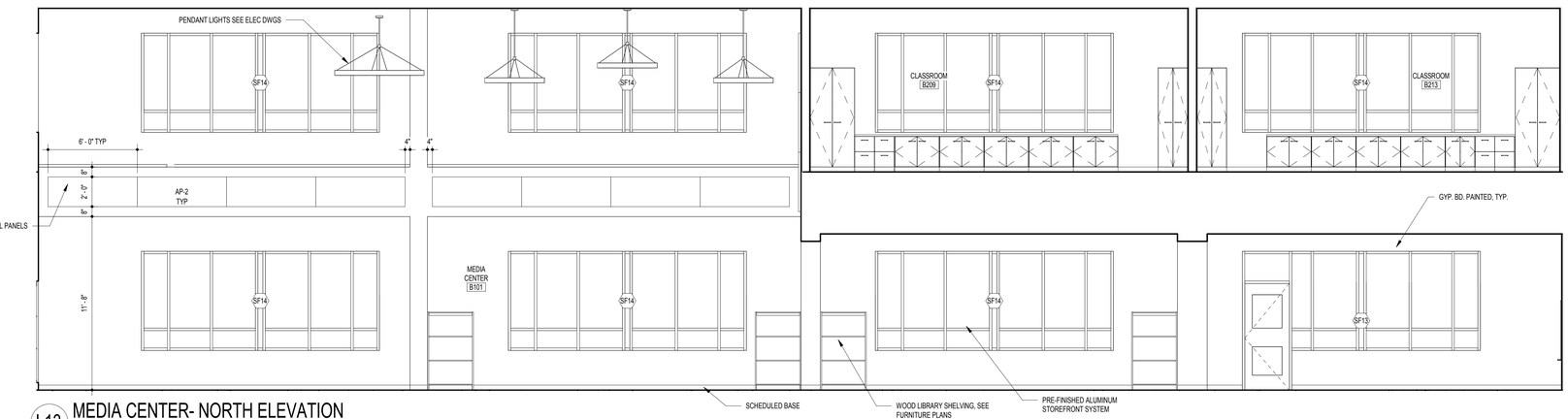
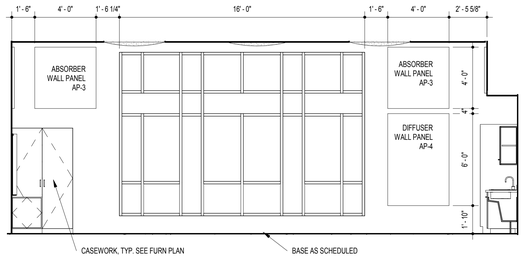


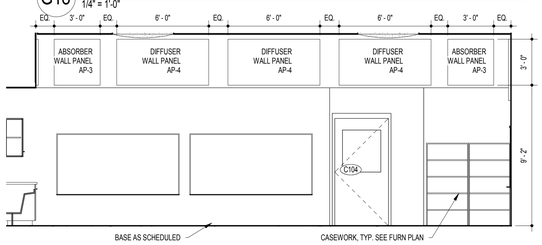
L17 MEDIA CENTER WEST ELEV
1/4" = 1'-0"



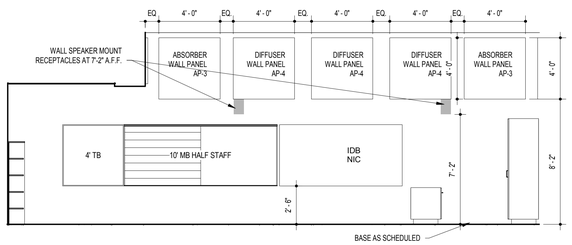
L13 MEDIA CENTER- NORTH ELEVATION
1/4" = 1'-0"



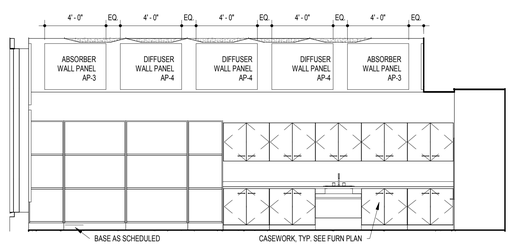
G18 VOCAL MUSIC- NORTH ELEVATION
1/4" = 1'-0"



E18 VOCAL MUSIC- SOUTH ELEVATION
1/4" = 1'-0"



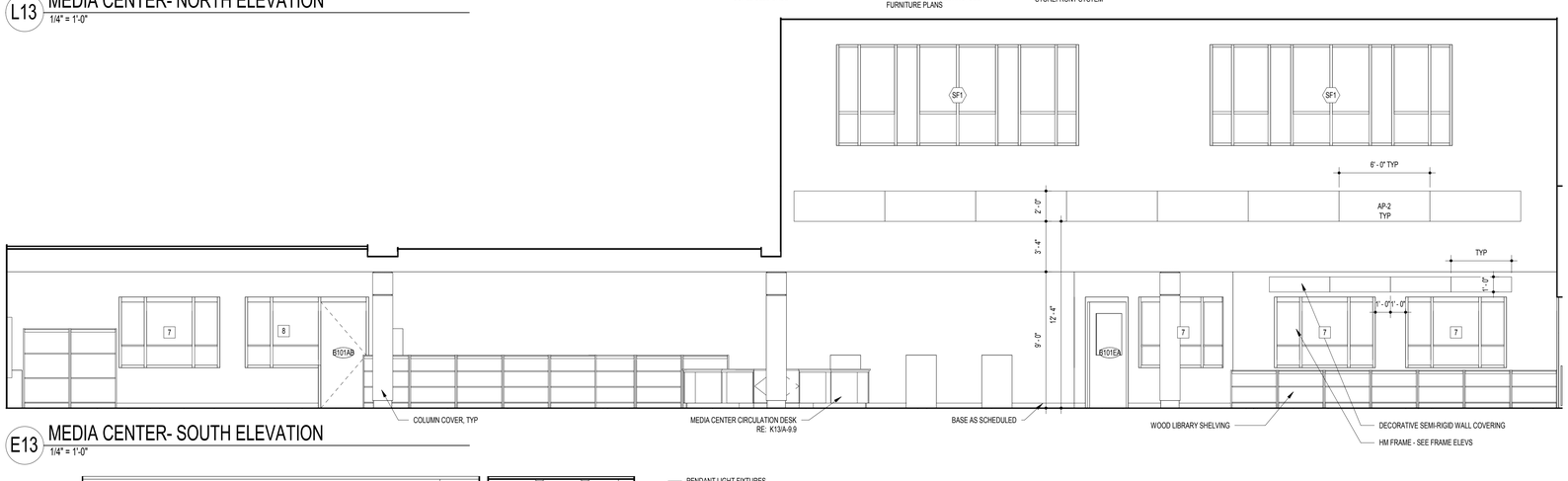
C18 VOCAL MUSIC- EAST ELEVATION
1/4" = 1'-0"



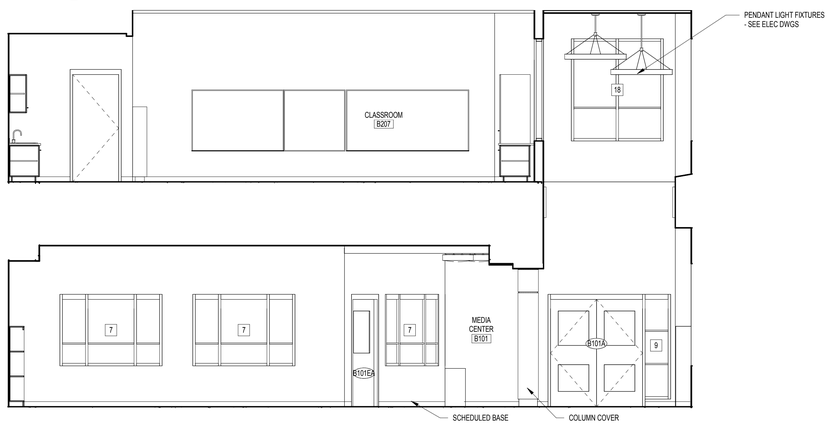
A18 VOCAL MUSIC- WEST ELEVATION
1/4" = 1'-0"

DISPLAY BOARD MOUNTING HEIGHTS

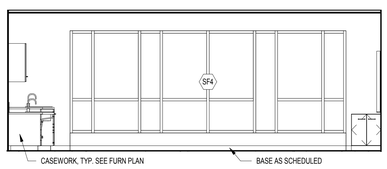
CLASSROOM SPACES: FIRST FLOOR	2'-0 AFF
CLASSROOM SPACES: SECOND FLOOR	2'-6 AFF
ART/MUSIC SPACES	2'-6" AFF
ADMIN/ADULT SPACES	3'-0" AFF
*DO NOT PROVIDE CHALK TRAYS AT DISPLAY BOARDS IN THE GYMNASIUM	



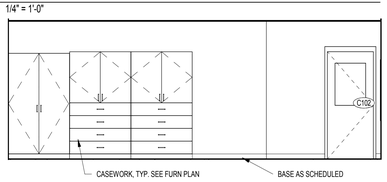
E13 MEDIA CENTER- SOUTH ELEVATION
1/4" = 1'-0"



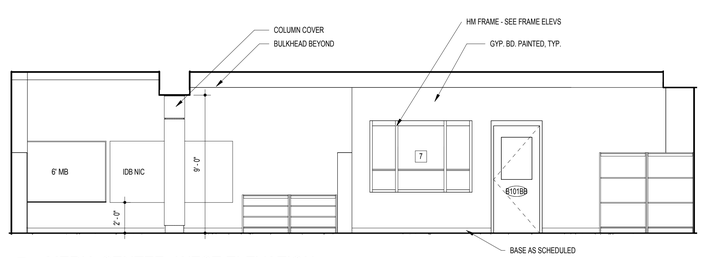
F13 MEDIA CENTER- EAST ELEVATION
1/4" = 1'-0"



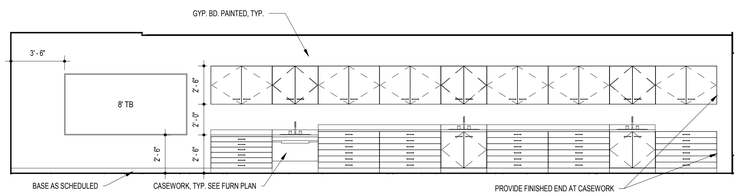
C11 ART C105- NORTH ELEVATION
1/4" = 1'-0"



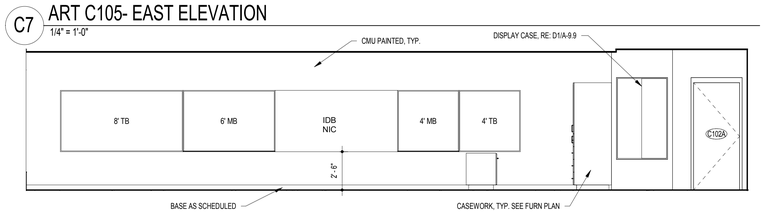
A11 ART C105- SOUTH ELEVATION
1/4" = 1'-0"



H7 MEDIA CENTER- WEST ELEVATION
1/4" = 1'-0"



C7 ART C105- EAST ELEVATION
1/4" = 1'-0"



A7 ART C105- WEST ELEVATION
1/4" = 1'-0"

G+P
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Calverton, MD 20705
Tel: 301.595.1000
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GP #21740

INTERIOR ELEVATIONS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-6.2

01/10/2019
BID SET

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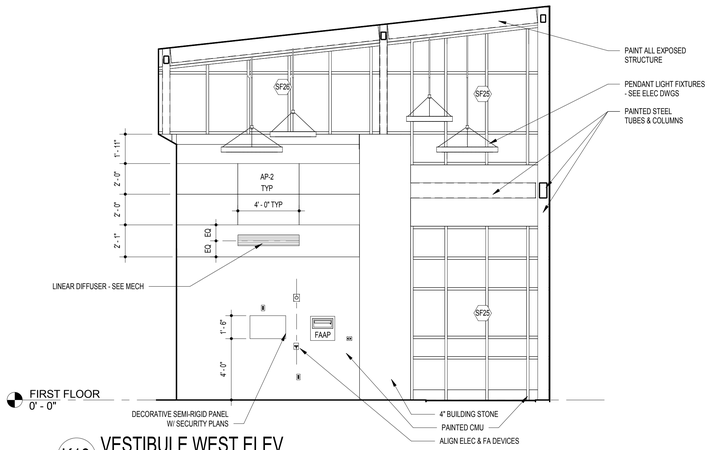
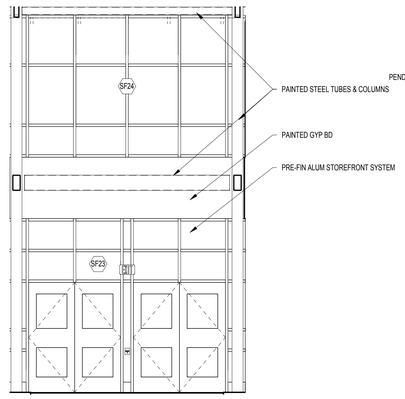
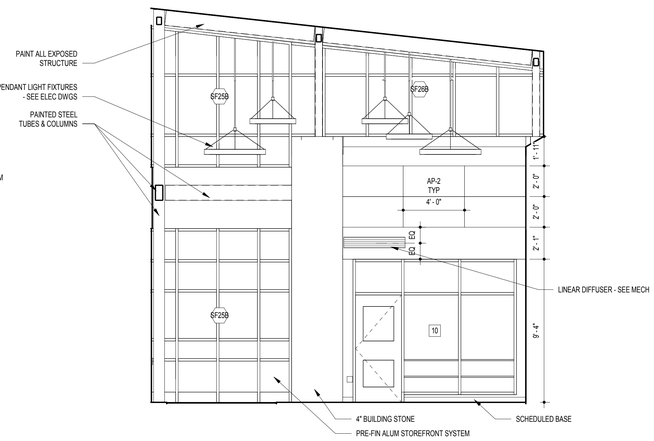


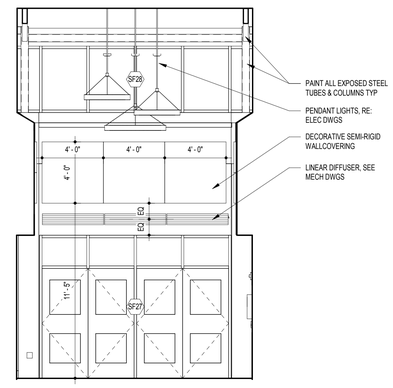
K18 VESTIBULE WEST ELEV
1/4" = 1'-0"



K13 VESTIBULE NORTH ELEV
1/4" = 1'-0"



K9 VESTIBULE EAST ELEV
1/4" = 1'-0"

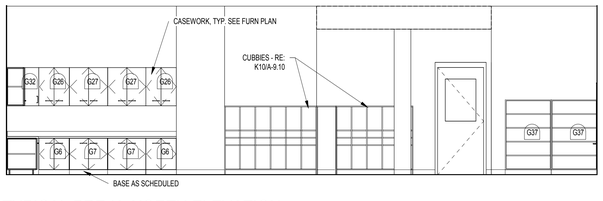


K5 VESITBULE SOUTH ELEV
1/4" = 1'-0"

DISPLAY BOARD MOUNTING HEIGHTS

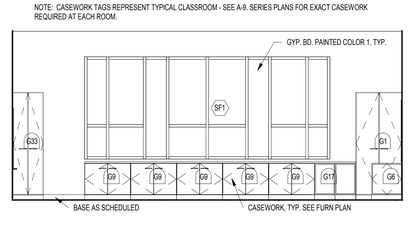
CLASSROOM SPACES: FIRST FLOOR	2'-0 AFF
CLASSROOM SPACES: SECOND FLOOR	2'-6 AFF
ART/MUSIC SPACES	2'-6" AFF
ADMIN/ADULT SPACES	3'-0" AFF
*DO NOT PROVIDE CHALK TRAYS AT DISPLAY BOARDS IN THE GYMNASIUM	

NOTE: CASEWORK TAGS REPRESENT TYPICAL CLASSROOM - SEE A-9. SERIES PLANS FOR EXACT CASEWORK REQUIRED AT EACH ROOM.



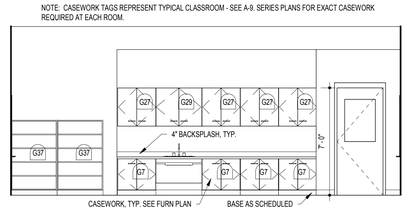
G18 TYPICAL PRE-K- NORTH ELEVATION
1/4" = 1'-0"

NOTE: CASEWORK TAGS REPRESENT TYPICAL CLASSROOM - SEE A-9. SERIES PLANS FOR EXACT CASEWORK REQUIRED AT EACH ROOM.



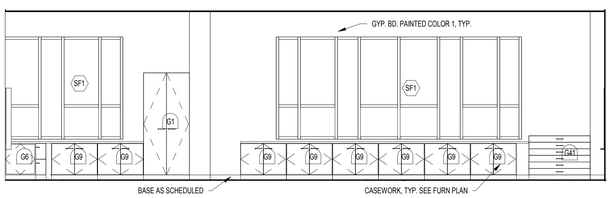
G11 TYPICAL KINDERGARTEN- NORTH ELEVATION
1/4" = 1'-0"

NOTE: CASEWORK TAGS REPRESENT TYPICAL CLASSROOM - SEE A-9. SERIES PLANS FOR EXACT CASEWORK REQUIRED AT EACH ROOM.



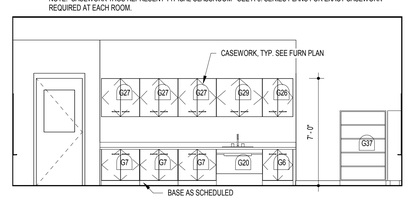
G5 TYPICAL CLASSROOM- NORTH ELEVATION
1/4" = 1'-0"

NOTE: CASEWORK TAGS REPRESENT TYPICAL CLASSROOM - SEE A-9. SERIES PLANS FOR EXACT CASEWORK REQUIRED AT EACH ROOM.



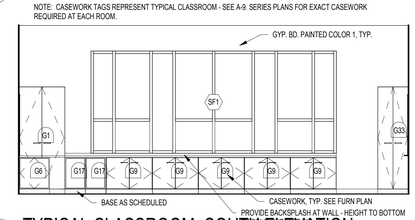
E18 TYPICAL PRE-K- SOUTH ELEVATION
1/4" = 1'-0"

NOTE: CASEWORK TAGS REPRESENT TYPICAL CLASSROOM - SEE A-9. SERIES PLANS FOR EXACT CASEWORK REQUIRED AT EACH ROOM.

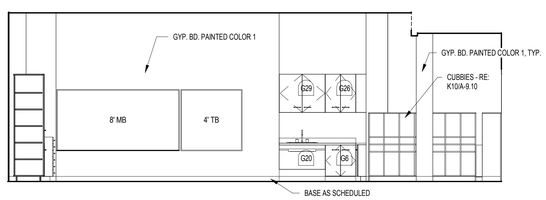


E11 TYPICAL KINDERGARTEN- SOUTH ELEVATION
1/4" = 1'-0"

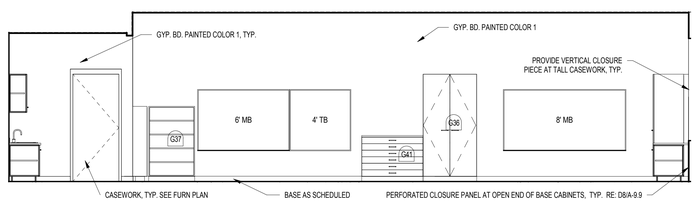
NOTE: CASEWORK TAGS REPRESENT TYPICAL CLASSROOM - SEE A-9. SERIES PLANS FOR EXACT CASEWORK REQUIRED AT EACH ROOM.



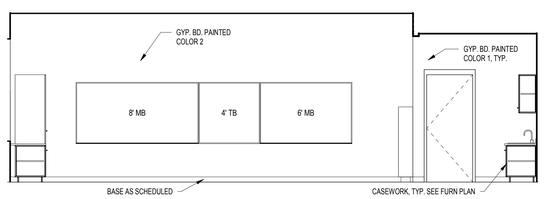
E5 TYPICAL CLASSROOM- SOUTH ELEVATION
1/4" = 1'-0"



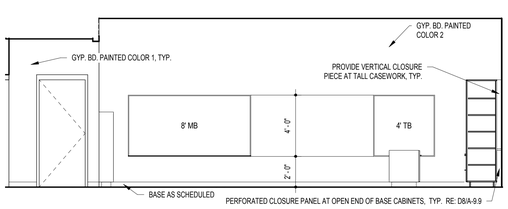
C18 TYPICAL PRE-K- EAST ELEVATION
1/4" = 1'-0"



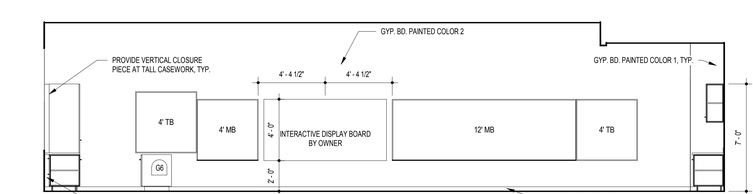
C12 TYPICAL KINDERGARTEN- EAST ELEVATION
1/4" = 1'-0"



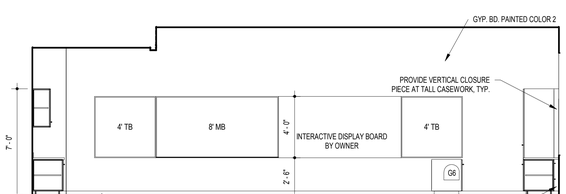
C5 TYPICAL CLASSROOM- EAST ELEVATION
1/4" = 1'-0"



A18 TYPICAL PRE-K- WEST ELEVATION
1/4" = 1'-0"



A12 TYPICAL KINDERGARTEN- WEST ELEVATION
1/4" = 1'-0"



A5 TYPICAL CLASSROOM- WEST ELEVATION
1/4" = 1'-0"

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G+P GRIMM AND PARKER

GP #21740

INTERIOR ELEVATIONS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-6.3

01/10/2019
BID SET

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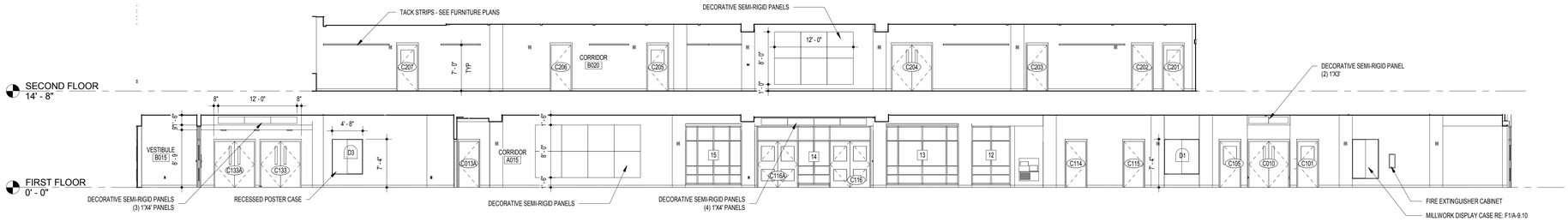
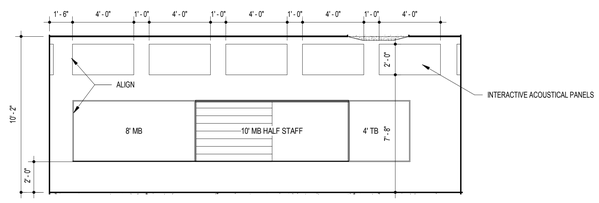
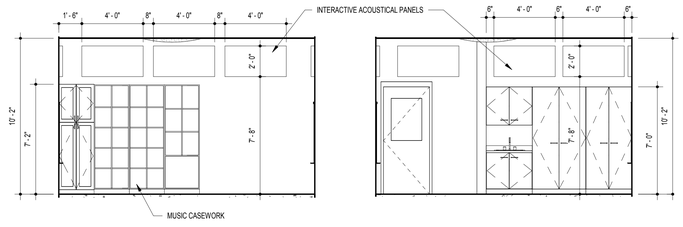


L17 MAIN STREET- EAST ELEVATION
1/8" = 1'-0"

H17 MAIN STREET- WEST ELEVATION
1/8" = 1'-0"

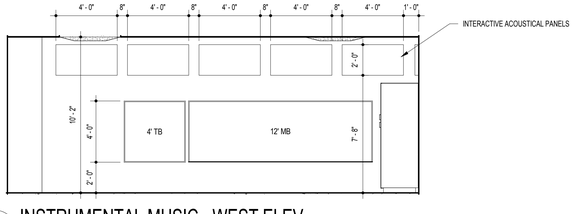


F18 INSTRUMENTAL MUSIC - EAST ELEV
1/4" = 1'-0"

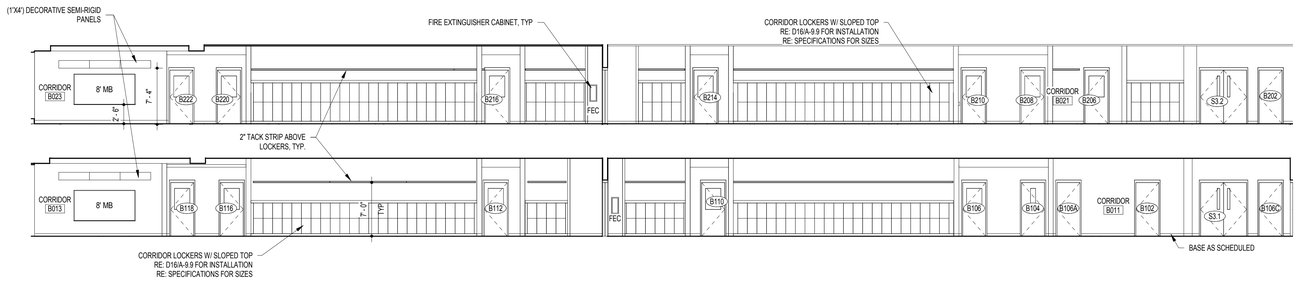


D18 INSTRUMENTAL MUSIC - NORTH ELEV
1/4" = 1'-0"

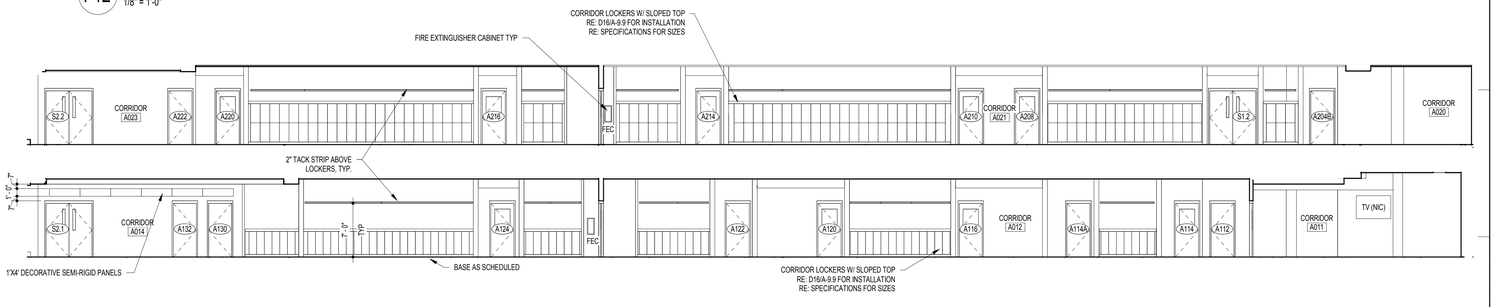
D15 INSTRUMENTAL MUSIC - SOUTH ELEV2
1/4" = 1'-0"



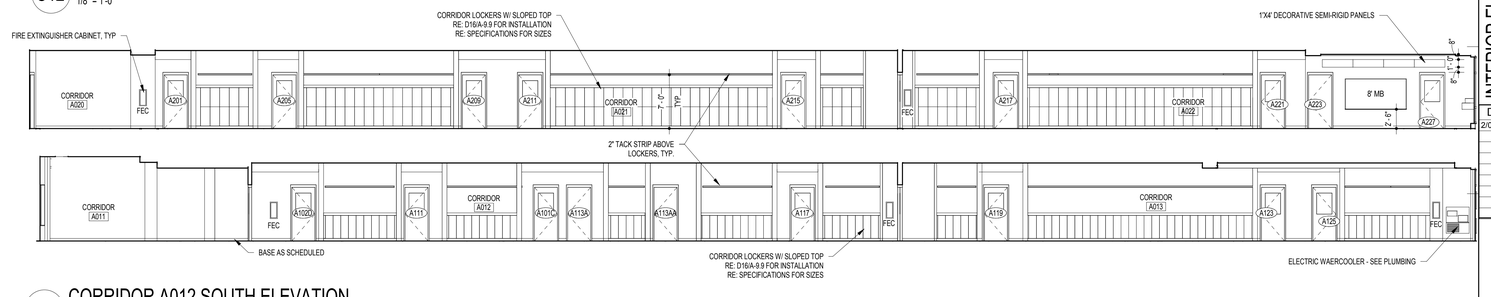
B18 INSTRUMENTAL MUSIC - WEST ELEV
1/4" = 1'-0"



F12 CORRIDOR B011-SOUTH ELEVATION
1/8" = 1'-0"



C12 CORRIDOR A012 NORTH ELEVATION
1/8" = 1'-0"



A12 CORRIDOR A012 SOUTH ELEVATION
1/8" = 1'-0"

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GP #21740

INTERIOR ELEVATIONS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-6.4

01/10/2019
BID SET

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EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL #	REMARKS
E1	RANGE	G.E.	JB645DKBB	
E2	HOOD	G.E.	JN327HBB	
E3	HEALTH REFRIGERATOR	SUMMIT	FFAR10LOCKER	
E4	REFRIGERATOR	GE	GIE18ETHBB	WITH ICE MAKER
E5	UNDER CAB. MICROWAVE	GE	PEM31DFBB	
E6	WASHER	GE	GTW680BSJWS	
E7	DRYER	GE	GTX42EASJWW	
E8	ICE MAKER	SUMMIT	BIM44GADA	
E9	KILN	SKUTT	KM1227-3PK	WITH KILN LINK & ENVIROVENT2
E10	J HOOK	TORNADO	46034	
E11	AUTOMATED EXTERNAL DEFIBRILATOR (AED)			
E12	HYDRAULIC CHANGING TABLE	ARMEDICA HI-LO	AM-SX 1060	CHILD SIZE W/ SAFETY BELT

COUNTERTOP SCHEDULE

ITEM	DESCRIPTION	CONSTRUCTION TYPE	REMARKS
C1	COUNTERTOP	LAMINATE	SEE ALTERNATE 1
C2	COUNTERTOP	LAMINATE	
C3	COUNTERTOP	SOLID SURFACING	
C4	COUNTERTOP	EPOXY RESIN	
C5	COUNTERTOP	METAL FLAKE ACRYLIC SUFRACE	SEE MEDIA CENTER DESK DETAILS ONSHEET A-9.9

GENERAL FURN. SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
G1	TEACHER WARDROBE	36	24	84	STEVENS	25617	
G2	TEACHER WARDROBE	48	24	84	STEVENS	25603	
G3	BASE CABINET	12	24	30	STEVENS	10120	
G4	BASE CABINET	18	24	30	STEVENS	10120	
G5	BASE CABINET	18	24	34	STEVENS	10120	
G6	BASE CABINET	24	24	30	STEVENS	10129	
G7	BASE CABINET	30	24	30	STEVENS	10129	
G8	BASE CABINET	33	24	30	STEVENS	10129	
G9	BASE CABINET	36	24	30	STEVENS	10129	
G10	BASE CABINET	30	24	34	STEVENS	10129	
G11	BASE CABINET	33	24	34	STEVENS	10129	
G12	BASE CABINET	36	24	34	STEVENS	10129	
G13	BASE CABINET	36	24	34	STEVENS	10129	
G14	BASE CABINET	42	24	34	STEVENS	10129	
G15	BASE - TOTE TRAY STORAGE	36	24	34	STEVENS	10129	CUSTOM HEIGHT
G16	BASE - FILE DRAWER	15	24	34	STEVENS	10316	
G17	BASE - DRAWER	16	24	30	STEVENS	10332	
G18	BASE CABINET - DRAWER	30	24	34	STEVENS	10432	
G19	ADA SINK BASE	36	24	34	STEVENS	10590	
G20	ADA SINK BASE	36	24	30	STEVENS	10591	
G21	SINK BASE	36	24	34	STEVENS	10479	
G22	WALL CABINET	36	14	18	STEVENS	15129	
G23	WALL CABINET	36	14	24	STEVENS	15129	
G24	WALL CABINET	12	14	30	STEVENS	15120	
G25	WALL CABINET	18	14	30	STEVENS	15120	
G26	WALL CABINET	24	14	30	STEVENS	15129	
G27	WALL CABINET	30	14	30	STEVENS	15129	
G28	WALL CABINET	33	14	30	STEVENS	15129	
G29	WALL CABINET	36	14	30	STEVENS	15129	
G30	WALL CABINET	36	14	30	STEVENS	15129	
G31	WALL CABINET	48	14	30	STEVENS	15129	
G32	WALL - CORNER UNIT	17	14	30	STEVENS	15212	
G33	TALL CABINET	24	24	84	STEVENS	25129	
G34	TALL CABINET	30	24	84	STEVENS	25129	
G35	TALL CABINET	36	24	84	STEVENS	25129	
G36	TALL CABINET	42	24	84	STEVENS	25129	
G37	BOOKCASE, TALL	36	12	60	STEVENS	25101	
G38	BOOKCASE, TALL	33	14	84	STEVENS	25101	
G39	PAPER STORAGE	48	26	30	STEVENS	10403	
G40	PAPER STORAGE	48	26	34	STEVENS	10404	
G41	PAPER STORAGE	48	35	36	STEVENS	10404	
G42	PAPER STORAGE- TALL	48	30	85	STEVENS	25375	
G43	MAILBOX	48	14	48		9530	SEE DETAIL A9/A-9.9

GENERAL FURNISHING AND EQUIPMENT NOTES

NOTE: NOT ALL ITEMS INDICATED ON SCHEDULE ARE REPRESENTED IN THIS PROJECT.

1. ALL CABINET HEIGHTS INCLUDE COUNTERTOPS. DIMENSIONS ARE TO THE NEAREST INCH.
2. DIVISIONS IN CASEWORK ARE SHOWN FOR CLARITY AND DO NOT REPRESENT BREAKS IN THE COUNTERTOP.
3. PROVIDE CONTINUOUS COUNTERTOP OVER ALL SIMILAR HEIGHT CASEWORK, UNLESS OTHERWISE NOTED.
4. MANUFACTURER AND CATALOG NUMBERS ARE FOR REFERENCE AND ILLUSTRATION PURPOSES ONLY. SEE SPECIFICATION FOR FULL CASEWORK REQUIREMENTS.
5. PROVIDE RESILIENT BASE FOR ALL CASEWORK THAT MEETS THE FLOOR ON FRONT AND EXPOSED SIDES AND BACK.
6. DOTTED LINES INDICATE WALL HUNG CABINETS. DIVISIONS OF BASE CABINETS BELOW THE COUNTERTOP, FURNITURE NOT IN THE CONTRACT OR PROJECTION SCREENS- SEE CASEWORK KEY AND SPECIFICATIONS.
7. ALL CABINETS AND DRAWERS TO HAVE CAM LOCKS EXCEPT FOR SINK BASE CABINETS.
8. ALL EXPOSED SURFACES (EXPOSED TO VIEW FROM ANY PERSPECTIVE) TO BE COVERED WITH LAMINATE.
9. ALL CASEWORK WHICH MEETS A WALL AT ONE OR BOTH ENDS, TO BE PROVIDED WITH FILLER PANELS AND SCRIBED TO THE WALL(S) AS REQUIRED.
10. SEE SPEC SECTION 12 35 50 FOR REQUIREMENTS OF EDUCATIONAL CASEWORK.
11. SEE SPEC SECTION 11 51 23 FOR REQUIREMENTS OF MEDIA CENTER CASEWORK
12. SEE SPEC SECTION 12 35 51 FOR REQUIREMENTS OF MUSIC INSTRUMENT STORAGE CABINETS.
13. ALL CABINETS AND DRAWERS IN THE KINDERGARTEN ROOMS TO BE PROVIDED WITH RECESSED HANDLES.
14. ALL COUNTERTOP CORNERS SHALL BE 1/2" RADIUSED UNLESS OTHERWISE NOTED.
15. PROVIDE ADEQUATE BLOCKING IN STUD WALLS AND AT CMU WALLS FOR WALL-MOUNTED EQUIPMENT AND FURNISHINGS.
16. CONTRACTOR TO FIELD VERIFY ALL CLEAR OPENINGS PRIOR TO MILLWORK OR CASEWORK FABRICATION.
17. MILLWORK AND CASEWORK DRAWINGS ARE DIAGRAMMATIC IN NATURE TO SHOW DESIGN INTENT. ALL WORK TO BE DONE IN ACCORDANCE WITH SPECIFICATIONS. CONSTRUCTION DETAILS ARE TO BE SUBMITTED IN SHOP DRAWINGS AND ARE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

LOCKER SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
L1	DOUBLE TIER LOCKER	12	15	48
L2	SINGLE TIER LOCKER	12	12	36
L3	DOUBLE TIER LOCKER	12	15	60
L4	SINGLE-TIER LOCKER	12	12	72

METAL SHELVING

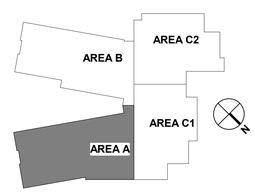
ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
A	METAL SHELVING	12	36	84
B	METAL SHELVING	15	36	84

DISPLAY CASE

ITEM	DESCRIPTION	SIZE (INCHES) W	H	REMARKS
D1	DISPLAY CASE	64	64	
D2	DISPLAY CASE	48	72	SEE DETAILS F1 & H1 ON SHEET A-9.10
D3	POSTER CASE - RECESSED	56	64	
D4	RECESSED DISPLAY CASE	40	64	

A18 PARTIAL FIRST FLOOR FURNITURE PLAN - AREA A
1/8" = 1'-0"

KEY PLAN- AREA A



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GP #21740

PARTIAL FIRST FLOOR FURNISHING PLAN- AREA A

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-9.1

01/10/2019
BID SET

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MEDIA CENTER FURNISHINGS

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
L1	DOUBLE FACE BOOKSHELF	37	24	42	WORDEN	W-4224	1
L2	SINGLE FACE BOOKSHELF	37	12	30	WORDEN	W-3012	2
L3	SINGLE FACE BOOKSHELF	37	12	63	WORDEN	W-8212	2
L4	SINGLE FACE BOOKSHELF	37	12	63	WORDEN	W-8212-A	2
L6	PICTURE BOOK SHELVING	37	16	30	WORDEN	W-3016-P	1, 2
L7	CUPBOARD UNIT	36	30	32	LIBRARY BUREAU	3211-32	
L8	CORNER UNIT	36	30	30	LIBRARY BUREAU	3223	

MEDIA CENTER FURNISHING REMARK NOTES

1. PROVIDE CASTERS FOR BOOKSHELVES.
2. WITH BACK PANEL.

MAKER SPACE

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF	MODEL #	REMARKS
F1	TABLE	24	24	30	ARTCOBELL	EXPANSE	W/ CASTERS
F2	TABLE			30	ARTCOBEL	GRAVITY	W/ CASTERS
F3	ADJUSTABLE STOOL				BALT	HEIRARCHY GROW	
F4	TABLE			30	ARTCOBELL	NEBULA	W/ CASTERS
F5	MOBILE TOTE TRAY				STORSYSTEM USA	INNOV8 SLIMLINE A4	
F6	MOBILE MARKER BOARD				SCALE 1:1	MARC MOBILE MARKERBOARD	
F7	POTTING TABLE				CAMPBELL RHEA	6410	
F9	4 LEG STOOL				ARTCOBELL	ALPHABET	W/ CASTERS
F10	FLOOR CUSHION				FLEX SPACE FURNITURE	WOBBLE CUSION	
F11	GOGGLE CABINET					CR-6784	?
F12	COUNTERTOP						?

SENSORY ROOM

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
S1	MIRROR SCULPTURED MAZE PANEL		2	24	E SPECIAL NEEDS	SKU# E003791	
S2	TACTILE ACTIVITY BUSY BOARD		2	30	E SPECIAL NEEDS	SKU# E17249	
S3	TEXTURED WALL		6	60	TFH SPECIAL NEEDS TOYS	9MATW	
S4	TACTILE LOOPIE WALL		6	60	TFH SPECIAL NEEDS TOYS	9MAWT	

GENERAL FURN. SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
G1	TEACHER WARDROBE	36	24	84	STEVENS	25617	
G2	TEACHER WARDROBE	48	24	84	STEVENS	25603	
G3	BASE CABINET	12	24	30	STEVENS	10120	
G4	BASE CABINET	18	24	30	STEVENS	10120	
G5	BASE CABINET	18	24	34	STEVENS	10120	
G6	BASE CABINET	24	24	30	STEVENS	10129	
G7	BASE CABINET	30	24	30	STEVENS	10129	
G8	BASE CABINET	33	24	30	STEVENS	10129	
G9	BASE CABINET	36	24	30	STEVENS	10129	
G10	BASE CABINET	30	24	34	STEVENS	10129	
G11	BASE CABINET	33	24	34	STEVENS	10129	
G12	BASE CABINET	36	24	34	STEVENS	10129	
G13	BASE CABINET	36	24	34	STEVENS	10129	
G14	BASE CABINET	42	24	34	STEVENS	10129	
G15	BASE - TOTE TRAY STORAGE	36	24	34	STEVENS	10129	CUSTOM HEIGHT
G16	BASE - FILE DRAWER	15	24	34	STEVENS	10316	
G17	BASE - DRAWER	16	24	34	STEVENS	10332	
G18	BASE CABINET - DRAWER	30	24	34	STEVENS	10432	
G19	ADA SINK BASE	36	24	34	STEVENS	10590	
G20	ADA SINK BASE	36	24	30	STEVENS	10591	
G21	SINK BASE	36	24	34	STEVENS	10479	
G22	WALL CABINET	36	14	18	STEVENS	15129	
G23	WALL CABINET	36	14	24	STEVENS	15129	
G24	WALL CABINET	12	14	30	STEVENS	15120	
G25	WALL CABINET	18	14	30	STEVENS	15120	
G26	WALL CABINET	24	14	30	STEVENS	15129	
G27	WALL CABINET	30	14	30	STEVENS	15129	
G28	WALL CABINET	33	14	30	STEVENS	15129	
G29	WALL CABINET	36	14	30	STEVENS	15129	
G30	WALL CABINET	36	14	30	STEVENS	15129	
G31	WALL CABINET	48	14	30	STEVENS	15129	
G32	WALL - CORNER UNIT	17	14	30	STEVENS	15212	
G33	TALL CABINET	24	24	84	STEVENS	25129	
G34	TALL CABINET	30	24	84	STEVENS	25129	
G35	TALL CABINET	36	24	84	STEVENS	25129	
G36	TALL CABINET	42	24	84	STEVENS	25129	
G37	BOOKCASE, TALL	36	12	60	STEVENS	25101	
G38	BOOKCASE, TALL	33	14	84	STEVENS	25101	
G39	PAPER STORAGE	48	26	30	STEVENS	10403	
G40	PAPER STORAGE	48	26	34	STEVENS	10404	
G41	PAPER STORAGE	48	35	36	STEVENS	10404	
G42	PAPER STORAGE- TALL	48	30	85	STEVENS	25375	
G43	MAILBOX	48	14	48		9530	SEE DETAIL A9/A-9.9

LOCKER SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
L1	DOUBLE TIER LOCKER	12	15	48
L2	SINGLE TIER LOCKER	12	12	36
L3	DOUBLE TIER LOCKER	12	15	60
L4	SINGLE-TIER LOCKER	12	12	72

METAL SHELVING

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
A	METAL SHELVING	12	36	84
B	METAL SHELVING	15	36	84

DISPLAY CASE

ITEM	DESCRIPTION	SIZE (INCHES) W	H	REMARKS
D1	DISPLAY CASE	64	64	
D2	DISPLAY CASE	48	72	SEE DETAILS F1 & H1 ON SHEET A-9.10
D3	POSTER CASE - RECESSED	56	64	
D4	RECESSED DISPLAY CASE	40	64	

COUNTERTOP SCHEDULE

ITEM	DESCRIPTION	CONSTRUCTION TYPE	REMARKS
C1	COUNTERTOP	LAMINATE	SEE ALTERNATE 1
C2	COUNTERTOP	LAMINATE	
C3	COUNTERTOP	SOLID SURFACING	
C4	COUNTERTOP	EPOXY RESIN	
C5	COUNTERTOP	METAL FLAKE ACRYLIC SUFRACE	SEE MEDIA CENTER DESK DETAILS ONSHEET A-9.9

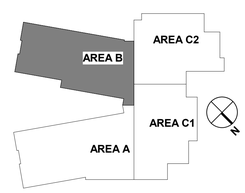
GENERAL FURNISHING AND EQUIPMENT NOTES

NOTE: NOT ALL ITEMS INDICATED ON SCHEDULE ARE REPRESENTED IN THIS PROJECT.

1. ALL CABINET HEIGHTS INCLUDE COUNTERTOPS. DIMENSIONS ARE TO THE NEAREST INCH.
2. DIVISIONS IN CASEWORK ARE SHOWN FOR CLARITY AND DO NOT REPRESENT BREAKS IN THE COUNTERTOP.
3. PROVIDE CONTINUOUS COUNTERTOP OVER ALL SIMILAR HEIGHT CASEWORK, UNLESS OTHERWISE NOTED.
4. MANUFACTURER AND CATALOG NUMBERS ARE FOR REFERENCE AND ILLUSTRATION PURPOSES ONLY. SEE SPECIFICATION FOR FULL CASEWORK REQUIREMENTS.
5. PROVIDE RESILIENT BASE FOR ALL CASEWORK THAT MEETS THE FLOOR ON FRONT AND EXPOSED SIDES AND BACK.
6. DOTTED LINES INDICATE WALL HUNG CABINETS. DIVISIONS OF BASE CABINETS BELOW THE COUNTERTOP, FURNITURE NOT IN THE CONTRACT OR PROJECTION SCREENS- SEE CASEWORK KEY AND SPECIFICATIONS.
7. ALL CABINETS AND DRAWERS TO HAVE CAM LOCKS EXCEPT FOR SINK BASE CABINETS.
8. ALL EXPOSED SURFACES (EXPOSED TO VIEW FROM ANY PERSPECTIVE) TO BE COVERED WITH LAMINATE.
9. ALL CASEWORK WHICH MEETS A WALL AT ONE OR BOTH ENDS, TO BE PROVIDED WITH FILLER PANELS AND SCRIBED TO THE WALL(S) AS REQUIRED.
10. SEE SPEC SECTION 12 35 50 FOR REQUIREMENTS OF EDUCATIONAL CASEWORK.
11. SEE SPEC SECTION 11 51 23 FOR REQUIREMENTS OF MEDIA CENTER CASEWORK
12. SEE SPEC SECTION 12 35 51 FOR REQUIREMENTS OF MUSIC INSTRUMENT STORAGE CABINETS.
13. ALL CABINETS AND DRAWERS IN THE KINDERGARTEN ROOMS TO BE PROVIDED WITH RECESSED HANDLES.
14. ALL COUNTERTOP CORNERS SHALL BE 1/2" RADIUSED UNLESS OTHERWISE NOTED.
15. PROVIDE ADEQUATE BLOCKING IN STUD WALLS AND AT CMU WALLS FOR WALL-MOUNTED EQUIPMENT AND FURNISHINGS.
16. CONTRACTOR TO FIELD VERIFY ALL CLEAR OPENINGS PRIOR TO MILLWORK OR CASEWORK FABRICATION.
17. MILLWORK AND CASEWORK DRAWINGS ARE DIAGRAMMATIC IN NATURE TO SHOW DESIGN INTENT. ALL WORK TO BE DONE IN ACCORDANCE WITH SPECIFICATIONS. CONSTRUCTION DETAILS ARE TO BE SUBMITTED IN SHOP DRAWINGS AND ARE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

A18 PARTIAL FIRST FLOOR FURNITURE PLAN - AREA B
1/8" = 1'-0"

KEY PLAN- AREA B



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I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF MARYLAND, LICENSE NUMBER [illegible] EXPIRATION DATE [illegible]

GRIMM AND PARKER

GP #21740

PARTIAL FIRST FLOOR FURNISHING PLAN- AREA B

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-9.2

01/10/2019
BID SET

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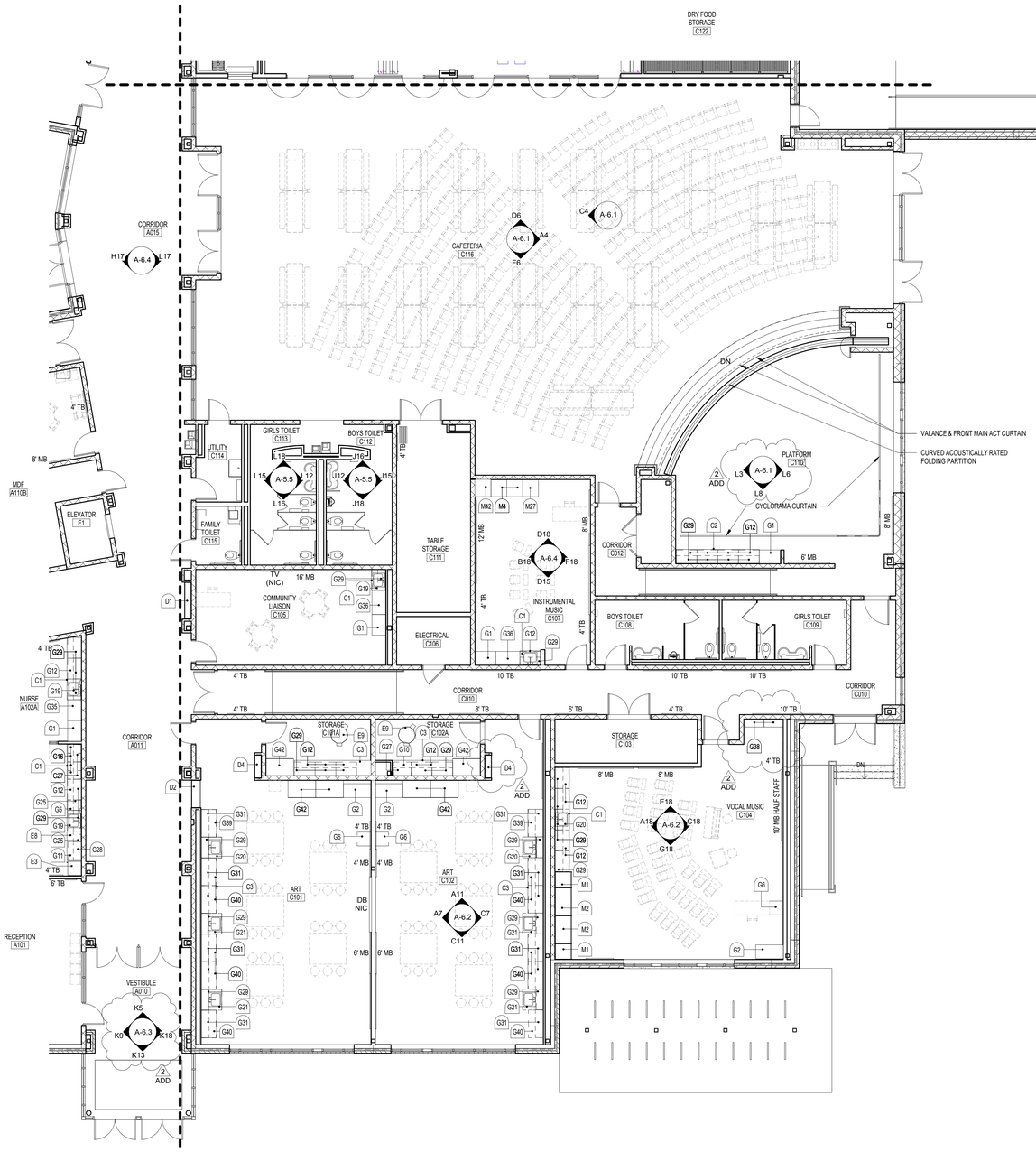


A18 PARTIAL FIRST FLOOR FURNITURE PLAN - AREA C1
1/8" = 1'-0"

COUNTERTOP SCHEDULE

1 ADD

ITEM	DESCRIPTION	CONSTRUCTION TYPE	REMARKS
C1	COUNTERTOP	LAMINATE	SEE ALTERNATE 1
C2	COUNTERTOP	LAMINATE	
C3	COUNTERTOP	SOLID SURFACING	
C4	COUNTERTOP	EPOXY RESIN	
C5	COUNTERTOP	METAL FLAKE ACRYLIC SUFRACE	SEE MEDIA CENTER DESK DETAILS ONSHEET A-9.9

GENERAL FURNISHING AND EQUIPMENT NOTES

NOTE: NOT ALL ITEMS INDICATED ON SCHEDULE ARE REPRESENTED IN THIS PROJECT.

1. ALL CABINET HEIGHTS INCLUDE COUNTERTOPS. DIMENSIONS ARE TO THE NEAREST INCH.
2. DIVISIONS IN CASEWORK ARE SHOWN FOR CLARITY AND DO NOT REPRESENT BREAKS IN THE COUNTERTOP.
3. PROVIDE CONTINUOUS COUNTERTOP OVER ALL SIMILAR HEIGHT CASEWORK, UNLESS OTHERWISE NOTED.
4. MANUFACTURER AND CATALOG NUMBERS ARE FOR REFERENCE AND ILLUSTRATION PURPOSES ONLY. SEE SPECIFICATION FOR FULL CASEWORK REQUIREMENTS.
5. PROVIDE RESILIENT BASE FOR ALL CASEWORK THAT MEETS THE FLOOR ON FRONT AND EXPOSED SIDES AND BACK.
6. DOTTED LINES INDICATE WALL HUNG CABINETS, DIVISIONS OF BASE CABINETS BELOW THE COUNTERTOP, FURNITURE NOT IN THE CONTRACT OR PROJECTION SCREENS -SEE CASEWORK KEY AND SPECIFICATIONS.
7. ALL CABINETS AND DRAWERS TO HAVE CAM LOCKS EXCEPT FOR SINK BASE CABINETS.
8. ALL EXPOSED SURFACES (EXPOSED TO VIEW FROM ANY PERSPECTIVE) TO BE COVERED WITH LAMINATE.
9. ALL CASEWORK WHICH MEETS A WALL AT ONE OR BOTH ENDS, TO BE PROVIDED WITH FILLER PANELS AND SCRIBED TO THE WALL(S) AS REQUIRED.
10. SEE SPEC SECTION 12 35 50 FOR REQUIREMENTS OF EDUCATIONAL CASEWORK.
11. SEE SPEC SECTION 11 51 23 FOR REQUIREMENTS OF MEDIA CENTER CASEWORK
12. SEE SPEC SECTION 12 35 51 FOR REQUIREMENTS OF MUSIC INSTRUMENT STORAGE CABINETS.
13. ALL CABINETS AND DRAWERS IN THE KINDERGARTEN ROOMS TO BE PROVIDED WITH RECESSED HANDLES.
14. ALL COUNTERTOP CORNERS SHALL BE 1/2" RADIUSED UNLESS OTHERWISE NOTED.
15. PROVIDE ADEQUATE BLOCKING IN STUD WALLS AND AT CMU WALLS FOR WALL-MOUNTED EQUIPMENT AND FURNISHINGS.
16. CONTRACTOR TO FIELD VERIFY ALL CLEAR OPENINGS PRIOR TO MILLWORK OR CASEWORK FABRICATION.
17. MILLWORK AND CASEWORK DRAWINGS ARE DIAGRAMMATIC IN NATURE TO SHOW DESIGN INTENT. ALL WORK TO BE DONE IN ACCORDANCE WITH SPECIFICATIONS. CONSTRUCTION DETAILS ARE TO BE SUBMITTED IN SHOP DRAWINGS AND ARE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

GENERAL FURN. SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
G1	TEACHER WARDROBE	36	24	84	STEVENS	25617	
G2	TEACHER WARDROBE	48	24	84	STEVENS	25603	
G3	BASE CABINET	12	24	30	STEVENS	10120	
G4	BASE CABINET	18	24	30	STEVENS	10120	
G5	BASE CABINET	18	24	34	STEVENS	10120	
G6	BASE CABINET	24	24	30	STEVENS	10129	
G7	BASE CABINET	30	24	30	STEVENS	10129	
G8	BASE CABINET	33	24	30	STEVENS	10129	
G9	BASE CABINET	36	24	30	STEVENS	10129	
G10	BASE CABINET	30	24	34	STEVENS	10129	
G11	BASE CABINET	33	24	34	STEVENS	10129	
G12	BASE CABINET	36	24	34	STEVENS	10129	
G13	BASE CABINET	36	24	34	STEVENS	10129	
G14	BASE CABINET	42	24	34	STEVENS	10129	
G15	BASE - TOTE TRAY STORAGE	36	24	34	STEVENS	10129	CUSTOM HEIGHT
G16	BASE - FILE DRAWER	15	24	34	STEVENS	10316	
G17	BASE - DRAWER	16	24	30	STEVENS	10332	
G18	BASE CABINET - DRAWER	30	24	34	STEVENS	10432	
G19	ADA SINK BASE	36	24	34	STEVENS	10590	
G20	ADA SINK BASE	36	24	30	STEVENS	10591	
G21	SINK BASE	36	24	34	STEVENS	10479	
G22	WALL CABINET	36	14	18	STEVENS	15129	
G23	WALL CABINET	36	14	24	STEVENS	15129	
G24	WALL CABINET	12	14	30	STEVENS	15120	
G25	WALL CABINET	18	14	30	STEVENS	15120	
G26	WALL CABINET	24	14	30	STEVENS	15129	
G27	WALL CABINET	30	14	30	STEVENS	15129	
G28	WALL CABINET	33	14	30	STEVENS	15129	
G29	WALL CABINET	36	14	30	STEVENS	15129	
G30	WALL CABINET	36	14	30	STEVENS	15129	
G31	WALL CABINET	48	14	30	STEVENS	15129	
G32	WALL - CORNER UNIT	17	14	30	STEVENS	15212	
G33	TALL CABINET	24	24	84	STEVENS	25129	
G34	TALL CABINET	30	24	84	STEVENS	25129	
G35	TALL CABINET	36	24	84	STEVENS	25129	
G36	TALL CABINET	42	24	84	STEVENS	25129	
G37	BOOKCASE, TALL	36	12	60	STEVENS	25101	
G38	BOOKCASE, TALL	33	14	84	STEVENS	25101	
G39	PAPER STORAGE	48	26	30	STEVENS	10403	
G40	PAPER STORAGE	48	26	34	STEVENS	10404	
G41	PAPER STORAGE	48	35	36	STEVENS	10404	
G42	PAPER STORAGE- TALL	48	30	85	STEVENS	25375	
G43	MAILBOX	48	14	48		9530	SEE DETAIL A9/A-9.9

MUSIC SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
M1	STANDARD CABINET #10				WENGER	10	
M2	STANDARD CABINET #10				WENGER	10	
M4	INSTRUMENT STORAGE	28	29	86	WENGER	4	
M27	INSTRUMENT STORAGE	28	29	86	WENGER	27	
M42	MUSIC STORAGE	28	30	86	WENGER	6	

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL #	REMARKS
E1	RANGE	G.E.	JB645DKBB	
E2	HOOD	G.E.	JN327HBB	
E3	HEALTH REFRIGERATOR	SUMMIT	FFAR10LOCKER	
E4	REFRIGERATOR	GE	GIE18ETHBB	WITH ICE MAKER
E5	UNDER CAB. MICROWAVE	GE	PEM31DFBB	
E6	WASHER	GE	GTW680BSJWS	
E7	DRYER	GE	GTX42EASJWW	
E8	ICE MAKER	SUMMIT	BIM44GADA	
E9	KILN	SKUTT	KM1227-3PK	WITH KILN LINK & ENVIROVENT2
E10	J HOOK	TORNADO	48034	
E11	AUTOMATED EXTERNAL DEFIBRILATOR (AED)			
E12	HYDRAULIC CHANGING TABLE	ARMEDICA HI-LO	AM-SX 1060	CHILD SIZE W/ SAFETY BELT

LOCKER SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
L1	DOUBLE TIER LOCKER	12	15	48
L2	SINGLE TIER LOCKER	12	12	36
L3	DOUBLE TIER LOCKER	12	15	60
L4	SINGLE-TIER LOCKER	12	12	72

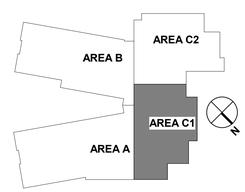
METAL SHELVING

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
A	METAL SHELVING	12	36	84
B	METAL SHELVING	15	36	84

DISPLAY SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) W	H	REMARKS
D1	DISPLAY CASE	64	64	
D2	DISPLAY CASE	48	72	SEE DETAILS F1 & H1 ON SHEET A-9.10
D3	POSTER CASE - RECESSED	56	64	
D4	RECESSED DISPLAY CASE	40	64	

KEY PLAN- AREA C1



I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF MARYLAND, LICENSE NUMBER 19067 EXPIRATION DATE 7/9/2020

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GRIMM AND PARKER

GP #21740

PARTIAL FIRST FLOOR FURNISHING PLAN- AREA C1

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
1/25/19	ADDENDUM 1
2/01/19	ADDENDUM 2

A-9.3

01/10/2019
BID SET

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COUNTERTOP SCHEDULE

ITEM	DESCRIPTION	CONSTRUCTION TYPE	REMARKS
C1	COUNTERTOP	LAMINATE	SEE ALTERNATE 1
C2	COUNTERTOP	LAMINATE	
C3	COUNTERTOP	SOLID SURFACING	
C4	COUNTERTOP	EPOXY RESIN	
C5	COUNTERTOP	METAL FLAKE ACRYLIC SUFRACE	SEE MEDIA CENTER DESK DETAILS ONSHEET A-9.9

2 ADD

GENERAL FURN. SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
G1	TEACHER WARDROBE	36	24	84	STEVENS	25617	
G2	TEACHER WARDROBE	48	24	84	STEVENS	25603	
G3	BASE CABINET	12	24	30	STEVENS	10120	
G4	BASE CABINET	18	24	30	STEVENS	10120	
G5	BASE CABINET	18	24	34	STEVENS	10120	
G6	BASE CABINET	24	24	30	STEVENS	10129	
G7	BASE CABINET	30	24	30	STEVENS	10129	
G8	BASE CABINET	33	24	30	STEVENS	10129	
G9	BASE CABINET	36	24	30	STEVENS	10129	
G10	BASE CABINET	30	24	34	STEVENS	10129	
G11	BASE CABINET	33	24	34	STEVENS	10129	
G12	BASE CABINET	36	24	34	STEVENS	10129	
G13	BASE CABINET	36	24	34	STEVENS	10129	
G14	BASE CABINET	42	24	34	STEVENS	10129	
G15	BASE - TOTE TRAY STORAGE	36	24	34	STEVENS	10129	CUSTOM HEIGHT
G16	BASE - FILE DRAWER	15	24	34	STEVENS	10316	
G17	BASE - DRAWER	16	24	30	STEVENS	10332	
G18	BASE CABINET - DRAWER	30	24	34	STEVENS	10432	
G19	ADA SINK BASE	36	24	34	STEVENS	10590	
G20	ADA SINK BASE	36	24	30	STEVENS	10591	
G21	SINK BASE	36	24	34	STEVENS	10479	
G22	WALL CABINET	36	14	18	STEVENS	15129	
G23	WALL CABINET	36	14	24	STEVENS	15129	
G24	WALL CABINET	12	14	30	STEVENS	15120	
G25	WALL CABINET	18	14	30	STEVENS	15120	
G26	WALL CABINET	24	14	30	STEVENS	15129	
G27	WALL CABINET	30	14	30	STEVENS	15129	
G28	WALL CABINET	33	14	30	STEVENS	15129	
G29	WALL CABINET	36	14	30	STEVENS	15129	
G30	WALL CABINET	36	14	30	STEVENS	15129	
G31	WALL CABINET	48	14	30	STEVENS	15129	
G32	WALL - CORNER UNIT	17	14	30	STEVENS	15212	
G33	TALL CABINET	24	24	84	STEVENS	25129	
G34	TALL CABINET	30	24	84	STEVENS	25129	
G35	TALL CABINET	36	24	84	STEVENS	25129	
G36	TALL CABINET	42	24	84	STEVENS	25129	
G37	BOOKCASE, TALL	36	12	60	STEVENS	25101	
G38	BOOKCASE, TALL	33	14	84	STEVENS	25101	
G39	PAPER STORAGE	48	26	30	STEVENS	10403	
G40	PAPER STORAGE	48	26	34	STEVENS	10404	
G41	PAPER STORAGE	48	35	36	STEVENS	10404	
G42	PAPER STORAGE- TALL	48	30	85	STEVENS	25375	
G43	MAILBOX	48	14	48		9530	SEE DETAIL A9/A-9.9

LOCKER SCHEDULE

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
L1	DOUBLE TIER LOCKER	12	15	48
L2	SINGLE TIER LOCKER	12	12	36
L3	DOUBLE TIER LOCKER	12	15	60
L4	SINGLE-TIER LOCKER	12	12	72

METAL SHELVING

ITEM	DESCRIPTION	SIZE (INCHES) DEPTH	WIDTH	HEIGHT
A	METAL SHELVING	12	36	84
B	METAL SHELVING	15	36	84

DISPLAY CASE

ITEM	DESCRIPTION	SIZE (INCHES) W	H	REMARKS
D1	DISPLAY CASE	64	64	
D2	DISPLAY CASE	48	72	SEE DETAILS F1 & H1 ON SHEET A-9.10
D3	POSTER CASE - RECESSED	56	64	
D4	RECESSED DISPLAY CASE	40	64	

SENSORY ROOM

ITEM	DESCRIPTION	SIZE (INCHES) W	D	H	MANUF.	MANUF. #	REMARKS
S1	MIRROR SCULPTURED MAZE PANEL		2	24	E SPECIAL NEEDS	SKU# E003791	
S2	TACTILE ACTIVITY BUSY BOARD		2	30	E SPECIAL NEEDS	SKU# E17249	
S3	TEXTURED WALL		6	60	TFH SPECIAL NEEDS TOYS	9MATW	
S4	TACTILE LOOPIE WALL		6	60	TFH SPECIAL NEEDS TOYS	9MAWT	

GENERAL FURNISHING AND EQUIPMENT NOTES

NOTE: NOT ALL ITEMS INDICATED ON SCHEDULE ARE REPRESENTED IN THIS PROJECT.

1. ALL CABINET HEIGHTS INCLUDE COUNTERTOPS. DIMENSIONS ARE TO THE NEAREST INCH.
2. DIVISIONS IN CASEWORK ARE SHOWN FOR CLARITY AND DO NOT REPRESENT BREAKS IN THE COUNTERTOP.
3. PROVIDE CONTINUOUS COUNTERTOP OVER ALL SIMILAR HEIGHT CASEWORK, UNLESS OTHERWISE NOTED.
4. MANUFACTURER AND CATALOG NUMBERS ARE FOR REFERENCE AND ILLUSTRATION PURPOSES ONLY. SEE SPECIFICATION FOR FULL CASEWORK REQUIREMENTS.
5. PROVIDE RESILIENT BASE FOR ALL CASEWORK THAT MEETS THE FLOOR ON FRONT AND EXPOSED SIDES AND BACK.
6. DOTTED LINES INDICATE WALL HUNG CABINETS. DIVISIONS OF BASE CABINETS BELOW THE COUNTERTOP, FURNITURE NOT IN THE CONTRACT OR PROJECTION SCREENS -SEE CASEWORK KEY AND SPECIFICATIONS.
7. ALL CABINETS AND DRAWERS TO HAVE CAM LOCKS EXCEPT FOR SINK BASE CABINETS.
8. ALL EXPOSED SURFACES (EXPOSED TO VIEW FROM ANY PERSPECTIVE) TO BE COVERED WITH LAMINATE.
9. ALL CASEWORK WHICH MEETS A WALL AT ONE OR BOTH ENDS, TO BE PROVIDED WITH FILLER PANELS AND SCRIBED TO THE WALL(S) AS REQUIRED.
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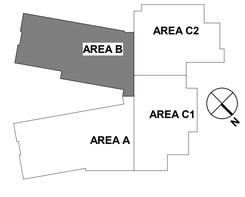
12. SEE SPEC SECTION 12 35 51 FOR REQUIREMENTS OF MUSIC INSTRUMENT STORAGE CABINETS.
13. ALL CABINETS AND DRAWERS IN THE KINDERGARTEN ROOMS TO BE PROVIDED WITH RECESSED HANDLES.
14. ALL COUNTERTOP CORNERS SHALL BE 1/2" RADIUSED UNLESS OTHERWISE NOTED.
15. PROVIDE ADEQUATE BLOCKING IN STUD WALLS AND AT CMU WALLS FOR WALL-MOUNTED EQUIPMENT AND FURNISHINGS.
16. CONTRACTOR TO FIELD VERIFY ALL CLEAR OPENINGS PRIOR TO MILLWORK OR CASEWORK FABRICATION.
17. MILLWORK AND CASEWORK DRAWINGS ARE DIAGRAMMATIC IN NATURE TO SHOW DESIGN INTENT. ALL WORK TO BE DONE IN ACCORDANCE WITH SPECIFICATIONS. CONSTRUCTION DETAILS ARE TO BE SUBMITTED IN SHOP DRAWINGS AND ARE SUBJECT TO THE APPROVAL OF THE ARCHITECT.

A17 PARTIAL SECOND FLOOR FURNITURE PLAN - AREA B
1/8" = 1'-0"

KEY PLAN- AREA B



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PARTIAL SECOND FLOOR FURNISHING PLAN- AREA B

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

A-9.6
01/10/2019
BID SET

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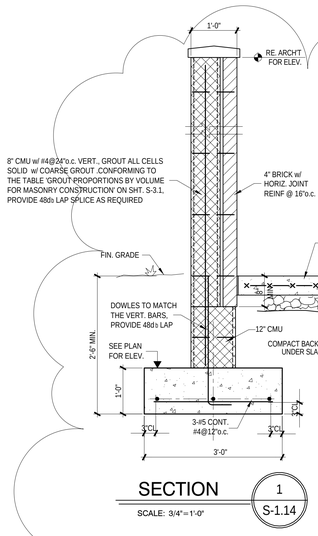
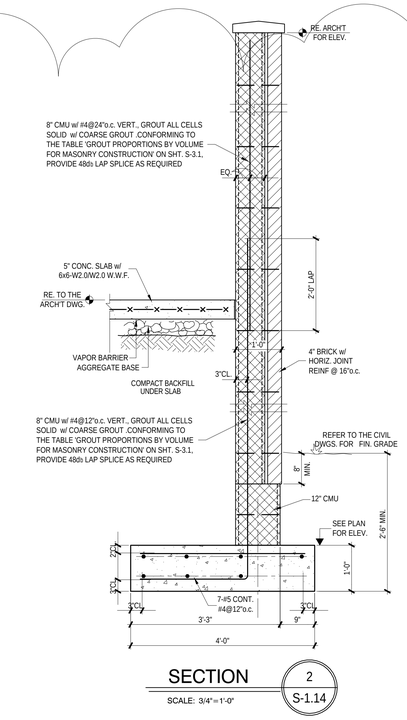


SECTION 1 S-1.14
SCALE: 3/4"=1'-0"



SECTION 2 S-1.14
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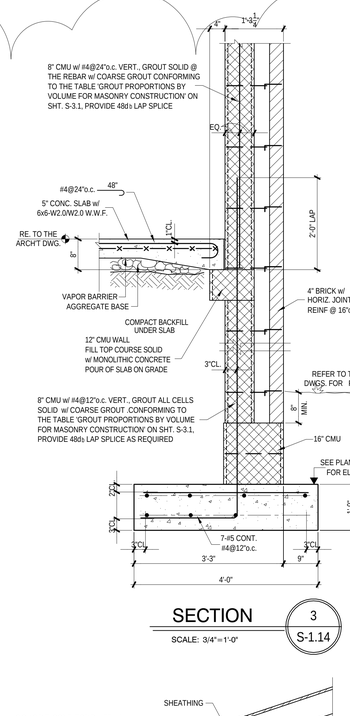

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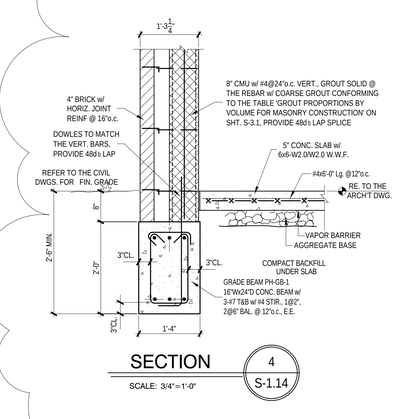
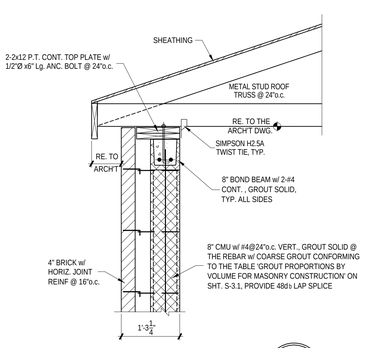


SECTION 4 S-1.14
SCALE: 3/4"=1'-0"



SECTION 5 S-1.14
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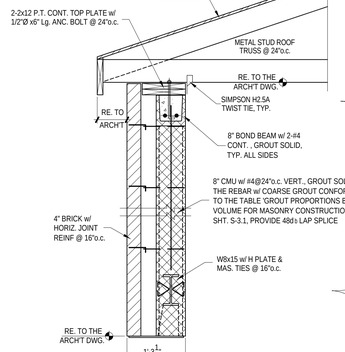
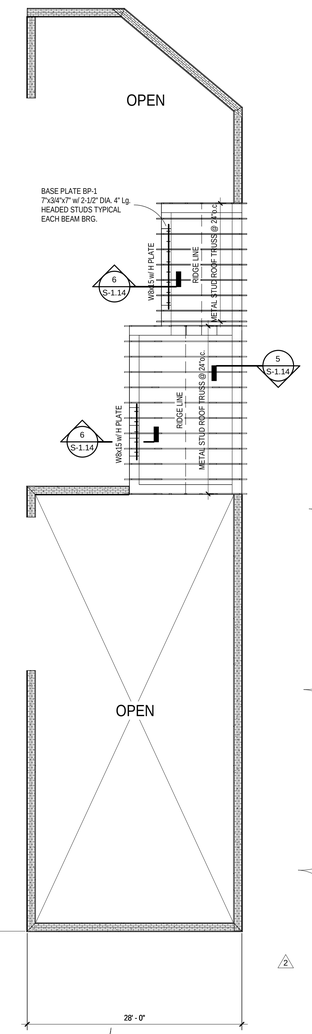
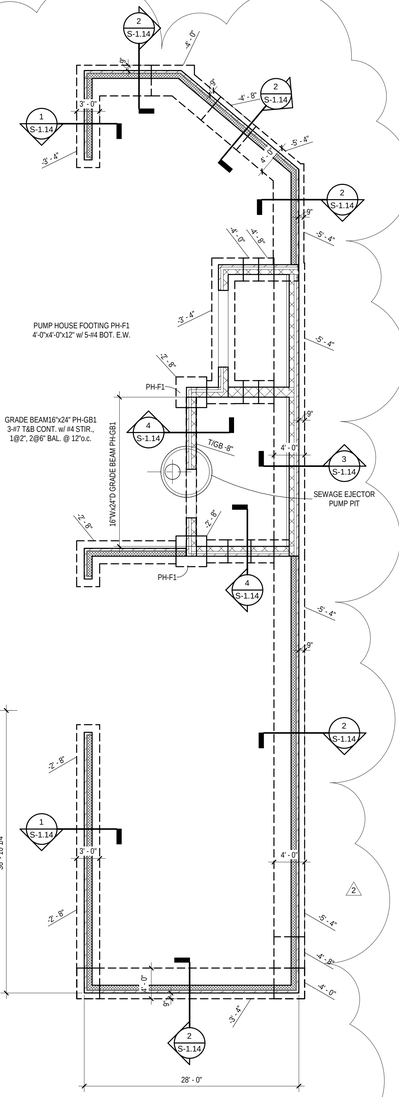


SECTION 6 S-1.14
SCALE: 3/4"=1'-0"



ROOF TRUSS FRAMING PLAN 1/8"=1'-0"

1. MAXIMUM SPACING FOR PREFAB LIGHT GAGE METAL ROOF TRUSSES IS 24"o.c. , U.N.O. ON PLAN.
2. DESIGN CRITERIA FOR TRUSS: 30 PSF SNOW
   7 PSF D.L. (TOP CHORD)
   10 PSF D.L. (BOTTOM CHORD)
   47 PSF TOTAL LOAD
3. ROOF SHEATHING TO BE 19/32" PLYWOOD, SEE STRUCTURAL NOTES.
4. SEE ARCHITECTURAL DRAWINGS FOR ROOF OVERHANG & SOFFIT DETAILS.
5. TOP CHORD OF ALL TRUSS TO BE BRACED w/ THE ROOF SHEATHING.
6. ROOF TRUSS BEARING TO BE (0'-0") +0'-0" ABOVE FINISHED FLOOR BELOW, U.N.O.
7. WHERE REQUIRED, FURNISHED MECHANICAL LINE HANGERS WITH A MAXIMUM SPACING: 8'Ø=4'-0"o.c.; 6'Ø=6'-0"o.c.; 4'Ø=8'-0"o.c.



PUMP HOUSE SLAB & FOUNDATION PLAN NOTES 1/8"=1'-0"

1. THE WALL FOOTINGS SHALL BEAR ON COMPACTED FILL w/ A CAPACITY OF 2500 psf. THE FINISHED SLAB ELEVATION SHALL BE 0.00', REFER TO THE CIVIL DRAWING FOR THE FINISHED FLOOR ELEVATION.
2. THE SLAB ON GRADE SHALL BE 5" (U.N.O.) CONCRETE w/ 6"x6"-W2.0/W2.0 WELDED WIRE MESH, IN FLAT SHEETS. SLAB TO BE POURED IN PLACE OVER VAPOR BARRIER AND AGGREGATE BASE. RE. SOIL REPORT.
3. TOP OF FOOTING ELEVATIONS NOTED c.c. ON PLAN ARE TAKEN FROM REFERENCE ELEVATION 0.00'. PROVIDE TERMITE PROTECTION UNDER THE SLAB & FOOTING. REFERENCE ARCHT DWGS. & SPECIFICATIONS.
4. SEE SHEET:
   S-2.1 FOR COLUMN SCHEDULE & DETAILS
   S-5.1 FOR TYPICAL DETAILS & STRUCTURAL NOTES
   S-5.2 FOR STRUCTURAL STEEL TYPICAL DETAILS
   DETAILS ON THESE SHEETS APPLY WHERE CUT & AT ALL SIMILAR LOCATIONS.
5. THE CONSTRUCTION MANAGER IS TO COORDINATE THE LOCATIONS, SIZE & INVERT ELEVATIONS w/ THE MECHANICAL ENGINEERS & MECHANICAL SUBCONTRACTORS. LOWER THE FOOTING ELEVATIONS (SHOWN ON THE DRAWING) AS NECESSARY BELOW THE UTILITY LINES FOR LOAD-BEARING WALLS. SEE DETAIL 5/S-5.1 STEPPED FOOTING DETAIL FOR LOWERING THE WALL FOOTINGS. PROVIDE A THICKENED FOOTING & EXTRA REBARS AS INDICATED IN DETAIL 14/S-5.1 OR STEP DOWN THE FOOTING FOR THE NON LOAD-BEARING WALLS.
6. C.J. DENOTES SLAB CONTROL JOINTS, SEE DETAIL 7/S-5.1 & CONST. JT. DENOTES CONSTRUCTION JOINTS, SEE DETAIL 6/S-5.1.

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OUT BUILDINGS and DETAILS

URBANA ELEMENTARY SCHOOL
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/01/19	ADDENDUM 2

S-1.14

01/10/2019
BID SET

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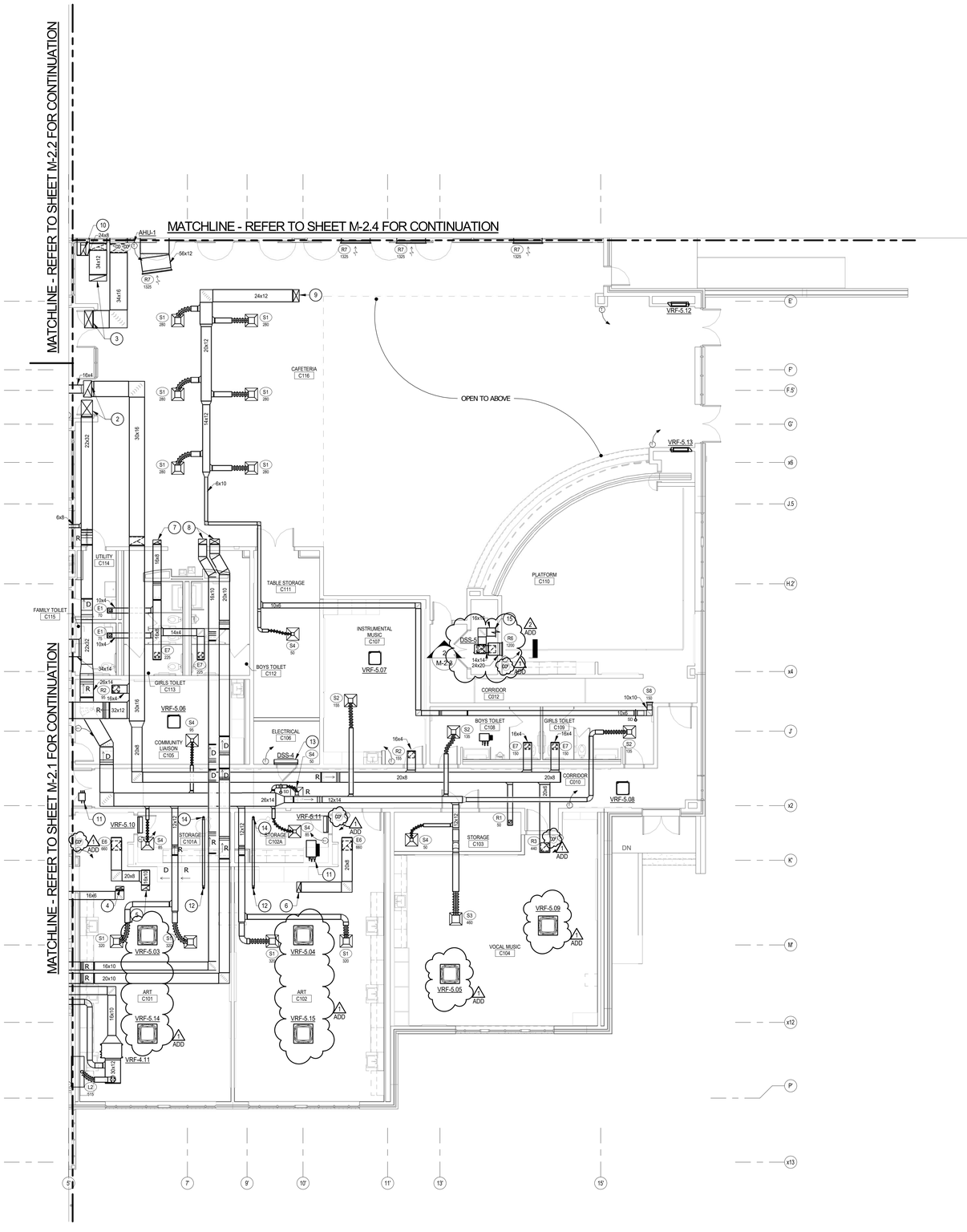
MATCHLINE - REFER TO SHEET M-2.2 FOR CONTINUATION

MATCHLINE - REFER TO SHEET M-2.4 FOR CONTINUATION

MATCHLINE - REFER TO SHEET M-2.1 FOR CONTINUATION

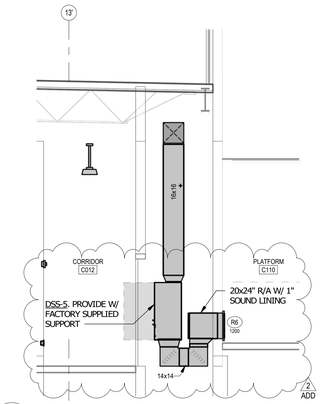


1 M-2.3 **PARTIAL FIRST FLOOR PLAN - AREA C1**

SCALE: 1/4" = 1'-0"

DRAWING NOTES:

1. 16x16 R/A UP TO VRF-5.01 IN HIGH CEILING. FOR CONTINUATION, REFER TO DRAWING M-2.7.
2. 32x22 O/A AND 32x16 R/A UP TO DOAS-1 IN PENTHOUSE. FOR CONTINUATION, REFER TO DRAWING M-3.2.
3. 34x16 O/A AND 34x12 R/A UP TO DOAS-2 IN PENTHOUSE. FOR CONTINUATION, REFER TO DRAWING M-3.2.
4. 16x6 E/A UP TO F-2 ON ROOF. FOR MORE INFORMATION, REFER TO DRAWING M-2.9.
5. 16x10 E/A UP TO F-3 ON ROOF. FOR MORE INFORMATION, REFER TO DRAWING M-2.9.
6. 8x20 E/A UP TO F-4 ON ROOF. FOR MORE INFORMATION, REFER TO DRAWING M-2.9.
7. 16x8 E/A UP TO PENTHOUSE. FOR CONTINUATION, REFER TO DRAWING M-3.2.
8. 20x10 O/A AND 16x10 R/A UP TO DOAS-4 IN PENTHOUSE. FOR CONTINUATION, REFER TO DRAWING M-3.2.
9. 24x12 O/A UP TO PENTHOUSE. FOR CONTINUATION, REFER TO DRAWING M-3.2.
10. 20x10 E/A UP TO PENTHOUSE. FOR CONTINUATION, REFER TO DRAWING M-3.2.
11. BRANCH SELECTOR BOX. FOR ADDITIONAL INFORMATION ON THE BRANCH SELECTOR BOX AND THE UNITS THEY SERVE, REFER TO DRAWING M-7.5.
12. 4"ø MIN. ALUMINUM EXHAUST VENT (FULL SIZE OF KILN VENT-SURE DOWNDRAFT VENT SYSTEM CONNECTION) UP THRU ROOF TO GOOSENECK.
13. MOUNT ABOVE DOOR AT 8'-0" A.F.F.
14. 4"ø MIN. ALUMINUM EXHAUST VENT (FULL SIZE OF KILN CONNECTION) DN TO KILN.
15. 16x16 S/A CONTINUES TO HIGH CEILING ABOVE PLATFORM. FOR CONTINUATION, REFER TO DWG. M-2.7.



2 M-2.3 **MECHANICAL SECTION - DSS-5**

SCALE: 1/4" = 1'-0"

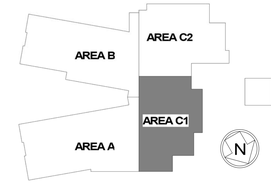
SCALE: 1/4" = 1'-0"

4 0 4 8

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

8 0 8 16

KEY PLAN - AREA C1



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PARTIAL FIRST FLOOR PLAN - AREA C1

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
1/25/19	ADDENDUM 1
2/1/19	ADDENDUM 2

M-2.3

01/10/2019
BID SET

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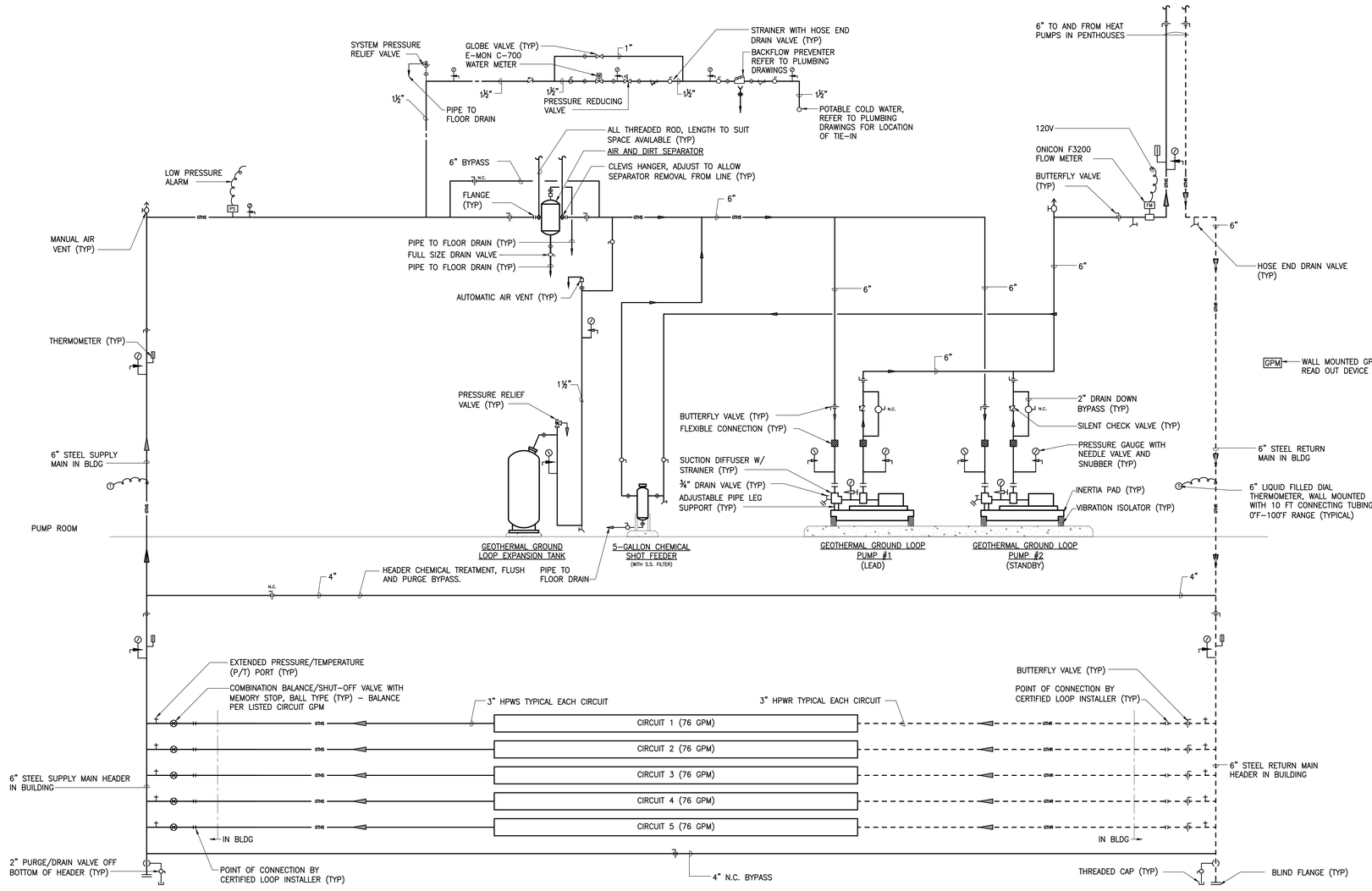
EARTH HEAT EXCHANGER SCHEDULE

CIRCUIT No.	No. OF BORE HOLES	BORE HOLE No.	RUN-OUT PIPE SIZE	FLOW RATE GPM
1	16	1-16	3"	76
2	16	17-32	3"	76
3	16	33-48	3"	76
4	16	49-64	3"	76
5	16	65-80	3"	76

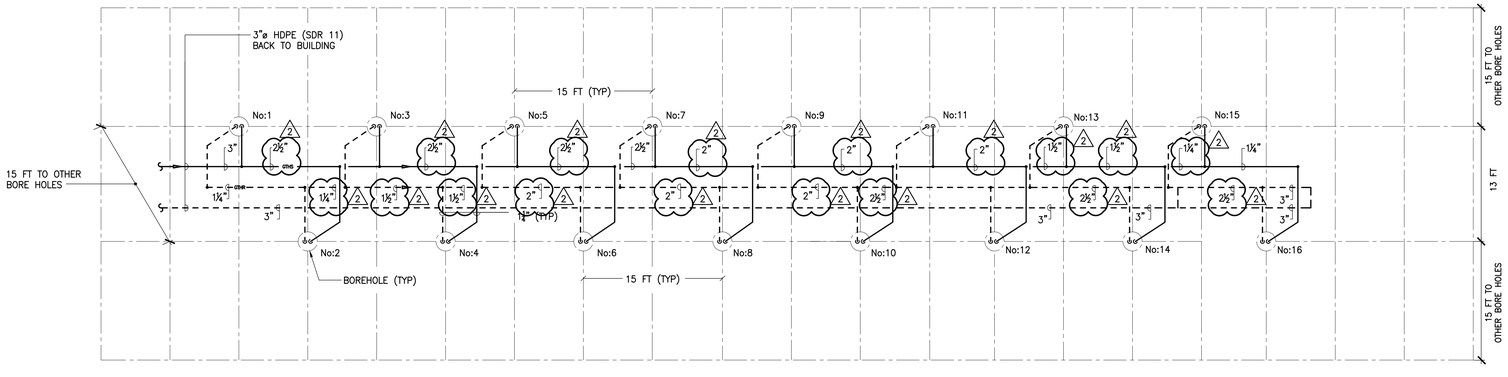
NOTES:

1. ALL 3" AND LESS UNDERGROUND PIPING SHALL BE HIGH DENSITY POLYETHYLENE (HDPE), SDR-9 IN VERTICAL AND SDR-11 IN HORIZONTAL, COIL TYPE, DRISCOPIPE OR EQUAL. HEAT STRAIGHTEN PRIOR TO INSTALLATION.
2. THE GROUND HEAT EXCHANGER CONTRACTOR SHALL INSTALL A POLYETHYLENE PIPE TO BRASS ADAPTER AT THE HEADER LOCATIONS INSIDE THE MECHANICAL ROOM AND EXTEND THE SUPPLY AND RETURN RUN-OUTS FROM THIS POINT TO THE WELL FIELD CIRCUITS.
3. THE MECHANICAL CONTRACTOR SHALL INSTALL THE HEADERS INSIDE THE MECHANICAL ROOM AND ALL PIPING FROM THAT POINT
4. TAG AND MATCH EACH RETURN HEADER RUN-OUT AND SUPPLY HEADER RUN-OUT CIRCUIT.



1 GEOTHERMAL SYSTEM CENTRAL PLANT PIPING DETAIL

SCALE: NONE



2 TYPICAL 16 BORE HOLE CIRCUIT GEOTHERMAL EARTH LAYOUT DETAIL

SCALE: NONE

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MECHANICAL DETAILS

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
1/25/19	ADDENDUM 1
2/1/19	ADDENDUM 2

M-7.1

01/10/2019
BID SET

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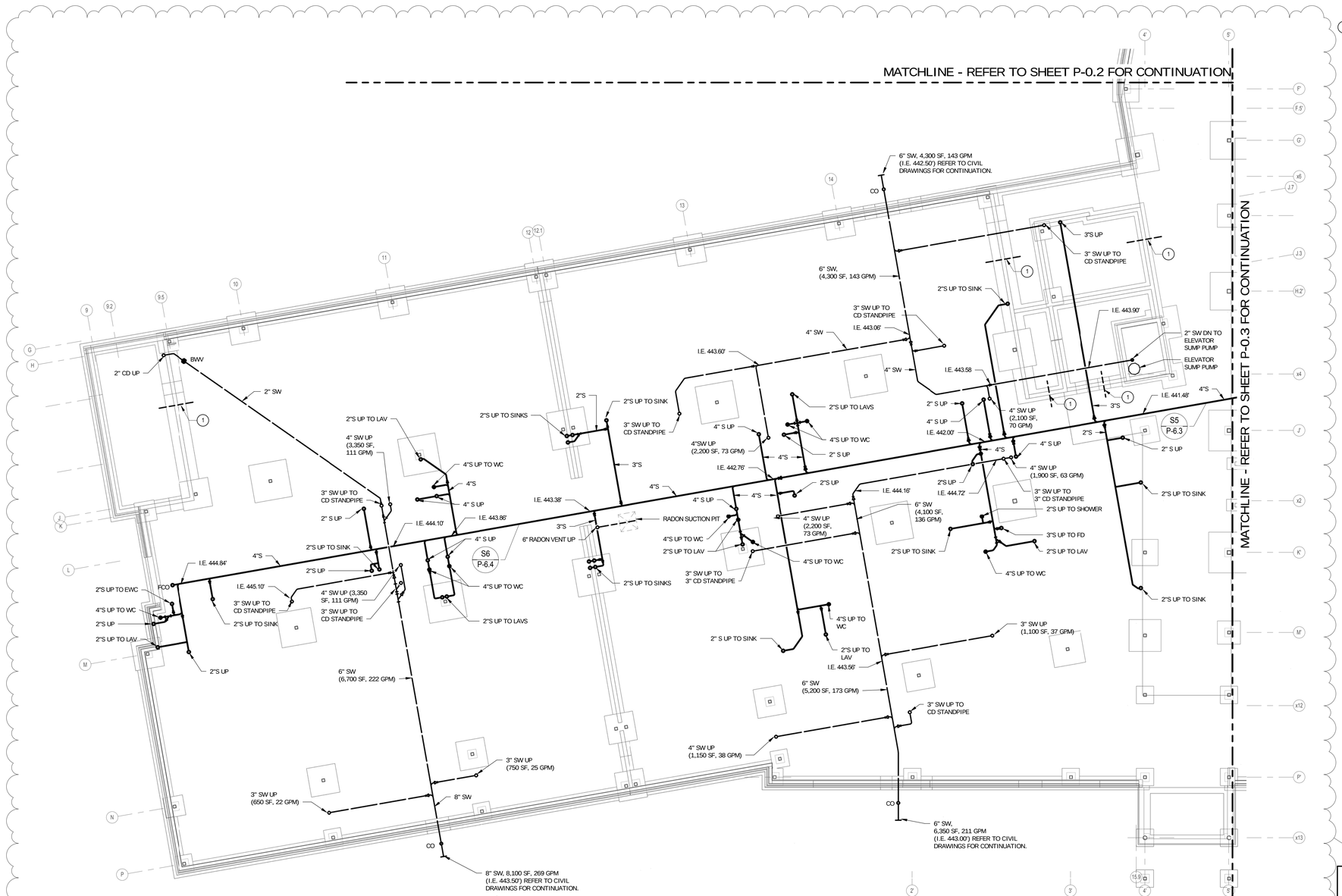
GENERAL NOTES:

1. FOR ADDITIONAL SIZING REFER TO RISER DIAGRAMS, DETAILS AND PLUMBING FIXTURE CONNECTION SCHEDULE.

DRAWING NOTES:

1. 4" SOLID CORE PVC PIPE SLEEVE THRU STEM WALLS FOR RADON MITIGATION.



TOTAL SANITARY PLUMBING FIXTURE UNITS = 550

TOTAL DOMESTIC WATER DEMAND = 222 GPM

TOTAL DOMESTIC HOT WATER DEMAND = 86 GPM

NATURAL GAS LOAD = 6,230 CFH

PARTIAL FOUNDATION PLAN - AREA A

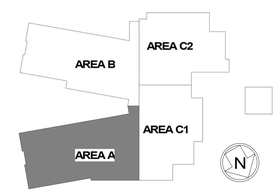
SCALE: 1/8" = 1'-0"

F.F.E. 446.08'

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

8 0 8 16

KEY PLAN - AREA A



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PARTIAL FOUNDATION PLAN - AREA A

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-0.1

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DRAWING NOTES:

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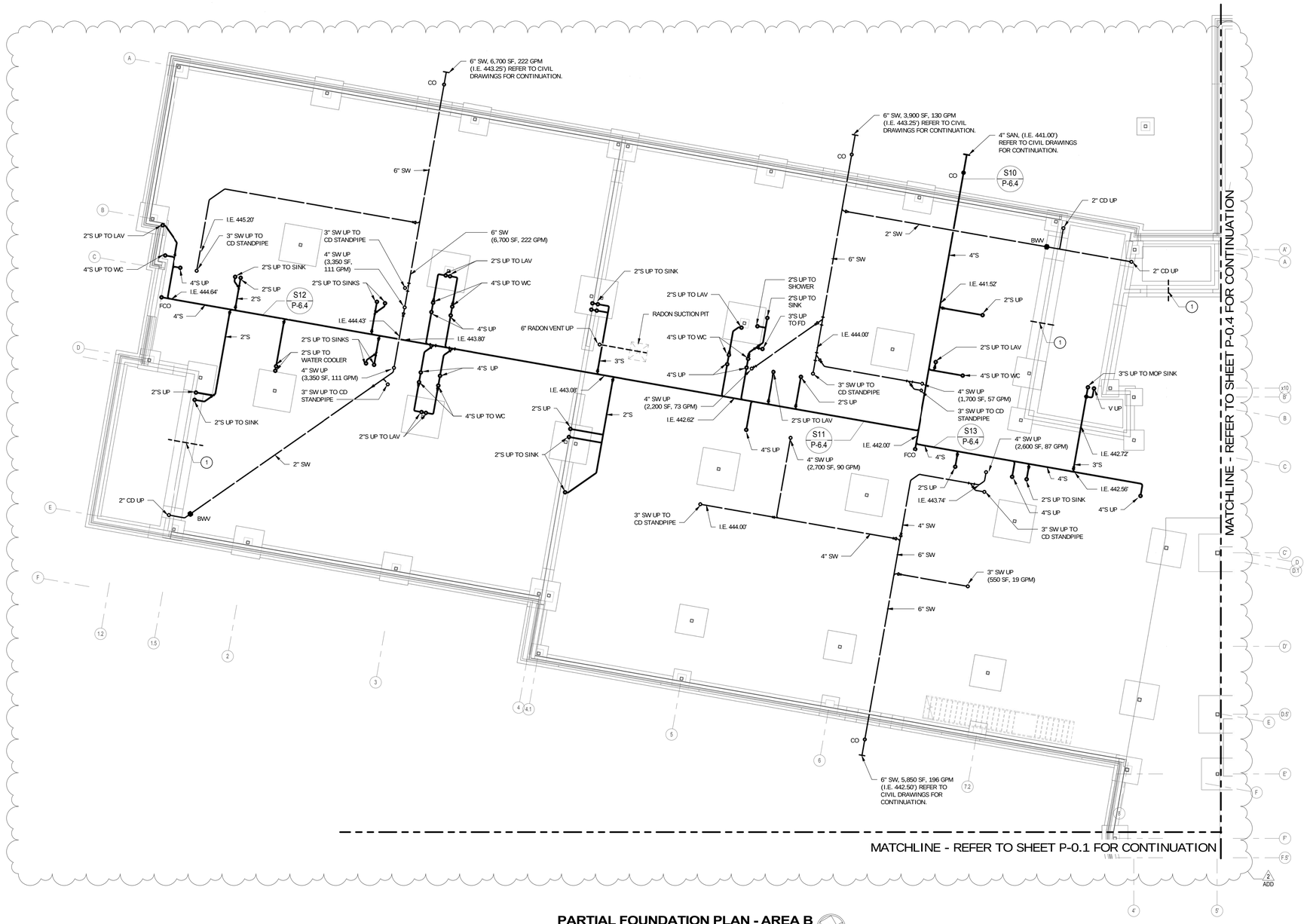
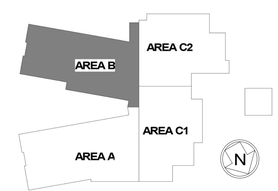


PARTIAL FOUNDATION PLAN - AREA B
SCALE: 1/8" = 1'-0"
F.F.E. 446.08'

SCALE: 1/8" = 1'-0"
8 0 8 16

KEY PLAN - AREA B



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PARTIAL FOUNDATION PLAN - AREA B

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-0.2
01/10/2019
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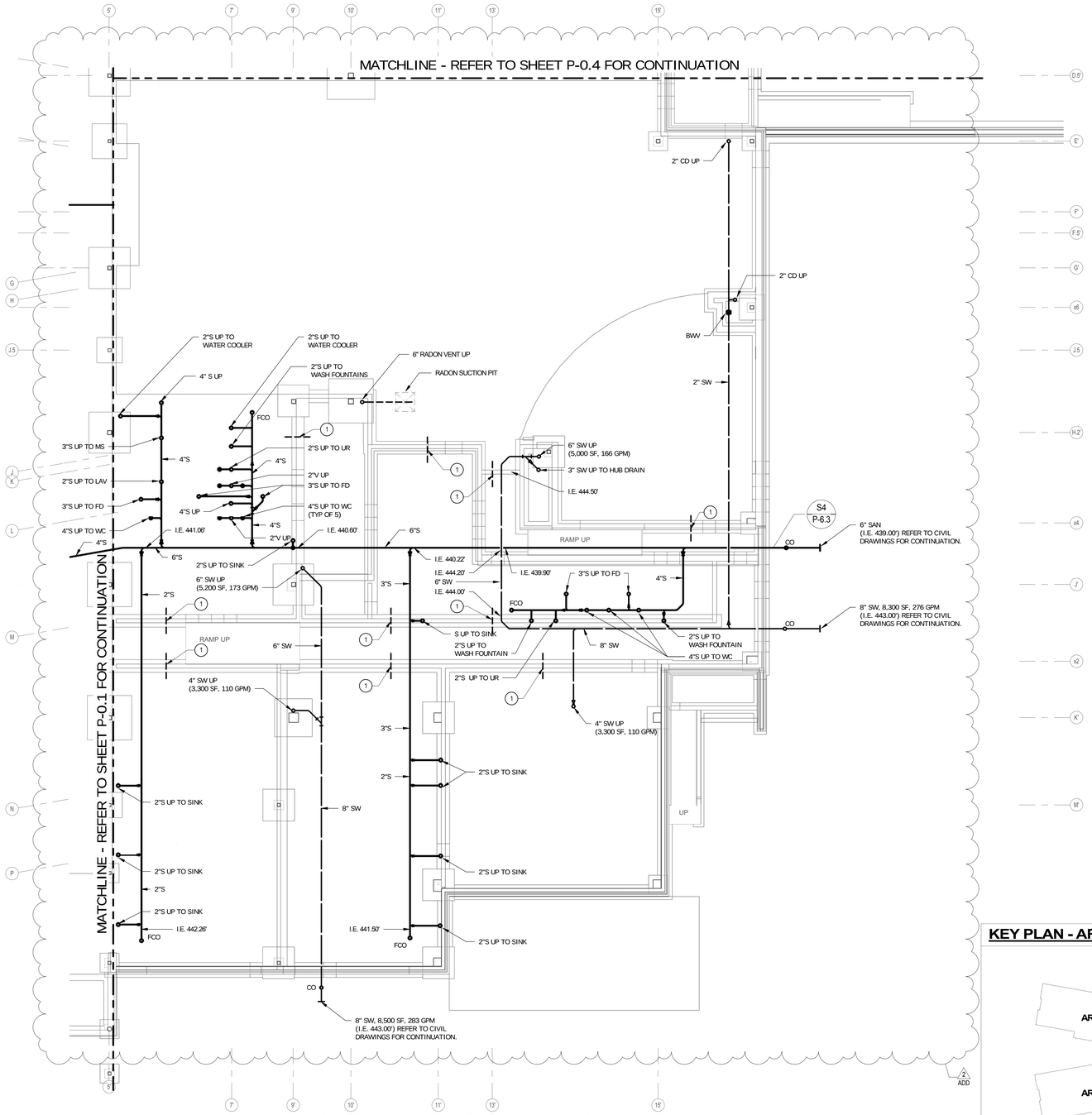
DRAWING NOTES:

(1) 4" SOLID CORE PVC PIPE SLEEVE THRU STEM WALLS FOR RADON MITIGATION.



PARTIAL FOUNDATION PLAN - AREA C1

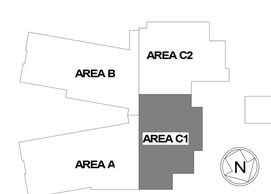
SCALE: 1/8" = 1'-0"

F.F.E. 446.08'

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

8 0 8 16

KEY PLAN - AREA C1



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URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

PARTIAL FOUNDATION PLAN - AREA C1

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-0.3

01/10/2019
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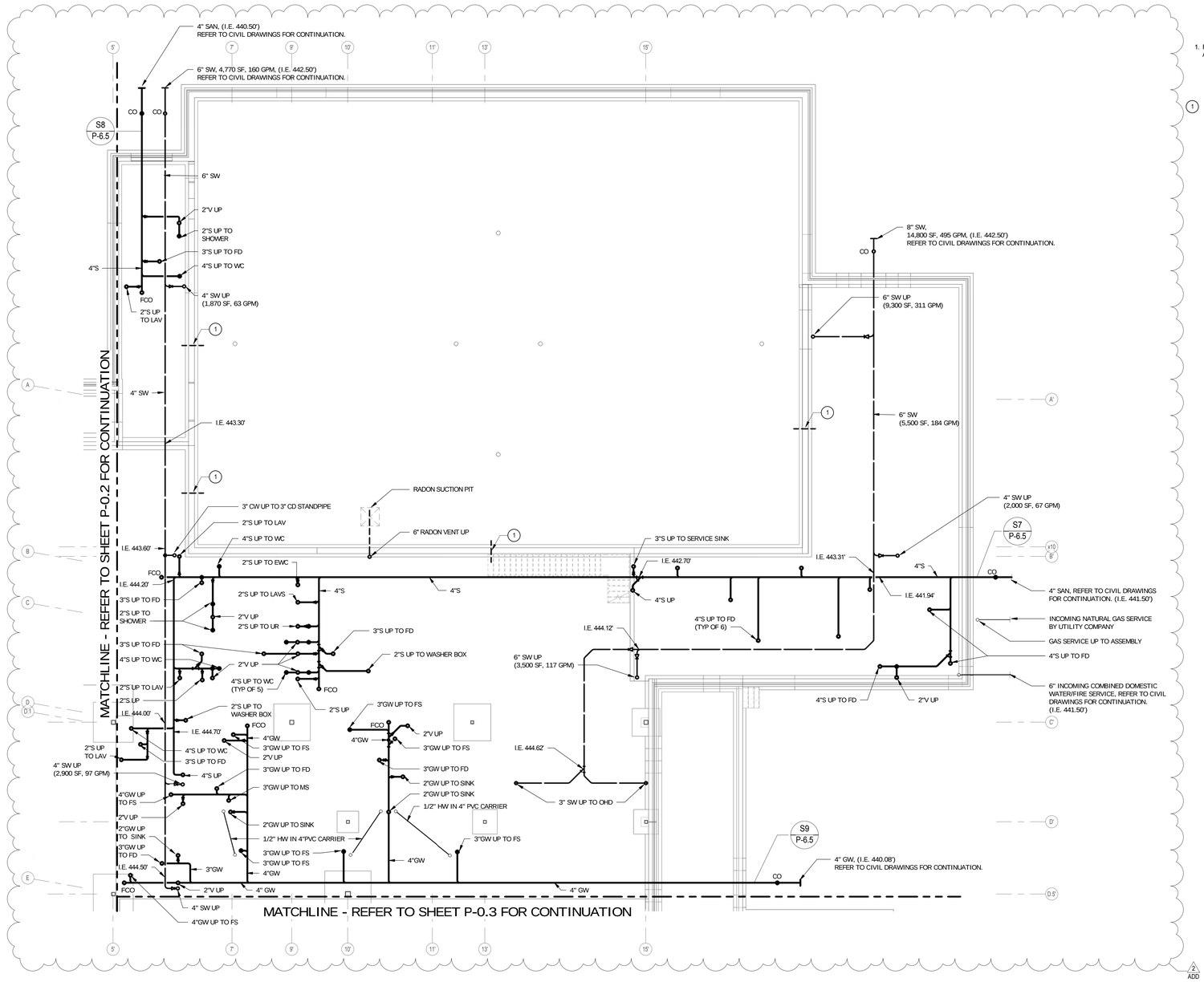


GENERAL NOTES:

1. FOR ADDITIONAL SIZING REFER TO RISER DIAGRAMS, DETAILS AND PLUMBING FIXTURE CONNECTION SCHEDULE.

DRAWING NOTES:

1. 4" SOLID CORE PVC PIPE SLEEVE THRU STEM WALLS FOR RADON MITIGATION.

PARTIAL FOUNDATION PLAN - AREA C1

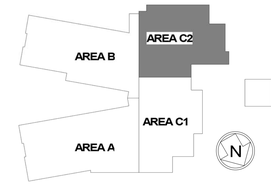
SCALE: 1/8" = 1'-0"

F.F.E. 446.08'

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

8 0 8 16

KEY PLAN - AREA C2



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PARTIAL FOUNDATION PLAN - AREA C2

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-0.4

01/10/2019
BID SET

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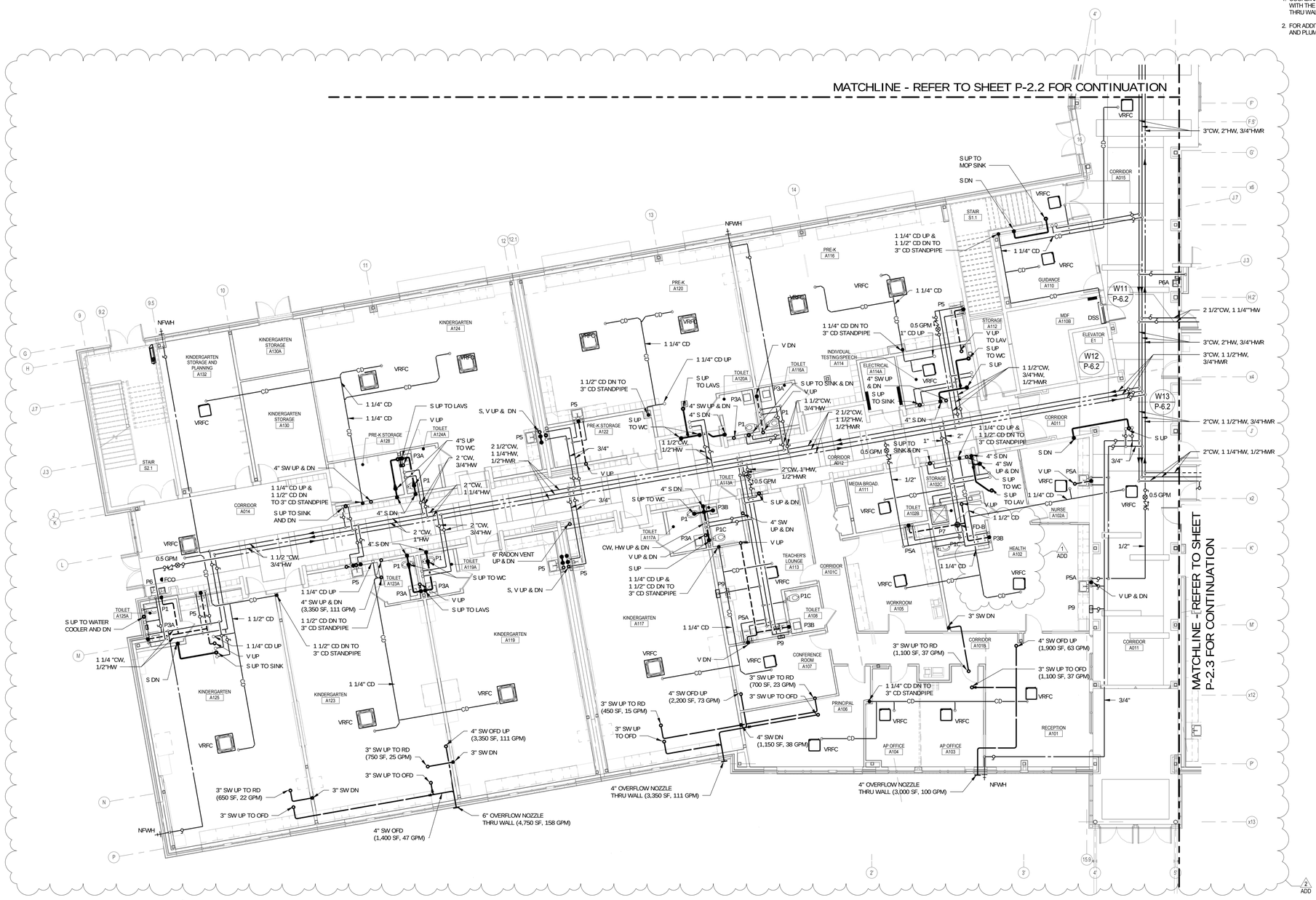


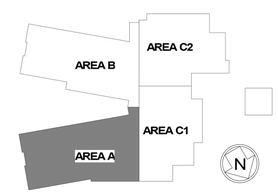
PARTIAL FIRST FLOOR PLAN - AREA A

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

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

8 0 8 16

KEY PLAN - AREA A



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PARTIAL FIRST FLOOR PLAN - AREA A

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
1/25/19	ADDENDUM 1
2/1/19	ADDENDUM 2

P-2.1

01/10/2019
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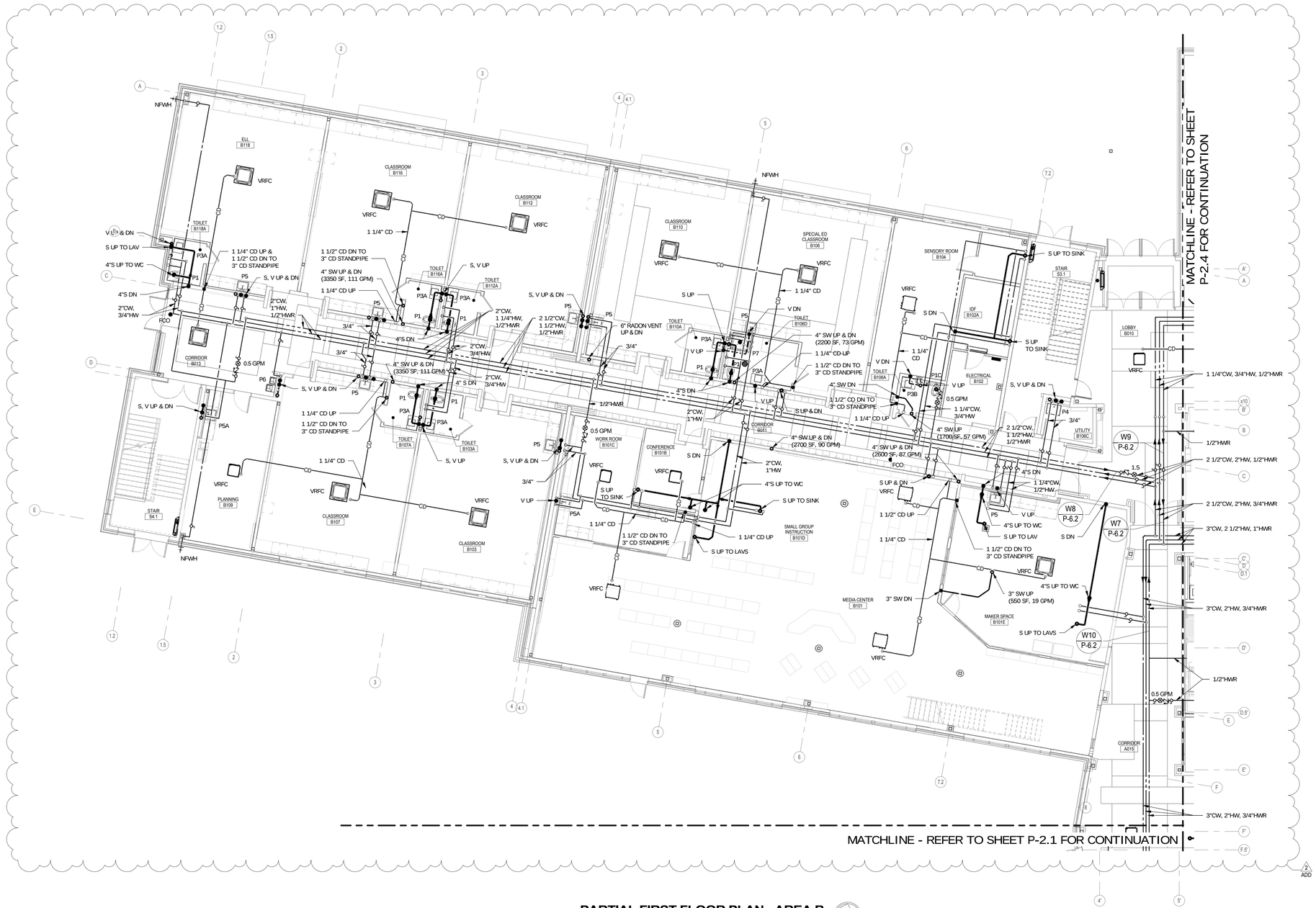


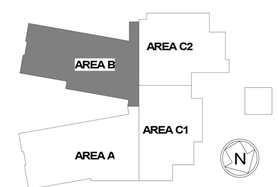
PARTIAL FIRST FLOOR PLAN - AREA B

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

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

8 0 8 16

KEY PLAN - AREA B



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URBANA ELEMENTARY SCHOOL REPLACEMENT
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PARTIAL FIRST FLOOR PLAN - AREA B

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-2.2

01/10/2019
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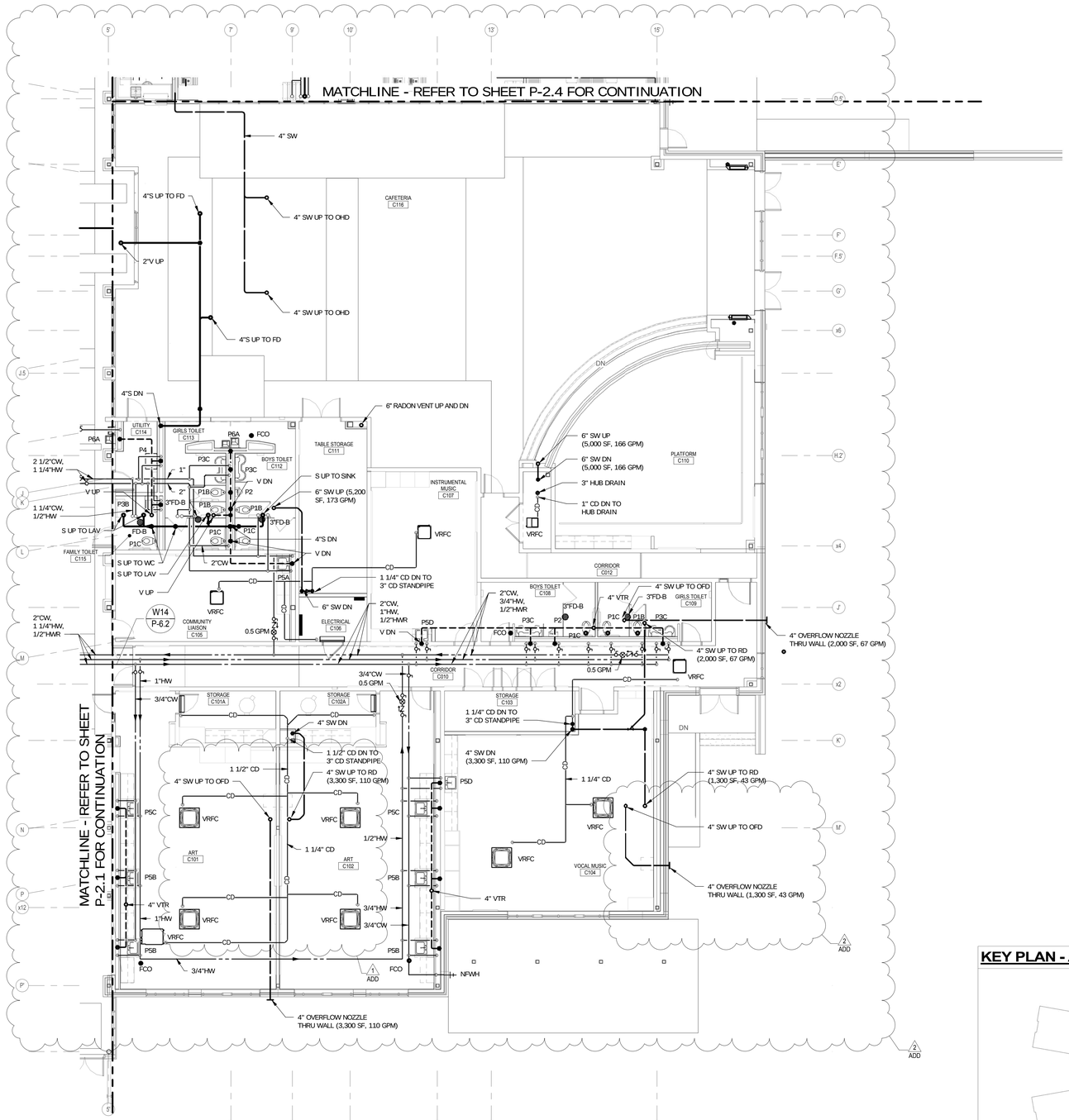


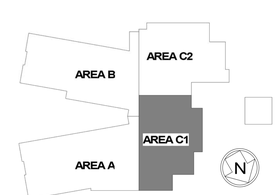
PARTIAL FIRST FLOOR PLAN - AREA C1

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

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

8 0 8 16

KEY PLAN - AREA C1



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PARTIAL FIRST FLOOR PLAN - AREA C1

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
1/25/19	ADDENDUM 1
2/1/19	ADDENDUM 2

P-2.3

01/10/2019
BID SET

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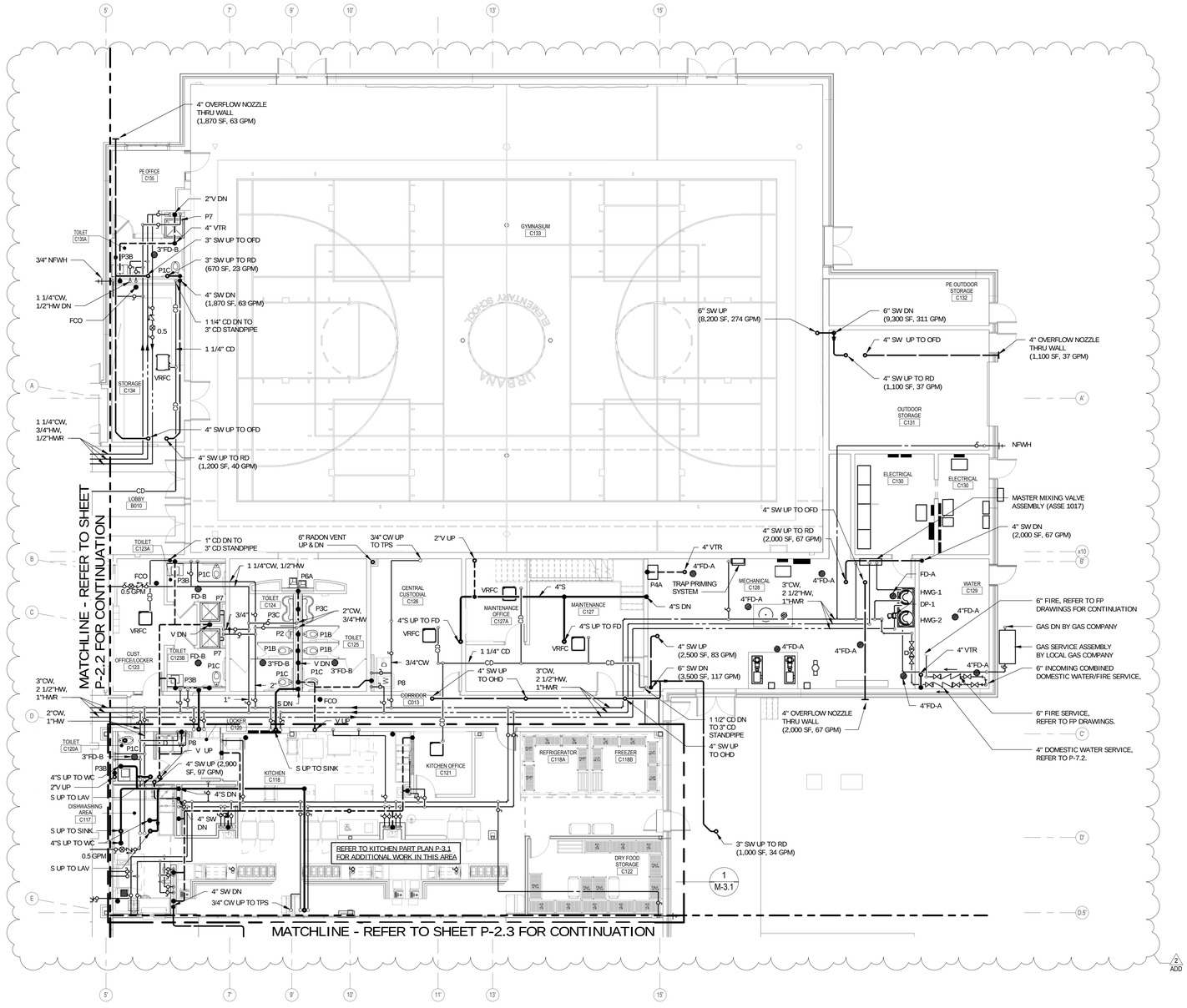


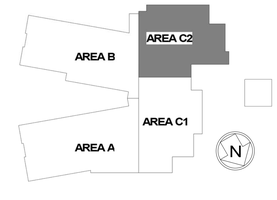
PARTIAL FIRST FLOOR PLAN - AREA C2

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

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

8 0 8 16

KEY PLAN - AREA C2



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PARTIAL FIRST FLOOR PLAN - AREA C2

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-2.4

01/10/2019
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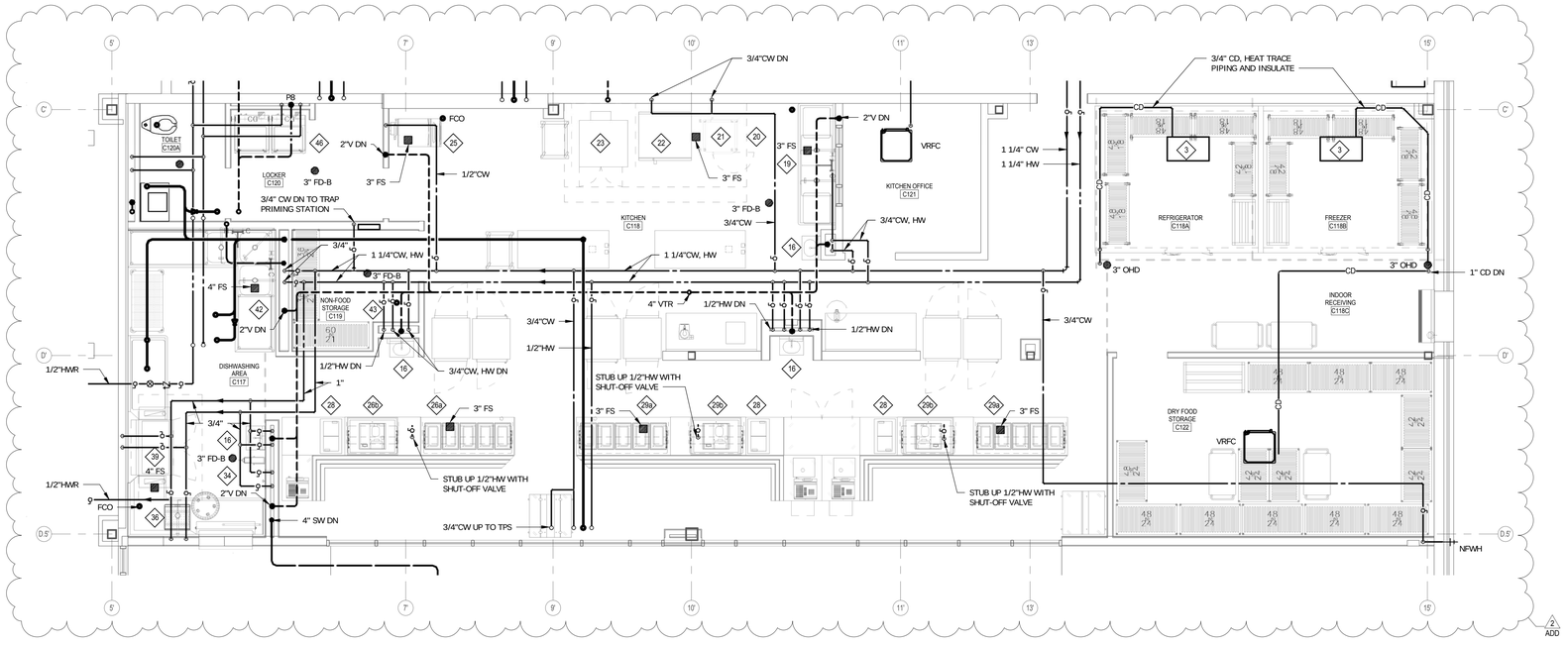
GENERAL NOTES:

1. THE ENTIRE POTABLE WATER SYSTEM AND ALL ITS COMPONENTS SHALL COMPLY WITH NSF 61-ANNEX G, NSF 372, AND ALL MARYLAND STATE "LEAD FREE" PLUMBING LAWS AND GUIDELINES.
2. PROVIDE DRIP PAN AND LIQUID SENSOR BELOW TRAPS FOR SANITARY PIPING SERVING FLOOR DRAINS ON THE SECOND FLOOR AREAS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. FOR ADDITIONAL SIZING REFER TO RISER DIAGRAMS, DETAILS AND PLUMBING FIXTURE CONNECTION SCHEDULE.



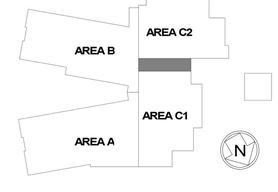
KITCHEN PART PLAN - PLUMBING

SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"

4 0 4 8

KEY PLAN - KITCHEN



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KITCHEN PART PLAN - PLUMBING

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM 2

P-3.1

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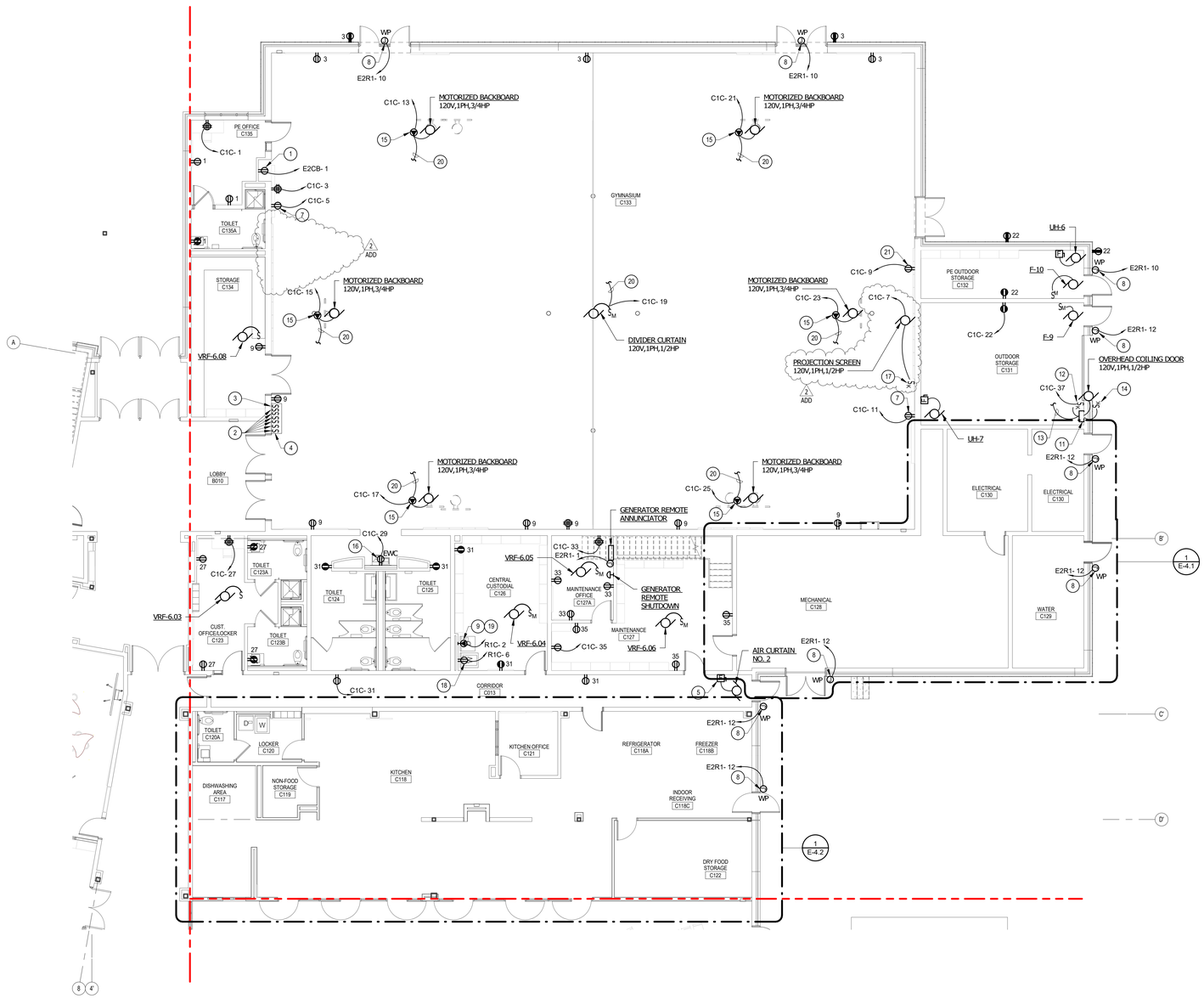
GENERAL NOTES:

1. REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON DRAWING E-8.1 FOR ADDITIONAL INFORMATION.

DRAWING NOTES:

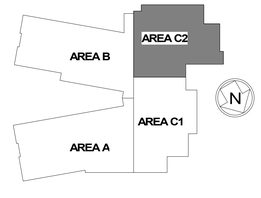
1. MOUNT TO SUIT LOCAL SOUND SYSTEM.
2. MAKE ALL CONNECTIONS TO KEY OPERATED RAISE/LOWER SWITCH FURNISHED WITH MOTOR OPERATED BACKBOARD.
3. MAKE ALL CONNECTIONS TO RAISE/LOWER SWITCH FURNISHED WITH ROLL-UP DIVIDER CURTAIN.
4. RECESSED PIANO HINGED JUNCTION BOX TO HOUSE MOTOR OPERATED BACKBOARD AND DIVIDER CURTAIN SWITCHES. MOUNT 48" AFF TO TOP.
5. MOUNT ABOVE ACCESSIBLE CEILING.
6. MOUNT IN DISPLAY CASE. COORDINATE MOUNTING WITH ARCHITECTURAL DRAWINGS.
7. COORDINATE EXACT LOCATION AND ELEVATION WITH ARCHITECTURAL DRAWINGS FOR SCOREBOARD. MAKE ALL CONNECTIONS AS REQUIRED.
8. MAKE CONNECTION TO ACCESS CONTROL SYSTEM AS REQUIRED. REFER TO TECHNOLOGY DRAWINGS.
9. VERIFY EXACT TYPE OF RECEPTACLE WITH EQUIPMENT PLUG.
10. INSTALL AND MAKE ALL CONNECTION TO ON/OFF AUTOMATIC SWITCH FURNISHED WITH UNIT.
11. MAKE ALL CONNECTIONS TO CONTROL PANEL FURNISHED WITH UNIT.
12. MAKE ALL CONNECTIONS TO NEMA 1 ENCLOSURE 3 BUTTON PUSH-BUTTON FURNISHED WITH UNIT.
13. MAKE ALL CONNECTION TO ELECTRIC SAFETY EDGE MOUNTED TO BOTTOM BAR OF DOOR AS REQUIRED.
14. MAKE ALL CONNECTIONS TO NEMA 4 ENCLOSURE 3 BUTTON PUSH-BUTTON FURNISHED WITH UNIT.
15. PROVIDE NEMA L14-20R TWIST LOCK RECEPTACLE. MAKE ALL CONNECTIONS BETWEEN RECEPTACLE AND MOTOR AS REQUIRED.
16. RECESS OUTLET BEHIND BOTTLE FILLING WATER COOLER. COORDINATE WITH PLUMBER PRIOR TO INSTALLATION.
17. MAKE ALL CONNECTIONS TO RAISE/LOWRE CONTROLS FURNISHED WITH PROJECTION SCREEN.
18. MOUNT TO SUIT WASHER.
19. MOUNT TO SUIT DRYER.
20. MAKE ALL CONNECTIONS TO ASSOCIATED RAISE/LOWER SWITCH AS REQUIRED.
21. MOUNT RECESSED IN WALL 72" AFF TO SUIT TV. COORDINATE MOUNTING WITH ARCHITECTURAL DRAWINGS.



1 E-1.4 PARTIAL FIRST FLOOR PLAN - AREA C2 - POWER

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

KEY PLAN - AREA C2



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

8 0 8 16

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PARTIAL FIRST FLOOR PLAN - AREA C2 - POWER

URBANA ELEMENTARY SCHOOL REPLACEMENT
FREDERICK COUNTY, MARYLAND

DATE	DESCRIPTION
2/1/19	ADDENDUM NO. 2

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