Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
02 — Architect/Engr

Proc Folder: 636066

Doc Description: EOI: Assembly Hall Expansion Construction at Cedar Lakes

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2019-09-27	2019-10-21 13:30:00	CEOI 1400 AGR2000000002	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

RECEIVED
2019 OCT 21 PM 12:28
WV PURCHASING DIVISION

VENDOR

Vendor Name, Address and Telephone Number:

ZMM, Inc. (dba ZMM Architects and Engineers)
222 Lee Street, West
Charleston, WV 25302
(304) 342-0159

FOR INFORMATION CONTACT THE BUYER

Jessica S Chambers
(304) 558-0246
jessica.s.chambers@wv.gov

Signature X [signature] **FEIN #** 55-0676608 **DATE** 10-18-2019

All offers subject to all terms and conditions contained in this solicitation

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
02 — Architect/Engr

Proc Folder: 636066

Doc Description: Addendum 1- Assembly Hall Expansion at Cedar Lake

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2019-10-17	2019-10-21 13:30:00	CEOI 1400 AGR2000000002	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

ZMM, Inc. (dba ZMM Architects and Engineers)
222 Lee Street, West
Charleston, WV 25302
(304) 342-0159

FOR INFORMATION CONTACT THE BUYER

Jessica S Chambers
(304) 558-0246
jessica.s.chambers@wv.gov

Signature X AdRK **FEIN #** 55-0676608 **DATE** 10-18-2019

All offers subject to all terms and conditions contained in this solicitation

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI 1400 AGR2000000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[X]	Addendum No. 1	[ ]	Addendum No. 6
[ ]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

ZMM, Inc. (dba ZMM Architects and Engineers)
Company

AdRK
Authorized Signature

10-18-2019
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: ZMM, Inc. (dba ZMM Architects and Engineers)

Authorized Signature: _____ Date: 10-18-2019

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 18 day of October, 2019.

My Commission expires 10-6, 2023.

AFFIX SEAL HERE

Official Seal
Notary Public, State of West Virginia
Lisa E Bowles
ZMM, Inc.
222 Lee Street, West
Charleston, WV 25302
My Commission Expires Oct. 6, 2023

NOTARY PUBLIC Lisa E. Bowles

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

ARK, PRINCIPAL

(Name, Title)

Adam R. Krason, AIA, LEED AP, Principal

(Printed Name and Title)

222 Lee Street, West, Charleston, WV 25302

(Address)

(304) 342-0159 (304) 345-8144

(Phone Number) / (Fax Number)

ark@zmm.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

ZMM, Inc. (dba ZMM Architects and Engineers)

(Company)

ARK, PRINCIPAL

(Authorized Signature) (Representative Name, Title)

Adam R. Krason, AIA, LEED AP, Principal

(Printed Name and Title of Authorized Representative)

10-18-2019

(Date)

(304) 342-0159 (304) 345-8144

(Phone Number) (Fax Number)

ZMM
ARCHITECTS
ENGINEERS

October 21, 2019

Ms. Jessica S. Chambers, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street, East
P.O. Box 50130
Charleston, West Virginia 25305-0130

Subject: Proposal to Provide Architecture and Engineering Services for Cedar Lakes Assembly Hall Expansion – Ripley, WV

Dear Ms. Chambers:

ZMM Architects and Engineers is pleased to submit the attached proposal to demonstrate our experience and our qualifications to provide professional architecture, interior design, and engineering services for the proposed 2,500 SF expansion of the Assembly Hall at Cedar Lakes. The expansion of the Assembly Hall will allow it to accommodate 600 people for the State FFA Conference, other large group meeting, folk art demonstrations/shows, weddings, and other events. In addition to the expansion of the Assembly Hall, other renovations will be implemented to ensure the seamless integration of the addition. **ZMM previously provided design services to expand the Assembly Hall in 2012. The drawings for this expansion are contained in Tab 1. At the time, the WVDE was only able to add the toilets and improve the building – not implement the expansion.**

Established in 1959, ZMM is a Charleston based, full service A/E firm, and is noted for design excellence and client focus. Our integrated design approach makes ZMM unique among organizations of our size, and our ability to provide comprehensive design services has made us a trusted resource for complex addition/renovation projects throughout West Virginia. We are confident that ZMM Architects and Engineers is the most qualified firm to provide professional design services on this project for the following reasons:

- **Experience.** ZMM has renovated and expanded buildings throughout the region, and has a history of providing services on improvement projects to our state's landmark buildings, including the West Virginia State Capitol, the Culture Center, the Charleston Coliseum and Convention Center, State Office Buildings 5, 6, &7, and the Clay Center.

  In addition to our renovation experience, ZMM has provided services on multiple gathering or assembly spaces, including (as noted above) the Charleston Coliseum and Convention Center, the Valley Park Community Center (Putnam County), and the Jackson County AFRC in nearby Millwood, WV, which contains both meeting space and a large assembly area for nearly 2,600 people.

- **Quality.** ZMM has a history of providing high quality design services on renovation and tenant fit-up projects. *In fact, ZMM's commitment to design quality has been recognized by the American Institute of Architects West Virginia Chapter with eighteen design awards in the last decade – an achievement unrivaled in West Virginia.*

- **Talent.** With forty local employees ZMM provides an integrated design approach by delivering all building related design services including architecture, engineering (structural, mechanical, and electrical), interior design, and construction administration in-house. ZMM's team includes seven registered architects, nine professional engineers (structural, mechanical, and electrical),

interior and lighting designers, and construction administrators. Our architects, engineers, and designers are highly qualified, and have worked together to deliver projects with similar scope and complexity.

- **Proximity.**
  All of the architects, engineers, and interior designers that will be working on this project will be located out of one office in Charleston. ZMM has a history of providing design solutions in Jackson County, and we are currently providing planning and design services for the Jackson County Board of Education. ZMM has also previously provided services at Cedar Lakes, including the previous work to expand the Assembly Hall, as well as roof replacements on eleven buildings at Cedar Lakes Conference Center for the State Department of Education.

Thank you for taking the time to review the attached proposal, which has been formatted as requested. Additionally, please visit our website at www.zmm.com to see the full range of projects that we have designed, and to learn about working with ZMM from a client's perspective. Thank you for your consideration for this important assignment.

Respectfully submitted,
ZMM, Inc.

Adam R. Krason, AIA, NCARB, LEED-AP
Principal

Table of Contents

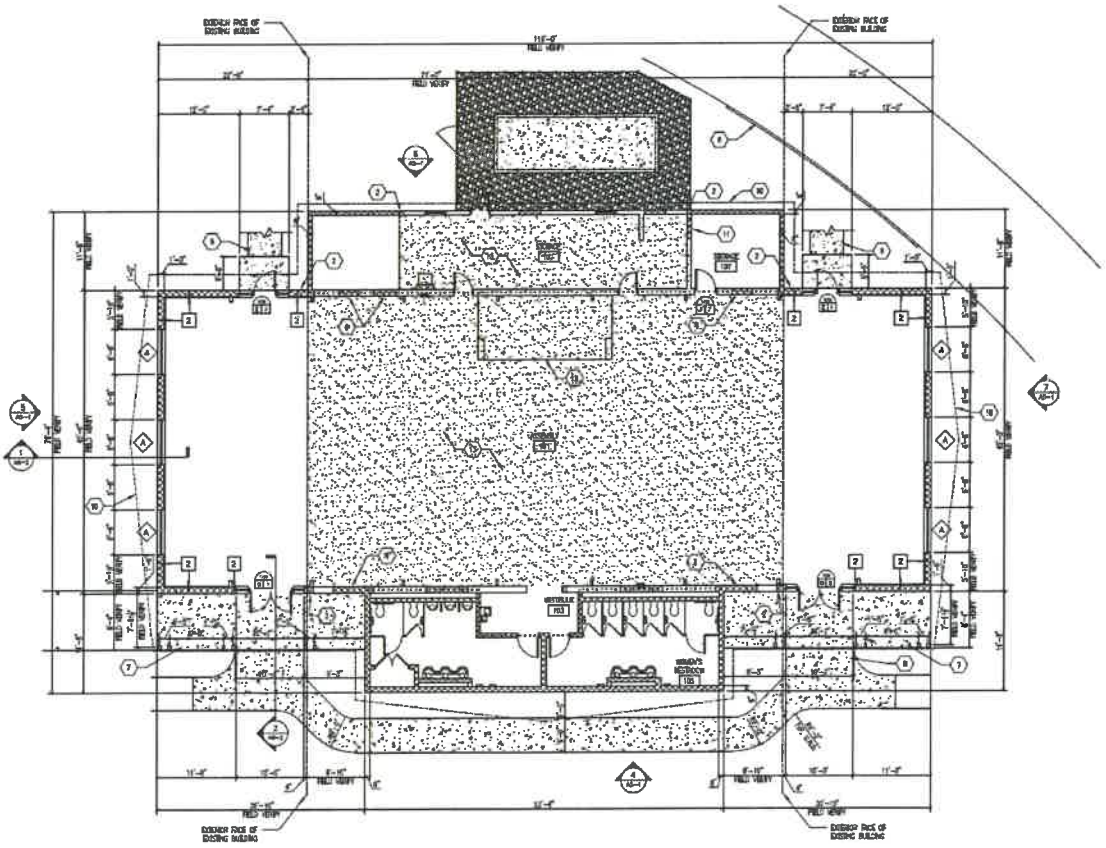
ZMM
ARCHITECTS
ENGINEERS

Cedar Lakes Assembly Hall Expansion – Ripley, WV

Approach Concepts and Methods of Approach

Project Understanding

The Request for Expression of Interest indicates that the State of West Virginia Department of Agriculture (WVDA) for the proposed 2,500 SF expansion of the Assembly Hall at Cedar Lakes. The expansion of the Assembly Hall will allow it to accommodate 600 people for the State FFA Conference, other large group meeting, folk art demonstrations/shows, weddings, and other events. In addition to the expansion of the Assembly Hall, other renovations will be implemented to ensure the seamless integration of the addition. **ZMM previously provided design services to expand the Assembly Hall in 2012. The drawings for this expansion are contained in Tab 1. At the time, the WVDE was only able to add the toilets and improve the building – not implement the expansion.**



1 ALTERNATE FLOOR PLAN

As a full-service design firm, ZMM Architects and Engineers is qualified to provide services on addition/renovation projects. Our in-house team includes architects and interior designers, as well as structural, mechanical, electrical, and plumbing engineers. For the Cedar Lakes Assembly Hall Expansion project ZMM Architects and Engineers has assembled a project team that is capable of meeting the varied project requirements, and includes many of the same team members who worked on the 2012 expansion. Please note that aside from the independent cost estimating, survey, and geotechnical investigation that ZMM is proposing to provide all design services in-house without the use of any consultants. We are confident that this is the most efficient manner to provide design

ZMM ARCHITECTS ENGINEERS

services for the project, and that this team provides the WVDA with the best opportunity for a successful project. The full design team will include:

Team Member	Role	Proposed Staffing
ZMM Architects & Engineers	Principal/PM	David Ferguson, AIA
	QA/QC	Adam R. Krason, AIA, LEED-AP
	Architect	Nathan Spencer, AIA
	Interior Designer	Carly Chapman
	Specification	Mark Epling, AIA
	Engineering Principal/PM	Bob Doeffinger, PE
	Structural Engineer	Mike White, PE
	Electrical Engineer	Scot Casdorph, PE
	Mechanical Engineer	Sam Butzer, PE
	Construction Admin.	Falena Perry
	CA Assistant	Amy Rhodes
Win Strock	Estimating	Win Strock
TERRADON Corporation	Survey/Mapping/Geotech	

Below, please find additional information regarding our proposed renovation project approach (and how it addresses your goals/objectives), qualifications, project communication protocol, budget control, construction timeframe control, and our experience in professional disciplines required to successfully deliver the project.

Assembly Hall Expansion Project Approach

Goal/Objective #1: Review and Evaluate, Minimize Disruption

The first phase in a successful expansion project involves conducting a thorough examination of the existing facilities to identify deficiencies and opportunities. The purpose of the investigation is to determine the condition of the major building systems. ZMM will commence the investigation by reviewing plans of the existing facility from the 2012 expansion. ZMM will then work with WVDA on further refining the scope and budget for the project, as well as developing a strategy to undertake the project that will minimize disruption to the operational Assembly Hall. ZMM has significant experience renovating and expanding operational buildings – most notably at the Charleston Coliseum and Convention Center Expansion, which stayed operational through more than three years of construction.

ZMM ARCHITECTS ENGINEERS




Goal/Objective #2: Develop Strategy to Expand to 600+ Seating

Based upon our experience working on the Assembly Hall in 2012, ZMM realizes that there are constraints to overcome to expand the building. The constraints include the existing structure and the location of other site improvements. ZMM will utilize this existing knowledge to help the WVDA determine the most efficient way to expand the facility.

Goal/Objective #3: Design

Once the planning is completed, ZMM will develop plans, specifications, and bidding documents for the proposed improvements. Drawings, specifications, and estimates will be submitted for review at the completion of the schematic design, design development, and construction documents phases of the project. The focus of the design phase will be on implementing the proposed improvements in a manner that responds to all relevant codes and standards, while minimizing disruption, and meeting the project budget constraints.

Goal/Objective #4: Estimate

As noted above, ZMM will provide independent estimates at the end of each design phase (schematic design, design development, and construction documents).

Goal/Objective #5: Prepare Construction Bid Documents and Provide Construction Phase Services

ZMM will work with WVDA and Purchasing to finalize the bid documents. Once the documents have been approved, ZMM will assist with the bidding and construction phases of the project, including participation in a pre-bid meeting, developing any required addenda, responding to RFI's, reviewing submittals, and attending construction progress meetings. Our efforts will continue through substantial and final completion inspections, and include an eleven month warranty walk through. Our goal

throughout this process will be to act as part of the WVDA team, with the objective of ensuring the seamless delivery of your project.

Goal/Objective #6: Solutions
ZMM will provide all building related design services, including structural, mechanical, and electrical engineering with our in-house design team to help ensure that all site and building related issue, as well as security and safety concerns, are addressed in the project.

Goal/Objective #7: Tying into Existing Structure
ZMM's previous experience working on the facility will help us develop solutions that ensure the seamless integration of the new expansion with the existing facility. This is always our objective when we expand existing facilities – to ensure that it ultimately looks and functions as if it was originally constructed at one time – not in phases.

Goal/Objective #8: Quality Assurance
One goal of the construction administrative process is to ensure that the building is constructed and functions as designed. ZMM provides robust construction phase services, and will add the expertise of staff whose responsibility will be to focus entirely on construction, to ensure the quality of the Assembly Hall Expansion project for the WVDA.

Qualifications
Our team has significant addition/renovation design experience. *This experience has led us to be entrusted with designing improvements to some of West Virginia's most prominent buildings, including the Charleston Coliseum and Convention Center, the Culture Center, the Clay Center, and the State Capitol.* Below, please find a list of relevant projects (projects designated with a * remained operational throughout the renovation process):

- Charleston Coliseum and Convention Center Improvements*
- Clay Center for the Arts & Sciences - Various Improvements*
- State Capitol Building Roof Replacement*
- West Virginia Lottery Building (Renovation of Floors 7, 8, 9)*
- Christ Church United Methodist Education Wing Renovation, Charleston, WV*
- Girl Scouts of Black Diamond Council Headquarters (Renovation), Charleston, WV
- Davis Hall Improvements, Montgomery, WV*
- Wood County Justice Center/Judge Black Annex, Parkersburg, WV
- WVARNG CFMO Expansion, Charleston, WV
- Prosperity Center (Renovation of Charleston Transit Company) for Goodwill of Kanawha Valley*
- West Virginia Culture Center Grand Hall Re-Lighting*
- West Virginia Capitol Complex Buildings 5, 6, & 7 – Various Improvements*
- Southside Elementary/Huntington Middle School (Cammack Renovation), Huntington, WV
- Houston Coal Company Store Restoration, Kimball (McDowell County), WV

Project Communication

During the design phase, architects David Ferguson, AIA, and Nathan Spencer, AIA, will serve as the primary contacts for the design team. These key team members as well as all primary WVDA contacts would be included on all communication to facilitate an open discussion throughout the project – in a manner that allows the Owner to remain actively involved in all design decisions. All correspondence will be copied to this core group. As the project progresses regular bi-weekly meetings will be held to review the design progress, outstanding issues, as well as any regulatory or budget concerns. Meeting

minutes will be produces to document discussion items, decisions, and responsibility for follow-up. Our team's recent experience working with the WVDA on the lab evaluation and planning process will help facilitate this open communication.

During the construction phase additional resources will be added to ensure prompt and efficient responses to any issue that may arise. The project architect, Nathan Spencer, AIA will coordinate the effort of the design team, and will be assisted by Falena Perry. Additionally, all submittals, pay applications, and RFI's will be logged and tracked by Amy Rhodes. Ms. Rhodes will update the entire project team (WVDA, ZMM, and Contractor) weekly regarding outstanding items.

Budget Control

Our team has been providing professional design services in West Virginia for over sixty years. Over this time we have developed a thorough understanding of the various construction markets and associated bidding regions that exist throughout West Virginia. Our team for this project will include Win Strock, a former contractor that regularly provides independent estimates to ZMM. Mr. Strock and ZMM have successfully collaborated on the following projects:

- Beech Fork Lodge (Unbuilt)
- Forks of Coal Claudia Workman Fish and Wildlife Education Center
- Coonskin Park Maintenance Building
- Williamstown Elementary School
- Edgewood Elementary School
- Jackson County Armed Forces Reserve Center
- Logan-Mingo Readiness Center
- Morgantown Readiness Center
- State Police Information Services Center
- State Office Building 5 & 6 Renovations – Various Projects

The design team, with the assistance of Mr. Strock will evaluate the projected cost at the end of each phase, confirming the estimate with recent experience and historical bidding data. Recent experience demonstrating our ability to control the project budget includes:

- Smith Hall Renovation, Marshall University
  Bid 05/17 - $400K under $1.2M Budget

- Williamstown Elementary School, Wood County BOE
  Bid 01/18 - $1.3M under $14.1M Budget

- Oak Hill Pre-K-2, Fayette County BOE
  Bid 01/18 - $1M under $11.2M Budget

- Shawnee Park, Kanawha County Commission
  Bid 12/17 - $2M under $15M Budget

Construction Duration

Nearly every project that our team is engaged to perform design services for has a 'hard' deadline for completion, many times tied to the availability or expiration of project funding. ZMM consistently

delivers on projects with challenging schedule constraints. ZMM will ensure that this project will be completed in the agreed construction period utilizing the following methods:

- ZMM has developed Division 1 documents that tie the receipt of all deliverables required to administer the construction phase of the project to payment applications. ZMM will reject any payment application that is not accompanied by all required information including submittal schedules and logs, RFI logs, updated project schedules, etc.

- ZMM monitors all construction phase submittals and correspondence to verify that we are returning information at a pace that will help expedite project completion. ZMM management reviews the status of all RFI's and submittals weekly. ZMM will also staff the construction phase with staff that will be able to provide immediate answers at the project site to expedite the work.

- ZMM will work with the WVDA to develop a realistic construction schedule that includes anticipated weather days. This schedule will be included in the specifications, and reviewed at the pre-bid meeting to reinforce the critical nature of meeting the schedule, and the intent of enforcing liquidated damages.

Experience with Each Required Discipline

ZMM Architects and Engineers has assembled a team to meet all of the unique requirements of the project. Our team is comprised of some of the leading professionals in West Virginia, and is experienced in each discipline noted below. With forty local employees ZMM provides an integrated design approach by delivering all building-related design services including architecture, engineering (structural, mechanical, and electrical), interior design, and construction administration in-house. ZMM's team includes seven registered architects, nine professional engineers (civil, structural, mechanical, and electrical), interior and lighting designers, and construction administrators. Our architects and engineers are highly qualified, and have worked together to deliver projects with similar scope and complexity. ***Additionally, the quality of ZMM's design effort has been recognized by the American Institute of Architects West Virginia Chapter with eighteen design awards in the last decade – an achievement that is unrivaled in West Virginia.***

Pre-Design
Planning
Programming
Space Planning
Feasibility Studies
Existing Building Evaluation
Site Evaluation and Analysis
Master Planning
Construction Cost Estimating

Design
Architectural Design
Sustainable Design
Interior Design
Landscape Architecture
Structural Engineering

Engineering (MEP)
Energy Consumption Analysis
Net Zero Design

Post Design
Construction Administration
Value Engineering
Life Cycle Cost Analysis
Post-Occupancy Evaluation

Consultants
Cost Estimating – Win Strock
Survey/Mapping – TERRADON Corporation
Geotechnical Analysis – TERRADON Corporation

Summary
ZMM possesses the relevant design experience (including previous design work to expand the Assembly Hall), recent WVDA experience, and project approach to ensure the successful delivery of the Cedar Lakes Assembly Hall Expansion Project for the West Virginia Department of Agriculture. Our team's previous experience working on both the building and similar projects, our commitment to design quality, and our approach to control the project budget and schedule makes us the right partner for the WVDA for this engagement.

Rennovations to the
ASSEMBLY HALL
Cedar Lakes Conference Center
Ripley, West Virginia
March 21, 2012

Construction Documents

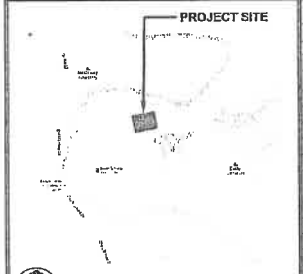
OWNER

WEST VIRGINIA DEPARTMENT
OF EDUCATION
HC 88 Box 21
Ripley, West Virginia 25271

ARCHITECT AND ENGINEER

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

SITE LOCATION



SITE LOCATION MAP Ripley, West Virginia
TRUE NORTH NOT TO SCALE

KEY PLAN

KEY PLAN
PLAN NORTH NOT TO SCALE

DRAWING INDEX

SHEET NO.	SHEET NAME
CS-1	COVER SHEET
	ARCHITECTURAL
D1-1	DEMOLITION PLANS
D1-2	ALTERNATE DEMOLITION PLANS
A1-1	FLOOR PLAN
A1-2	ALTERNATE FLOOR PLAN
A2-1	FINISH PLAN
A2-2	ALTERNATE FINISH PLAN
A3-1	REFLECTED CEILING PLAN
A4-1	ROOF PLAN
A5-1	BUILDING ELEVATIONS
A6-1	WALL SECTION
A6-2	ALTERNATE WALL SECTIONS
A8-1	DOOR & WINDOW ELEVATIONS, SCHEDULES, AND DETAILS
A10-1	MISCELLANEOUS DETAILS
	STRUCTURAL
S1-1	STRUCTURAL NOTES
S2-1	FOUNDATION PLAN
S2-2	ALTERNATE FOUNDATION PLAN
S3-1	FRAMING PLAN
S3-2	ALTERNATE FRAMING PLAN
S4-1	FOUNDATION - MASONRY DETAILS
S4-2	FRAMING DETAILS

SHEET NO.	SHEET NAME
	PLUMBING
P1-1	PLUMBING PLAN
P1-2	SITE PLUMBING PLAN
P2-1	PLUMBING DETAILS
	MECHANICAL
MD1-1	MECHANICAL DEMOLITION PLAN
M1-1	MECHANICAL PLAN
M2-1	SCHEDULES AND DETAILS

SHEET NO.	SHEET NAME
	ELECTRICAL
ED1-1	ELECTRICAL DEMOLITION PLAN
ED1-2	ELECTRICAL DEMOLITION ALTERNATE
E1-1	ELECTRICAL PLAN
E1-2	ELECTRICAL ALTERNATE PLAN

BUILDING INFORMATION

USE AND OCCUPANCY CLASSIFICATION

ASSEMBLY

(PER 2009 NFPA 101)

CONSTRUCTION CLASSIFICATION

TYPE IV -- UNSPRINKLED

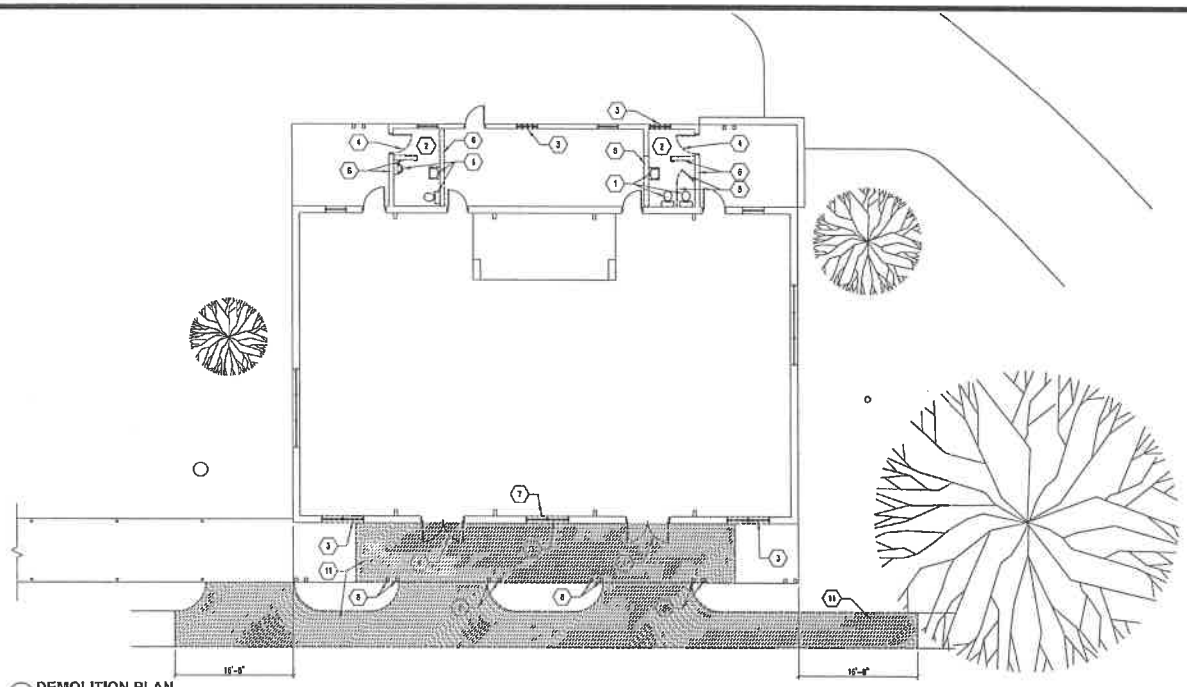
(PER 2009 NFPA 101)

BUILDING AREA

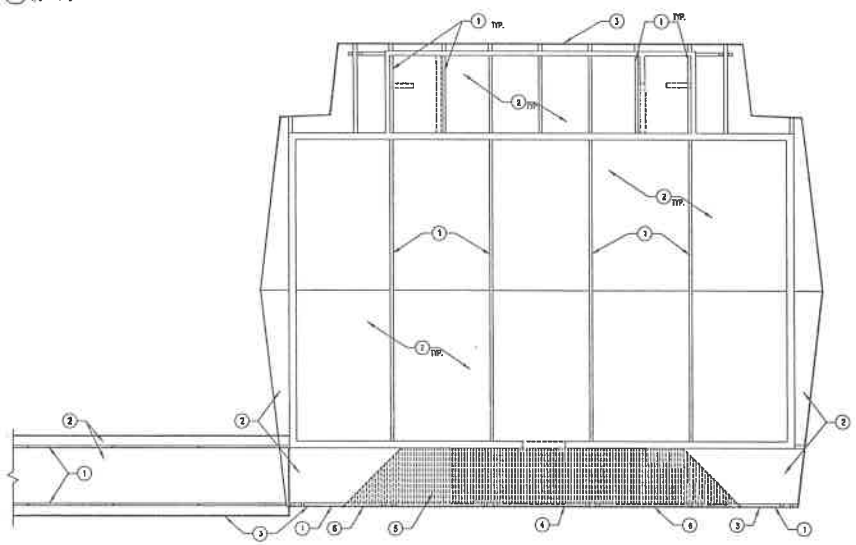
BASE BID	4,487 SF
ALTERNATE BID	6,786 SF

(PER 2009 NFPA 101)

M:\1159\Cedar Lakes Conference Center Renovation\Sheets\CS-1 COVER SHEET.dgn



1 DEMOLITION PLAN
1/8" = 1'-0"



2 DEMOLITION REFLECTED CEILING PLAN
1/8" = 1'-0"

GENERAL NOTES

1. REPAIR ALL AREAS DAMAGED DURING DEMOLITION TO MATCH ADJACENT CONSTRUCTION.
2. PATCH CONCRETE FLOOR SLAB IN ASSEMBLY SPACE AFTER DEMOLITION OF (NOZZOMO) DIFFUSERS. FINISH PATCHED AREA WITH NEW VCT FLOOR TILE TO MATCH COLOR OF EXISTING FLOOR FINISH.
3. PATCH EXTERIOR WALL WITH FOR STUD AND PAINT TO MATCH EXISTING IN ALL AREAS WHERE MECHANICAL, ELECTRICAL, OR PLUMBING ELEMENTS PENETRATING THE EXTERIOR WALL ARE TO BE REMOVED.

DEMOLITION PLAN KEYED NOTES

1. REMOVE PLUMBING FIXTURES - REFER TO PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION NOTES
2. REMOVE ALL WALL-MOUNTED TOILET ACCESSORIES IN ROOM INCLUDING MIRRORS, CURTAINS, SOAP DISPENSERS, TOWEL DISPENSERS, ETC.
3. REMOVE WINDOW, FRAME, SILL, AND ALL ASSOCIATED INTERIOR TRIM AND WINDOW TREATMENTS - PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
4. REMOVE DOOR, FRAME, AND ALL ASSOCIATED INTERIOR TRIM - REMOVE TRANSOM WINDOW AND FRAME WHERE APPLICABLE - PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
5. REMOVE TOILET PARTITION AND DOOR
6. REMOVE FULL HEIGHT OF WALL TO EXTENT SHOWN - PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
7. REMOVE WALL BELOW/AS WINDOW AS REQUIRED TO ACCOMMODATE NEW OPENING - PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
8. REMOVE STEEL COLUMNS AND WOOD TRIM
9. REMOVE TREE
10. REMOVE BRICK SIGNAGE
11. REMOVE CONCRETE SLAB TO EXTENT SHOWN ON HATCHING
12. REMOVE PAVING AND CONCRETE CURB TO EXTENT SHOWN ON HATCHING

DEMOLITION REFLECTED CEILING PLAN KEYED NOTES

1. EXISTING WOOD BEAM TO REMAIN
2. EXISTING WOOD DECKING TO REMAIN
3. EXISTING WOOD FASCIA / METAL COPING TO REMAIN
4. REMOVE WOOD BEAM
5. REMOVE WOOD DECKING, SHEATHING, UNDERLAYMENT, AND ROOFING AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION - PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
6. REMOVE WOOD FASCIA AND METAL COPING - PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

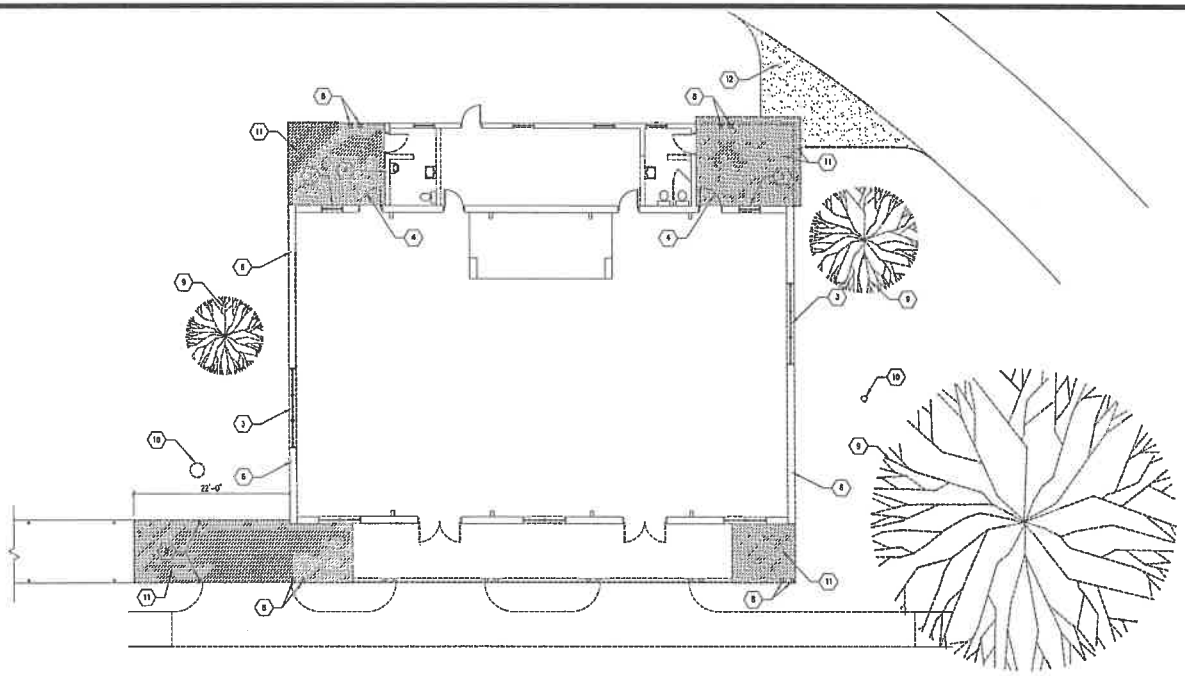
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

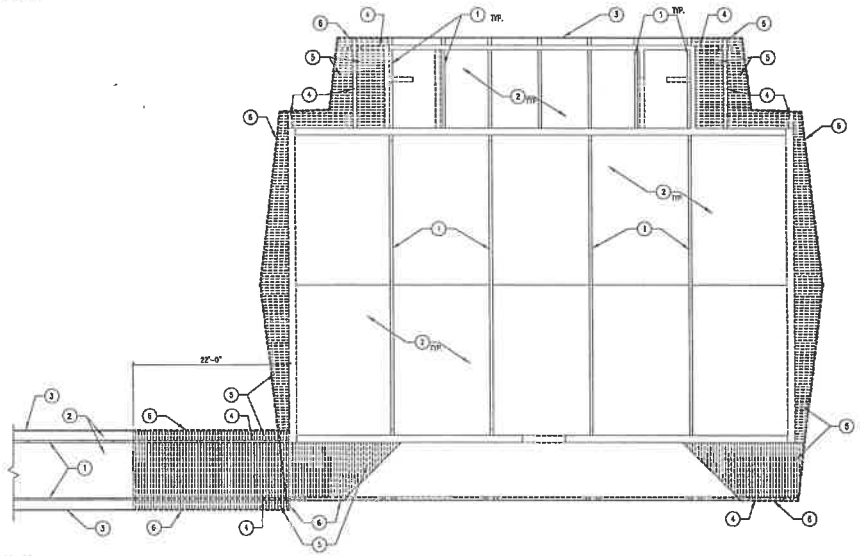
DEMOLITION PLANS

DRAWN	CHECKED
NHS	DEF
DATE	3.21.12
COMM. NO.	1125

D1-1



1 ALTERNATE DEMOLITION PLAN
1/8" = 1'-0"



2 ALTERNATE DEMOLITION REFLECTED CEILING PLAN
1/8" = 1'-0"

GENERAL NOTES

1. REPAIR ALL AREAS DAMAGED DURING DEMOLITION TO MATCH ADJACENT CONSTRUCTION.
2. PATCH CONCRETE FLOOR SLAB IN ASSEMBLY SPACE AFTER DEMOLITION OF UNDERSLAB DIFFUSERS. FINISH PATCHED AREA WITH NEW VCT FLOOR TILE TO MATCH COLOR OF EXISTING FLOOR FINISH.
3. PATCH EXTERIOR WALL WITH NEW CMU AND PAINT TO MATCH EXISTING IN ALL AREAS WHERE MECHANICAL, ELECTRICAL, OR PLUMBING ELEMENTS PENETRATING THE EXTERIOR WALL ARE, TO BE REMOVED.
4. REFER TO SHEET D1-1 FOR BASE BID DEDUCTION.

DEMOLITION PLAN KEYED NOTES

1. REMOVE PLUMBING FIXTURES – REFER TO PLUMBING DRAWINGS FOR ADDITIONAL DEMOLITION NOTES
2. REMOVE ALL WALL-MOUNTED TOILET ACCESSORIES IN ROOM INCLUDING MIRRORS, CURTAINS, SOAP DISPENSERS, TOWEL DISPENSERS, ETC.
3. REMOVE WINDOW, FRAME, SILL, AND ALL ASSOCIATED INTERIOR TRIM AND WINDOW TREATMENTS – PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
4. REMOVE DOOR, FRAME, AND ALL ASSOCIATED INTERIOR TRIM – REMOVE TRANSOM WINDOW AND FRAME WHERE APPLICABLE – PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
5. REMOVE TOILET PARTITION AND DOOR
6. REMOVE FULL HEIGHT OF WALL TO EXTENT SHOWN – PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
7. REMOVE WALL BENEATH WINDOW AS REQUIRED TO ACCOMMODATE NEW OPENING – PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
8. REMOVE STEEL COLUMNS AND WOOD TRIM
9. REMOVE TREE
10. REMOVE TREE STUMP
11. REMOVE CONCRETE SLAB TO EXTENT SHOWN ON HATCHING
12. REMOVE PAVING AND CONCRETE CURB TO EXTENT SHOWN ON HATCHING

DEMOLITION REFLECTED CEILING PLAN KEYED NOTES

1. EXISTING WOOD BEAM TO REMAIN
2. EXISTING WOOD DECKING TO REMAIN
3. EXISTING WOOD FASCIA / METAL COPING TO REMAIN
4. REMOVE WOOD BEAM
5. REMOVE WOOD DECKING, SHEATHING, UNDERLAYMENT, AND ROOFING AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION – PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION
6. REMOVE WOOD FASCIA AND METAL COPING – PREPARE REMAINING SURFACES TO RECEIVE NEW CONSTRUCTION

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

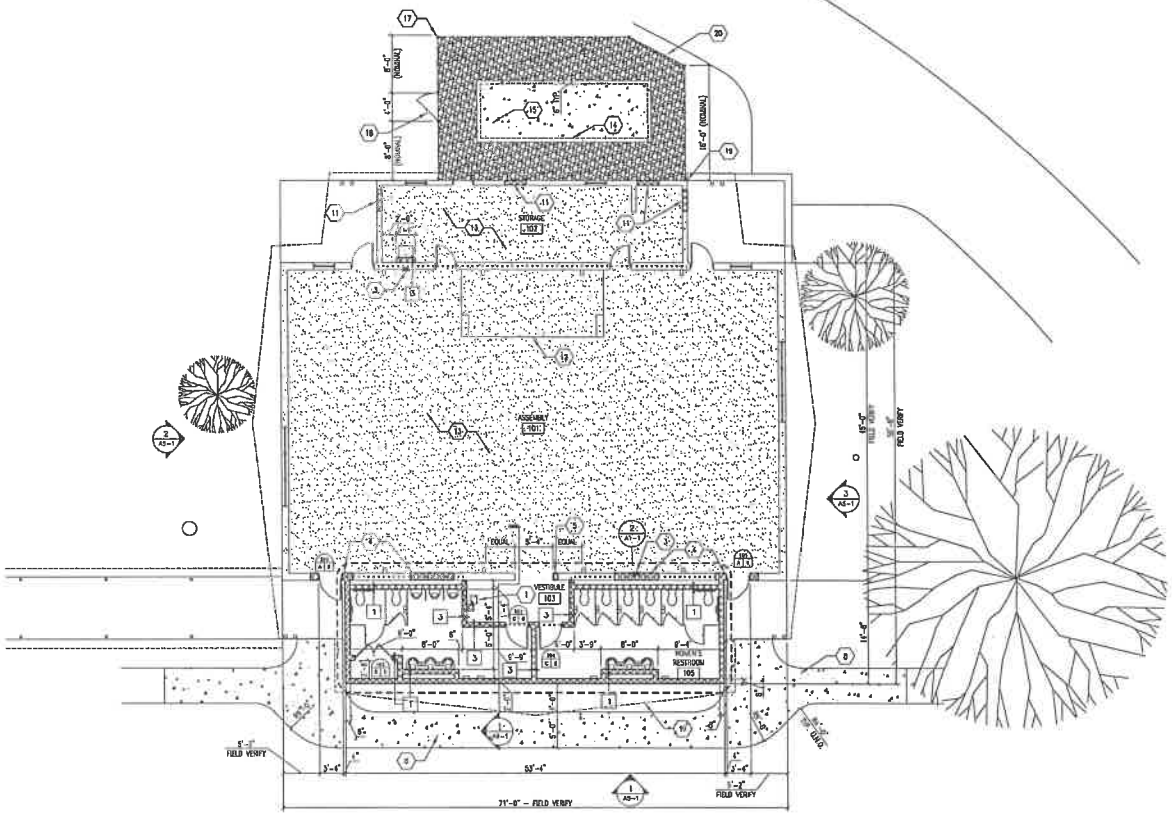
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

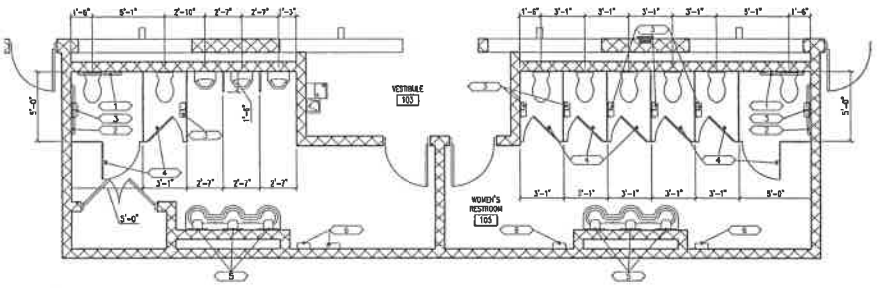
ALTERNATE DEMOLITION PLANS

DRAWN	CHECKED
NHS	DEF
	DATE 3.21.12
	COMM. NO. 1125

D1-2



1 FLOOR PLAN
1/8" = 1'-0"



2 ENLARGED TOILET PLANS
1/4" = 1'-0"

GENERAL NOTES

1. INTERIOR PARTITIONS ARE DIMENSIONED TO FACE OF WALL UNLESS OTHERWISE NOTED.
2. THE HINGE SIDE OF INTERIOR DOOR FRAMES ARE LOCATED 2" FROM FACE OF ADJACENT WALL (STEEL STUD) AND 4" FROM FACE OF ADJACENT WALL (CMU) UNLESS OTHERWISE NOTED.
3. VERIFY THICKNESS OF EXISTING MASONRY PRIOR TO CONSTRUCTION.
4. ALL NEW MASONRY EXTERIOR WALLS TO HAVE RIGID INSULATION INSERTS IN CAVITY – REFER TO SPECIFICATIONS
5. RECEIVE SITE AS REQUIRED TO PROVIDE POSITIVE SLOPE AWAY FROM BUILDING.
6. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SITE UTILITY INFORMATION.

KEYED NOTES

- (C) ELECTRIC WATER COOLER(S)
- (1) ALIGN FACE OF NEW MASONRY WITH FACE OF ADJACENT EXISTING MASONRY
- (2) FIRE EXTINGUISHER AND CABINET – SEMI-RECESSED – REFER TO SPECIFICATIONS
- (3) INFILL EXISTING OPENING WITH 12" CMU – VERIFY EXISTING WALL THICKNESS – WHERE MASONRY IS EXPOSED TOOTH-IN NEW MASONRY – FINISH TO MATCH ADJACENT CONSTRUCTION – WHERE ADJACENT WALL IS FINISHED WITH WOOD PANELING PROVIDE NEW FURRING TO MATCH EXISTING AND USE SALVAGE WOOD PANELING FROM DEMOLISHED WALLS
- (4) INFILL EXISTING OPENING WITH 12" CMU AS REQUIRED TO PROVIDE 8'-0" TALL OPENING AS SHOWN – VERIFY EXISTING WALL THICKNESS – WHERE MASONRY IS EXPOSED TOOTH-IN NEW MASONRY – FINISH TO MATCH ADJACENT CONSTRUCTION – WHERE ADJACENT WALL IS FINISHED WITH WOOD PANELING PROVIDE NEW FURRING TO MATCH EXISTING AND USE SALVAGED WOOD PANELING FROM DEMOLISHED WALLS – PROVIDE WOOD CORNER TRIM AROUND OPENING TO TERMINATE WOOD PANELING – FOR ALTERNATE BID #3 PROVIDE 2" GYPSUM WALLBOARD OVER 2" METAL FURRING CHANNELS AT 16" O.C. AROUND HEAD AND JAMBS OF OPENING
- (5) NEW CONCRETE CURB – MATCH ADJACENT CONSTRUCTION
- (6) NEW EXTERIOR CONCRETE SLAB
- (7) NEW CONCRETE WALK – ADJUST FINISH GRADE AS REQUIRED
- (8) NEW 5' WIDE CONCRETE WALK – CENTER ON DOOR – EXTEND TO ROAD – ADJUST FINISH GRADE AS REQUIRED – SLOPE AWAY FROM BUILDING
- (9) LINE OF ROOF ABOVE
- (10) INFILL EXISTING OPENING WITH 8" CMU – VERIFY EXISTING WALL THICKNESS – WHERE MASONRY IS EXPOSED TOOTH-IN NEW MASONRY – FINISH TO MATCH ADJACENT CONSTRUCTION
- (11) EXISTING PLATFORM TO REMAIN
- (12) HATCHING INDICATES AREA OF EXISTING BUILDING
- (13) DASHED LINE INDICATES OUTLINE OF MECHANICAL UNIT – REFER TO MECHANICAL DRAWINGS
- (14) 8" THICK CONCRETE PAD W/ 2 LAYERS 6x6 W2.4xW2.4 WWM – TOP OF CONCRETE TO BE 4" ABOVE TOP OF ADJACENT GRAVEL
- (15) 6" GRAVEL OVER PERMEABLE FILTER FABRIC
- (16) 6' TALL CHAIN LINK FENCE
- (17) 4' CHAIN LINK GATE
- (18) ALIGN FENCE WITH CORNER OF BUILDING
- (19) ANGLED FENCE SECTION TO BE PARALLEL WITH ROAD

PARTITION NOTES

GENERAL NOTES:
1. ALL GYPSUM WALLBOARD ON FIRE-RATED PARTITIONS TO BE TYPE 'X' GYPSUM WALLBOARD.
2. REFER TO FINISH SCHEDULE FOR ABUSE-RESISTANT GYPSUM WALLBOARD AND MOISTURE RESISTANT GYPSUM WALLBOARD LOCATIONS.

1. 8" CMU PARTITION TO 8" ABOVE CEILING
2. 2" GYPSUM WALLBOARD OVER 2" METAL FURRING CHANNELS AT 16" O.C. OVER MASONRY PARTITION
3. 8" CMU PARTITION TO UNDERSIDE OF DECK/STRUCTURE AND SEAL

LEGEND

- 1 — PARTITION TYPE TAG
- DOOR TAG: 101 / A1.1 — DOOR NO. / HARDWARE SET NO.
- DOOR TYPE
- EXTERIOR WINDOW TAG
- KEYED NOTE
- TOILET ACCESSORY TAG
- PARTITION TO RESIST THE PASSAGE OF SMOKE

TOILET ACCESSORIES SCHEDULE

NO.	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING HEIGHT (AFF)	NOTES
1	36" GRAB BAR	BOBRICK	B-6806 X 36"	33" TO CENTER	PEENED GRIP
2	42" GRAB BAR	BOBRICK	B-6806 X 42"	33" TO CENTER	PEENED GRIP
3	DOUBLE ROLL TOILET TISSUE DISPENSER	BOBRICK	B-7686	19" TO CENTER	SURFACE MOUNTED
4	COAT HOOK	BOBRICK	B-671	64" / 48" ADA	SURFACE MOUNTED
5	18" X 36" MIRROR	BOBRICK	B-165 1836	40" TO BOTTOM OF GLASS	SURFACE MOUNTED
6	PAPER TOWEL DISPENSER	BOBRICK	B-4262	36" TO BOTTOM	SURFACE MOUNTED

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

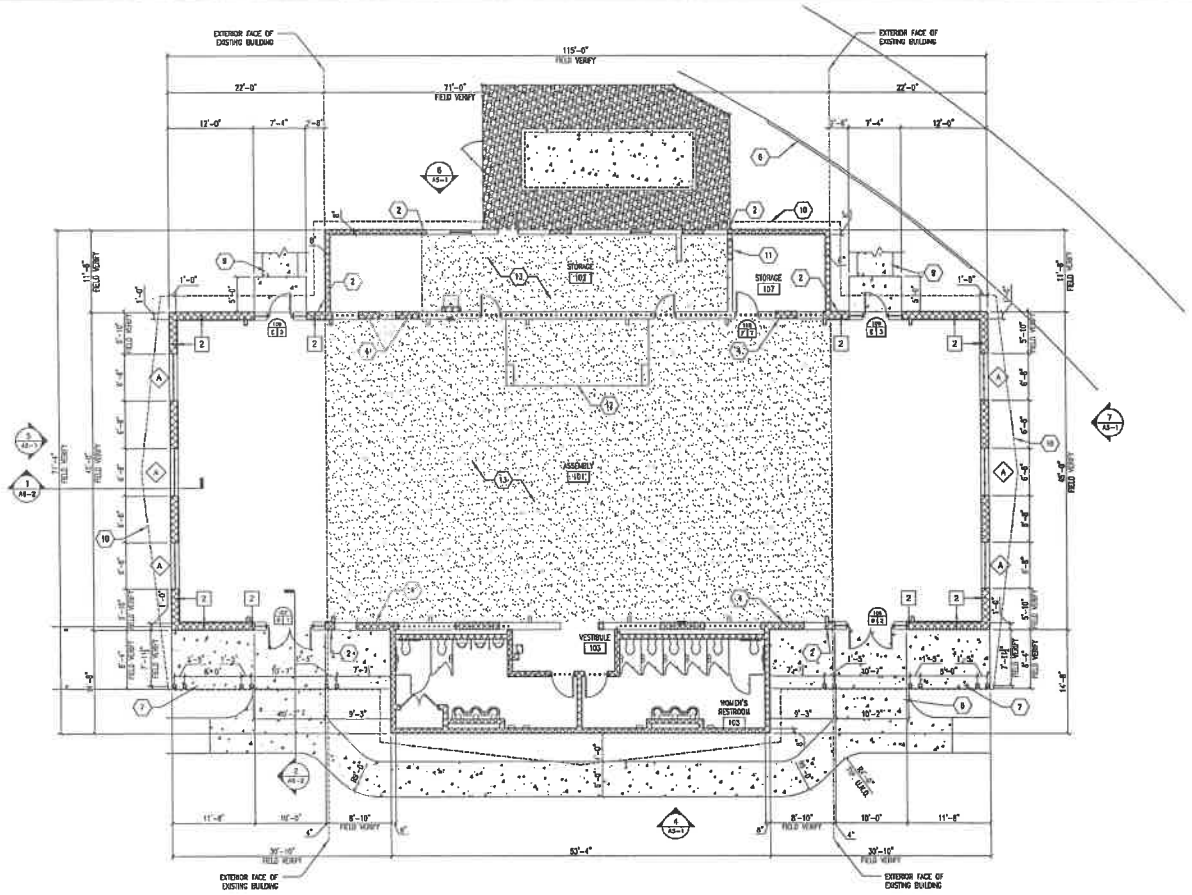
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

FLOOR PLAN

DRAWN	CHECKED
NHJ	DEF
DATE	3.21.12
COMM. NO.	1125

A1-1



1 ALTERNATE FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

1. INTERIOR PARTITIONS ARE DIMENSIONED TO FACE OF WALL UNLESS OTHERWISE NOTED.
2. THE HINGE SIDE OF INTERIOR DOOR FRAMES ARE LOCATED 3" FROM FACE OF ADJACENT WALL (STEEL STUD) AND 4" FROM FACE OF ADJACENT WALL (CMU) UNLESS OTHERWISE NOTED.
3. VERIFY THICKNESS OF EXISTING MASONRY PRIOR TO CONSTRUCTION.
4. ALL NEW MASONRY EXTERIOR WALLS TO HAVE ROD ROUGHTOP INSERTS IN COURSE - REFER TO SPECIFICATIONS.
5. RECHARGE SITE AS REQUIRED TO PROVIDE POSITIVE SLOPE AWAY FROM BUILDING.
6. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SITE UTILITY INFORMATION.
7. REFER TO SHEET A1-1 FOR BASE BID NEW WORK.

KEYED NOTES

1. ELECTRIC WATER COOLER(S)
2. ALIGN FACE OF NEW MASONRY WITH FACE OF ADJACENT EXISTING MASONRY
3. FIRE EXTINGUISHER AND CABINET - SEMI-RECESSED - REFER TO SPECIFICATIONS
4. INFILL EXISTING OPENING WITH 12" CMU - VERIFY EXISTING WALL THICKNESS - WHERE MASONRY IS EXPOSED TOOTH-IN NEW MASONRY - FINISH TO MATCH ADJACENT CONSTRUCTION - WHERE ADJACENT WALL IS FINISHED WITH WOOD PANELING PROVIDE NEW FURRING TO MATCH EXISTING AND USE SALVAGED WOOD PANELING FROM DEMOLISHED WALLS
5. INFILL EXISTING OPENING WITH 12" CMU AS REQUIRED TO PROVIDE 8'-0" WALL OPENING AS SHOWN - VERIFY EXISTING WALL THICKNESS - WHERE MASONRY IS EXPOSED TOOTH-IN NEW MASONRY - FINISH TO MATCH ADJACENT CONSTRUCTION - WHERE ADJACENT WALL IS FINISHED WITH WOOD PANELING PROVIDE NEW FURRING TO MATCH EXISTING AND USE SALVAGED WOOD PANELING FROM DEMOLISHED WALLS - PROVIDE WOOD CORNER TRIM AROUND OPENING TO TERMINATE WOOD PANELING - FOR ALTERNATE BID #3 PROVIDE 1" GYPSUM WALLBOARD OVER 1" METAL FURRING CHANNELS AT 16" O.C. AROUND HEAD AND JAMBS OF OPENING
6. NEW CONCRETE CURB - MATCH ADJACENT CONSTRUCTION
7. NEW EXTERIOR CONCRETE SLAB
8. NEW CONCRETE WALK - ADJUST FINISH GRADE AS REQUIRED
9. NEW 5' WIDE CONCRETE WALK - CENTER ON DOOR - EXTEND TO ROAD - ADJUST FINISH GRADE AS REQUIRED - SLOPE WALK AWAY FROM BUILDING
10. LINE OF ROOF ABOVE
11. INFILL EXISTING OPENING WITH 8" CMU - VERIFY EXISTING WALL THICKNESS - WHERE MASONRY IS EXPOSED TOOTH-IN NEW MASONRY - FINISH TO MATCH ADJACENT CONSTRUCTION
12. EXISTING PLATFORM TO REMAIN
13. HATCHING INDICATES AREA OF EXISTING BUILDING
14. DASHED LINE INDICATES OUTLINE OF MECHANICAL UNIT - REFER TO MECHANICAL DRAWINGS
15. 8" THICK CONCRETE PAD W/ 2 LAYERS 6x6 W2.9xW2.9 WWM - TOP OF CONCRETE TO BE 4" ABOVE TOP OF ADJACENT GRADE.
16. 6" GRAVEL OVER PERMEABLE FILTER FABRIC
17. 6' VAL CHAIN LINK FENCE
18. 4' CHAIN LINK GATE
19. ALIGN FENCE WITH CORNER OF BUILDING
20. ANGLED FENCE SECTION TO BE PARALLEL WITH ROAD

PARTITION NOTES

GENERAL NOTES:
1. ALL GYPSUM WALLBOARD ON FIRE-RATED PARTITIONS TO BE TYPE 'X' GYPSUM WALLBOARD.
2. REFER TO FINISH SCHEDULE FOR ABUSE-RESISTANT GYPSUM WALLBOARD AND MOISTURE RESISTANT GYPSUM WALLBOARD LOCATIONS.

1. 8" CMU PARTITION TO 8" ABOVE CEILING
2. 5/8" GYPSUM WALLBOARD OVER 3/4" METAL FURRING CHANNELS AT 16" O.C. OVER MASONRY PARTITION
3. 8" CMU PARTITION TO UNDERSIDE OF DECK/STRUCTURE AND SEAL

LEGEND

- 1 — PARTITION TYPE TAG
- DOOR TAG: 101 / A.1.1 — DOOR NO. / HARDWARE SET NO. / DOOR TYPE
- EXTERIOR WINDOW TAG
- KEYED NOTE
- TOILET ACCESSORY TAG
- PARTITION TO RESIST THE PASSAGE OF SMOKE

DESCRIPTION

REVISIONS NO. DATE

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

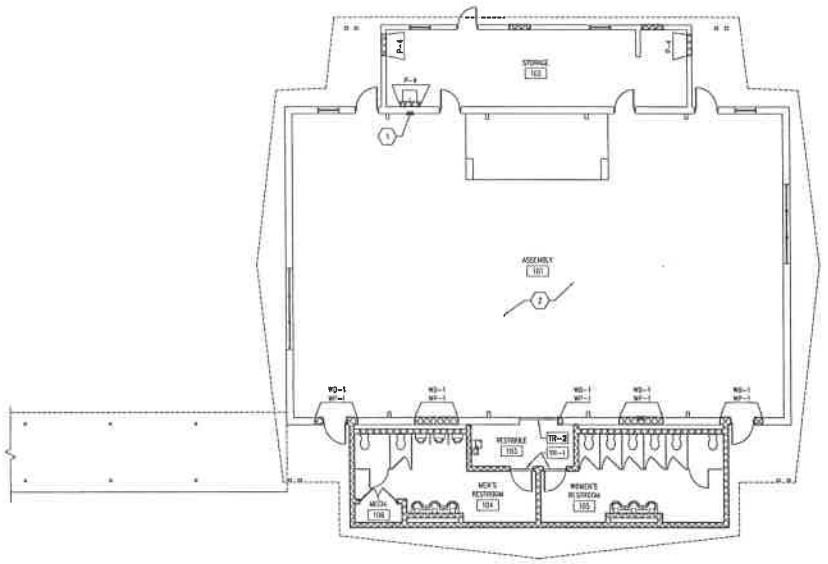
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

ALTERNATE FLOOR PLAN

DRAWN	CHECKED
NHS	DEF
	DATE 3.21.12
	COMM. NO. 1125

A1-2



1 FINISH PLAN
SCALE: 1/8" = 1'-0"

PLAN NO

SYMBOLS LEGEND

OFFICE — ROOM NAME
100 — ROOM NUMBER

TR-1 — FLOOR COVERING TRANSITION TYPE

EX — EXISTING TO REMAIN

GENERAL NOTES

1. FLOOR FINISH CONTINUES UNDER ALL OPEN COUNTERS, FURNITURE, FIXTURES AND EQUIPMENT. FLOOR PATTERNS ON THE DRAWINGS ARE SHOWN FOR VISUAL CLARITY ONLY.
2. WHERE FLOOR MATERIAL CHANGES IN DOORWAYS, PLACE TRANSITION UNDERNEATH DOOR LEAF.
3. SEE REFLECTED CEILING PLANS FOR TYPE, LOCATION AND COLOR OF CEILING MATERIALS.
4. HOLLOW METAL DOOR FRAMES TO BE PAINTED P-3.

KEYED NOTES

1. PATCH & MATCH EXISTING WALL AROUND NEW FIRE EXTINGUISHER CABINET.
2. DO NOT PAINT NEW OR EXISTING BEAMS IN ASSEMBLY ROOM 101.

ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR	BASE	WALLS				CEILING	NOTES
				N	S	E	W	MATL	
101	ASSEMBLY	EX	EX/WB-1	EX	EX/WP-1	EX	EX	EX/P-5	SEE FINISH PLAN & RCP
102	STORAGE	EX	—	EX	EX/P-4	EX/P-4	EX/P-4	EX	SEE FINISH PLAN
103	VESTIBULE	VCT-1	WB-1	P-2	P-2	P-2	P-2	ACT-1	—
104	MEN'S RESTROOM	SC-1	—	P-1	P-1	P-1	P-1	ACT-1	—
105	WOMEN'S RESTROOM	SC-1	—	P-1	P-1	P-1	P-1	ACT-1	—
106	MECH.	SC-1	—	P-1	P-1	P-1	P-1	—	—

ROOM FINISH LEGEND

CODE	TYPE	MANUFACTURER / STYLE	STYLE NUMBER / COLOR
ACT-1	ACOUSTICAL CEILING TILE CEILING GRID	ARMSTRONG – FISSURED ARMSTRONG – 15/16" PRELUDE	2'x2' LAY-IN, WHITE WHITE
P-1	FIELD	BENJAMIN MOORE INTERIOR READY-MIX	NAVAJO WHITE (SEMI-GLOSS FINISH)
P-2	FIELD	BENJAMIN MOORE INTERIOR READY-MIX	NAVAJO WHITE (EGGSHELL FINISH)
P-3	HM DOOR FRAMES	BENJAMIN MOORE – OFF-WHITE COLORS	OC-11 CLAY BISQUE (SEMI-GLOSS FINISH)
P-4	FIELD		MATCH EXISTING COLOR & FINISH
P-5	CEILING	BENJAMIN MOORE INTERIOR READY-MIX	WHITE (FLAT FINISH)
RB-1	4" RUBBER WALL BASE	JOHNSONITE	22 PEARL
SC-1	SEALED CONCRETE		
TR-1	RUBBER REDUCER STRIP	JOHNSONITE SSR-XX-B (1/8" TO 0")	22 PEARL
TR-2	RUBBER TRANSITION STRIP	JOHNSONITE CTA-XX-N (1/8" TO 1/8")	22 PEARL
VCT-1	VINYL COMPOSITION TILE	AZROCK – CONTINA CLASSICS	V-767 STRATUS
WB-1	WOOD BASE		MATCH EXISTING PROFILE & FINISH
WD-1	WOOD DECK	(SEE REFLECTED CEILING PLAN)	MATCH EXISTING FINISH
WP-1	WALL PANELING		PATCH & MATCH EXISTING PATTERN & MATERIAL

REVISIONS
NO. | DATE | DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

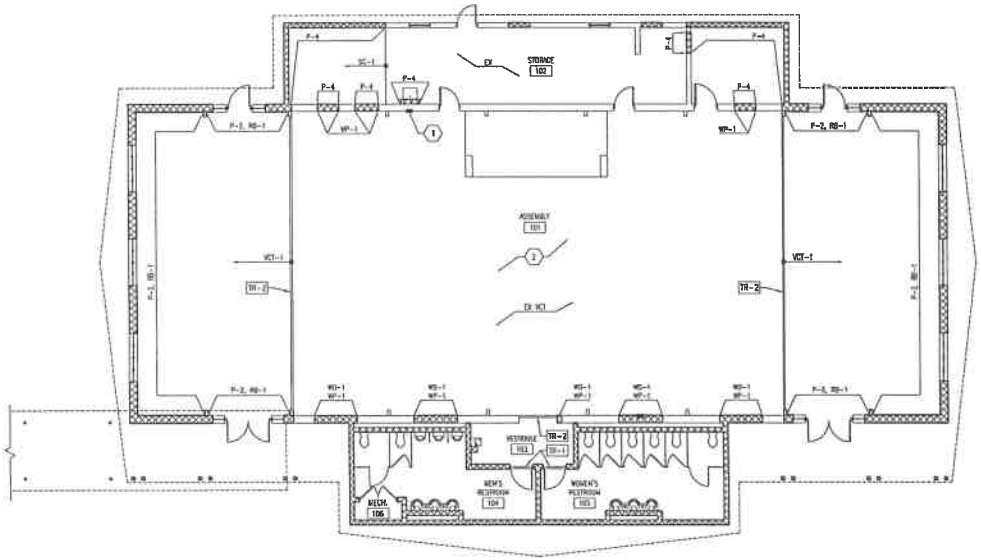
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

FINISH PLAN

DRAWN: JMW
CHECKED: NHB
DATE: 3.21.12
COMM. NO.: 1125

A2-1



1 ALTERNATE FINISH PLAN
SCALE: 1/8" = 1'-0"

PLAN 28

SYMBOLS LEGEND

OFFICE — ROOM NAME
100 — ROOM NUMBER

TR-1 FLOOR COVERING TRANSITION TYPE

EX EXISTING TO REMAIN

GENERAL NOTES

1. FLOOR FINISH CONTINUES UNDER ALL OPEN COUNTERS, FURNITURE, FIXTURES AND EQUIPMENT. FLOOR PATTERNS ON THE DRAWINGS ARE SHOWN FOR VISUAL CLARITY ONLY.
2. WHERE FLOOR MATERIAL CHANGES IN DOORWAYS, PLACE TRANSITION UNDERNEATH DOOR LEAF.
3. SEE REFLECTED CEILING PLANS FOR TYPE, LOCATION AND COLOR OF CEILING MATERIALS.
4. HOLLOW METAL DOOR FRAMES TO BE PAINTED P-3.

KEYED NOTES

1. PATCH & MATCH EXISTING WALL AROUND NEW FIRE EXTINGUISHER CABINET.
2. DO NOT PAINT NEW OR EXISTING BEAMS IN ASSEMBLY ROOM 101.

ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR	BASE	WALLS N	WALLS S	WALLS E	WALLS W	CEILING MATL	NOTES
101	ASSEMBLY	EX/VCT-1	EX/RB-1/WB-1	EX/P-2/WP-1	EX/P-2/WP-1	P-2	P-2	EX/P-5	SEE FINISH PLAN & RCP
102	STORAGE	EX/SC-1	---	EX/P-4	EX/P-4	EX/P-4	P-4	EX/WD-1	SEE FINISH PLAN & RCP
103	WESTIBULE	VCT-1	RB-1	P-2	P-2	P-2	P-2	ACT-1	---
104	MEN'S RESTROOM	SC-1	---	P-1	P-1	P-1	P-1	ACT-1	---
105	WOMEN'S RESTROOM	SC-1	---	P-1	P-1	P-1	P-1	ACT-1	---
106	MECH.	SC-1	---	P-1	P-1	P-1	P-1	---	---
107	STORAGE	EX/SC-1	---	EX/P-4	EX/P-4	P-4	P-4	EX/WD-1	SEE FINISH PLAN & RCP

ROOM FINISH LEGEND

CODE	TYPE	MANUFACTURER / STYLE	STYLE NUMBER / COLOR
ACT-1	ACOUSTICAL CEILING TILE CEILING GRID	ARMSTRONG - FISSURED ARMSTRONG - 15/16" PRELUDE	2'x2' LAY-IN, WHITE WHITE
P-1	FIELD	BENJAMIN MOORE INTERIOR READY-MIX	NAVAJO WHITE (SEMI-GLOSS FINISH)
P-2	FIELD	BENJAMIN MOORE INTERIOR READY-MIX	NAVAJO WHITE (EGGSHELL FINISH)
P-3	HM. DOOR FRAMES	BENJAMIN MOORE - OFF-WHITE COLORS	OC-11 CLAY BISQUE (SEMI-GLOSS FINISH)
P-4	FIELD		MATCH EXISTING COLOR & FINISH
P-5	CEILING	BENJAMIN MOORE INTERIOR READY-MIX	WHITE (FLAT FINISH)
RB-1	4" RUBBER WALL BASE	JOHNSONITE	22 PEARL
SC-1	SEALED CONCRETE		
TR-1	RUBBER REDUCER STRIP	JOHNSONITE SSR-XX-B (1/8" TO 0")	22 PEARL
TR-2	RUBBER TRANSITION STRIP	JOHNSONITE CTA-XX-R (1/8" TO 1/8")	22 PEARL
VCT-1	VINYL COMPOSITION TILE	AZROCK - CORTINA CLASSICS	V-787 STRATUS
WB-1	WOOD BASE		MATCH EXISTING PROFILE & FINISH
WD-1	WOOD DECK	(SEE REFLECTED CEILING PLAN)	MATCH EXISTING FINISH
WP-1	WALL PANELING		PATCH & MATCH EXISTING PATTERN & MATERIAL

REVISIONS NO. | DATE | DESCRIPTION

ZMM ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

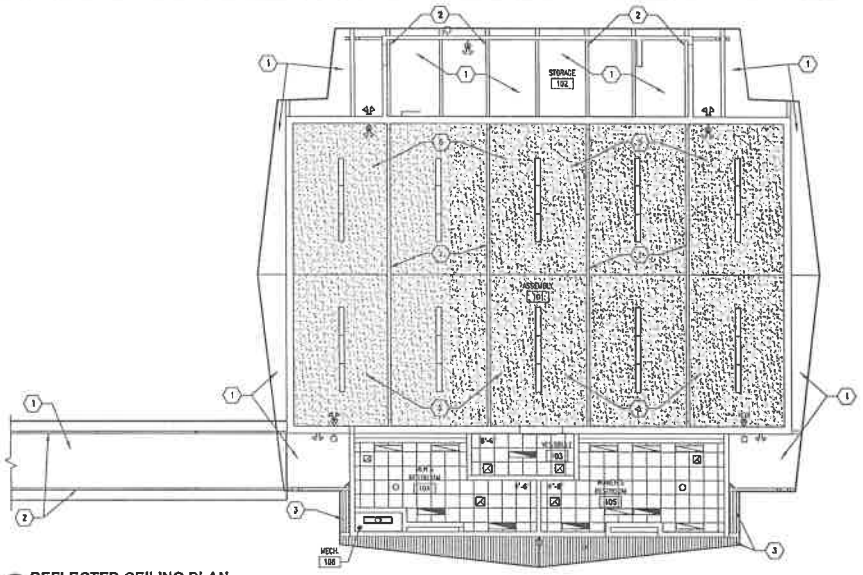
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

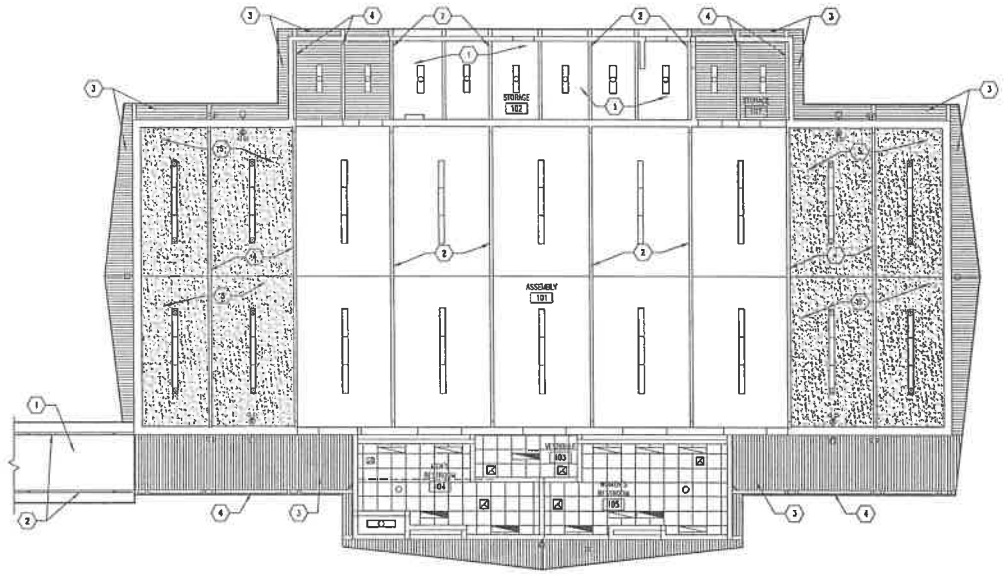
ALTERNATE FINISH PLAN

DRAWN JMW | CHECKED NHS | DATE 3.21.12 | COMM. NO. 1125

A2-2



1 REFLECTED CEILING PLAN
1/8" = 1'-0"



2 ALTERNATE REFLECTED CEILING PLAN
1/8" = 1'-0"

KEYED NOTES

1. EXISTING WOOD DECKING
2. EXISTING WOOD BEAM
3. NEW WOOD DECKING – FINISH TO MATCH EXISTING
4. NEW WOOD BEAM – MATCH EXISTING
5. NEW SLOPED GYPSUM WALLBOARD CEILING OVER 2" METAL ZEE FRAMING AT 16" O.C. OVER WOOD DECKING

CEILING SYMBOL LEGEND

- SUSPENDED 12' LINEAR FLUORESCENT FIXTURE
- 2X4 RECESSED LAY-IN FLUORESCENT FIXTURE & EMERGENCY FIXTURE
- WALL MOUNTED EMERGENCY EXIT SIGN WITH LAMP HEADS
- WALL MOUNTED EXTERIOR LIGHT FIXTURE
- EXHAUST GRILLE
- ELECTRIC CEILING HEATER
- SUSPENDED CEILING GRID

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0169
Fax: 304.345.8144
www.zmm.com

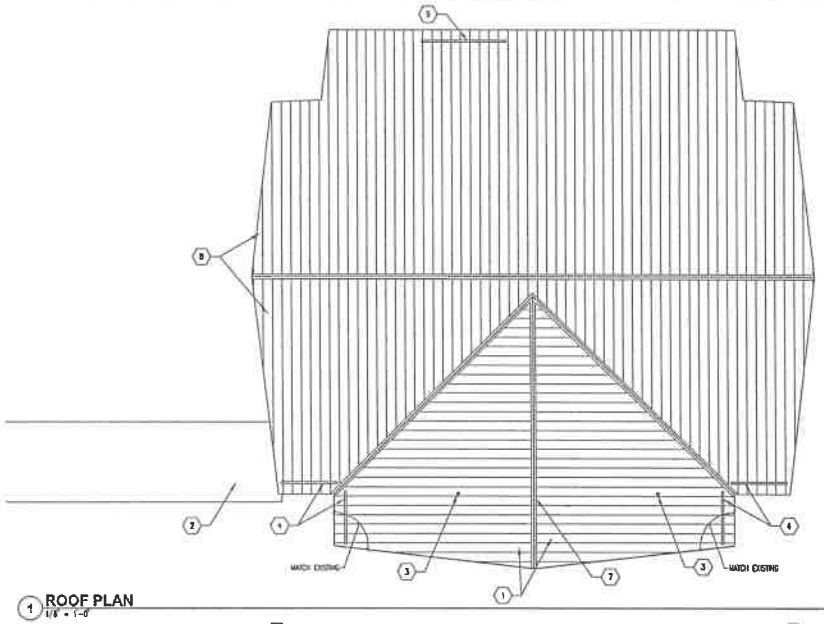
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

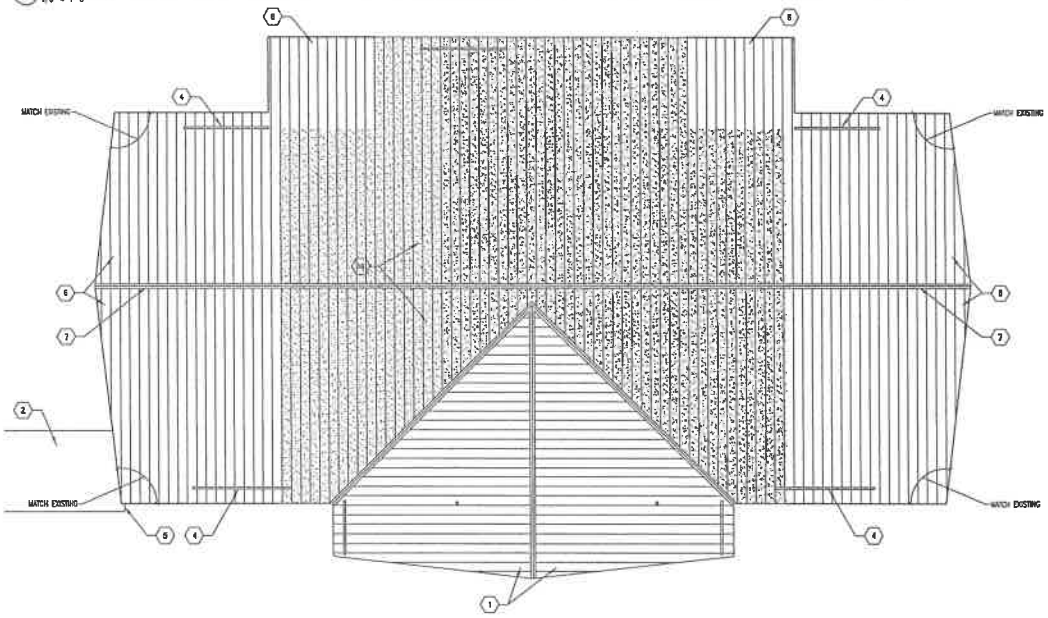
REFLECTED CEILING PLAN

DRAWN	CHECKED
NHB	DEF
	DATE 3.21.12
	COMM. NO. 1125

A3-1



1 ROOF PLAN
1/8" = 1'-0"



2 ALTERNATE ROOF PLAN
1/8" = 1'-0"

GENERAL NOTES

1. ROOFTOP EQUIPMENT SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXACT LOCATION AND TRUE SIZE OF EQUIPMENT ON ARCHITECTURAL ROOF PLAN.
2. CONTRACTOR SHALL PROVIDE ALL FLASHING AS REQUIRED TO INSURE ROOF WARRANTY.
3. CONTRACTOR TO VERIFY SLOPE OF EXISTING ROOF. NEW ROOF TO MATCH EXISTING.
4. MAINTAIN ALL EXISTING MECHANICAL AND PLUMBING PENETRATIONS UNLESS NOTED OTHERWISE. PROVIDE PROPER FLASHING FOR ALL ROOF PENETRATIONS.

KEYED NOTES

1. NEW STANDING SEAM METAL ROOF – BASE BID
2. EXISTING LOW CANOPY
3. VENT THROUGH ROOF – REFER TO PLUMBING
4. NEW CLAMP-ON SNOW GUARD
5. TERMINATE LOW CANOPY AS SHOWN TO MATCH EXISTING CONDITIONS – PROVIDE NEW FASCIA AND METAL FLASHING AT END OF CANOPY – PATCH AND REPAIR ROOFING AS NECESSARY
6. NEW STANDING SEAM METAL ROOF – ALTERNATE BID
7. NEW RIDGE CAP
8. EXISTING STANDING SEAM METAL ROOF
9. EXISTING SNOW GUARD
10. HATCHING INDICATES EXTENT OF EXISTING STANDING SEAM METAL ROOF TO REMAIN

REVISIONS
NO. | DATE | DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.6144
www.zmm.com

RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

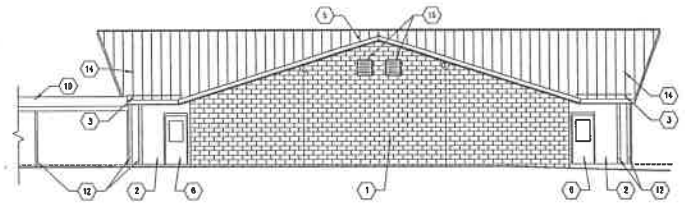
ROOF PLAN

DRAWN	CHECKED
NHS	DEF
	DATE 3.21.12
	COMM. NO. 1125

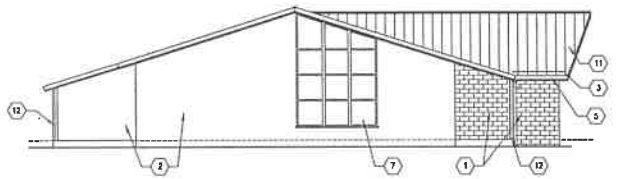
A4-1

KEYED NOTES

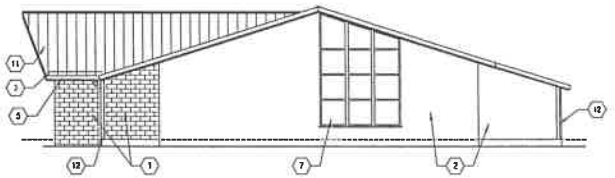
1. CONCRETE MASONRY – PAINTED
2. EXISTING CONCRETE MASONRY
3. NEW CLEAR-ON SHOW GUARD
4. FIBERGLASS WINDOW SYSTEM
5. METAL COPING / FASCIA
6. STEEL DOOR AND FRAME
7. EXISTING WINDOW
8. EXISTING DOOR
9. WOOD TRIM AROUND STEEL COLUMN
10. EXISTING CANOPY
11. NEW STANDING SEAM METAL ROOF – BASE BID
12. EXISTING COLUMN
13. NEW STANDING SEAM METAL ROOF – ALTERNATE BID
14. EXISTING STANDING SEAM METAL ROOF
15. LOUVER – SEE MECHANICAL



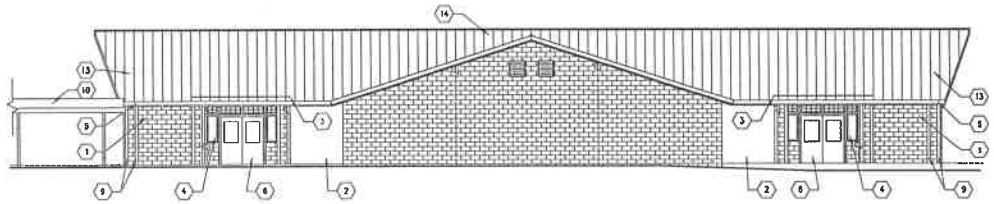
1 BUILDING ELEVATION
1/8" = 1'-0"



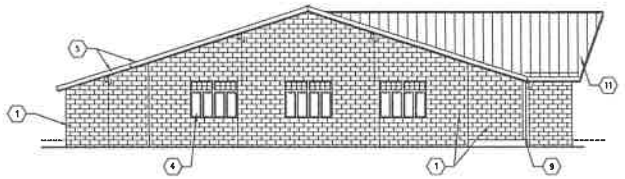
2 BUILDING ELEVATION
1/8" = 1'-0"



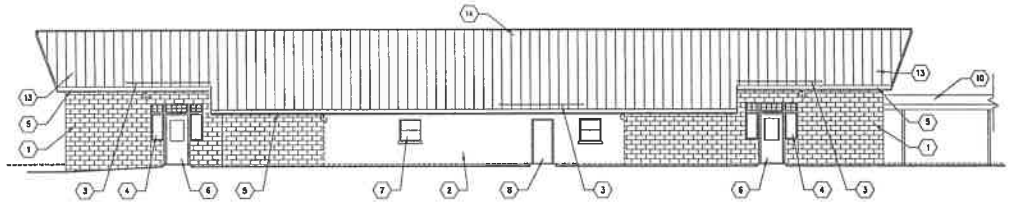
3 BUILDING ELEVATION
1/8" = 1'-0"



4 ALTERNATE BUILDING ELEVATION
1/8" = 1'-0"



5 ALTERNATE BUILDING ELEVATION
1/8" = 1'-0"



6 ALTERNATE BUILDING ELEVATION
1/8" = 1'-0"

7 ALTERNATE BUILDING ELEVATION
1/8" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

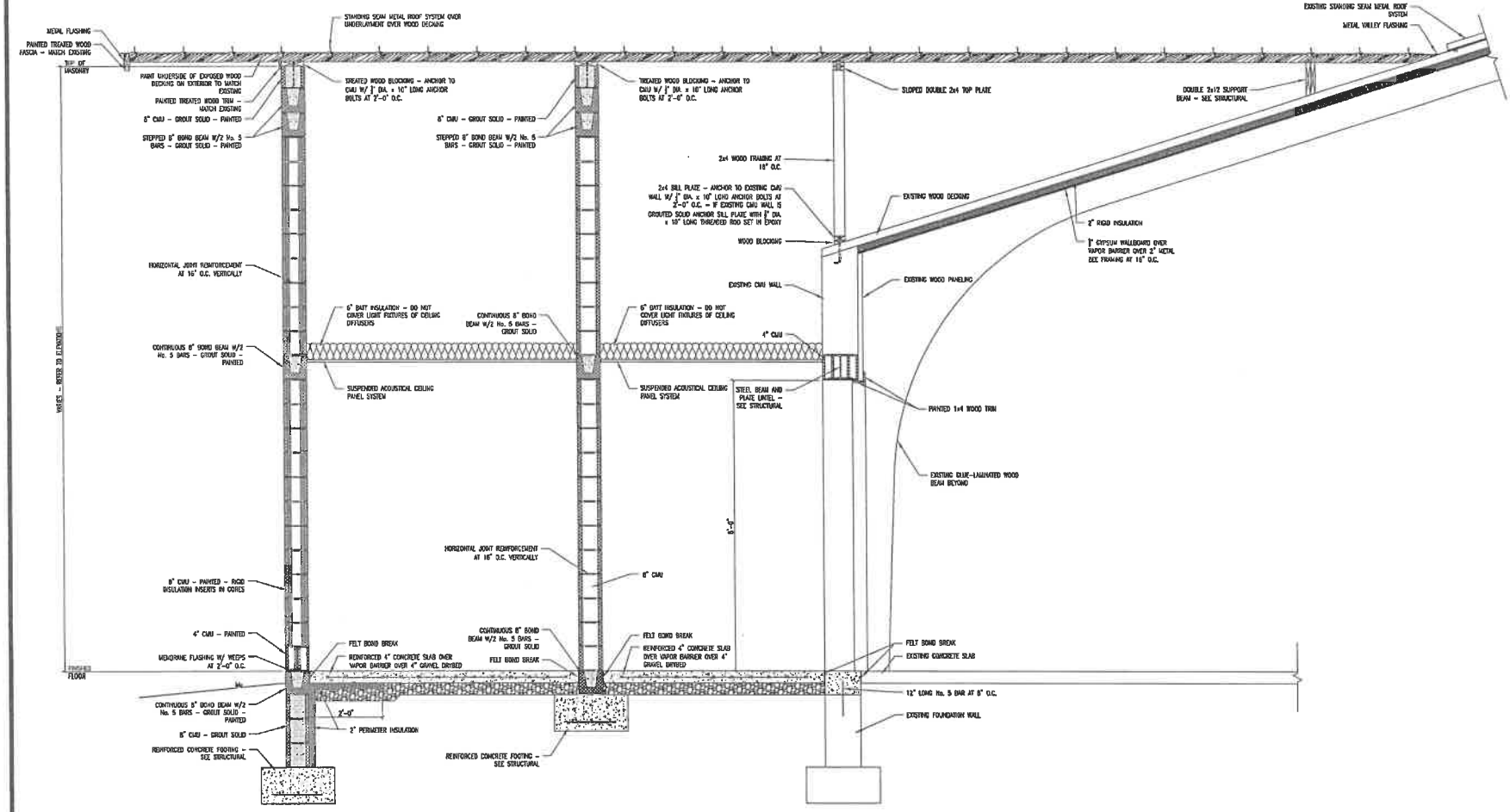
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

BUILDING ELEVATIONS

DRAWN	CHECKED
NHS	DEF
DATE	3.21.12
COMM. NO.	1125

A5-1



1 WALL SECTION
3/4" = 1'-0"

DESCRIPTION

REVISIONS NO. DATE

ZMM
ARCHITECTS & ENGINEERS

222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

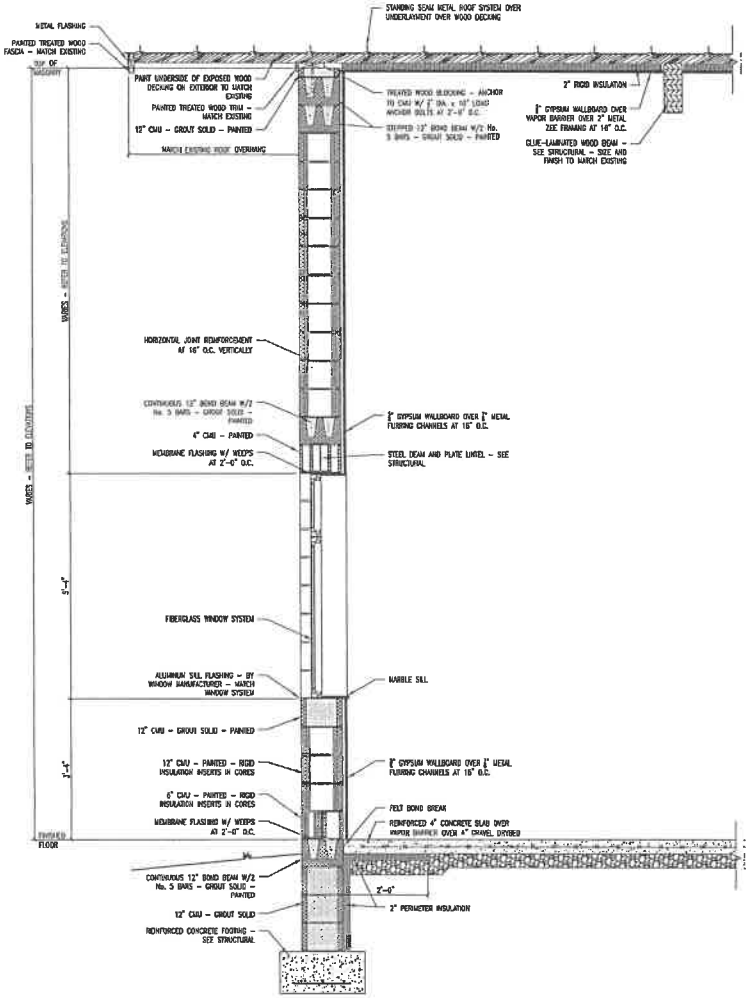
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

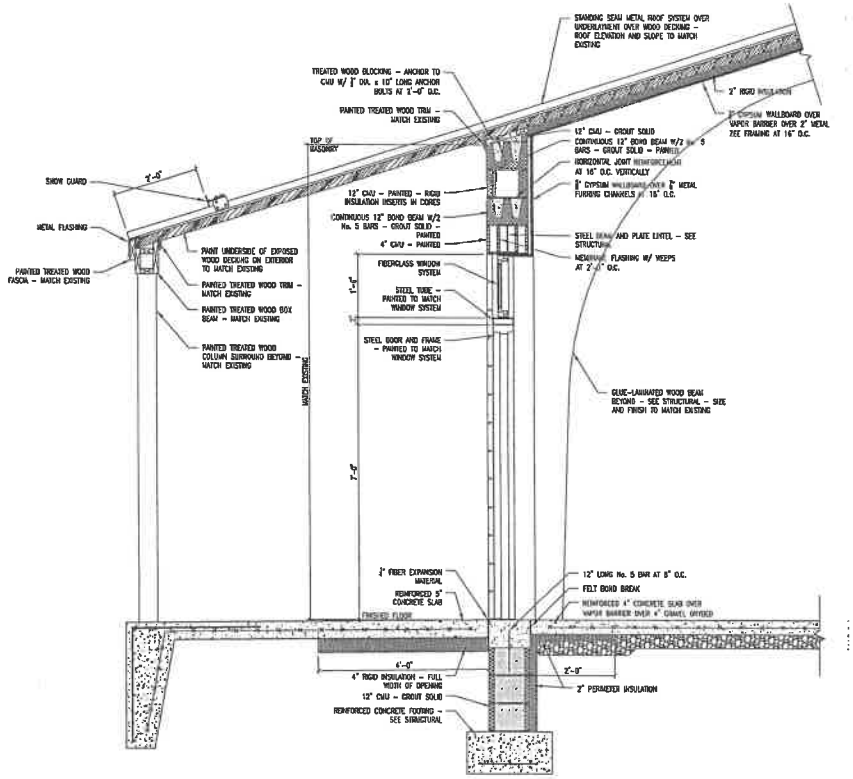
WALL SECTION

DRAWN	CHECKED
NHB	DEF
	DATE 3.21.12
	COMM. NO. 1125

A6-1



1 WALL SECTION
3/4" = 1'-0"



2 WALL SECTION
3/4" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

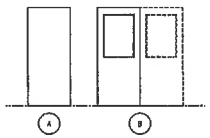
RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

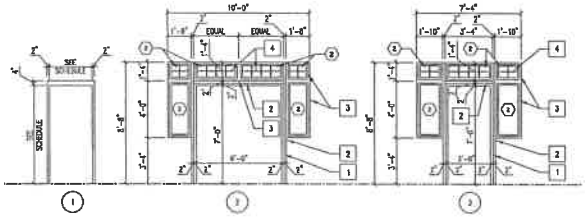
ALTERNATE WALL SECTIONS

DRAWN	CHECKED
NHB	DBP
	DATE 3.21.12
	COMM. NO. 1125

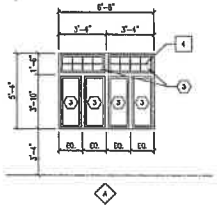
A6-2



DOOR ELEVATIONS
1/4" = 1'-0"



DOOR FRAME TYPES
1/4" = 1'-0"



EXTERIOR WINDOW TYPES
1/4" = 1'-0"

DOOR SCHEDULE

DOOR TYPE	SIZE	DOOR MAT'L	GLASS	ELEV	FRAME MAT'L	FRAME TYPE	FIRE RATING	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	REMARKS
A	3'-0" x 7'-0" x 1 ¾"	STEEL	1	B	STEEL	1	---	10	11	12	
B	(2) 2'-6" x 7'-0" x 1 ¾"	WOOD	---	A	STEEL	1	---	5	6	---	
C	3'-0" x 7'-0" x 1 ¾"	WOOD	---	A	STEEL	1	---	5	6	---	
D	(2) 3'-0" x 7'-0" x 1 ¾"	STEEL	1	B	STEEL	2	---	1,7	2,3,6	4,8	REMOVABLE CENTER MULLION
E	3'-0" x 7'-0" x 1 ¾"	STEEL	1	B	STEEL	3	---	1,7	2,3,6	4,8	
F	3'-0" x 7'-0" x 1 ¾"	WOOD	---	A	STEEL	1	---	5	13	---	

WINDOW SCHEDULE

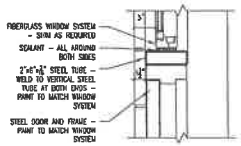
WINDOW TYPE	FRAME MAT'L	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	REMARKS
A	FIBERGLASS	7	8	9	

KEYED NOTES

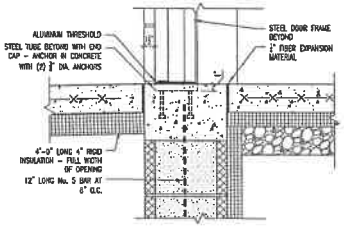
1. STEEL DOOR FRAME - PAINTED TO MATCH WINDOW SYSTEM
2. 2"x1" STEEL TUBE - PAINTED TO MATCH WINDOW SYSTEM
3. FIBERGLASS WINDOW SYSTEM
4. VERTICAL 2" ALUMINUM GRILLE BETWEEN GLASS - FINISH TO MATCH WINDOW SYSTEM

GLAZING TYPES

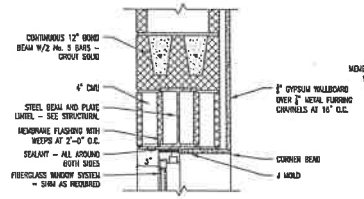
1. 2" TEMPERED GLAZING
2. 1" TEMPERED INSULATED GLAZING
3. 1" INSULATED GLAZING



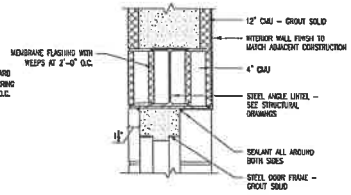
1 INTERMEDIATE HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



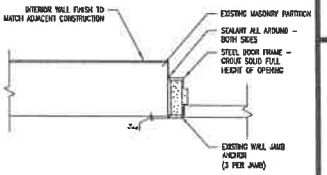
4 SILL DETAIL
SCALE: 1 1/2" = 1'-0"



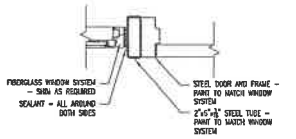
7 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



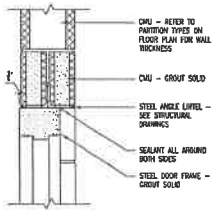
10 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



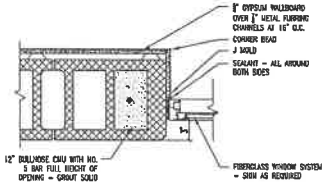
13 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



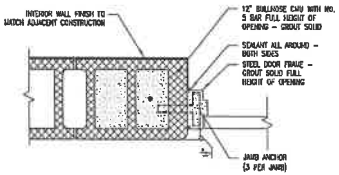
2 INTERMEDIATE JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



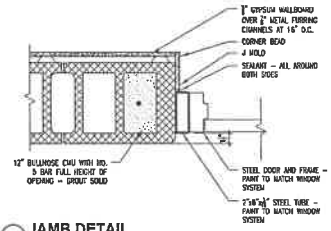
5 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



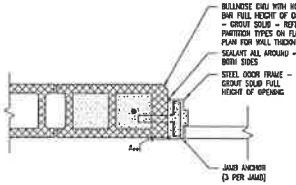
8 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



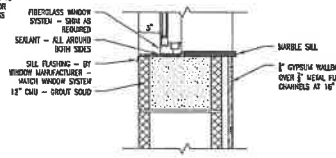
11 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



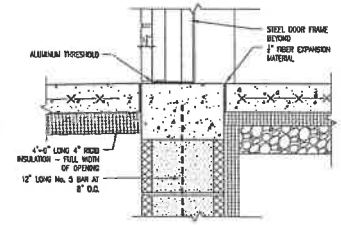
3 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



6 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



9 SILL DETAIL
SCALE: 1 1/2" = 1'-0"



12 SILL DETAIL
SCALE: 1 1/2" = 1'-0"

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

REVISIONS
NO. | DATE | DESCRIPTION

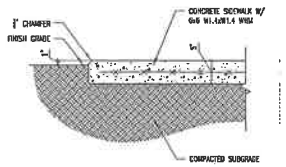
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

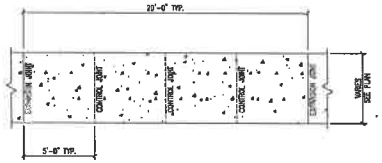
DOOR & WINDOW ELEVATIONS, SCHEDULES, AND DETAILS

DRAWN	CHECKED
NHS	DEF
DATE	3.21.12
COMM. NO.	1125

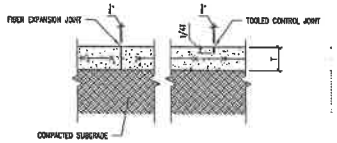
A8-1



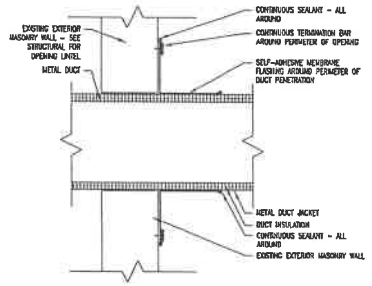
1 CONCRETE WALK DETAIL
1" = 1'-0"



2 CONCRETE WALK PLAN DETAIL
1/4" = 1'-0"



3 CONCRETE WALK JOINT DETAILS
1" = 1'-0"



4 DUCTWORK PENETRATION DETAIL
1 1/2" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

MISCELLANEOUS DETAILS

DRAWN	CHECKED
NHB	DEF
	DATE 3.21.12
	COMM. NO. 1125

A10-1

MAJOR CODES AND STANDARDS:

1. 2009 INTERNATIONAL BUILDING CODE
2. ACI 318-05
3. AISC ASD, THIRTEENTH EDITION
4. AWS D1.1, D1.3, D1.4
5. ASTM, CURRENT EDITION
6. STEEL DECK INSTITUTE DESIGN MANUAL FOR COMPOSITE DECK, FORM DECKS AND ROOF DECKS.
7. STEEL JOIST INSTITUTE, STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS, K-SERIES AND LH-SERIES.

DESIGN LOADS:

1. DEAD LOADS: ACTUAL CALCULATED WEIGHTS OF PERMANENT STRUCTURES AND ITEMS PERMANENTLY ATTACHED TO THE STRUCTURE AS FOLLOWS.

   MECHANICAL/ELECTRICAL/PLUMBING/CEILING .... 20 PSF
   CMU PARTITIONS .... ACTUAL WEIGHT

2. LIVE LOADS:

   ROOF .... 25 PSF

3. SNOW LOADS:

   GROUND SNOW LOAD .... Pg = 20 PSF
   FLAT ROOF SNOW LOAD .... Pf = 20 PSF
   SNOW EXPOSURE FACTOR .... Ce = 1.0
   SNOW LOAD IMPORTANCE FACTOR .... Is = 1.0
   THERMAL FACTOR .... Ct = 1.0

4. WIND LOADS: PER IBC 2003

   BASIC WIND SPEED .... 90 MPH
   WIND IMPORTANCE FACTOR .... I = 1.00
   WIND EXPOSURE .... B
   INTERNAL PRESSURE COEFFICIENT .... GCpi = ±0.18
   COMPONENTS & CLADDING DESIGN PRESSURES AS FOLLOWS:

   ZONE 1 – +8.0 PSF / -20 PSF
   ZONE 2 – +8.0 PSF / -33 PSF
   ZONE 3 – +8.0 PSF / -50 PSF
   ZONE 4 – +15.0 PSF / -17 PSF
   ZONE 5 – +15.0 PSF / -17 PSF

5. SEISMIC LOADS: PER IBC 2009

   SEISMIC IMPORTANCE FACTOR .... Ie = 1.00
   SPECTRAL RESPONSE ACCELERATIONS .... Ss = 0.302
   S1 = 0.168
   SITE CLASS .... D
   SPECTRAL RESPONSE COEFFICIENTS .... Sds = 0.202
   Sd1 = 0.112
   SEISMIC DESIGN CATEGORY .... B

   SEISMIC FORCE RESISTING SYSTEMS
   E-W DIRECTION: INTERMEDIATE REINF. MASONRY SHEAR WALLS.

   RESPONSE MODIFICATION COEFFICIENT .... R = 3.5

   N-S DIRECTION: INTERMEDIATE REINF. MASONRY SHEAR WALLS.

   RESPONSE MODIFICATION COEFFICIENT .... R = 3.5

   ANALYSIS METHOD USED .... EQUIVALENT LATERAL FORCE

GENERAL:

1. THESE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
2. THE DESIGN, CONSTRUCTION, QUALITY CONTROL, AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT SHALL CONFORM TO THE REFERENCED CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITH THE LATEST EDITIONS SHALL APPLY UNLESS NOTED, INCLUDING THE INTERNATIONAL BUILDING CODE (IBC) 2003.
3. CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.
4. COORDINATION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS TO VERIFY THE LOCATIONS AND SIZES OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS ARE THE CONTRACTOR'S RESPONSIBILITY. ALL REQUIRED OPENINGS, SLEEVES, OR OTHER COMPONENTS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.
5. IMPOSED CONSTRUCTION LOADS, INCLUDING CRANE LOADS, IN EXCESS OF THE STATED DESIGN LOADS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE IMPOSITION OF SUCH LOADS.
6. IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DETAILS, AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.

SHORING:

1. PROVIDE SHORING REQUIRED TO MAINTAIN STABILITY OF STRUCTURE AND ALL ADJACENT UTILITIES, CONSTRUCTION, AND EMBANKMENTS DURING THE CONSTRUCTION PERIOD. STRENGTH AND PLACEMENT OF SHORING IS TOTALLY THE RESPONSIBILITY OF THE CONTRACTOR.
2. PRIOR TO BEGINNING WORK, SUBMIT DRAWINGS SHOWING COMPLETE DETAILS OF SHORING PROCEDURE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WEST VIRGINIA. THESE DRAWINGS ARE TO BE SUBMITTED FOR RECORD PURPOSED ONLY AND DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR STRENGTH AND PLACEMENT OF SHORING MATERIALS.
3. REMOVE ALL FINISHES, SUCH AS PLASTER, STUCCO, ETC. SO THAT SHORING WILL BE IN DIRECT CONTACT WITH STRUCTURAL MEMBERS.

FOUNDATION:

1. ALL BUILDING COLUMNS AND LOAD BEARING WALLS SHALL BE SUPPORTED ON ROCK BEARING DEEP FOUNDATIONS. OTHER STRUCTURES WITHIN THE FACILITY MAY BE SUPPORTED ON SHALLOW SPREAD FOUNDATIONS PROVIDED THAT THEY HAVE SMALL FOUNDATION LOADS AND ARE NOT SENSITIVE TO DIFFERENTIAL SETTLEMENT. AN ALLOWABLE BEARING CAPACITY OF 1500 PSF MAY BE USED.
2. VERIFY ALL EXISTING FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FOUNDATION SYSTEM PRIOR TO STARTING WORK. LOCATE AND PROTECT ALL UTILITIES WHICH MAY BE AFFECTED BY THE CONSTRUCTION PROCESS.
3. FOUNDATION SUBGRADE, CAPACITY AND FINAL ELEVATIONS SHALL BE INSPECTED & APPROVED BY THE INSPECTING AGENCY PRIOR TO PLACING CONCRETE.
4. EXTEND BOTTOM OF PERIMETER OR EXTERIOR FOUNDATIONS TO BEAR AT MINIMUM OF 3'-0" BELOW GRADE. PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOUNDATION OR SLAB SUBGRADE BEFORE AND AFTER PLACING OF CONCRETE AND UNTIL SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURES.
5. FREE WATER, FROST, OR ICE: SHOULD WATER OR FROST ENTER A FOOTING EXCAVATION AFTER SUBGRADE APPROVAL, THE SUBGRADE SHALL BE RE-INSPECTED BY THE GEOTECHNICAL ENGINEER AFTER REMOVAL OF WATER OR FROST.
6. DO NOT PLACE UTILITY LINES THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVED REVIEW BY INSPECTING AGENCY AND ENGINEER.
7. SEE ARCHITECTURAL DRAWINGS FOR ALL WATERPROOFING AND DAMP PROOFING DETAILS.

CONCRETE:

1. ALL CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-05, THE ACI MANUAL OF STANDARD PRACTICE, AND THE CRSI MANUAL OF STANDARD PRACTICE.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT 145 PCF WET CONCRETE DENSITY AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE USE, WITH COMPRESSIVE STRENGTHS AS FOLLOWS:
   SLAB ON GRADE .... f'c = 3,500psi
   COLUMNS, WALLS, PIERS, PILASTERS .... f'c = 4,000psi
   AUGER CAST PILE GROUT .... f'c = 4,000psi
   CONCRETE FILL ON COMPOSITE DECK .... f'c = 4,000psi
3. CONCRETE MIX DESIGNS SHALL BE MADE BY AN APPROVED LABORATORY FOR ALL CONCRETE AND SHALL BE SUBMITTED TO THE INSPECTING AGENCY AND ENGINEER FOR APPROVAL BEFORE USE. LIMIT SLUMP TO 8" FOR CONCRETE WITH VERIFIED SLUMP OF 2" TO 4" BEFORE ADDING HIGH-RANGE WATER-REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURES, PLUS OR MINUS 1".
4. CALCIUM CHLORIDE SHALL NOT BE PERMITTED IN CONCRETE.
5. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED WITH 6% ± 1½%.
6. CURING COMPOUND MUST BE APPLIED IMMEDIATELY FOLLOWING FINAL FINISHING.
7. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL SO AS TO CAUSE SEGREGATION OF AGGREGATE. HOPPERS, VERTICAL CHUTES, OR TRUNKS SHALL BE USED IN SUFFICIENT NUMBERS SO THAT THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED SIX FEET AND TO ENSURE THAT THE CONCRETE IS KEPT LEVEL AT ALL TIMES.
8. SAND BLAST EXISTING CONCRETE TO 1/4" AMPLITUDE BEFORE FRESH CONCRETE IS PLACED AGAINST CONCRETE IN PLACE. THE CONTACT SURFACE OF CONCRETE IN-PLACE SHALL BE THOROUGHLY CLEANED. ALL LAITANCE SHALL BE REMOVED AND THE CONTACT SURFACES SHALL BE THOROUGHLY SLUSHED WITH GROUT CONSISTING OF ONE PART SAND TO ONE PART CEMENT WITH MINIMUM AMOUNT OF WATER.
9. ALL KEYS SHALL BE 2" X 4" (NOMINAL) UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
10. SUBMIT SHOP DRAWINGS INDICATING CONSTRUCTION AND CONTROL JOINTS FOR ENGINEER'S APPROVAL.
11. CONCRETE CAST ON SLOPED SURFACES SHALL BEGIN AT THE LOWEST ELEVATION AND CONTINUE MONOLITHICALLY TOWARD THE HIGHER ELEVATION UNTIL THE INTENDED POUR IS COMPLETED.
12. ALL PLUMBING SLOTS AROUND SLEEVES SHALL BE FILLED WITH FIRE RATED MATERIAL WITH AN EQUIVALENT RATING OF THE ADJACENT FLOOR CONSTRUCTION.
13. CONDUITS IN CONCRETE SLABS SHALL BE SPACED SUCH THAT THE CENTER TO CENTER DISTANCE BETWEEN CONDUITS IS A MINIMUM OF THREE TIMES THE OUTSIDE DIAMETER OF THE LARGEST CONDUIT.
14. CONDUIT HAVING OUTSIDE DIAMETER LARGER THAN ONE THIRD OF THE SLAB THICKNESS SHALL NOT BE PERMITTED. CONDUITS THAT CROSS EACH OTHER IN SLAB SHALL NOT CONSUME AT POINT OF INTERSECTION MORE THAN ONE THIRD OF THE SLAB THICKNESS.
15. ALUMINUM CONDUITS ARE NOT PERMITTED IN CONCRETE ELEMENTS.

REINFORCING STEEL:

1. ALL REINFORCING STEEL INCLUDING STIRRUPS AND TIES, SHALL BE HIGH STRENGTH, NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60 (Fy = 60,000 PSI). ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60.
2. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI-315 "MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES (LATEST EDITION).
3. U.N.O. ON STRUCTURAL DRAWINGS, PROVIDE MINIMUM CONCRETE PROTECTION FOR REINFORCING AS FOLLOWS:

   CAST AGAINST EARTH .... 3"

   EXPOSED TO EARTH OR WEATHER
   #5 AND SMALLER BARS AND W.W.F. .... 1-1/2" (U.N.O.)
   #6 AND LARGER BARS .... 2"

   NOT EXPOSED TO EARTH OR WEATHER:
   SLABS AND WALLS:
   #11 AND SMALLER AND W.W.F. .... 3/4"
   #14 AND LARGER BARS .... 1-1/2"
   BEAMS AND COLUMNS .... 1-1/2"

   SLAB SUBJECT TO VEHICULAR TRAFFIC:
   FRAMED SLABS TOP COVER .... 2"
   BOTTOM COVER .... 3/4"
4. WHERE CONSTRUCTION JOINTS ARE PROVIDED, THE REINFORCEMENT SHALL PASS CONTINUOUSLY THROUGH THE JOINT.
5. W.W.F. SHALL HAVE ENDS LAPPED ONE FULL PANEL.
6. ALL WELDING OF REINFORCING TO BE DONE WITH E90XX ELECTRODES IN ACCORDANCE WITH A.W.S. SPECIFICATIONS D1.4 (LATEST EDITION).
7. ANY MECHANICAL SPLICES USED MUST BE "TENSION-COMPRESSION" TYPE AND SHALL COMPLY WITH ACI-318 12.14.3 UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. SHOP DRAWINGS SUBMITTED FOR ENGINEERS APPROVAL MUST INDICATE THE USE AND TYPE OF ANY MECHANICAL SPLICES USED. MUST DEVELOPED BY 125% OF THE STRENGTH OF BAR IN TENSION.
8. DEVELOPMENT AND LAP SPLICE LENGTH SHALL BE CALCULATED ACCORDING TO ACI-318 CHAPTER 12 OR USE BELOW:

   a. DEVELOPMENT LENGTH FOR DEFORMED BARS IN COMPRESSION: ldc = 22d
   b. DEVELOPMENT LENGTH FOR DEFORMED BARS IN TENSION SEE SCHEDULE BELOW.
   INCREASE LENGTH 30% FOR LIGHT WEIGHT CONCRETE.
   INCREASE LENGTH BY 50% FOR EPOXY COAT REINFORCING STEEL.
   LAP SPLICE LENGTHS FOR CLASS A SPLICES = 1.0 ld
   LAP SPLICE LENGTHS FOR CLASS B SPLICES = 1.3 ld

TENSION DEVELOPMENT LENGTH FOR TOP REBARS (INCH)

CONCRETE STRENGTH Fc' (PSI)	REBAR SIZE 3	4	5	6	7	8	9	10	11	14	18
3000	18	18	22	28	38	43	53	66	79	109	174
4000	16	18	19	23	33	37	46	57	68	94	151

TENSION DEVELOPMENT LENGTH FOR OTHER REBARS (INCH)

CONCRETE STRENGTH Fc' (PSI)	REBAR SIZE 3	4	5	6	7	8	9	10	11	14	18
3000	12	14	17	20	29	33	41	51	61	83	134
4000	[illegible]	[illegible]	15	18	25	29	36	44	53	72	116

MASONRY:

1. GALVANIZED HORIZONTAL JOINT REINFORCEMENT SHALL BE PLACED IMMEDIATELY ABOVE AND BELOW ALL OPENINGS AND AT 16" O.C. VERTICALLY.
2. ALL VERTICAL WALL REINFORCEMENT INTERRUPTED BY WALL OPENINGS SHALL BE PLACED IMMEDIATELY ADJACENT TO EACH OF THE OPENINGS.
3. ALL MASONRY CELLS CONTAINING BOLTS OR REINFORCEMENT SHALL BE FILLED WITH (FINE OR COARSE) GROUT PER SPECIFICATIONS.
4. GROUT SHALL NOT BE DROPPED THROUGH REINFORCING STEEL SO AS TO CAUSE SEGREGATION OF AGGREGATE. HOPPERS, VERTICAL CHUTES, OR TRUNKS SHALL BE USED IN SUFFICIENT NUMBERS SO THAT THE FREE UNCONFINED FALL OF GROUT SHALL NOT EXCEED FIVE FEET AND TO ENSURE THAT THE CONCRETE IS KEPT LEVEL AT ALL TIMES.
5. GROUT SHALL BE PLACED IN LIFTS NOT EXCEEDING 5 FEET.
6. PROVIDE TWO (2) COURSES OF GROUT-FILLED CMU BENEATH ALL BEAM AND HEADER BEARING POINTS (U.N.O.).
7. PROVIDE DOWELS WITH STANDARD BAR HOOK IN FOOTING TO MATCH DIAMETER AND SPACING OF VERTICAL REINFORCEMENT. MINIMUM SPLICE LENGTH = 24".
8. PROVIDE 2-#5 CORNER BARS AT ALL BOND BEAM CORNERS TO LAP A MINIMUM OF 48 BAR DIAMETERS (UNLESS NOTED OTHERWISE).
9. ALL MASONRY WORK SHALL BE IN CONFORMANCE WITH THE "SPECIFICATIONS FOR MASONRY STRUCTURES" ACI 530.1-02/ASCE 6-02/TMS 602-02.
10. PROVIDE ADJUSTABLE MASONRY ANCHORS TO STEEL BEAMS AND COLUMNS WHICH ARE EMBEDDED IN MASONRY AT 2'-8" O.C. MAXIMUM.
11. ALL CMU GROUT SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
12. PROVIDE CRACK CONTROL JOINTS AT ALL WALL RETURNS AND JAMBS OF OPENINGS AND AT A MAXIMUM SPACING OF 20-FEET ON CENTER. JOINTS SHALL OCCUR AT THE SAME LOCATIONS FOR BRICK VENEER AND CMU.

TENSION DEVELOPMENT LENGTH FOR OTHER REBARS (INCH)

MASONRY STRENGTH F'm (PSI)	REBAR SIZE 3	4	5	6	7	8
1900	18	22	29	58	79	110

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL WIDE FLANGE MEMBERS SHALL CONFORM TO ASTM SPECIFICATION A-992 U.N.O. PLATES, ANGLES, CHANNELS AND BARS SHALL BE A-36.
2. TUBES SHALL CONFORM TO ASTM A-500 GRADE B. PIPES SHALL CONFORM TO ASTM A-53 TYPE E OR S GRADE B.
3. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM A-325 OR A-490. ANCHOR RODS SHALL CONFORM TO ASTM F-1554 GR. 36.
4. WELDING ELECTRODES SHALL BE E-70XX.
5. DESIGN CONNECTIONS TO SUPPORT HALF OF TOTAL UNIFORM LOAD CAPACITY SHOWN IN THE AISC MANUAL "TABLES FOR ALLOWABLE LOADS ON BEAMS" FOR GIVEN SECTION AND SPAN COMPOSITE BEAM CONNECTION TO BE DESIGNED FOR THE REACTIONS GIVEN ON THE DRAWINGS.
   USE MINIMUM ROWS OF 3/4"Ø BOLTS PER CONNECTION AS PER FOLLOWING TABLE (U.N.O.)

NOMINAL BEAM DEPTH	MINIMUM # OF ROWS
8, 10, 12	2
14, 16, 18	3
21, 24	4
27, 30	5
33, 36	6

6. SINGLE PLATE SHEAR (SHEAR TABS) AND SINGLE ANGLE CONNECTIONS ARE NOT ALLOWED EXCEPT WHERE SPECIFICALLY SHOWN ON DRAWINGS.
7. WHEN BEAM FLANGES ARE COPED MORE THAN DISTANCE K, SHEAR AND MOMENT CAPACITY OF THE REMAINING WEB MUST BE CHECKED BY THE DETAILER, UNLESS CONNECTION CLIP ANGLES ARE EXTENDED 1" BEYOND THE COPE.
8. ALL BUTT WELDS SHALL BE FULL PENETRATION BUTT WELDS.
9. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
10. FABRICATE STEEL BEAMS WITH THE NATURAL CAMBER UP.
11. THE MINIMUM PLATE THICKNESS SHALL BE .... 1/2" (U.N.O.)
    THE MINIMUM BOLT DIAMETER SHALL BE .... 3/4" (U.N.O.)
    THE MINIMUM THROAT SHALL BE .... 3/16" (U.N.O.)
12. BASE PLATES, BEAMS, COLUMNS AND HARDWARE EXPOSED TO SOIL SHALL BE COVERED WITH MINIMUM OF 3" CONCRETE PRIOR TO BACKFILL.
13. ALL TEMPORARY ERECTION BRACING AND TIE RODS SHALL REMAIN IN PLACE UNTIL ALL STRUCTURAL MEMBERS ARE PROPERLY ALIGNED AND CONNECTED AND SHALL NOT BE REMOVED WITHOUT WRITTEN APPROVAL OF THE TESTING AGENCY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES.
15. ANY BOLTED CONNECTION INDICATED ON THE DRAWINGS CAN BE SUBSTITUTED WITH A WELDED ONE (SHOP OR FIELD) OF EQUAL CAPACITY. IF BOLTING CLEARANCES REQUIRE SO. SUBSTITUTION SHALL BE AT NO EXTRA COST TO THE OWNER & ONLY AFTER APPROVAL OF THE ENGINEER AND TESTING AGENCY.
16. EXPANSION ANCHORS SHALL BE HILTI KWIK-BOLT 3 EXPANSION ANCHORS OR APPROVED EQUAL U.N.O.
17. ADHESIVE ANCHORS SHALL BE HILTI HIT HY 150 SYSTEM OR APPROVED EQUAL U.N.O.

TESTING AND INSPECTION:

THE GENERAL CONTRACTOR WILL RETAIN THE SERVICES OF AN INSPECTION AGENCY TO PERFORM THE BELOW LISTED SERVICES. THE CONTRACTOR SHALL SUBMIT A WRITTEN CERTIFICATION FROM A CERTIFIED TESTING AGENCY APPROVED BY THE OWNER AND ARCHITECT PER SPECIFICATION SECTION 014100, ADEQUATELY EQUIPPED AND COMPETENT TO PERFORM SUCH SERVICES, THAT THE MATERIAL OR EQUIPMENT HAS BEEN TESTED AND CONFORMS TO THE STANDARDS, INCLUDING THE METHODS OF TESTING USED.

1. ALL WELDS ARE TO BE VISUALLY INSPECTED AND MEASURED.
2. THE PLACEMENT OF ALL CONCRETE AND MASONRY REINFORCEMENT SHALL BE INSPECTED.
3. CONCRETE CYLINDERS SHALL BE TAKEN IN ACCORDANCE WITH THE SPECIFICATIONS OR A MINIMUM OF ONE SET OF 5 CYLINDERS SHALL BE TAKEN FOR EACH DAY'S POUR: (2) 7-DAY, (2) 28-DAY, (1) HOLD.
4. ONE SET OF MORTAR CUBES FOR COMPRESSIVE STRENGTH TESTING SHALL BE MADE IN ACCORDANCE WITH ASTM C91 AND C270 AT A FREQUENCY OF ONE TEST PER WEEK.
5. MASONRY PRISM TESTS IN CONFORMANCE WITH ASTM E447 METHOD B SHALL BE CONDUCTED AT A FREQUENCY OF ONE TEST PER WEEK.
6. INSPECTION AND TESTING OF ALL NEW STRUCTURAL FILL WITH REPORTS SUBMITTED TO THE OWNER STATING COMPLIANCE OR NONCOMPLIANCE WITH PERCENT COMPACTION REQUIREMENTS.
7. INSPECTION OF SUBGRADE BELOW ALL FOUNDATIONS AND SLAB ON GRADE TO VERIFY THE ADEQUACY OF THE BEARING MATERIAL PRIOR TO PLACEMENT OF CONCRETE.
8. INSPECTION OF THE REINFORCEMENT.
9. INSPECTION OF WELDING.
10. HIGH-STRENGTH BOLTS SHALL BE INSPECTED BY THE CALIBRATED TORQUE WRENCH OR DIRECT TENSION INDICATOR METHOD PER THE REQUIREMENTS OF THE "SPECIFICATION FOR STRUCTURAL JOINTS (NINTH EDITION – AISC)."
11. INSPECTION OF STEEL FABRICATOR FOR MAINTAINING DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES IN ACCORDANCE WITH IBC SECTION 1704.2
12. WRITTEN REPORTS SHALL BE SUBMITTED TO THE ENGINEER STATING COMPLIANCE OR NONCOMPLIANCE WITH DESIGN DOCUMENTS AND SPECIFICATIONS. ALL REPORTS SHALL BE SIGNED AND SEALED BY A REGISTERED ENGINEER IN STATE OF WEST VIRGINIA.

ABBREVIATIONS:

@	AT	K	KIPS
(A)	ABOVE	L	LENGTH
A.B.	ANCHOR BOLT	LBS.	POUNDS
ABV	ABOVE	LF	LINEAR FEET
ACI	AMERICAN CONCRETE INSTITUTE	LL	LIVE LOAD
ADD	ADDENDUM	LLH	LONG LEG HORIZONTAL
ADD'L	ADDITIONAL	LLV	LONG LEG VERTICAL
ADJ	ADJACENT	LOC	LOCATION
AE	ARCHITECTURAL/ENGINEERING FIRM	L.P.	LOW POINT
AFF	ABOVE FINISHED FLOOR	LVL	LEVEL, LEVELING
AGGR	AGGREGATE	L.W.	LONG WAY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	M	MOMENT CONNECTION
AISC	AMERICAN IRON & STEEL INSTITUTE	MAS.	MASONRY
ARCH.	ARCHITECTURAL	MATL	MATERIAL
AWS	AMERICAN WELDING SOCIETY	MAX.	MAXIMUM
(B)	BELOW	MECH.	MECHANICAL
B/B	BACK TO BACK	MFR	MANUFACTURER
BCX	BOTTOM CHORD EXTENSION	MIN.	MINIMUM
BETW	BETWEEN	MISC	MISCELLANEOUS
BEY	BEYOND	MPH	MILES PER HOUR
BLDG	BUILDING	N	NORTH
BLW	BELOW	N/A	NOT APPLICABLE
BM	BEAM	N.I.C.	NOT IN CONTRACT
BOD	BOTTOM OF DECK	NUM.	NUMBER
BOT	BOTTOM	N.S.	NEAR SIDE
B.P.	BASE PLATE	N.T.S.	NOT TO SCALE
BRCG	BRACING	NW	NORMAL WEIGHT
BRG	BEARING	Ø	DIAMETER
C	CHANNEL	O.C.	ON CENTER
C.I.P	CAST IN PLACE	O.H.	OPPOSITE HAND
CJ	CONTROL JOINT	OPNG	OPENING
℄, CL	CENTER LINE	OPP.	OPPOSITE
CLG	CEILING	P	PLATE
CLR	CLEAR	PART.	PARTIAL
CMU	CONCRETE MASONRY UNIT	PL	PLATE
COL	COLUMN	PNL	PANEL
COMP	COMPOSITE	PSF	POUNDS PER SQUARE FEET
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONN	CONNECTION	PVMT	PAVEMENT
CONST	CONSTRUCTION	QTY	QUANTITY
CONT	CONTINUOUS	R	RADIUS, RISER, REMAINDER
COORD	COORDINATE	REF	REFERENCE
COR	CORNER	REINF	REINFORCING
CTR	CENTER	REQ'D	REQUIRED
DEPR.	DEPRESSION	RET	RETAINING
DET.	DETAIL	REV	REVISION
DIA.	DIAMETER	RM	ROOM
DIAG	DIAGONAL	RTU	ROOF TOP UNIT
DIM	DIMENSION	SCH	SCHEDULE
DIST	DISTANCE	SEC.	SECTION, SECURITY
D.L.	DEAD LOAD	SECT.	SECTION
DN	DOWN	SF	SQUARE FOOT, STEP FOOTING
DO.	DITTO	SHT, SH	SHEET
DWG	DRAWING	SIM	SIMILAR
DWLS	DOWELS	S.J.I.	STEEL JOIST INSTITUTE
D.T.	DOUBLE TEES	SL	SEALANT
EA.	EACH	S.O.G.	SLAB ON GRADE
E.F.	EACH FACE	S.S.	SPACE
E.J.	EXPANSION JOINT	SPEC	SPECIFICATIONS
EL, ELEV	ELEVATION	SQ	SQUARE
ELEC	ELECTRICAL	SS	STAINLESS STEEL
EMBED	EMBEDMENT	STD	STANDARD
E.O.A.	EDGE OF ANGLE	STIFF.	STIFFENER
EOS	EDGE OF SLAB	ST	STEEL
EQ, EQL	EQUAL	S.W.	SHORT WAY
EQPT	EQUIPMENT	SYM	SYMMETRICAL
ETC.	ET CETERA	T	THICKNESS, TREAD
E.W.	EACH WAY	T/	TOP OF
EXIST	EXISTING	T/C, T/CONC.	TOP OF CONCRETE
EXP	EXPANSION	T/STL, T.S.	TOP OF STEEL
EXT	EXTERIOR	T/BM	TOP OF BEAM
FDN	FOUNDATION	T&B	TOP & BOTTOM
FIN.	FINISH	TCX	TOP CHORD EXTENSION
FLR, FL	FLOOR	TEMP	TEMPERATURE
F.O.B.	FACE OF BUILDING	TFE	TOP OF FOOTING ELEVATION
FR	FRAME	THK	THICK
FRMG	FRAMING	TS	TUBULAR STEEL
F.S.	FAR SIDE	TYP	TYPICAL
FTG.	FOOTING	U.N.O.	UNLESS OTHERWISE NOTED
F.O.W.	FACE OF WALL	VERT	VERTICAL
GA.	GAGE	V.I.F.	VERIFY IN FIELD
GALV.	GALVANIZED	W	WIDTH, WIDE FLANGE
GB	GRADE BEAM	W/	WITH
G.C.	GENERAL CONTRACTOR	WF	WIDE FLANGE
GOVT.	GOVERNMENT	WL	WORKING LINE
H	HEIGHT	WP, W.P	WORKING POINT/ WATERPROOFING
HORIZ	HORIZONTAL	WT	WEIGHT, STRUCTURAL TEE
H.P.	HIGH POINT	WWF	WELDED WIRE FABRIC
H.S.	HIGH STRENGTH, HEAD STUD		
HVAC	HEATING VENTILATION & AIR CONDITIONING		
IN.	INCH		
INCL	INCLUDING		
INFO.	INFORMATION		
INT.	INTERIOR		
JST.	JOIST		
JT	JOINT		

REVISIONS

NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

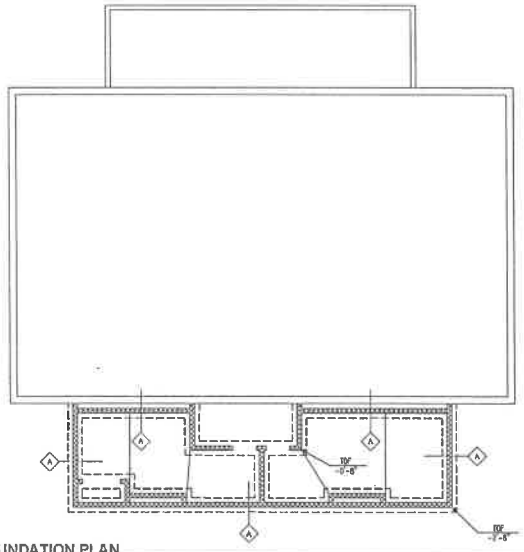
RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

STRUCTURAL NOTES

DRAWN	CHECKED	DATE	COMM. NO.
-	SEH	3.21.12	1125

S1-1



FOUNDATION PLAN
1/8" = 1'-0"

SHEET NOTES

1. FOR ADDITIONAL DIMENSIONAL INFORMATION, SEE ARCHITECTURAL PLANS.
2. SLAB ON GRADE = 4" THICK, 3500 PSI 6% CONCRETE WITH 6x6-W1.4xW1.4 WWF ON VAPOR BARRIER, ON 4" DRAINAGE FILL, UNLESS NOTED OTHERWISE.
3. REFER TO SHEET S1-1 FOR DEAD LOADS, LIVE LOADS, AND OTHER DESIGN CRITERIA.
4. REFER TO TYPICAL DETAILS ON SHEETS S4-1 AND S4-2 FOR ADDITIONAL INFORMATION.
5. FOOTING DESIGNATIONS ARE SHOWN THUS:

   A
6. CONTROL JOINTS ARE SHOWN THUSLY. SEE GENERAL NOTES, SHEET S1-1

   — — CJ — — — — CJ — — — —
7. TOP OF FOOTING ELEVATIONS ARE SHOWN THUS:

   TOF
   -2'-0"
8. MASONRY PILASTERS SHALL BE LOCATED UNDER ALL STEEL BEAMS BEARING ON MASONRY. PILASTER SHALL BE CONTINUOUS TO THE FOUNDATION.
9. MASONRY WALL EXTENDING ABOVE FLOOR/ROOF LEVEL ARE SHOWN THUS:

   MASONRY WALL BELOW FLOOR/ROOF LEVEL ARE SHOWN THUS:

FOUNDATION GENERAL NOTES

1. FOR DIMENSIONED WALL AND DOOR LOCATIONS, SEE ARCHITECTURAL PLANS.
2. TYP. TOP OF FOOTING (TOF) ELEVATIONS ARE 1'-8" BELOW FINISH FLOOR (EXTERIOR) AND 8" BELOW FINISH FLOOR (INTERIOR) U.N.O. STEP FOOTINGS AS REQUIRED TO MAINTAIN MIN. DEPTH TO BOTTOM OF FOOTING OF 1'-0" BELOW EXTERIOR GRADE. MAXIMUM VERTICAL STEP OF 2'-0".
3. COORDINATE TOP OF FOOTING ELEVATIONS WITH MECHANICAL, ELECTRICAL, AND PLUMBING PLANS. STEP FOOTINGS AS NECESSARY.
4. EXCAVATION FOR CONTINUOUS WALL OR COLUMN FOOTINGS MUST BE CHECKED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY A MINIMUM BEARING CAPACITY OF 3000 PSF. OVER-EXCAVATIONS CAN BE FILLED WITH LEAN CONCRETE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. SQUARE FOOTINGS WITHOUT DIMENSIONED LOCATIONS SHOWN ARE TO BE CENTERED UNDER THE BEARING POINT OF A GIRDER, BEAM, PILASTER, OR COLUMN. BEAMS AND GIRDERS BEAR ON CENTERLINE OF CMU, OFFSET 4" FROM WALL END.
6. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING PLANS FOR ANY RECESSED SLAB LOCATIONS, DEPTHS, AND MISC. EMBEDDED ITEMS.
7. SEE PLANS AND SCHEDULE FOR VERTICAL WALL REINFORCING REQUIREMENTS. GROUT ALL REINFORCED CORES SOLID FROM FOOTING TO ROOF DECK. U.N. ADDITIONAL REINFORCE AS FOLLOWS:
   - ALL PARTITION WALLS:
     #5 @ 48" O.C.
   - ALL BEARING/SHEAR WALLS:
     #5 @ CORNERS
     #5 WITHIN 12" OF EACH SIDE OF OPENING
     #5 WITHIN 8" OF EACH SIDE OF MOVEMENT JOINTS
     #5 WITHIN 8" OF ENDS OF WALLS
     #5 UNDER BEAM BEARING POINTS WITHOUT PILASTER SPECIFIED
8. MASONRY TO BE PLACED WITH FULL MORTAR BED JOINT.
9. WALL REINFORCING ABOVE OPENINGS TO BE SAME AS ADJACENT WALLS.
10. HORIZONTAL JOINT REINFORCING SHALL BE PLACED AT 16" O.C. AND SHALL BE STANDARD 9GO LADDER TYPE, SIZE W1.7. JOINT BRAIDLINE ANCHORS ARE TO BE PROVIDED AT ALL CONTROL JOINTS AT 16" O.C. ADDITIONALLY, PROVIDE HORIZONTAL BOND, AT BOTTOM AND TOP OF WALL OPENINGS EXTENDING A MIN. OF 24" PAST OPENING. PROVIDE CONTINUOUS HORIZONTAL BOND AT CONCRETE ROOF AND FLOOR LEVELS AND WITHIN 16" OF TOP OF WALLS.
11. ALL CMU (EXCEPT VENEER) SHALL COMPLY WITH THE REQUIREMENTS OF ACI 530-08 AND ASTM C90 FOR LOAD-BEARING CONCRETE MASONRY UNITS.
12. REFER TO DRAWING S1-1 FOR DEAD LOADS, LIVE LOADS, AND OTHER DESIGN CRITERIA.
13. REFER TO TYPICAL DETAILS ON DRAWINGS S3-1 THRU S6-1 FOR ADDITIONAL INFORMATION.
14. ALL CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-08, THE ACI MANUAL OF STANDARD PRACTICE, AND THE CRSI MANUAL OF STANDARD PRACTICE.
15. PROVIDE (2) #5 BARS x 48" LONG AT ALL CONCRETE SLAB RE-ENTRANT CORNERS. BARS TO BE PLACED AT SLAB MID-HEIGHT.
16. FOOTINGS ADJACENT TO THE BUILDINGS EXISTING FOOTING SHALL HAVE THE REINFORCEMENT DOWELED AND EPOXIED TO THE EXISTING FOOTINGS.

FOOTING SCHEDULE

FOOTING MARK		A	B
SIZE	WIDTH	2'-0"	2'-6"
	LENGTH	SEE PLAN	SEE PLAN
	THICKNESS	1'-0"	1'-0"
BOTTOM REINFORCING	LONG.	3 - #5	4 - #5
	TRANS.	#4 @ 24" O.C.	#4 @ 24" O.C.
TOP REINFORCING	LONG.	-	-
	TRANS.	-	-
REMARKS		-	

NO.	REVISIONS DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

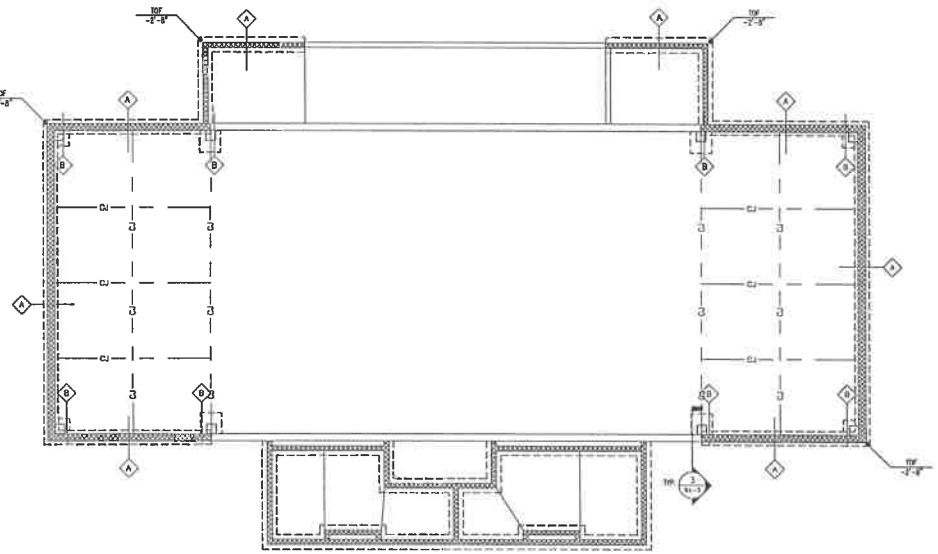
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

FOUNDATION PLAN

DRAWN	CHECKED
-	BEH
	DATE 3.21.12
	COMM. NO. 1125

S2-1



ALTERNATE FOUNDATION PLAN

1/8" = 1'-0"

FOOTING SCHEDULE

FOOTING MARK		A	B
SIZE	WIDTH	2'-0"	3'-0"
	LENGTH	SEE PLAN	3'-0"
	THICKNESS	1'-0"	1'-0"
BOTTOM REINFORCING	LONG.	3 - #5	4 - #5
	TRANS.	#4 @ 24" O.C.	4 - #5
TOP REINFORCING	LONG.	-	-
	TRANS.	-	-
REMARKS			

SHEET NOTES

1. FOR ADDITIONAL DIMENSIONAL INFORMATION, SEE ARCHITECTURAL PLANS.
2. SLAB ON GRADE = 4" THICK, 3500 PSI NW CONCRETE WITH 6x6-W1.4xW1.4 WWF ON VAPOR BARRIER, ON 4" DRAINAGE FILL, UNLESS NOTED OTHERWISE.
3. REFER TO SHEET S1-1 FOR DEAD LOADS, LIVE LOADS, AND OTHER DESIGN CRITERIA.
4. REFER TO TYPICAL DETAILS ON SHEETS S4-1 AND S4-2 FOR ADDITIONAL INFORMATION.
5. FOOTING DESIGNATIONS ARE SHOWN THUS(1):

   A

6. CONTROL JOINTS ARE SHOWN THUSLY. SEE GENERAL NOTES, SHEET S1-1

   — — CJ — — — — CJ — — — —

7. TOP OF FOOTING ELEVATIONS ARE SHOWN THUSLY:

   TOF -2'-8"

8. MASONRY PILASTERS SHALL BE LOCATED UNDER ALL STEEL BEAMS BEARING ON MASONRY. PILASTER SHALL BE CONTINUOUS TO THE FOUNDATION.
9. MASONRY WALL EXTENDING ABOVE FLOOR/ROOF LEVEL ARE SHOWN THUS(1):

   MASONRY WALL BELOW FLOOR/ROOF LEVEL ARE SHOWN THUS(1):

10. REFER TO SHEET S3-1 FOR BASE BID NEW WORK.

FOUNDATION GENERAL NOTES

1. FOR DIMENSIONED WALL AND DOOR LOCATIONS, SEE ARCHITECTURAL PLANS.
2. TOF: TOP OF FOOTING (TYP) ELEVATIONS ARE 2'-8" BELOW FINISH FLOOR (EXTERIOR) AND 8" BELOW FINISH FLOOR (INTERIOR) U.N.O. STEP FOOTING AS REQUIRED TO MAINTAIN MIN. DEPTH TO BOTTOM OF FOOTING OF 2'-0" BELOW EXTERIOR GRADE. MAXIMUM VERTICAL STEP OF 2'-0".
3. COORDINATE TOP OF FOOTING ELEVATIONS WITH MECHANICAL, ELECTRICAL, AND PLUMBING PLANS. STEP FOOTINGS AS NECESSARY.
4. EXCAVATION FOR CONTINUOUS WALL OR COLUMN FOOTINGS MUST BE CHECKED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY A MINIMUM BEARING CAPACITY OF 3000 PSF. OVER-EXCAVATIONS CAN BE FILLED WITH LEAN CONCRETE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. SQUARE FOOTINGS WITHOUT DIMENSIONED LOCATIONS SHOWN ARE TO BE CENTERED UNDER THE BEARING POINT OF A GIRDER, BEAM, PILASTER, OR COLUMN. BEAMS AND GIRDERS BEAR ON CENTERLINE OF CMU, OFFSET 4" FROM WALL END.
6. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING PLANS FOR ANY RECESSED SLAB LOCATIONS, DEPTHS, AND MISC. DARLOWED ITEMS.
7. SEE PLANS AND SCHEDULE FOR VERTICAL WALL REINFORCING REQUIREMENTS. GROUT ALL REINFORCED CORES SOLID FROM FOOTING TO ROOF DECK. IN ADDITION, REINFORCE AS FOLLOWS:
   - ALL PARTITION WALLS:
     #5 @ 48" O.C.
   - ALL BEARING/SHEAR WALLS:
     #5 @ CORNERS
     #5 within 16" OF EACH SIDE OF OPENING
     #5 within 8" OF EACH SIDE OF MOVEMENT JOINTS
     #5 within 8" OF ENDS OF WALLS
     #5 UNDER BEAM BEARING POINTS WITHOUT PILASTER SPECIFIED
8. MASONRY TO BE PLACED WITH FULL MORTAR BED JOINT.
9. WALL REINFORCING ABOVE OPENINGS TO BE SAME AS ADJACENT WALLS.
10. HORIZONTAL JOINT REINFORCING SHALL BE PLACED AT 16" O.C. AND SHALL BE STANDARD RDO LADDER TYPE, SIZE W1.7. JOINT STABILIZING ANCHORS ARE TO BE PROVIDED AT ALL CONTROL JOINTS AT 16" O.C. ADDITIONALLY, PROVIDE HORIZONTAL BEAM, AT BOTTOM AND TOP OF WALL OPENINGS EXTENDING A MIN. OF 24" PAST OPENING. PROVIDE CONTINUOUS HORIZONTAL BEAM, AT CONCRETE ROOF AND FLOOR LEVELS AND WITHIN 16" OF TOP OF WALLS.
11. ALL CMU (EXCEPT VENEER) SHALL COMPLY WITH THE REQUIREMENTS OF ACI 530-08 AND ASTM C90 FOR LOAD-BEARING CONCRETE MASONRY UNITS.
12. REFER TO DRAWING S1-1 FOR DEAD LOADS, LIVE LOADS, AND OTHER DESIGN CRITERIA.
13. REFER TO TYPICAL DETAILS ON DRAWINGS S3-1 THRU S3-1 FOR ADDITIONAL INFORMATION.
14. ALL CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-08, THE ACI MANUAL OF STANDARD PRACTICE, AND THE CRSI MANUAL OF STANDARD PRACTICE.
15. PROVIDE (2) #5 BARS x 48" LONG AT ALL CONCRETE SLAB RE-ENTRANT CORNERS. BARS TO BE PLACED AT SLAB MID-HEIGHT.
16. FOOTINGS ADJACENT TO THE BUILDINGS EXISTING FOOTING SHALL HAVE THE REINFORCEMENT DOWELED AND EPOXIED TO THE EXISTING FOOTINGS.

DESCRIPTION	REVISIONS NO.	DATE

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.9144
www.zmm.com

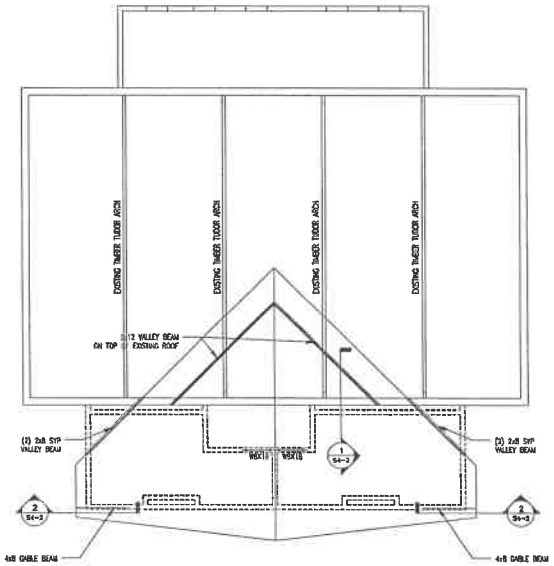
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

ALTERNATE FOUNDATION PLAN

DRAWN	CHECKED
-	BEH
	DATE 3.21.12
	COMM. NO. 1125

S2-2



1 FRAMING PLAN
1/8" = 1'-0"

FRAMING GENERAL NOTES

1. PROVIDE LINTELS ABOVE ALL OPENINGS IN MASONRY, INCLUDING DOOR, WINDOW, AND MECHANICAL OPENINGS.
2. TYPICAL ROOF DECK SHALL BE 2X6 NOMINAL LAMINATED WOOD DECKING. SIZE AND SPECIES TO MATCH EXISTING.
3. 2x12 VALLEY BEAM SHALL BE ATTACHED TO DECK BELOW WITH (2) SIMPSON H2A10KT AT THE EXTERIOR WALL AND AT THE EXISTING ARCH INTERSECTIONS.
4. 2x8 VALLEY BEAMS SHALL BE ATTACHED TO MASONRY BELOW (NEW AND EXISTING) WITH (1) SIMPSON H2A10KT.
5. ALL CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-08, THE ACI MANUAL OF STANDARD PRACTICE AND THE CRSI MANUAL OF STANDARD PRACTICE.
6. SEE FOUNDATION PLANS FOR WALL VERTICAL REINFORCING REQUIREMENTS. GROUT SOLID FROM FOOTING TO TOP OF WALL AT REINFORCING LOCATIONS.
7. REFER TO TYPICAL DETAILS ON DRAWINGS S4-1 THROUGH S4-2 FOR ADDITIONAL INFORMATION.
8. STEEL LINTEL ABOVE HVAC DUCTWORK SHALL BE W8X18 U.N.O.

REVISIONS NO.	DATE	DESCRIPTION

ZMM ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0169
Fax: 304.345.8144
www.zmm.com

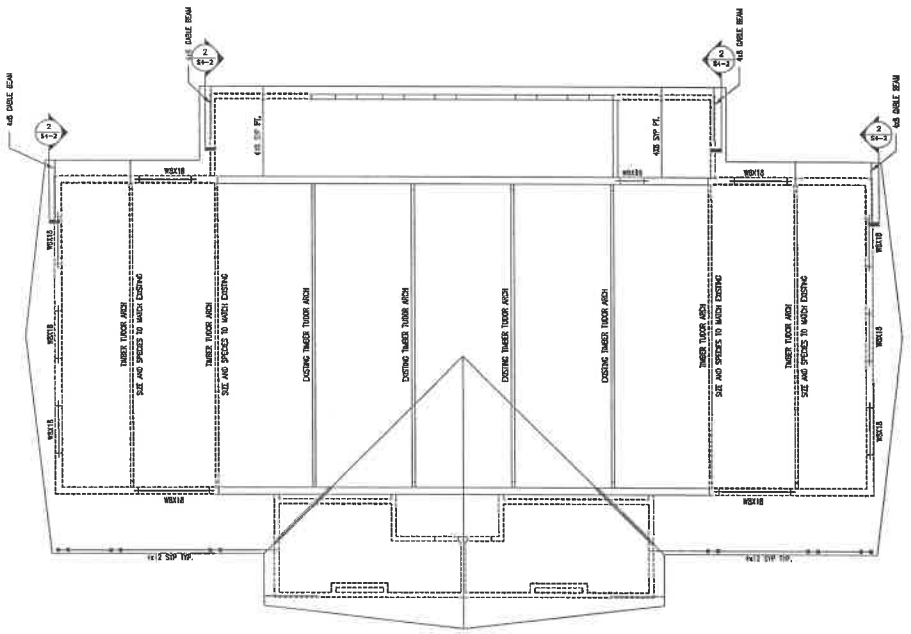
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

FRAMING PLAN

DRAWN	CHECKED
-	BEH
	DATE 3.21.12
	COMM. NO. 1125

S3-1



1 ALTERNATE FRAMING PLAN
1/4" = 1'-0"

FRAMING GENERAL NOTES

1. PROVIDE LINTELS ABOVE ALL OPENINGS IN MASONRY, INCLUDING DOOR, WINDOW, AND MECHANICAL OPENINGS.
2. TYPICAL ROOF DECK SHALL BE 3/8 MINIMAL LAMINATED WOOD DECKING. SIZE AND SPECIES TO MATCH EXISTING.
3. TYPICAL EXTERIOR WOOD POST SHALL BE 4X4 PT. WITH SIMPSON ABA4 OR EQ. AT BASE AND SIMPSON ACX (MAX) OR EQ ABOVE.
4. 4X12 WOOD BEAM AT EXTERIOR CANOPY SHALL BE ANCHORED TO MASONRY WITH (1) SIMPSON HGAM10KT OR EQ.
5. ALL CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-08, THE ACI MANUAL OF STANDARD PRACTICE AND THE CRSI MANUAL OF STANDARD PRACTICE.
6. SEE FOUNDATION PLANS FOR WALL VERTICAL REINFORCING REQUIREMENTS. GROUT SOLID FROM FOOTING TO TOP OF WALL AT REINFORCING LOCATIONS.
7. REFER TO TYPICAL DETAILS ON DRAWINGS S4-1 THROUGH S4-2 FOR ADDITIONAL INFORMATION.
8. REFER TO SHEET S3-1 FOR BASE BID NEW WORK.
9. STEEL LINTEL ABOVE HVAC DUCTWORK SHALL BE W8X18 U.N.O.

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0169
Fax: 304.346.8144
www.zmm.com

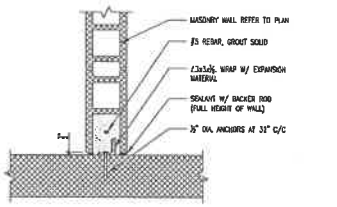
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

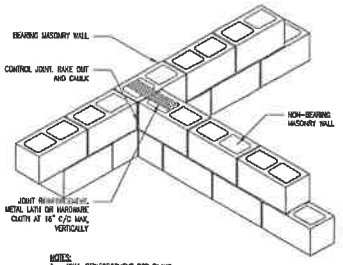
ALTERNATE FRAMING PLAN

DRAWN	CHECKED
-	BEH
	DATE 3.21.12
	COMM. NO. 1125

S3-2

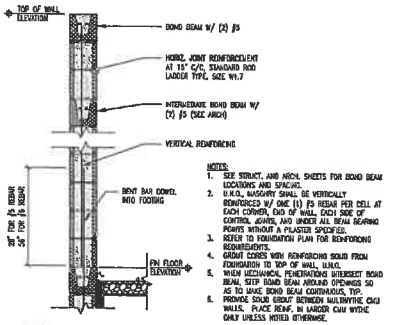


9 / S4-1 CMU TO EXISTING WALL DETAIL
SCALE: 3/4" = 1'-0"

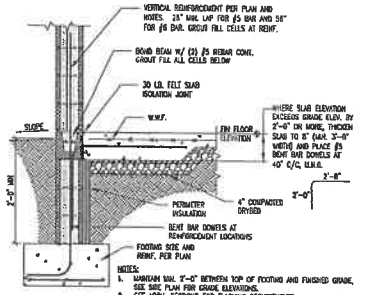


INTERSECTION OF BEARING AND NON-BEARING WALLS

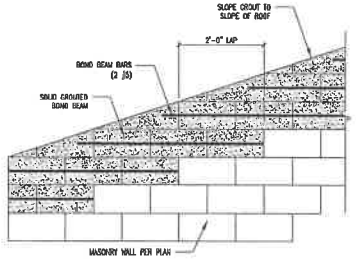
7 / 7 WALL TO WALL ANCHORAGE
SCALE: 3/4" = 1'-0"



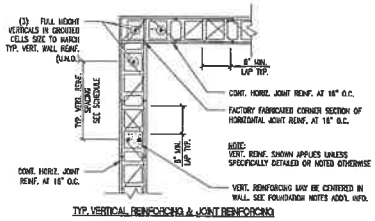
4 / S4-1 TYPICAL MASONRY WALL
SCALE: 3/4" = 1'-0"



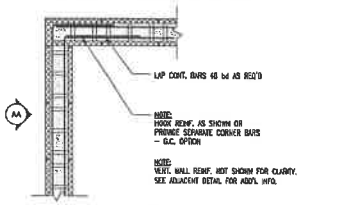
1 / S4-1 TYPICAL EXTERIOR WALL FOOTING
SCALE: 3/4" = 1'-0"



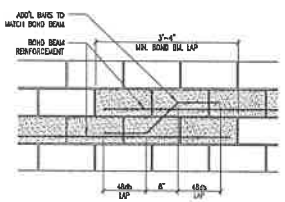
10 / S4-1 STEPPED MASONRY BOND BEAM
SCALE: 3/4" = 1'-0"



TYP. VERTICAL REINFORCING & JOINT REINFORCING

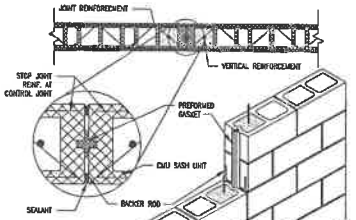


AT BOND BEAM

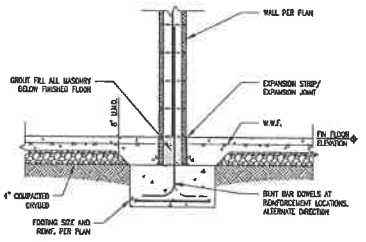


ELEVATION 'AA' IF BOND BEAM STEPS

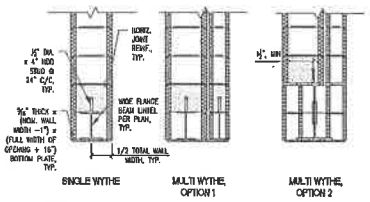
7 / 7 C.M.U. WALL CORNER DETAIL
SCALE: 3/4" = 1'-0"



5 / S4-1 TYPICAL MASONRY CONTROL JOINT
SCALE: 3/4" = 1'-0"

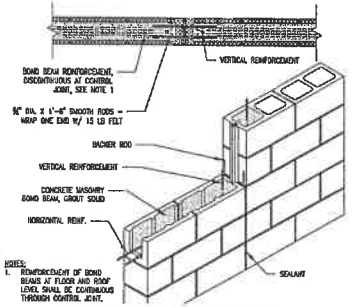


2 / S4-1 TYPICAL INTERIOR WALL FOOTING
SCALE: 3/4" = 1'-0"



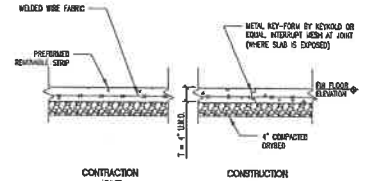
NOTES:
1. ⅝" DIA. BOLTS ATTACHED TO FLANGE W/ (3) NUTS MAY BE SUBSTITUTED FOR HEADED ANCHORS.
2. HEADED ANCHORS ARE REQUIRED ON ALL INTERIOR LINTELS 6' OR GREATER.
3. A MINIMUM OF (2) HEADED ANCHORS ARE REQUIRED FOR LINTELS THAT REQUIRE ANCHORAGE.
4. BEAMS AT EXPOSED MASONRY TO BE DOPED AS SHOWN IN DETAIL 4/S2-1.
5. FOR BEAM DEPTH GREATER THAN 8", PROVIDE ADJUSTABLE VENEER ANCHOR AT 16" O.C. TACK WELD ANCHOR TO WEB OF BEAM, BOTH SIDES OF BEAM.

11 / S4-1 TYP. WIDE FLANGE LINTEL
SCALE: 3/4" = 1'-0"



TYPICAL MASONRY CONTROL JOINT AT BOND BEAM

8 / S4-1
SCALE: 3/4" = 1'-0"



3 / S4-1 TYPICAL SLAB ON GRADE DETAIL
SCALE: 3/4" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0166
Fax: 304.346.8144
www.zmm.com

RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

FOUNDATION - MASONRY DETAILS

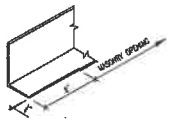
DRAWN	CHECKED
-	BEH
	DATE 3.21.12
	COMM. NO. 1125

S4-1

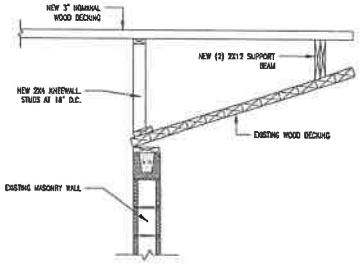
UNLESS NOTED OTHERWISE, PROVIDE LINTELS FOR ALL MASONRY AND BRICK VENEER MASONRY OPENINGS PER THE FOLLOWING SCHEDULE. INSTALL (1) ANGLE FOR EACH 4" OF WALL THICKNESS PER OPENING. SEE MECHANICAL SHEETS FOR DUCT OPENINGS AND MECHANICAL EQUIPMENT. LINTELS ARE REQUIRED FOR ANY OPENING GREATER THAN 12" IN WIDTH.

MASONRY OPENING WIDTH	LINTEL SIZE
4'-0" OR LESS	L4 x 3½ x 5/16 (3½" LEG HORIZONTAL)
4'-1" TO 5'-3"	L5 x 3½ x 5/16 (3½" LEG HORIZONTAL)
5'-4" TO 7'-4"	L6 x 3½ x ½ (3½" LEG HORIZONTAL)

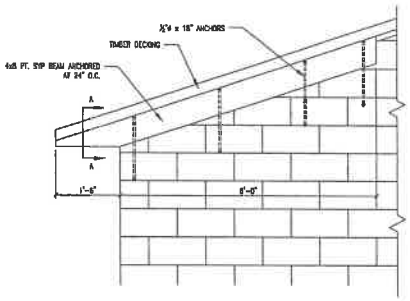
LINTELS SHALL BE 1'-4" LONGER THAN MASONRY OPENING AND SHALL BEAR 8" AT EACH END. MASONRY UNITS UNDER LINTEL BEARING SHALL BE FILLED WITH GROUT FOR MIN. OF (3) BLOCK COURSES OR SHALL BE BRICK FOR MIN. (9) COURSES. ALL ANGLES OCCURRING AT EXPOSED MASONRY TO BE CAPED AS SHOWN IN DETAIL BELOW TO ALLOW FOR IMPROVED MORTAR JOINT. CONTACT ENGINEER OF RECORD REGARDING ANY OPENINGS GREATER THAN 7'-4" WHICH ARE NOT MARKED ON PLANS.

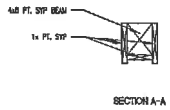


4 / S4-2 TYPICAL LINTEL SCHEDULE
SCALE: 3/4" = 1'-0"



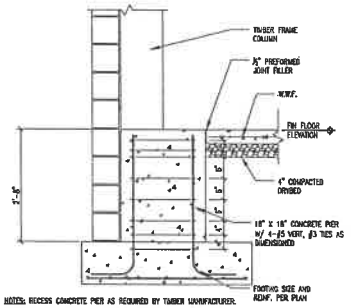
1 / S4-2 KNEEWALL DETAIL
SCALE: 3/4" = 1'-0"





SECTION A-A

2 / S4-2 GABLE OVERHANG DETAIL
SCALE: 3/4" = 1'-0"



NOTE: RECESS CONCRETE PIER AS REQUIRED BY TIMBER MANUFACTURER.

3 / S4-2 FRAME COLUMN PIER DETAIL
SCALE: 3/4" = 1'-0"

NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

FRAMING DETAILS

DRAWN	CHECKED
-	BEH
	DATE 3.21.12
	COMM. NO. 1125

S4-2

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	TP	TW	CW	SAN.	VENT	REMARKS
P-1	WATER CLOSET	---	---	1-1/4"	4"	2"	SENSOR OPERATED FLUSH VALVE
P-1H	WATER CLOSET - ADA	---	---	1-1/4"	4"	2"	SENSOR OPERATED FLUSH VALVE
P-2	URINAL	---	---	1"	2"	1-1/2"	CHAIR CARRIER, SENSOR OPERATED FLUSH VALVE
P-2H	URINAL	---	---	1"	2"	1-1/2"	CHAIR CARRIER, SENSOR OPERATED FLUSH VALVE
P-3	3-STATION WASH FOUNTAIN	---	1/2"	1/2"	2"	1-1/2"	SENSOR OPERATED FAUCET, POINT OF USE THERMOSTATIC MIXING VALVE, CARRIER BY MFR.
P-4	ELECTRIC WATER COOLER (SPLIT-LEVEL)	---	---	1/2"	1-1/2"	1-1/2"	BARRIER-FREE, CARRIER BY MFR.
P-5	MOP RECEPTOR	---	1/2"	1/2"	3"	1-1/2"	POINT OF USE THERMOSTATIC MIXING VALVE

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
	COLD WATER (CW)
	HOT WATER (HW)
	HOT WATER RETURN (HWR)
G	GAS
	SANITARY SEWER
	VENT
DHWCP	DOMESTIC HOT WATER CIRCULATING PUMP
DEWH	DOMESTIC ELECTRIC WATER HEATER
VTR	VENT THRU ROOF
CO	FLOOR CLEANOUT
FWH	FREEZE-PROOF WALL HYDRANT
	BALL VALVE
	CHECK VALVE
FD	FLOOR DRAIN
	PIPE DOWN
	PIPE UP
	RELIEF VALVE
	UNION
	BALANCING DEVICE
	POINT OF CONNECTION DIV. 15 WITH DIV. 2

NOTES:

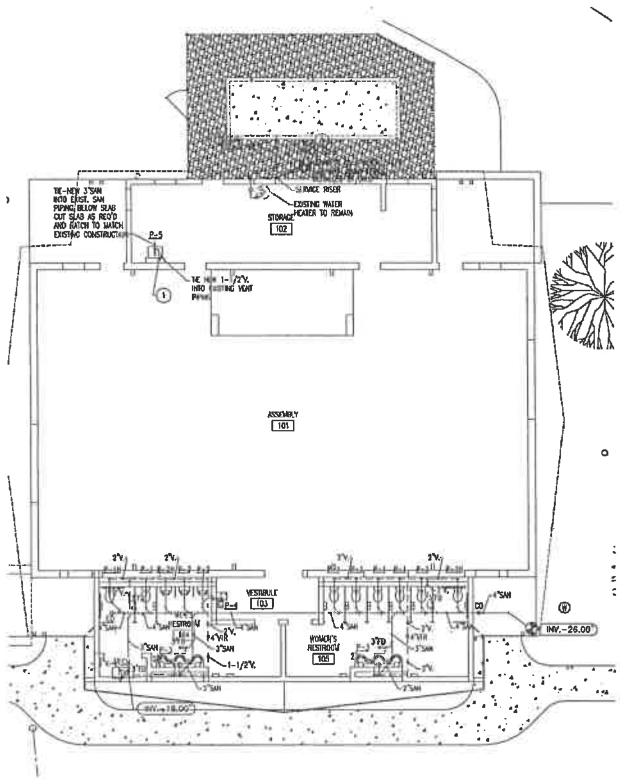
1. ALL PLUMBING WORK IS TO BE DONE IN ACCORDANCE WITH ALL LOCAL AND NATIONAL CODES.
2. VERIFY ALL INVERTS BEFORE PROCEEDING WITH WORK.

KEYED NOTES

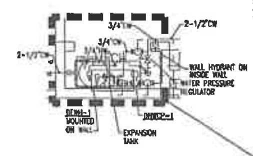
1. ROUTE NEW DOMESTIC WATER AND VENT PIPING SERVING P-5 INSIDE NEW MASONRY WALL PROVIDED BY G.C.
2. REFER TO ELECTRIC WATER HEATER PIPING DIAGRAM ON DWG. P2-1 FOR ADDITIONAL PIPE SIZES, ACCESSORIES AND VALVE ARRANGEMENT.
3. SUPPORT 2" BLACK STEEL GAS PIPE FROM GRADE. ALL EXPOSED GAS PIPING OUTSIDE OF BUILDING SHALL BE PREPARED WITH ONE COAT OF PRIMER AND TWO COATS OF CORROSIVE RESISTANT PAINT. SUBMIT TYPE OF PAINT USED TO ENGINEER FOR APPROVAL.

GENERAL NOTES

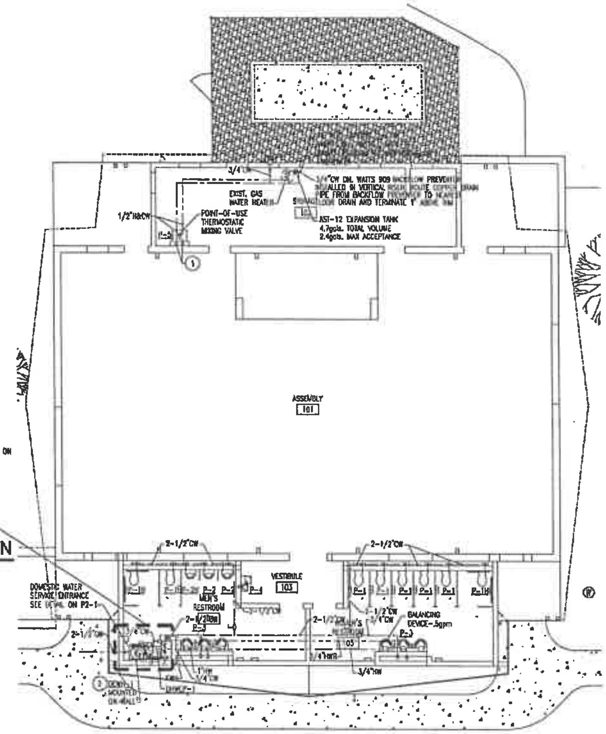
1. CONTRACTOR SHALL INSTALL WATER HAMMER ARRESTORS AS PER MANUFACTURERS RECOMMENDATIONS.
2. ALL INVERTS SHOWN ON PLUMBING DRAWINGS ARE BASED ON FINISHED FLOOR ELEVATION OF 0.00' UNLESS NOTED OTHERWISE.
3. THE POINT OF USE THERMOSTATIC MIXING VALVES USED THROUGHOUT THIS FACILITY REQUIRE ANNUAL INSPECTION AND MAINTENANCE TO ENSURE PROPER PERFORMANCE OF MIXING VALVES.



SANITARY SEWER AND VENT PIPING PLAN
SCALE: 1/8" = 1'-0"



ENLARGED PARTIAL PLAN
SCALE: 1/4" = 1'-0"



DOMESTIC WATER PIPING PLAN
SCALE: 1/8" = 1'-0"

REVISIONS — NO. | DATE | DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

PLUMBING PLAN

DRAWN -
CHECKED NOT CHECKED
DATE 3.21.12
COMM. NO. 1125

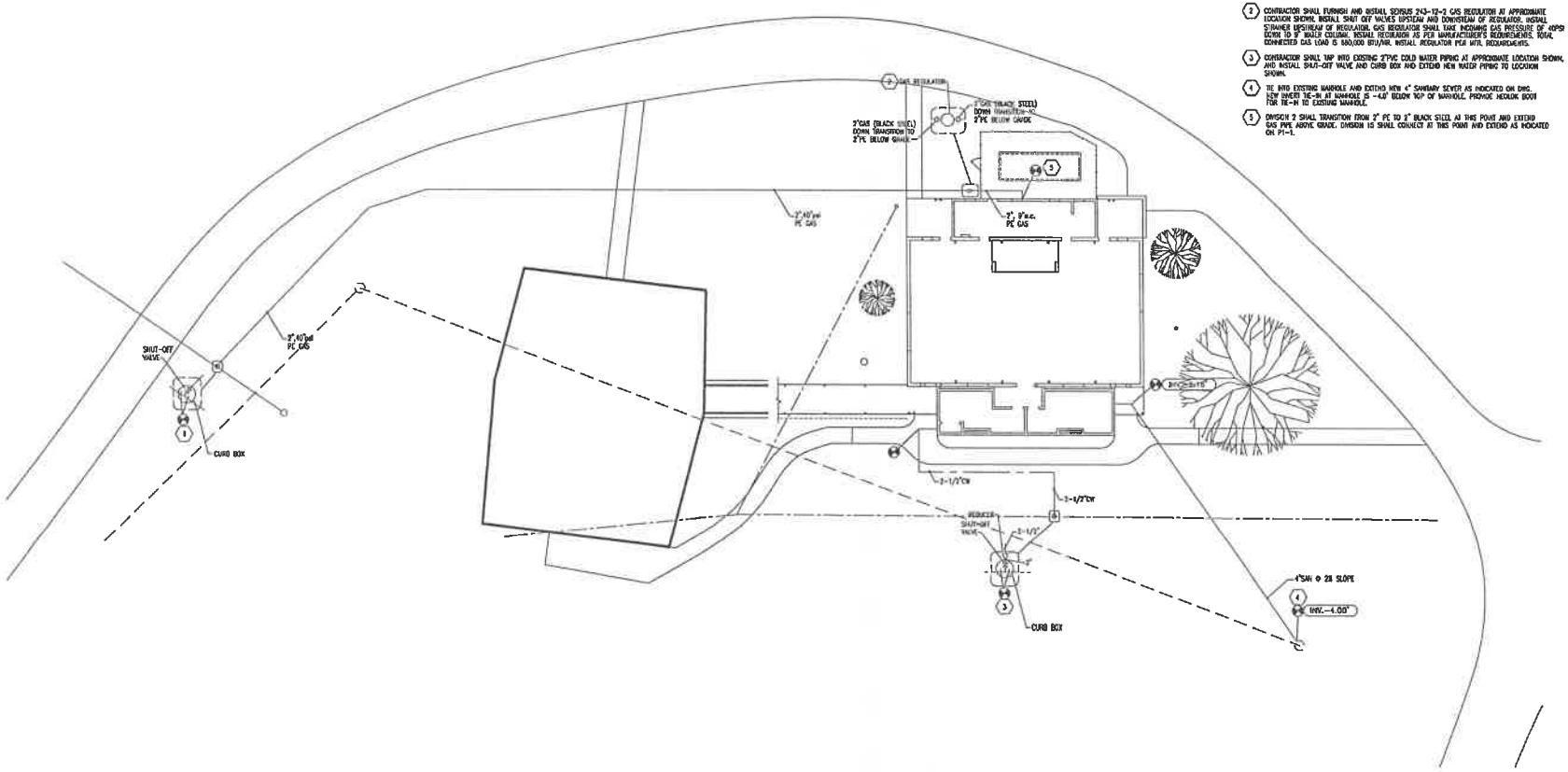
P1-1

GENERAL NOTES

1. VERIFY ALL DIMENSIONS BEFORE BEGINNING SITE UTILITY CONSTRUCTION.
2. LOCATE AND COORDINATE WITH ALL BELOW AND ABOVE GROUND UTILITIES
3. RESTORE AND SEED ALL LAWN AREAS DISTURBED BY CONSTRUCTION.
4. FIELD VERIFY SIZE, ELEVATION AND LOCATION OF EACH POINT OF CONNECTION OF EXISTING UTILITIES.
5. UNLESS NOTED OTHERWISE CONTRACTOR IS RESPONSIBLE FOR TRENCHING, BACK FILLING, AND CUTTING AND PATCHING OF ALL DISTURBED PAVEMENT AND SIDEWALKS.
6. UNLESS NOTED OTHERWISE ALL WORK WITHIN THE BUILDING TO A POINT 5' OUTSIDE IS COVERED UNDER DIVISION 15 AND ALL WORK BEYOND THIS POINT BY DIVISION 2.
7. DIVISION 2 SHALL COORDINATE INSTALLATION OF GAS PIPING WITH GAS SUPPLIER AND SHALL CONFORM TO ALL REQUIREMENTS. DIVISION 2 SHALL COORDINATE WITH GAS SUPPLIER PRIOR TO CONSTRUCTION AND SHALL FURNISH AND INSTALL ANY ITEMS NECESSARY IN ORDER TO BE IN COMPLIANCE WITH GAS SUPPLIER REQUIREMENTS. CONTACT ART YOUSE (304) 372-1789

KEYED NOTES

1. CONTRACTOR SHALL TAP INTO EXISTING 2", 45PSI GAS LINE AT APPROXIMATE LOCATION SHOWN, AND INSTALL SHUT-OFF VALVE AND CURB BOX AND EXTEND NEW 2"PE GAS PIPING TO GAS REGULATOR.
2. CONTRACTOR SHALL FURNISH AND INSTALL SENSUS 243-12-2 GAS REGULATOR AT APPROXIMATE LOCATION SHOWN. INSTALL SHUT OFF VALVES UPSTREAM AND DOWNSTREAM OF REGULATOR. INSTALL STRAINER UPSTREAM OF REGULATOR. GAS REGULATOR SHALL TAKE INCOMING GAS PRESSURE OF 40PSI DOWN TO 9" WAIER COLUMN. INSTALL REGULATOR AS PER MANUFACTURER'S REQUIREMENTS. TOTAL CONNECTED GAS LOAD IS 880,000 BTU/HR. INSTALL REGULATOR PER MFR. REQUIREMENTS.
3. CONTRACTOR SHALL TAP INTO EXISTING 2"PVC COLD WATER PIPING AT APPROXIMATE LOCATION SHOWN, AND INSTALL SHUT-OFF VALVE AND CURB BOX AND EXTEND NEW WATER PIPING TO LOCATION SHOWN.
4. TIE INTO EXISTING MANHOLE AND EXTEND NEW 4" SANITARY SEWER AS INDICATED ON DWG. NEW INVERT TIE-IN AT MANHOLE IS -4.0" BELOW TOP OF MANHOLE. PROVIDE NEOPLOK BOOT FOR TIE-IN TO EXISTING MANHOLE.
5. DIVISION 2 SHALL TRANSITION FROM 2" PE TO 2" BLACK STEEL AT THIS POINT AND EXTEND GAS PIPE ABOVE GRADE. DIVISION 15 SHALL CONNECT AT THIS POINT AND EXTEND AS INDICATED ON P1-1.



SITE PLUMBING PLAN
SCALE: 1/16" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

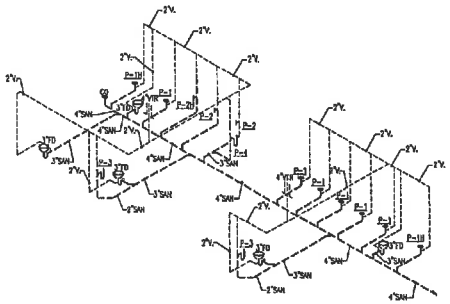
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

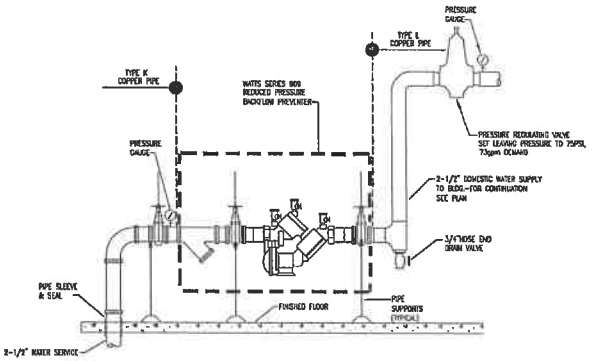
SITE
PLUMBING
PLAN

DRAWN	CHECKED
-	NOT CHECKED
	DATE 3.21.12
	COMM. NO. 1125

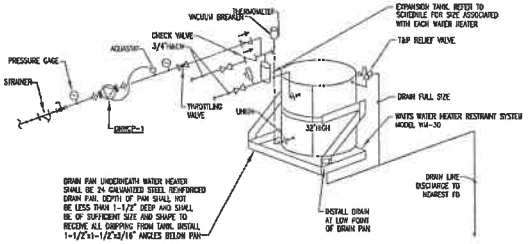
P1-2



SANITARY SEWER AND VENT RISER DIAGRAM
NOT TO SCALE



DOMESTIC WATER SERVICE ENTRANCE DIAGRAM
NOT TO SCALE



ELECTRIC WATER HEATER DETAIL-MOUNTED
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	TP	TW	CW	SAN.	VENT	REMARKS
P-1	WATER CLOSET	----	----	1-1/4"	4"	2"	SENSOR OPERATED FLUSH VALVE
P-1H	WATER CLOSET - ADA	----	----	1-1/4"	4"	2"	SENSOR OPERATED FLUSH VALVE
P-2	URINAL	----	----	1"	2"	1-1/2"	CHAIR CARRIER, SENSOR OPERATED FLUSH VALVE
P-2H	URINAL	----	----	1"	2"	1-1/2"	CHAIR CARRIER, SENSOR OPERATED FLUSH VALVE
P-3	3-STATION WASH FOUNTAIN	----	1/2"	1/2"	2"	1-1/2"	SENSOR OPERATED FAUCET, POINT OF USE THERMOSTATIC MIXING VALVE, CARRIER BY MFR.
P-4	ELECTRIC WATER COOLER (SPLIT-LEVEL)	----	----	1/2"	1-1/2"	1-1/2"	BARRIER-FREE, CARRIER BY MFR.
P-5	MOP RECEPTOR	----	1/2"	1/2"	3"	1-1/2"	POINT OF USE THERMOSTATIC MIXING VALVE

ELECTRIC WATER HEATER SCHEDULE

SYMBOL	LOCHINVAR MODEL NO.	LOCATION	STOR. GAL.	RECOVERY GPH 100° F TEMP. RISE	KW	VOLTAGE	DIA.	REMARKS	EXPANSION TANK
DEWH-1	ESK050MAN	MECH 106	47	19.2	5	208/3	24"	SUPPORTED FROM WALL WITH WATTS WH-30 WATER HEATER RESTRAINT SYSTEM	AMTROL AST-12 TANK VOLUME 4.7 GALLONS ACCEPTANCE VOLUME 2.4 GALLONS

DOMESTIC HOT WATER RECIRCULATION PUMP SCHEDULE

MARK		TYPE	BELL + GOSSETT MODEL NO.	PUMP DATA				MOTOR DATA			REMARKS
				GPM	HEAD FT.	SUCTION	DISCH.	WATTS	RPM	POWER	PUMP SELECTION SHALL BE NON-OVERLOADING
DHWCP-1	DOM. HOT WATER RECIR.	IN-LINE CIRCULATOR	NBF-8S/LW	.5	7	1/2"	1/2"	59	2900	115/1	PROVIDE AQUASTAT CONTROL AND WIRING FROM AQUASTAT TO PUMP.

DESCRIPTION
REVISIONS NO. DATE

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

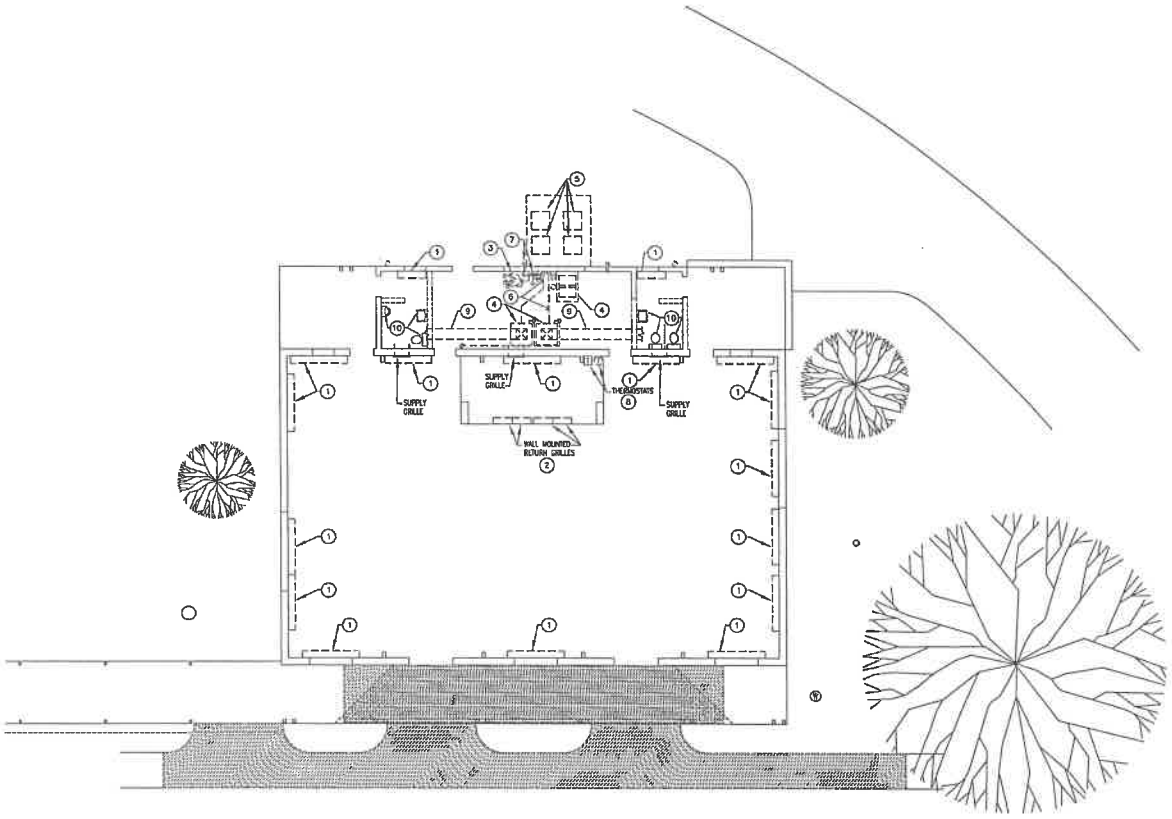
PLUMBING DETAILS

DRAWN -
CHECKED NOT CHECKED
DATE 3.21.12
COMM. NO. 1125

P2-1

KEYED NOTES

1. REMOVE BASEBOARD DIFFUSER. REMOVE DUCTWORK TO BELOW FLOOR SLAB AND CAP.
2. REMOVE RETURN GRILLES IN WALL.
3. EXISTING WATER HEATER AND FLUE SHALL REMAIN. REMOVE ALL ASSOCIATED GAS PIPING BACK TO OUTSIDE OF BUILDING WALL. REMOVE ALL ASSOCIATED HOT WATER PIPING FROM TANK TO BELOW FLOOR SLAB AND CAP. REMOVE ALL ASSOCIATED BRANCH COLD WATER PIPING TO BELOW FLOOR SLAB AND CAP. REMOVE COLD WATER MAIN BACK TO 6" ABOVE FINISHED FLOOR AND TEMPORARILY CAP.
4. SALVAGE EXISTING INDOOR AIR CONDITIONING UNIT AND TURN OVER TO OWNER.
5. SALVAGE EXISTING OUTDOOR CONDENSING UNITS AND TURN OVER TO OWNER. DEMOLISH CONCRETE PAD.
6. REMOVE ALL REFRIGERANT PIPING AND ALL ASSOCIATED ITEMS.
7. REMOVE ALL EXISTING GAS PIPING AND ASSOCIATED ITEMS BACK TO OUTSIDE OF BUILDING TO ABOVE GRADE AND CAP.
8. REMOVE EXISTING THERMOSTATS AND ALL ASSOCIATED ITEMS BACK TO POINT OF ORIGIN.
9. REMOVE DUCTWORK AND ALL ASSOCIATED ITEMS PERTAINING TO SALVAGED INDOOR AIR CONDITIONING UNIT.
10. REMOVE PLUMBING FIXTURE AND ALL ASSOCIATED ITEMS. REMOVE DOMESTIC WATER PIPING TO BELOW FLOOR SLAB AND CAP. REMOVE SANITARY SEWER PIPING BELOW FLOOR SLAB AND CAP. REMOVE ASSOCIATED BRANCH VENT PIPING BACK TO MAIN AND CAP.



MECHANCAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

MECHANICAL DEMOLITION PLAN

DRAWN	CHECKED
-	NOT CHECKED
	DATE: 3.21.12
	COMM. NO.: 1125

MD1-1

SYMBOL	DESCRIPTION
ACU-	AIR CONDITIONING UNIT
EF-	EXHAUST FAN
ECH-	ELECTRIC CEILING HEATER
RAG	RETURN AIR GRILLE
SG	SUPPLY GRILLE
EG	EXHAUST GRILLE
	INTERNALLY LINED DUCTWORK
	SENSORS +48" AFF (UNLESS NOTED OTHERWISE)
EG	EXHAUST GRILLE
	ARROW INDICATES DIRECTION OF AIRFLOW
BD	MANUAL BALANCING DAMPER

KEYED NOTES

1. MOUNT UNIT ON MANUFACTURER'S CURB ON CONC. PAD. PROVIDE CLEARANCES FOR OPERATION AND SERVICE PER MANUFACTURER'S RECOMMENDATIONS.
2. EXTERIOR SUPPLY AND RETURN DUCT SHALL BE LINED. ADDITIONALLY, APPLY 2" THICKNESS OF BOARD INSULATION AND ALUMINUM JACKET TO WEATHERPROOF INSTALLATION. SUPPORT DUCT ON METAL PIPE STAND.
3. LINED DUCT EXPOSED IN STORAGE ROOM. KEEP SUPPLY DUCT AS HIGH AS POSSIBLE. SUPPORT RETURN DUCT FROM FLOOR.
4. NATURAL GAS SUPPLY IS 1100 BTU/CF WITH A SPECIFIC GRAVITY OF .6575. GAS VALVES TO BE ADJUSTED ON SITE DURING FACTORY START-UP TO DECREASE GAS VOLUME SO THAT FURNACE INPUT WILL NOT EXCEED ITS RATING.
5. CARRIER "NAVIGATOR" CONTROL INTERFACE. MOUNT ON WALL 48"AFF. SEE WIRING SCHEMATIC ON DWG. M2-1.
6. POSITION BLADES ON SUPPLY GRILLES TO SPREAD AIR TOWARD ASSEMBLY ROOM CORNERS.

GENERAL NOTES

INSULATION SYSTEMS

1. WHERE DUCTLINER IS APPLIED, SEAL ALL EDGES EXPOSED TO THE AIRSTEAM.

DUCTWORK SYSTEMS

1. SUBMIT DUCT SHOP DRAWINGS FOR APPROVAL BEFORE ANY DUCT IS FABRICATED OR INSTALLED.
2. SHOP DRAWINGS SHALL RESOLVE CLEARANCE PROBLEMS WITH OTHER TRADES. REVISIONS TO DUCT DIMENSIONS MUST BE APPROVED BY THE ARCHITECT.
3. SHOP DRAWINGS SHALL BE BASED ON THE HVAC EQUIPMENT FURNISHED, IF THE BRAND OF EQUIPMENT IS NOT THE BASIS OF DESIGN SCHEDULED ON CONTRACT DRAWINGS.
4. RETURN AND EXHAUST DUCT SYSTEMS SHALL BE "HARD" SHEET METAL.
5. ALL DUCT SIZES SHOWN ARE NET INSIDE DIMENSIONS. ALLOW FOR DUCTLINER(WHERE SHOWN).

TAB

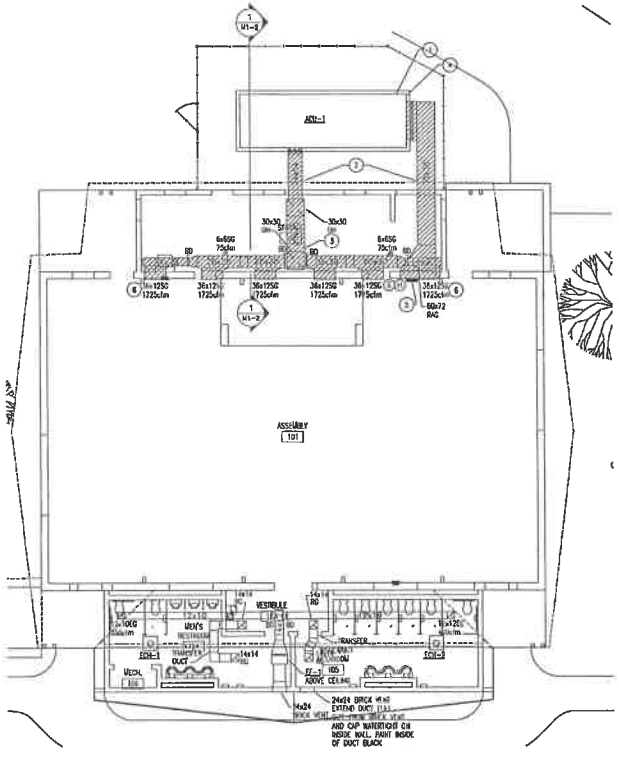
1. WHEN TAB WORK IS COMPLETE, THE CONTRACTOR SHALL PERMANENTLY MARK THE SETTINGS FOR ALL BALANCING DAMPERS.

CLEARANCES AND COORDINATION

1. MAINTAIN SERVICE CLEARANCES AROUND EACH SIDE OF MECHANICAL EQUIPMENT AS PER MANUF. REQUIREMENTS. IF "LISTED" EQUIPMENT PROVIDED REQUIRES MORE SERVICE CLEARANCE THAN THAT SHOWN FOR "BASIS OF DESIGN UNIT" SHOWN ON DWG, CONTRACTOR SHALL MODIFY LAYOUT AS REQUIRED TO MEET REQUIREMENTS AT NO ADDITIONAL COST TO OWNER. ALL REVISIONS REQUIRE COORDINATION DRAWINGS SUBMITTED TO ARCHITECT. FOR APPROVAL.

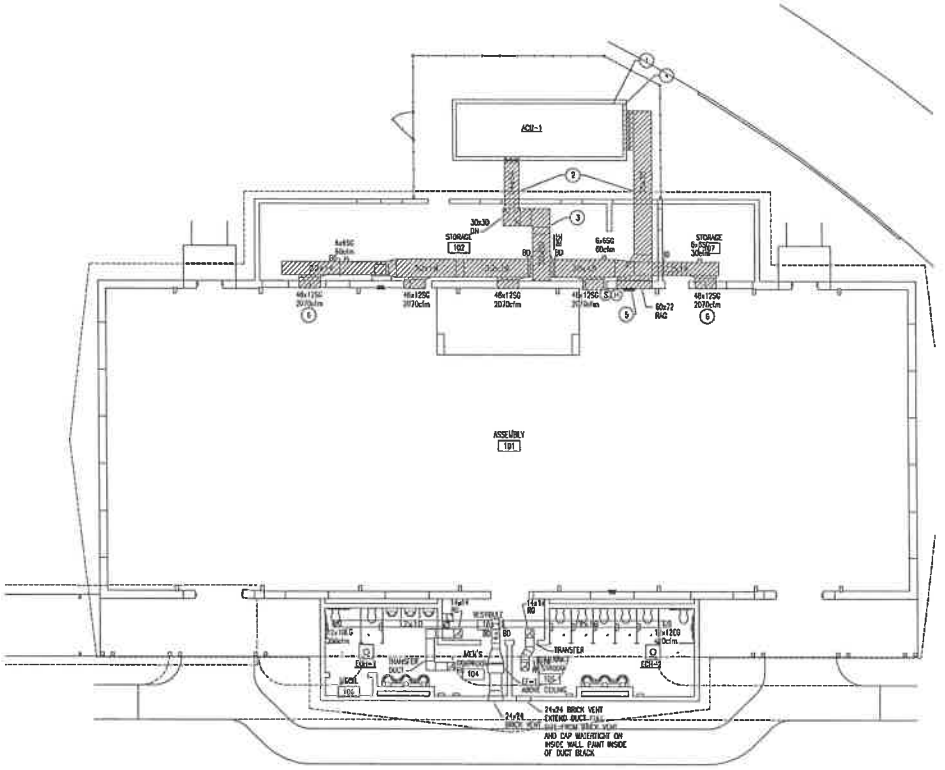
PENETRATIONS

1. SEE ARCHITECTURAL DRAWINGS FOR GRAPHIC SYMBOL EXPLANATION OF FIRE RATINGS. PROVIDE THROUGH PENETRATIONS FIRE STOP SYSTEMS FOR RATED FLOOR AND WALL PENETRATIONS. SEE SPECIFICATION SECTION 07841 "FIRESTOPPING" FOR REQUIREMENTS.



FLOOR PLAN

SCALE: 1/8" = 1'-0"



FLOOR PLAN-ALTERNATE

SCALE: 1/8" = 1'-0"

REVISIONS NO.	DATE	DESCRIPTION

ZMM ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0189
Fax: 304.345.5144
www.zmm.com

RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

MECHANICAL PLAN

DRAWN	CHECKED
-	NOT CHECKED
DATE	3.21.12
COMM. NO.	1125

M1-1

SEQUENCE OF OPERATION

The following sequences shall be programmed into the onboard microprocesser-based control panel in the ACU and manually chosen from the room mounted carrier "Navigator" menu.

Occupied Mode: Supply fan shall run continuously. Modulating gas furnace or cooling stages shall be controlled to maintain occupied heating or cooling setpoint. Outside Air Damper shall open after a pre-determined time, to maintain position.

Unoccupied Mode: Supply fan shall cycle on and off and modulating gas furnace or cooling stages shall maintain unoccupied heating or cooling setpoint. Outside Air Damper shall be closed.

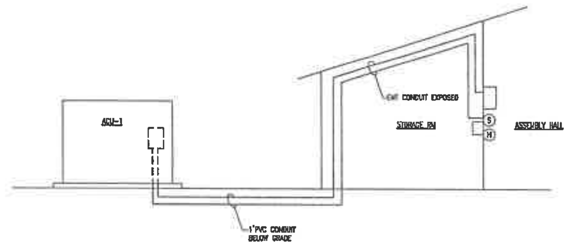
Special Event Mode: This mode shall be activated the evening before a large crowd is expected. It shall be same as unoccupied mode except that the cooling setpoint shall be lower than occupied setpoint.

ACU onboard controls include comparative enthalpy economizer with barometric relief. Review menu of options available with owner and implement options or sequences during start-up.

Room Temperature Sensor: shall indicate temperature and shall be adjustable within limits programmed into microprocessor based control panel in ACU.

Room Humidity Sensor: shall indicate humidity setpoint at microprocessor based control panel in ACU shall be 60%. When setpoint is exceeded, an alarm condition shall be indicated and the ACU shall activate hot gas reheat modulating active dehumidification mode.

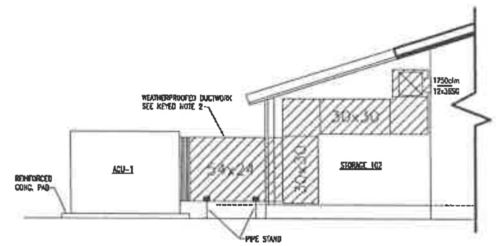
Exhaust Fan: shall be switched on with activation of either Men's or Women's Restroom.



CONTROL WIRING DIAGRAM

NO SCALE

NOTE: PROVIDE WIRE AND CONDUIT FOR CONTROLS BASED ON ACU MFR'S. RQMTS.



SECTION 1

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

ELECTRIC HEATER SCHEDULE

	TYPE	MANUFACTURER MODEL NO.	HEAT KW	POWER	SERVICE	REMARKS
ECH-1,2	CEILING HEATER	TRANE UHCA-80	4	208/3	TOILETS	CEILING RECESSED W/ INTEGRAL STAT. AND DISCONNECT

EXHAUST FAN SCHEDULE

MARK	TYPE	MANUFACT. MODEL NO.	FAN DATA			MOTOR DATA		SERVICE	SONES	CONTROL	REMARKS
			CFM	SP/WG	RPM	WATTS	POWER				
EF-1	INLINE	COOK GN-822	770	.375	904	309	120/1	TOILETS	2.8	SWITCH W/LIGHTS SEE DWG E1-1	PROVIDE 2-24x24 BRICK VENTS

ROOFTOP AIR CONDITIONING EQUIPMENT SCHEDULE - ACU

MARK	NOM. TONS	CARRIER MODEL NO.	BLOWER				HTG. MBH			NET COOLING MBH				COMPRESSOR		COND. FAN
			CFM	ESP	RPM	BHP	GROSS	NET	ENT/LVG	TH	SH	EAT DB/WB	LAT DB/WB	#1 RLA	#2 RLA	NO./FLA
ACU-1	30	48P-30	10,500	1.00	597	7.08	650	527	56/101	347.3	243.2	80/67	58.1/58.4	51.3	51.3	2/6.6

MARK	DEHUMIDIFICATION							POWER			WEIGHT	MIN. O.A. CFM	EER	REMARKS
	LVG AIR DB W/REHEAT	SHR W/REHEAT	REHEAT TEMP. RISE	EVAP COIL LAT DB/WB	DP	LVG UNIT RH W/REHEAT	MOISTURE REMOVAL LB/H	MCA	MOP	VOLTAGE				
ACU-1	79.1	0.07	-	66.0/58.8	-	31.9	-	153	200	208/3	7,538	2,000	10.0	HORIZONTAL SUPPLY AND RETURN, 4 STAGES COOLING, 5 STAGES HEATING AND MODULATING CONTROL. SEE NOTE FOR GAS VALVE ADJ

REVISIONS
NO. DATE
DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

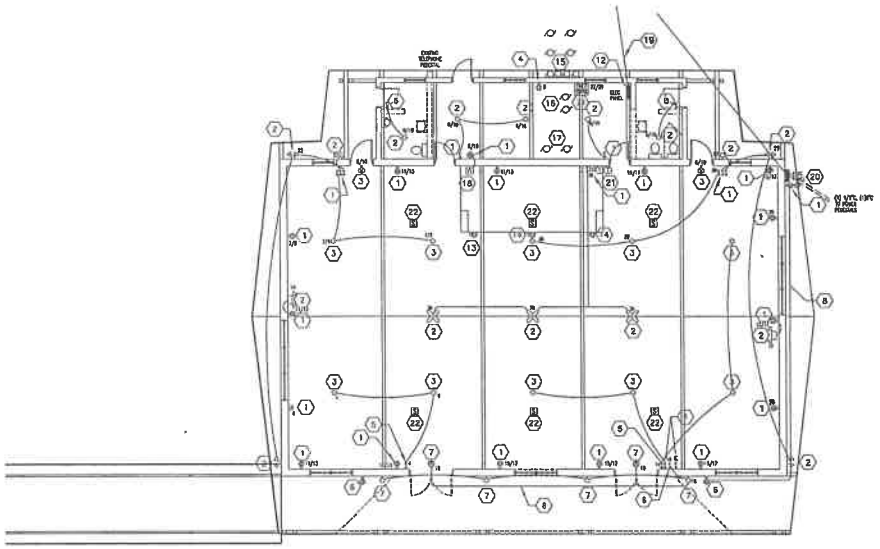
RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

SCHEDULES AND DETAILS

DRAWN	CHECKED
-	NOT CHECKED
	DATE 3.21.12
	COMM. NO. 1125

M2-1



ELECTRICAL DEMOLITON PLAN - BASE BID
SCALE: 1/8" = 1'-0"

KEYED DEMOLITION NOTES

1. EXISTING WIRING DEVICE TO REMAIN. RE-FEED AS NECESSARY TO KEEP IN OPERATION.
2. EXISTING LIGHT FIXTURE, EM. LIGHT OR CEILING FAN TO REMAIN. (BASE BID)
3. EXISTING LIGHT FIXTURE TO BE REMOVED. REUSE EXISTING CONDUIT AND OUTLET BOX FOR NEW LIGHTING AS INDICATED ON THE ELECTRICAL PLAN.
4. EXISTING RECEPTACLE TO BE RELOCATED AND REPLACED WITH GFCI TYPE RECEPTACLE. (BASE BID)
5. EXISTING SWITCH TO BE RELOCATED. REFER TO NEW CONSTRUCTION PLAN. (BASE BID)
6. EXISTING WIRING DEVICE TO BE REMOVED ALONG WITH ASSOCIATED WIRING CONDUIT AND BOXES. (UNDER BASE AND ALTERNATE BIDS)
7. EXISTING LIGHT FIXTURE OR EXIT SIGN TO BE REMOVED ALONG WITH ASSOCIATED WIRING. PROVIDE BLANK BOX COVER PLATE IF THE BOX CANNOT BE REMOVED.
8. EXISTING CONDUIT AND WIRING TO BE REMOVED UNDER THE BASE BID
9. EXISTING EMERGENCY BATTERY/LIGHT UNIT TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER UNDER THE ALTERNATE BID.
10. EXISTING OVERHEAD ELECTRIC SERVICE TO BE RELOCATED UNDER THE ALTERNATE BID
11. EXISTING ELECTRIC PANEL TO BE RELOCATED UNDER THE ALTERNATE BID
12. EXISTING ELECTRIC PANEL TO REMAIN AND BE RE-FED FROM NEW SDP. REMOVE EXISTING MAST AND WEATHER HEAD AND REPAIR ROOF. (BASE BID)
13. EXISTING RECEPTACLE TO REMAIN. PROVIDE NEW DEVICE COVER PLATE TO MATCH EXISTING. (BASE BID)
14. EXISTING WIRING DEVICE TO REMAIN AS IS ON FRONT OF PLATFORM.
15. (4) EXISTING CONDENSING UNITS AND ASSOCIATED DISCONNECT SWITCHES, CONDUIT AND WIRING TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER. (BASE BID)
16. (2) EXISTING FURNACES, ASSOCIATED CONDUIT AND WIRING TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER. (BASE BID)
17. (8) EXISTING AIR HANDLING UNITS, ASSOCIATED CONDUIT AND WIRING TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER. (BASE BID)
18. EXISTING SOUND SYSTEM AMPLIFIER AND SHELF TO REMAIN AS IS.
19. EXISTING OVERHEAD ELECTRIC SERVICE TO BE REMOVED BY OTHERS. (BASE BID)
20. EXISTING ELECTRIC PANEL AND OVERHEAD SERVICE TO REMAIN. (BASE BID)
21. EXISTING TEMPERATURE CONTROLS AND HVAC TIMERS TO BE REMOVED (BASE BID)
22. EXISTING CEILING SPEAKER TO BE REMOVED AND REINSTALLED ON NEW GYPSUM CEILING. (BASE BID)

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

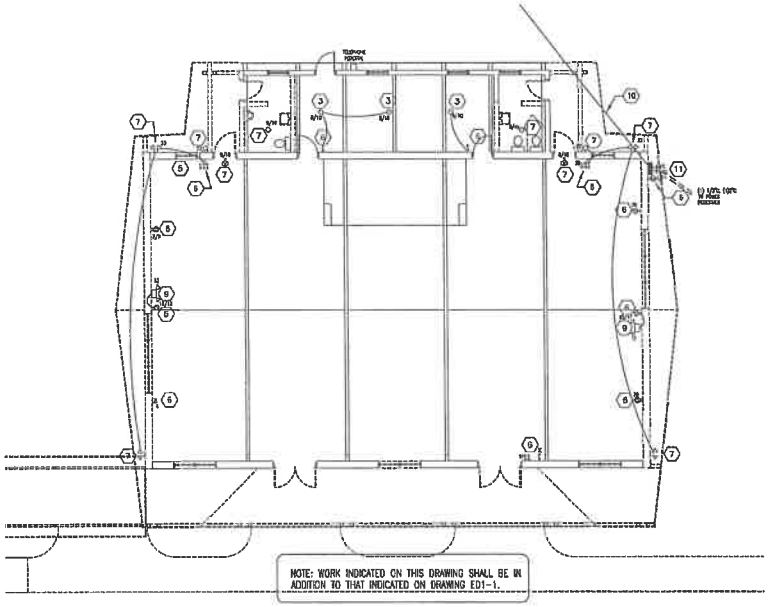
RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

ELECTRICAL DEMOLITION PLAN

DRAWN	CHECKED
MDA AO	MDA
DATE	3.21.12
COMM. NO.	1125

ED1-1



ELECTRICAL DEMOLITION PLAN - ALTERNATE BID
SCALE: 1/8" = 1'-0"

KEYED DEMOLITION NOTES

1. EXISTING WIRING DEVICE TO REMAIN. RE-FEED AS NECESSARY TO KEEP IN OPERATION.
2. EXISTING LIGHT FIXTURE, EM. LIGHT OR CEILING FAN TO REMAIN. (BASE BID)
3. EXISTING LIGHT FIXTURE TO BE REMOVED, REUSE EXISTING CONDUIT AND OUTLET BOX FOR NEW LIGHTING AS INDICATED ON THE ELECTRICAL PLAN.
4. EXISTING RECEPTACLE TO BE RELOCATED AND REPLACED WITH GFCI TYPE RECEPTACLE. (BASE BID)
5. EXISTING SWITCH TO BE RELOCATED. REFER TO NEW CONSTRUCTION PLAN. (BASE BID)
6. EXISTING WIRING DEVICE TO BE REMOVED ALONG WITH ASSOCIATED WIRING CONDUIT AND BOXES. (UNDER BASE AND ALTERNATE BIDS)
7. EXISTING LIGHT FIXTURE OR EXIT SIGN TO BE REMOVED ALONG WITH ASSOCIATED WIRING. PROVIDE BLANK BOX COVER PLATE IF THE BOX CANNOT BE REMOVED.
8. EXISTING CONDUIT AND WIRING TO BE REMOVED UNDER THE BASE BID
9. EXISTING EMERGENCY BATTERY/LIGHT UNIT TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER UNDER THE ALTERNATE BID.
10. EXISTING OVERHEAD ELECTRIC SERVICE TO BE RELOCATED UNDER THE ALTERNATE BID
11. EXISTING ELECTRIC PANEL TO BE RELOCATED UNDER THE ALTERNATE BID
12. EXISTING ELECTRIC PANEL TO REMAIN AND BE RE-FED FROM NEW MDP. REMOVE EXISTING MAST AND WEATHER HEAD AND REPAIR ROOF. (BASE BID)
13. EXISTING RECEPTACLE TO REMAIN. PROVIDE NEW DEVICE COVER PLATE TO MATCH EXISTING. (BASE BID)
14. EXISTING WIRING DEVICE TO REMAIN AS IS ON FRONT OF PLATFORM.
15. (4) EXISTING CONDENSING UNITS AND ASSOCIATED DISCONNECT SWITCHES, CONDUIT AND WIRING TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER. (BASE BID)
16. (2) EXISTING FURNACES, ASSOCIATED CONDUIT AND WIRING TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER. (BASE BID)
17. (2) EXISTING AIR HANDLING UNITS, ASSOCIATED CONDUIT AND WIRING TO BE REMOVED, SALVAGED AND TURNED OVER TO THE OWNER. (BASE BID)
18. EXISTING SOUND SYSTEM AMPLIFIER AND SHELF TO REMAIN AS IS.
19. EXISTING OVERHEAD ELECTRIC SERVICE TO BE REMOVED BY OTHERS. (BASE BID)
20. EXISTING ELECTRIC PANEL AND OVERHEAD SERVICE TO REMAIN. (BASE BID)
21. EXISTING TEMPERATURE CONTROLS AND HVAC TIMERS TO BE REMOVED (BASE BID)
22. EXISTING CEILING SPEAKER TO BE REMOVED AND REINSTALLED ON NEW DRYWALL CEILING. (BASE BID)

REVISIONS NO.	DATE	DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE
ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

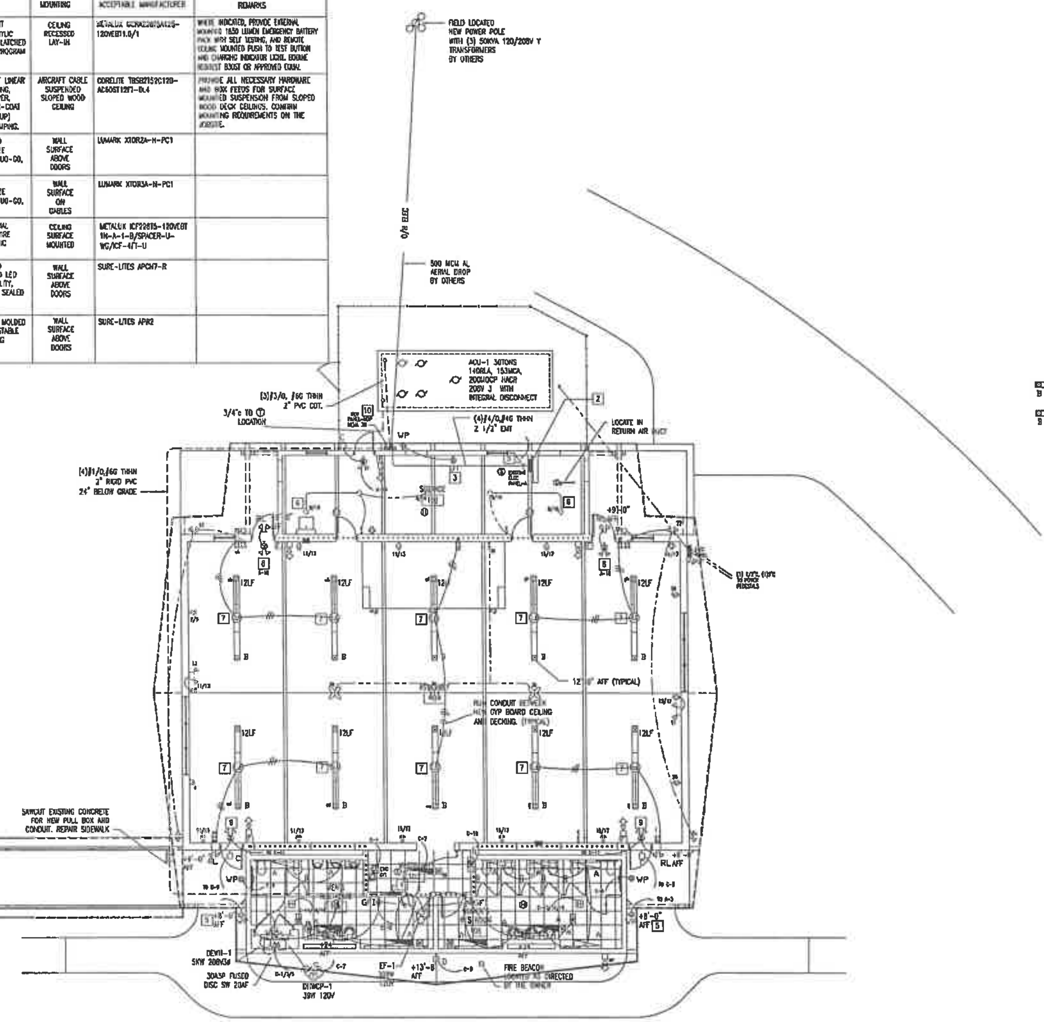
ELECTRICAL
DEMOLITION
ALTERNATE

DRAWN	CHECKED
MDA AO	MDA
DATE	3.29.12
COMM. NO.	1125

ED1-2

LUMINAIRE SCHEDULE

TYPE	LAMPS	VOLTS	WATTS	DESCRIPTION	MOUNTING	ACCEPTABLE MANUFACTURER	REMARKS
A	(2)F28T5 3500K 2900LUMENS	120V	57W	1'X4' RECESSED STATIC LAY-IN T5 FLUORESCENT TROFFER WITH .125"PATTERN 12 PRISMATIC ACRYLIC LENS IN A REGRESSED ALUMINUM HINGED AND LATCHED DOOR FRAME FINISHED IN WHITE, ELECTRONIC PROGRAM START BALLAST WITH 1.0 BALLAST FACTOR	CEILING RECESSED LAY-IN	METALUX [illegible] 120VEB1.0/1	WHERE INDICATED, PROVIDE EXTERNAL MOUNTED 1650 LUMEN EMERGENCY BATTERY PACK WITH SELF TESTING, AND REMOTE CEILING MOUNTED PUSH TO TEST BUTTON AND CHARGING INDICATOR LIGHT. BODINE [illegible] BOOST OR APPROVED EQUAL
B	(2)F54T5HO 3500K 5000LUMENS PER 4FT	120V	354W	2.875"HX9"WX12'L SUSPENDED DIRECT/INDIRECT LINEAR FLUORESCENT WITH EXTRUDED ALUMINUM HOUSING, SEMI-SPECULAR ALUMINUM CROSS-BLADE LOUVER, DIE-CAST ALUMINUM END CAPS, WHITE POWDER-COAT FINISH, 81.7%DIRECT (DOWN)/18.3% INDIRECT (UP) DISTRIBUTION, DUAL SWITCHED (LEFT/RIGHT) LAMPING.	AIRCRAFT CABLE SUSPENDED SLOPED WOOD CEILING	CORELITE TBSB2152C120-AC6OST12F7-DL4	PROVIDE ALL NECESSARY HARDWARE AND BOX FEEDS FOR SURFACE MOUNTED SUSPENSION FROM SLOPED WOOD DECK CEILINGS. CONFIRM MOUNTING REQUIREMENTS ON THE JOBSITE.
C	20W LED 3500K 50000HR	120V	20W	5.75"WX6.75"HX3.625"D DIECAST ALUMINUM LED WALLPACK, DARK SKY COMPLIANT, DARK BRONZE FINISH, 20WATT 3500K LED, B.U.G RATING B0-U0-G0, INTEGRAL BUTTON TYPE PHOTOCELL	WALL SURFACE ABOVE DOORS	LUMARK XTOR2A-N-PC1	
D	30W LED 3500K 50000HR	120V	30W	6.625"WX8"HX3.625"D DIECAST ALUMINUM LED WALLPACK, DARK SKY COMPLIANT, DARK BRONZE FINISH, 30WATT 3500K LED, B.U.G RATING B0-U0-G0, INTEGRAL BUTTON TYPE PHOTOCELL	WALL SURFACE ON GABLES	LUMARK XTOR3A-N-PC1	
E	(2)F28T5 3500K 2900LUMENS	120V	57W	12"WX46"LX4.625"H OPEN LIGHT DUTY INDUSTRIAL FLUORESCENT WITH SOLID WHITE REFLECTOR, WIRE GUARD, CEILING DECK SPACERS AND ELECTRONIC PROGRAM RAPID START BALLAST	CEILING SURFACE MOUNTED	METALUX ICF228T5-120VEBT 1N-A-1-B/SPACER-U-WG/ICF-4/T-U	
(exit sign symbol)	(2).78W 3.6V LED LAMP HEADS	120V	2.34W	7.5"HX11.7"WX1.75"D UNIVERSAL MOUNT COMBO EMERGENCY LED EXIT SIGN WITH UNIT MOUNTED LED LAMP HEADS PLUS REMOTE LAMP HEAD CAPABILITY, WHITE THERMOPLASTIC HOUSING, RED LETTERS, SEALED NI-CAD BATTERY, TEST SWITCH AND CHARGING INDICATOR LIGHT	WALL SURFACE ABOVE DOORS	SURE-LITES APCH7-R	
RL	(2).78W 3.6V LED LAMP HEADS	3.6VDC		5"⌀ X 2.9"DEEP SURFACE MOUNTED INJECTION MOLDED THERMOPLASTIC, DAMP LOCATION LISTED, ADJUSTABLE LED REMOTE LAMP HEADS, UNIVERSAL MOUNTING	WALL SURFACE ABOVE DOORS	SURE-LITES APR2	



ELECTRIC PLAN - BASE BID
SCALE: 1/8" = 1'-0"

KEYED ELECTRICAL NOTES

1. NEW LOCATION OF EXISTING RELOCATED PANEL B-B. PROVIDE NEW SERVICE MAST AND CONDUCTORS. PROVIDE 18X12 QUAZITE JUNCTION BOX WITH GASKETED COVER RECESSED IN CONCRETE. COVER SHALL READ " ELECTRIC". EXTEND EXISTING POWER PEDESTAL WIRING AND CONDUIT TO THE JUNCTION BOX AND SPLICE NEW CONDUCTORS AND CONDUIT TO RELOCATED PANEL B-B.
2. EXISTING 225A MCB MAIN PANEL-A TO REMAIN. RE-FEED FROM NEW MDP.
3. CHANGE EXISTING DUPLEX RECEPTACLE TO NEW GFCI RECEPTACLE AND RELOCATE TO CLEAR NEW DUCTWORK.
4. NEW RECESSED PANELBOARD-C. FEED BELOW GRADE FROM NEW MDP.
5. NEW WP SEASONAL LIGHTING GFI RECEPTACLE UNDER SOFFIT CONTROLLED BY TIME SWITCH LOCATED IN STORAGE. PROVIDE "WEATHERPROOF WHILE IN USE" COVERS.
6. CONNECT EXISTING LIGHT FIXTURE TO EXISTING CIRCUIT AND SWITCHING
7. NEW LIGHT FIXTURES SHALL BE RE-CIRCUITED THROUGH EXISTING CONDUIT AND BOXES. PROVIDE ADDITIONAL WIRING AND SWITCHING TO ALLOW DUAL SWITCHING OF FIXTURES AS INDICATED ON PLAN.
8. NEW EMERGENCY EXIT SIGN CONNECT TO EXISTING BOX AND CIRCUIT.
9. NEW EMERGENCY EXIT SIGN. CONCEAL CONDUIT AND WIRING IN NEW CONSTRUCTION. CONNECT TO NEW EXIT SIGN CIRCUIT IN PANEL-C.
10. NEW 400A MLO NEMA-3R MDP PANEL WITH (4) 500MCM THHN IN 3" RMC MAST TO WEATHERHEAD. RUN MAST UP THROUGH ROOF OVERHANG AND FLASH WITH NEOPRENE COLLAR. PROVIDE NEW GROUNDING & BONDING PER NEC ARTICLE 250 AND A.E.P. STANDARDS. PROVIDE NEW BONDING TO EXISTING AND NEW WATER SERVICE LINES.
11. NEW TIME SWITCH FOR SEASONAL LIGHTING. INTERMATIC MODEL 1103PCDB2, DPST, 125V, 2 POLE, 40AMP PER POLE. TO CONTROL CIRCUIT A-3/5.

ELECTRIC SYMBOL LEGEND

- AIRCRAFT CABLE SUSPENDED 12 FT LINEAR FLUORESCENT FIXTURE ON NEW ROOF DECK WITH NEW RECESSED FIXTURE OUTLET BOX AT END OF FIXTURE RUN
- AIRCRAFT CABLE SUSPENDED 12FT LINEAR FLUORESCENT FIXTURE ON EXISTING ROOF DECK WITH SURFACE WIREMOLD FEED FROM EXISTING FIXTURE BOX TO NEW SUSPENSION LOCATION
- NEW 1X4 RECESSED LAY-IN FLUORESCENT FIXTURE
- NEW 1X4 RECESSED LAY-IN FIXTURE WITH EXTERNAL MOUNTED EMERGENCY BATTERY BALLAST PACK AND CEILING MOUNTED REMOTE TEST SWITCH AND INDICATOR LIGHT
- NEW WALL MOUNTED EXTERIOR LIGHTING FIXTURE
- NEW EMERGENCY BATTERY LED EXIT SIGN WITH UNIT MOUNTED LED LAMP HEADS
- EXISTING LIGHT FIXTURES TO REMAIN (BASE BID)
- EXISTING CEILING FAN TO REMAIN
- NEW DUPLEX 20AMP 120V RECEPTACLE
- NEW SPLIT-WIRED DUPLEX 20AMP 120V RECEPTACLE
- NEW DUPLEX 20AMP 120V GFI RECEPTACLE WITH ALUMINUM "WEATHER PROOF WHILE IN USE" TYPE COVER
- NEW DUPLEX 20A 120V GROUND FAULT RECEPTACLE
- NEW DUPLEX 20A 120V GFI RECEPTACLE. LOCATE AS REQUIRED FOR ELECTRIC WATER COOLER SERVICE
- EXISTING DUPLEX RECEPTACLE TO REMAIN
- EXISTING DOUBLE DUPLEX RECEPTACLE TO REMAIN
- EXISTING SWITCH TO REMAIN
- NEW 20A SINGLE POLE SWITCH
- NEW 20A THREE-WAY SWITCH
- NEW DOUBLE POLE SWITCH TO CONTROL LIGHTS AND EXHAUST FAN
- NEW TIME SWITCH FOR SEASONAL LIGHT DISPLAY RECEPTACLES
- NEW RECESSED PANELBOARD
- EXISTING OR RELOCATED SURFACE MOUNTED PANELBOARD
- NEW FLUSH MOUNTED QUAZITE PULL BOX - SIZE AS REQUIRED FOR FEEDERS TO PEDESTALS
- NEW RECESSED FIRE ALARM CONTROL PANEL
- NEW FIRE ALARM MANUAL PULL STATION 44"AFF
- NEW CEILING TYPE SMOKE DETECTOR
- NEW CEILING TYPE HEAT DETECTOR
- NEW FIRE ALARM STROBE DEVICE - 80" AFF
- NEW FIRE ALARM COMBINATION HORN/STROBE DEVICE - 80"AFF
- NEW FIRE ALARM DUCT MOUNTED SMOKE DETECTOR
- NON-FUSED DISCONNECT SWITCH
- HEATER CONNECTION
- MOTOR CONNECTION
- THERMOSTAT
- ROOF MOUNTED FIRE BEACON- LOCATE AS DIRECTED BY THE OWNER

REVISIONS: NO. | DATE | DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

ELECTRICAL PLAN

DRAWN	CHECKED
MDA AO	MDA
	DATE 3.21.12
	COMM. NO. 1125

E1-1

PANEL – MDP (NEW) BASE BID

LOCATION: EXTERIOR A/C ENCLOSURE
FEEDER SIZE: (4) #500MCM CU, 3" CDT.

22,000 AMPS RMS MINIMUM
SERVICE ENTRANCE RATED

400 AMP | MAIN LUGS ONLY | 120/208 VOLTS | 3 PHASE | 4 WIRE | SURFACE MOUNTED | NEMA 3R ENCLOSURE

BRKR A	BRKR P	DESCRIPTION	CIRCUIT WATTS	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	CIRCUIT NO.	CIRCUIT WATTS	DESCRIPTION	BRKR A	BRKR P
225	3	EXISTING PANEL – A IN STORAGE ROOM	10428		27228				16800	AIR CONDITIONING UNIT	200	3
--	–	225A	4523	1		21323		2	16800	140RLA, 153MCA, 200MOCP	--	–
--	–	120/208V 3Ø	6124				22924		16800	208V 3Ø	--	–
--	3	PREPARED SPACE	XXXX		6019				6019	NEW PANEL –C IN RESTROOM VESTIBULE	125	3
--	–		XXXX	3		5833		4	5833	125A	--	–
--	–		XXXX				5605		5605	120/208V 3Ø	--	–
--	3	PREPARED SPACE	XXXX		XXXX				XXXX	PREPARED SPACE	--	3
--	–		XXXX	5		XXXX		6	XXXX		--	–
--	–		XXXX				XXXX		XXXX		--	–
			TOTALS		33247	27156	[illegible]					

NOTES: PANEL LIMITED TO SIX THROWS OF THE HAND RULE
PROVIDE COPPER BUSSING
PROVIDE EQUIPMENT GROUND BUS

TOTAL LOADS 88932 VA
247 AMPS

PANEL – A (EXISTING) BASE BID

LOCATION: STORAGE 102
FEEDER SIZE: (4) #4/0, #4G THHN CU, 2 1/2" C

EATON/CUTLER-HAMMER E2B2048R
10,000 AMPS RMS SYM

225 AMPS | MAIN BREAKER | 120/208 VOLTS | 3 PHASE | 4 WIRE | SURFACE MOUNTED

BRKR A	BRKR P	DESCRIPTION	CIRCUIT WATTS	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	CIRCUIT NO.	CIRCUIT WATTS	DESCRIPTION	BRKR A	BRKR P
30	1	SPARE	XXXX	1	1416			2	1416	SPARE AUDITORIUM LIGHTS CLASSRM BLDG END	20	1
20	2	SEASONAL LIGHT RECEPTACLES	360	3		1068		4	708	AUDITORIUM LTS J-BOX ON WALL FACING ED BLDG	20	1
--	–	UNDER SOFFITS	360	5			720	6	360	RECEPT BY HW TANK	20	1
20	2	AUDITORIUM LIGHTS	708	7	2358			8	1650	LTS, RECPTS IN BACK ROOM,	20	2
--	–	(1) RECEPT ON WALL FACING CLASSROOM BLDG	180	9		208		10	28	EXITS IN BACK AND A/C UNIT OUTSIDE LIGHT	--	–
20	2	STAGE RECEPT/COKE MACHINE RECEPT	1440	11			1440	12	XXXX	???	20	1
--	–	EM LIGHT FACING CLASSROOM BLDG	1440	13	2358			14	708	AUDITORIUM LIGHTS	20	1
20	2	WALL RECEPTACLES	1080	15		1280		16	200	FRONT EXIT LTS, FRONT PORCH LIGHTS	20	1
--	–	EM LIGHT FACING POND	1090	17			1798	18	708	AUDITORIUM LIGHTS	20	1
20	2	???	XXXX	19	1416			20	1416	SPARE AUDITORIUM LIGHTS POND END	20	1
--	–	--	XXXX	21		700		22	700	OUTSIDE FLOOD LTS FACING POND	20	1
20	1	BACK OUTSIDE LIGTS/BACK OUTSIDE FLOOD LIGHTS	700	23			700	24	XXXX	???	20	1
20	1	???	XXXX	25	360			26	360	(2) RECEPTS ON WALL TOWARD LAKE	20	1
20	1	TO FURNACE/DRYER SPARE	XXXX	27		708		28	708	AUDITORIUM LIGHTS (CENTER BACK)	20	1
20	1	SPARE	XXXX	29			225	30	225	CEILING FANS IN AUDITORIUM	20	1
20	2	NEW RECEPTS CLASSRM BL END OF AUD.	1260	31	2520			32	1260	NEW RECEPTS POND END OF AUD.	20	2
--	–	--	1260	33		2520		34	1260	--	--	–
60	2	SPARE	XXXX	35			XXXX	36	XXXX	SPARE	60	2
--	–	--	XXXX	37	XXXX			38	XXXX	--	--	–
60	2	SPARE	XXXX	39		XXXX		40	XXXX	SPARE	60	2
--	–	--	XXXX	41			XXXX	42	XXXX	--	--	–
			TOTALS		10428	6484	4883					

NOTES: L.O. – INDICATES PROVIDE LOCK-ON DEVICE

TOTAL LOADS 21795 WATTS
61 AMPS

NOTE: THE CONTRACTOR SHALL RE-ARRANGE AND ADJUST THE NEW AND EXISTING PANELBOARD LOADS AS NECESSARY TO BALANCE THE LOADING ACROSS ALL THREE PHASES.

PANEL – C (NEW) BASE BID

LOCATION: VESTIBULE 105
FEEDER SIZE: (4) #1, #6G THHN CU, 2"PVC CDT.

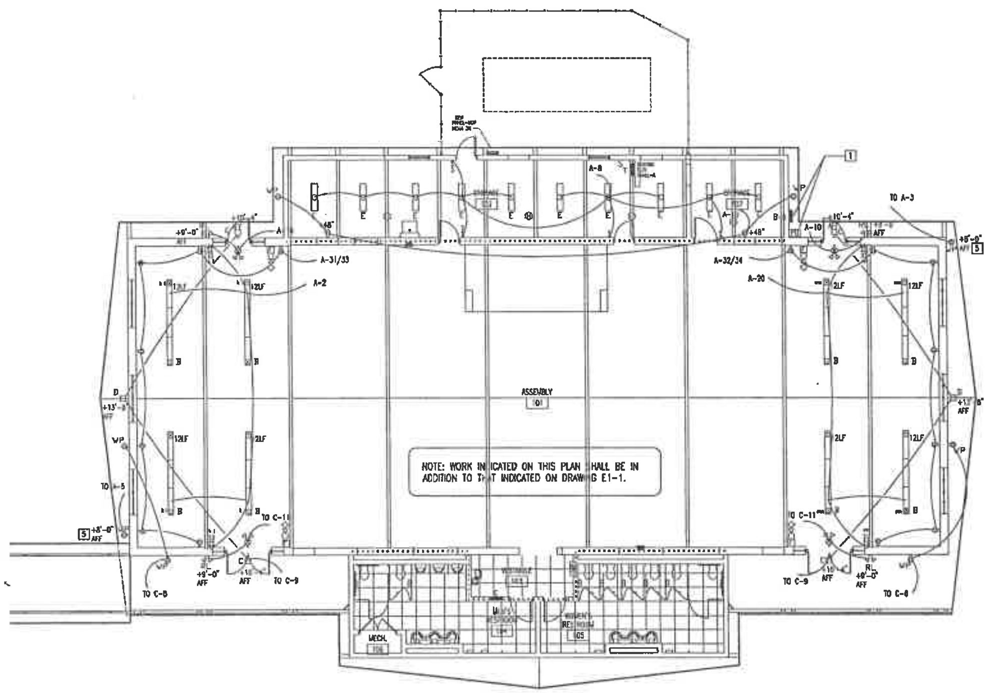
10,000 AMPS RMS MINIMUM

125 AMP 3 POLE | MAIN BREAKER | 120/208 VOLTS | 3 PHASE | 4 WIRE | FLUSH MOUNTED

BRKR A	BRKR P	DESCRIPTION	CIRCUIT WATTS	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	CIRCUIT NO.	CIRCUIT WATTS	DESCRIPTION	BRKR A	BRKR P	
20	3	DCWH-1 WATER HEATER	1667	1	2772			2	1105	RESTROOM AND VESTIBULE LIGHTS AND EF-1	20	1	
--	–	5KW	1667	3		2495		4	828	ELECTRIC WATER COOLER	20	1	
--	–	208V 3Ø	1667	5			2207	6	540	WP RECEPTS. POND SIDE	20	1	
15	1	DHWCP-1 39 WATTS 120V	39	7	579			8	540	WP RECEPTS CLASSROOM BLDG SIDE	20	1	
20	1	EXTERIOR WALL LIGHTS	170	9		670		10	500	FIRE ALARM PANEL	20	1	L.O.
L.O. 20	1	EXIT SIGNS AND EMERGENCY LIGHTS	10	11			730	12	720	RECEPTACLES IN RESTROOMS	20	1	
15	3	CEILING HEATER	1334	13	2668			14	1334	CEILING HEATER	15	3	
--	–	WOMENS RESTROOM	1334	15		2668		16	1334	MENS RESTROOM	--	–	
--	–	4KW 208V 3Ø	1334	17			2668	18	1334	4KW 208V 3Ø	--	–	
20	1	SPARE	XXXX	19	XXXX			20	XXXX	SPARE	20	1	
20	1	SPARE	XXXX	21		XXXX		22	XXXX	SPARE	20	1	
20	1	SPARE	XXXX	23			XXXX	24	XXXX	SPARE	20	1	
20	1	SPARE	XXXX	25	XXXX			26	XXXX	SPARE	20	1	
20	1	SPARE	XXXX	27		XXXX		28	XXXX	SPARE	20	1	
20	1	SPARE	XXXX	29			XXXX	30	XXXX	SPARE	20	1	
			TOTALS		6019	5833	5605						

NOTES: L.O. – INDICATES PROVIDE LOCK-ON DEVICE
PROVIDE COPPER BUSSING
PROVIDE EQUIPMENT GROUND BUS

TOTAL LOADS 17457 VA
49 AMPS



ELECTRICAL ALTERNATE PLAN
SCALE: 1/8" = 1'-0"

REVISIONS
NO. DATE
DESCRIPTION

ZMM
ARCHITECTS & ENGINEERS
222 Lee Street, West
Charleston, West Virginia 25302
Phone: 304.342.0159
Fax: 304.345.8144
www.zmm.com

RENOVATIONS TO THE ASSEMBLY HALL
CEDAR LAKES CONFERENCE CENTER
Ripley, West Virginia

CONSTRUCTION DOCUMENTS

ELECTRICAL ALTERNATE PLAN

DRAWN	CHECKED
MDA AO	MDA
	DATE 3.21.12
	COMM. NO. 1125

E1-2

About ZMM Architects & Engineers

ZMM
ARCHITECTS
ENGINEERS

LOCATION:
222 Lee Street, West
Charleston, WV

CONTACT:
Phone 304.342.0159
Fax 304.345.8144
www.zmm.com

HISTORY

ZMM was founded in 1959 in Charleston, West Virginia by Ray Zando, Ken Martin, and Monty Milstead. Since the inception of the firm, ZMM has been dedicated to providing an integrated approach to building design for our clients. ZMM delivers this integrated approach by providing all building related design services, including architecture, engineering (civil, structural, mechanical, and electrical), interior design, and construction administration from our office in Charleston. Our integrated design approach makes ZMM unique among architectural firms in West Virginia, and helps to ensure the quality of our design solutions by providing more thoroughly coordinated construction documents.

Over the last decade, ZMM has become a leader in sustainable or 'green' design in West Virginia. In addition to participating in sustainable design and construction seminars throughout the State (Beckley, Fayette County, Morgantown, Charleston, and Parkersburg), ZMM designed one of the first sustainable educational facilities in West Virginia (Lincoln County High School). ZMM's unique design approach has proven invaluable on projects that employ sustainable design principles, which often require a more integrated approach to building design.

As ZMM enters our second half-century providing professional design services in West Virginia, we remain committed to the ideal of providing high quality, client focused, design solutions that meet budget and schedule requirements. This commitment to quality has been recognized through both State and National design awards, as well as through the long-term client relationships that we have developed.

ZMM
ARCHITECTS
ENGINEERS

ZMM has been dedicated to the integrated approach to building design which is unique to architectural firms of our size. Our past successful experience demonstrates that providing multi-disciplined services within one organization results in a fully coordinated project. ZMM has the qualified professionals available to provide services throughout the duration of a project from the initial planning phases through post-occupancy evaluations and beyond.

Advantages of an integrated Design Approach:

- The Owner has a Single Point of Design Responsibility
- Improved Design Schedule
- Improved Coordination of Documents
- Improved Construction Phase Services
- Well Coordinated Documents Lead to Better Bids for the Owner

Additionally, ZMM is constantly working to improve the services we offer by addressing emerging and evolving trends that impact the design and construction market. ZMM has seven LEED accredited Professionals on staff to address the needs of our clients who are interested in designing buildings that meet the US Green Building Council's standards. This continues ZMM's active implementation of sustainable design principles on our projects.

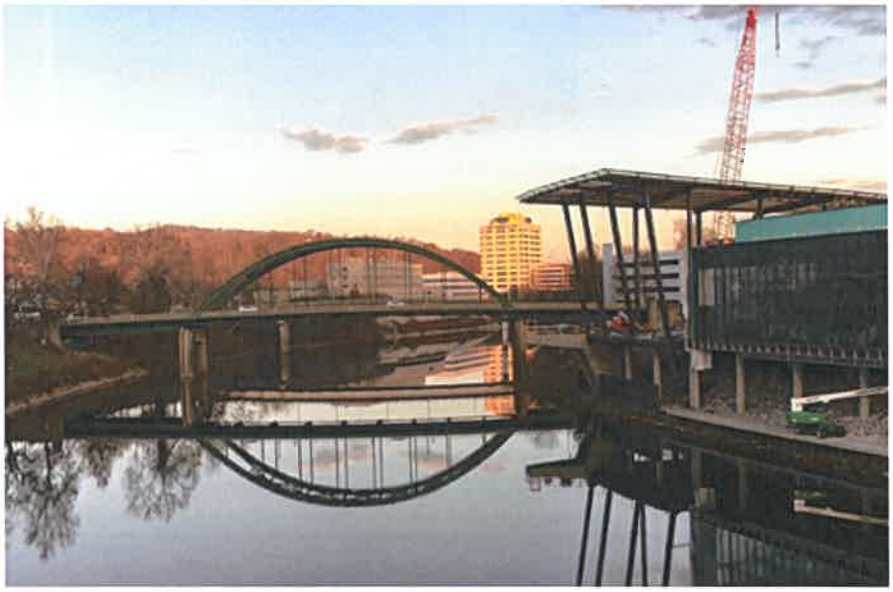
SERVICES

Pre-Design
Educational Facility Planning
Programming
Space Planning
Feasibility Studies
Existing Building Evaluation
Site Evaluation and Analysis
Master Planning
Construction Cost Estimating

Design
Architectural Design
Sustainable Design
Interior Design
Lighting Design
Landscape Architecture

Engineering
Civil
Mechanical
Electrical
Structural
Net Zero Buildings
Energy Consumption Analysis

Post Design
Construction Administration
Value Engineering
Life Cycle Cost Analysis
Post-Occupancy Evaluation



Award Winning Design

ZMM ARCHITECTS ENGINEERS

2019

AIA West Virginia Chapter: Honor Award
AIA West Virginia Chapter: Citation Award
AIA West Virginia Chapter: People's Choice Award
Charleston Coliseum & Convention Center
Charleston, West Virginia

2018

AIA West Virginia Chapter: Citation Award
Unbuilt Project
Charleston EDGE
Charleston, West Virginia

2017

AIA West Virginia Chapter: Merit Award
Achievement in Architecture
Explorer Academy
Huntington, West Virginia

AIA West Virginia Chapter: Merit Award
Achievement in Sustainability
Logan - Mingo Readiness Center
Holden, West Virginia

2016

AIA West Virginia Chapter: Merit Award
Achievement in Architecture in Interior Design
Christ Church United Methodist
Charleston, West Virginia

AIA West Virginia Chapter: Merit Award
Achievement in Architecture
Gauley River Elementary School
Craigsville, West Virginia

2015

AIA West Virginia Chapter: Honor Award
Achievement in Architecture in Sustainable Design
Edgewood Elementary School
Charleston, West Virginia

Award Winning Design

ZMM ARCHITECTS ENGINEERS

AIA West Virginia Chapter: Merit Award
Achievement in Architecture
Kenna Pk-5 School
Kenna, West Virginia

2014

AIA West Virginia Chapter: Merit Award
Achievement in Architecture in Sustainable Design
Huntington East Middle School
Huntington, West Virginia

AIA West Virginia Chapter: Merit Award
Achievement in Architecture
Southern West Virginia Community & Technical College
Williamson, West Virginia

AIA West Virginia Chapter: Merit Award
Achievement in Architecture in Interiors/Graphics
Girl Scouts of Black Diamond Council
Charleston, West Virginia

2012

AIA West Virginia Chapter: Honor Award
Excellence in Architecture
West Virginia Housing Development Fund Building
Charleston, West Virginia

2011

AIA West Virginia Chapter: Honor Award
Excellence in Architecture in Historical Preservation
Southside Elementary/Huntington Middle School
Huntington, West Virginia

AIA West Virginia Chapter: Honor Award
Excellence in Architecture
Joint Interagency Training & Education Center
Kingwood, West Virginia

AIA West Virginia Chapter: Merit Award
Excellence in Architecture in Interiors
WV State Office Building #5, 10th Floor Renovation
Charleston, West Virginia

David E. Ferguson, AIA, REFP

Role
Principal/Project Manager

Professional Registrations
Registered Architect (WV, OH)
Recognized Educational Facility Planner (REFP)

Mr. Ferguson has served in the capacity of Architect, Project Manager, and Principal in Charge for a variety of projects at ZMM. This experience includes Educational (PK-12, Vocational and Higher Education), Retail, Corporate Office, Industrial, Military, Medical Office Facilities, General Healthcare Hospital and Psychiatric Hospital Projects. Mr. Ferguson's responsibilities include programming, design, documentation, architectural/engineering coordination and construction administration.

Mr. Ferguson began his career at ZMM in 1984 working on a variety of retail, educational and military projects throughout West Virginia, Pennsylvania, Ohio, Virginia, Maryland, New York, North Carolina, South Carolina, Florida, and Washington DC. In 1996 Mr. Ferguson expanded his expertise into the Healthcare and Industrial and Corporate Office facilities and since then has led the effort at ZMM in Educational Design. Mr. Ferguson is a Recognized Educational Facility Professional (REFP) and has been involved in planning, designing and the construction of over 200 educational facilities in West Virginia. As the architect for the first "green" school building in West Virginia Mr. Ferguson has been an advocate for sustainable design and was involved starting the first US Green Building Chapter in West Virginia.

Mr. Ferguson has also participated in developing West Virginia Department of Education's Policy 6200 *Handbook on Planning School Facilities* and the West Virginia School Building Authority's *Handbook of Quality and Performance Standards*. In addition to Mr. Ferguson's project management responsibilities, as a principal of the firm he has corporate administrative duties and serves on the Board of Directors.

Project Experience Highlights
Nicholas County Schools
Mr. Ferguson is currently leading the recovery effort for the of $160 million dollar school system. On June 23, 2016 a flood destroyed three schools. These facilities were left unsafe and un-inhabitable. ZMM has worked with the County Board of education, FEMA, and the State of WV to design and program

Education
Bachelor of Science; Industrial Technology/Architectural Design; West Virginia State University, 1979

Employment History
2007 - Present, Vice President, Secretary/Treasurer, ZMM
2002 - 2007, Vice President, ZMM
2001 - Present, Board of Directors, ZMM
1996 - Present, Architect, Project Manager, ZMM
1984 -1996, Designer, ZMM

Civic Affiliations
- A4LE Southeast Region Board of Directors – WV State Governor
- West Virginia Chapter, American Institute of Architects, Past President
- West Virginia Chapter, American Institute of Architects, Board Director
- American Institute of Architects, Member
- Member, Association for Learning Environments(A4LE)
- Recognized Educational Facility Planner (REFP) by the A4LE
- Professional Member, US Green Building Council
- High School Mentoring/Job Shadowing Program for 6 County School Systems
- WV AIA IDP Program Mentor/Advisor

temporary schools and develop a long range plan to rebuild. ZMM is working on the programming and design for the two new facilities. A community school which will include spaces for the community to access, and a comprehensive High School/Middle School which will include a Career Technical Center. Mr. Ferguson has conducted community Meetings, established goals and priorities, created overall budgets and a project scope all stakeholders will support.

Explorer Academy, Huntington, WV Mr. Ferguson was the project manager/architect on the this new Expeditionary Learning Incubator School. The new Academy is the consolidation of Peyton Elementary and Geneva Kent Elementary in the east end of Huntington. The schools were combined and housed in the former Beverly Hills Middle School facility that will be remodeled to fit the mold of the Expeditionary Learning model. The curriculum for the program is very hands on, and is a real-world way of learning. Students will be working a lot with community partners, people who are experts in their fields. The students learn by conducting learning expeditions eather than sitting in a classom with one subject being taught as a time.

Huntington East Middle School, Huntington, WV Mr. Ferguson was responsible for the programming, design, and project management for the new 800 student, 94,000 SF facility. This is projected to be the first LEED Silver Middle School in West Virginia and encompasses the latest in technology and distance learning within the classroom. The building will be used as a teaching tool along with large interactive monitors throughout the building. Students will be able to learn how the building operates through hands on learning and monitoring the building systems.

Southside Elementary and Huntington Middle School, Huntington, WV Mr. Ferguson led the programming and design effort on this 156,000 SF facility. This project encompasses all phases of construction; demolition, major renovation and new construction. The original historic 26,000 SF three story school building was preserved and the remaining less than adequate facility was strategically removed to accommodate the new addition. The existing facility was completely renovated and brought up to new construction standards to blend with the new addition. The project consisted of two distinct school facilities existing on the same piece of property. The new construction blends seamlessly with the older historic structure.

Lincoln County High School, Hamlin, WV Mr. Ferguson was responsible for the programming and design effort for this one-of-a-kind facility. This 800 student, 217,000 SF school was a ground breaking facility for the county, West Virginia School Building Authority and the WV Department of Education. This facility was the first school in West Virginia to incorporate "green" design principals. The school was the first school east of the Mississippi River to encompass a fully comprehensive High School, Vocational School, Health Clinic (open 12 months a year), and Community College within one building. This facility is also the proud recipient of the 2007 WV AIA Honor Award.

Wood County Bond Program: Mr. Ferguson assisted Wood County in developing budgets, project scopes for a $40 Million Dollar Bond Program. The bond created the New Williamstown Elementary School, Willamstown Middle School Addition and an addition to the Wood County Technical Center. The overall process involved community meetings, establishing goals and priorities, creating overall budgets and a project scope that the citizens would support. ZMM assisted Wood County Schools with distributing information, working with the bond committee and Bond Council to establish the actual Bond Call and assisting with public awareness throughout the county.

Cabell County Bond Program: Mr. Ferguson assisted Cabell County in developing budgets, project scopes and passing the largest bond program in West Virginia. This encompassed four projects and with additional funding from the West Virginia School Building Authority exceeded $72 million dollars. As Principal, Mr. Ferguson led the programming and design effort on all four facilities.

Participated on the team that won the following awards and acknowledgements:
2017 WV AIA Merit Award Explorer Academy, Huntington, WV
2016 WV AIA Merit Award Gauley River Elementary School, Craigsville, WV
2015 WV AIA Merit Award Kenna Elementary School, Kenna, WV
2014 WV AIA Merit Award Southern WV Community & Technical College, Williamson, WV

Adam R. Krason, AIA, LEED AP, ALEP

Role
Principal

Professional Registrations
Registered Architect (WV, OH, KY, VA, MD, NJ)
LEED Accredited Professional
Accredited Learning Environment Professional
NCARB (55,984)
Construction Specifications Institute (CSI)
Construction Documents Technician (CDT)

Mr. Krason has served in the capacity of Architect and Project Manager for a variety of projects at ZMM. This experience includes Military, Educational (K-12 and Higher Education), Office, Justice (Courthouses, Correctional, Justice Centers), and Multi-Unit Residential projects. Mr. Krason's responsibilities include programming, design, documentation, coordination of the architectural and engineering team, as well as construction administration. Mr. Krason began his career in 1998, working on a variety of educational, commercial office, and correctional projects throughout Ohio, West Virginia, and North Carolina.

Mr. Krason has been an advocate of sustainable design in West Virginia, participating in a variety of sustainable design seminars throughout the State, and serving on the West Virginia School Building Authority Green Schools Sub-Committee. Recently, Mr. Krason helped coordinate the "Making the Business Case for Sustainability" conference at the University of Charleston that included speakers from Armstrong Industries, American Electric Power, CB Richard Ellis, and Interface Raise. Mr. Krason also assisted Habitat for Humanity Kanawha and Putnam County develop a commercial recycling program to fill a void in the sustainable design infrastructure in West Virginia. Mr. Krason has noted that, "I became a LEED Accredited Professional because I believe that good design has value, and the ability to impact our daily lives. Sustainable design showcases the value of design through demonstrated improvements in the performance of the students and employees who occupy our buildings." In addition to his design and project management responsibilities, Mr. Krason serves on the Board of Directors and is responsible for business development at ZMM.

Project Experience
Charleston Civic Center, Charleston, WV
Mr. Krason served as principal-in-charge of the expansion and renovation to the Charleston Civic Center. The $75M, 283,000 SF design-build project is being completed as a collaboration

Education
Bachelor of Architecture, The Catholic University of America, 1998

Bachelor of Civil Engineering, The Catholic University of America, 1997

Employment History
2007 - Present, Principal, ZMM
2007 - Present, Board of Directors, ZMM
2003 - Present, Architect, Project Manager, ZMM
1998 - 2003, Architect, Project Manager, Charleston Area Architectural Firm

Civic Affiliations
- WV American Institute of Architects, President
- Habitat for Humanity Kanawha & Putnam County, Board of Directors 2011 - 2014
- WV Qualification Based Selections Council, President, 2012/2013
- Leadership WV 2010 - 2012
- Charleston Rotary
- West Side Main Street, Board of Directors 2008 - 2014
- City of Charleston Land Trust 2008 - 2014

with tvsdesign and BBL Carlton. Mr. Krason was responsible for the overall management of the design team, coordination with the client, and also has input critical project management decisions. The design commenced in the spring of 2015, and construction was complete in 2018.

State Office Building #5, 10th Floor Renovation (Office of Technology), Charleston, WV
Mr. Krason led an architectural and engineering team that completed a detailed assessment of State Office Buildings 5, 6, & 7. Once the assessment was complete, ZMM had the opportunity to implement the proposed improvements on the 10th Floor of State Office Building #5 for the Office of Technology. The renovations, aiming for LEED-CI Certification, re-oriented the layout by drawing all private offices into the building core, providing access to daylight and views for all employees. The design also utilized acoustical ceiling clouds and bulkheads to maximize the acoustical performance, while also increasing the volume of the space.

Joint Interagency Training & Education Center (WVARNG), Kingwood, WV Mr. Krason was responsible for the preliminary programming, and participated in the schematic design of the 180,000 SF addition to the Regional Training Institute at Camp Dawson. Mr. Krason was also responsible for managing the production effort for the billeting (hotel) expansion, which increased the total billeting capacity at the JITEC to 600 rooms. This project received LEED Gold Certification.

Morgantown Readiness Center (WVARNG), Morgantown, WV
Mr. Krason was the project architect on the new Morgantown Readiness Center. This facility is a unique due to its location on an abandoned airport runway at the Morgantown Municipal Airport. The 54,000 SF Readiness Center occupies a 35-acre tract at the airport. This center supports traditional military functions including the 1-201st Field Artillery. A significant portion of the Morgantown Readiness Center supports the 249th Army Band. The Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas.

Construction and Facilities Management Office Expansion (WVARNG), Charleston, WV
Mr. Krason was responsible for the programming, architectural design, and project management of the office expansion. The project included the renovation and addition to an existing pre-engineered metal building. The design, which was honored with a 2009 AIA Merit Award, focused the client's resources on a new entry and corridor that separated the existing office space from the addition.

Bridgemont Community and Technical College - Davis Hall Renovation and Master Plan, Montgomery, WV Mr. Krason led an architectural and engineering investigation into the condition of Davis Hall to help Bridgemont Community and Technical College to develop a scope for the current renovation project, as well as a plan to undertake deferred maintenance at the facility. The project scope included remedying several life safety deficiencies, as well as improvements to the building envelope.

Edgewood Elementary School, Charleston, WV
Mr. Krason was the project manager on the new Kanawha County Elementary School on Charleston's West Side. The school is being designed as a 21st Century Learning Environment, with a focus on integrating technology into the delivery of the curriculum. Instructional areas will be located off of an open 'exploratorium' that is being designed to function like a children's museum, providing a variety of learning opportunities, and flexible educational spaces. The school will also visibly integrate sustainable design principles to serve as a teaching tool for the students. Mr. Krason worked with students from Watts and Robbins Elementary Schools in Kanawha County, assisting them in an effort to actively participate in the design process

Participated on the team that won the following awards and acknowledgements:
2017 WV AIA Merit Award Logan-Mingo Readiness Center, Holden, WV
2016 WV AIA Merit Award Christ Church United Methodist, Charleston, WV
2015 WV AIA Merit Award Edgewood Elementary School, Charleston, WV
2014 WV AIA Merit Award Girl Scouts of Black Diamond Council, Charleston, WV
2011 WV AIA Honor Award Joint Interagency Training and Education Center (JITEC), Kingwood, WV
2011 AIA Honor Award State Office Building #5, 10th Floor Renovation, Charleston, WV
2009 AIA Merit Award WVARNG Construction and Facilities Management Office, Charleston, WV

Nathan Spencer, AIA

Role
Architect

Professional Registrations
Registered Architect (WV)

Mr. Spencer is responsible for coordinating the efforts of the design team in preparing thorough and clear design documents. He has experience in all phases of design working on a wide range of building types including; military, educational, office, justice, and residential.

He has worked on several projects that are currently pursuing LEED certification. In addition to production, Mr. Spencer, is also experienced in 3d modeling. He has worked on several preliminary concept study models as well as high quality renderings and 3d models later in the design process. Mr. Spencer is also experienced in high quality physical models.

Mr. Spencer began his career in architecture with ZMM in 2003, working as a summer intern. After graduating in 2003, he began working at ZMM full time.

Project Experience

Charleston Civic Center, Charleston, WV
Mr. Spencer served as project architect on the expansion and renovation to the Charleston Civic Center. The $75M, 283,000 SF design-build project is being completed as a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was completed in 2018.

Logan-Mingo Readiness Center, Holden, WV
Mr. Spencer was the architect on the new Logan-Mingo Readiness Center. The exterior aesthetic of the facility was driven by the location within an industrial park on a reclaimed surface mined site. The building layout was developed by working closely with the end-users to determine the appropriate configuration of building spaces to maximize the efficiency of the operations, and to respond to the unique missions of the 150th Armored Reconnaissance Squadron and the 156th Military Police (LNO) Detachment. Clear separation of "public" and "private" areas within the facility, unique office configurations related to training requirements, and the addition of State Funded additional spaces.

Jackson County AFRC, Millwood, WV
Mr. Spencer participated in the schematic design of the 76,000 SF Reserve Center in Jackson County, West Virginia. Mr.

Education
Bachelor of Architecture, University of Tennessee, 2007

Employment History
2009 - Present, Architect, ZMM
2007 - 2009, Intern Architect, ZMM
2003 - 2007, Summer Intern, ZMM

Civic Affiliations
- American Institute of Architects, Member

Spencer was also responsible for coordinating the production effort for the project. Mr. Spencer also produced several 3D models throughout the design process. The project is aiming for LEED Silver Certification.

Joint Interagency Education and Training Center (WVARNG), Kingwood, WV Nate participated in the schematic design of the 180,000 SF addition to the Regional Training Institute at Camp Dawson. Mr. Spencer was also responsible for coordinating the production effort for the billeting (hotel) expansion, which increased the total billeting capacity at the JITEC to 600 rooms. This project received LEED Gold Certification.

Morgantown Readiness Center, Morgantown, WV
Mr. Spencer was a member of the production team for the 58,000 SF project, which housed the Army Band and associated performance spaces. Mr. Spencer also produced several 3d models throughout the design process. He also participated on all production work through all phases. The project is aiming for LEED Silver Certification.

Tucker County Courthouse Annex, Parsons, WV
Mr. Spencer was the project architect for the Courthouse Annex renovation project. The Annex is a 4-story 21,000 Square Foot building that is adjacent to the Tucker County Courthouse. The annex will house spaces for the Circuit Court, Circuit Clerk, Family Court, Magistrate Court, Prosecuting Attorney, County Commission, County Clerk, Community Corrections, and Probation Office.

Judge Black Courthouse Annex, Parkersburg, WV
Mr. Spencer assisted with the design and programming of the adaptive reuse of a former commercial space and movie theaters into a modern courthouse annex. The Judge Black Annex included two independent circulation paths – a secure entry and lobby for access to the Family Court and Prosecuting Attorney, and public access to the Assessor and Sheriff's Tax Department. The facility also houses several large public meeting rooms.

Cabell County Bus Transportation Complex, Huntington, WV Mr. Spencer was the project Architect on the Cabell County Transportation Complex is located on the site of the old Cox Landing Junior High School. Challenges on the project involved retrofitting the old school and site to accommodate the new use. The rear portion of the school was demolished to make room for the new maintenance portion of the building. The remaining front section of the school was renovated to include office space, storage areas, and a new staff development room. The new maintenance area includes a high-bay metal building with 14 back to back workbays, three of which have hydraulic bus lifts. A hand wash bay and a state of the art automatic wash bay were also included in the project. Extensive sitework was also involved in the retrofit project including a fueling station, bus parking, a sediment pond, and an extensive rework of the existing site utilities.

Highland Hospital, Charleston, WV
Mr. Spencer was the project architect on Highland Psychiatric Hospital. Mr. Spencer was responsible for coordinating the production effort for the 60,000+ SF mental health facility. Mr. Spencer also produced several 3-D models throughout the design process. This project consisted of 87,300 SF, $26M addition to Highland Hospital in Charleston. The addition will include: administrative offices, training spaces, 165 patient beds, nurses stations, an out-patient treatment department, pharmacy, laundry, and building service spaces. A pedestrian bridge will connect the new facility to the existing hospital.

Edgewood Elementary School, Charleston, WV Mr. Spencer participated on the design team that developed the new Kanawha County Elementary School on Charleston's West Side. The school was designed as a 21st Century Learning Environment, with a focus on integrating technology into the delivery of the curriculum. Instructional areas will be located off of an open 'exploratorium' that is being designed to function like a children's museum, providing a variety of learning opportunities, and flexible educational spaces. The school integrates sustainable design principles to serve as a teaching tool for the students. A dental and health clinic is also on site for all enrolled students in the Kanawha County School District.

Carly Chapman

Role
Interior Designer

Mrs. Chapman serves as the Interior Designer at ZMM. Mrs. Chapman takes pride in her work's originality and always strives to help the client's vision and intent come alive in the design process. Her experience at ZMM includes Education, Municipal, Residential, Healthcare, and Hospitality projects. In her past position she focused on both Corporate and Healthcare design. Mrs. Chapman's responsibilities include conducting design proposals and presentations, as well as producing design documents and specifications relating to all aspects of interior design.

Project Experience
Mrs. Chapman has served as the interior designer for a variety of projects. Projects range from renovations to new construction and is comprised of every industry. Her responsibilities include design concept, presentation, documentation, specification writing, and architectural drafting.

Bluefield Primary School, Bluefield, WV
The new school is the result of a consolidation of two local schools in the Bluefield area. The county wanted to bring in architectural elements from both of the former schools. This was accomplished by oval vaulted ceilings and circular windows throughout the building. The school will house Pre-k-2nd grade students. Keeping the Bluefield Beavers in mind, the school colors are found throughout the design with the addition of complimentary colors to creates a colorful learning environment for the students. No school can be designed without a little fun in mind... A large dry erase mural spans the length of the media center allowing students to express their imaginations.

Ravenswood Middle School, Ravenswood, WV
Ravenswood Middle School is an addition to Ravenswood Highschool. The project allows for both schools to share one cafeteria and improve the exterior of the existing high school with the new entrance of the middle school. The interiors were clean and pattern filled using the school colors, insuring an easy transition from one school to the other.

Williamstown Elementary School, Williamstown, WV
When designing a new school built on tradition, the initial thought of school colors and clean lines comes to mind. This was not the case with the new Williamstown Elementary School. Using the school colors as our basis of design, the county was open to adding complimentary colors to entice the

Education
Bachelor of Interior Design, University of Charleston, 2012

Employment History
2016 - Present, Interior Designer, ZMM
2012 - 2016, Project Manager/Interior Designer, Contemporary Galleries, Inc.
2003 - Present, Architect, Project Manager, ZMM
2010 - 2012, Interior Design Intern, ZMM

students for a bright and exciting learning environment. Colorful floor pattern adorns the corridors, using the tile for wayfinding and structure for students. In the media center you will find a custom designed tree, dripping in lights mimicking fireflies and a perfect campfire setting for storytelling. The tradition is kept alive with the pops of Maroon and Gold throughout the cafeteria and gym.

Mountain Valley Elementary School, Green Valley, WV
Mountain Valley is a new facility currently under construction and set to open fall of 2019. The concept for the school was simple – fundamentals. Primary colors and geometric shapes create a fun and easy way to keep the students engaged and ready to learn, while sticking to the basics. A large wall in the media center allows for quiet areas to study or play with built in casework depicting the word "READ" allowing for shelving and seating within the oversized letters. The scheme continues throughout the school seen in the polished concrete floor pattern and 3D shapes protruding above the main entrance for a guaranteed jaw dropping design.

PK-2 & New Collins Middle, Oak Hill, WV
These schools were designed as separate schools sharing the same site and are connected by a mechanical wing. This building called for a challenging design concept. The schools each had their own unique design theme, but were delicately connected in small aspects of color or architectural techniques, allowing the interiors to flow seamlessly. The PK-2 is community driven in the design. House facades and custom glass adorn the halls drawing the eye to the exposed structure above. The ceilings reflect the sky and are divided by clouds. Collins Middle also was design with the environment in mind. Using biophilic design, wood planked feature walls are found in the entrance corridor and expand to the open structure above.

Charleston Civic Center, Charleston, WV
Mrs. Chapman assisted in the construction administration and interiors of the expansion and renovation to the Charleston Civic Center. The $75M, 283,000 SF design-build project is being completed as a collaboration with tvsdesign and BBL Carlton. Construction was complete in October 2018.

ARH Chemotherapy, Beckley, WV
This project was a renovation of a hospital wing to be redesigned for optimal health and wellness for patients undergoing chemotherapy treatment. Both aesthetics and general sanitary design requirements were crucial to making this project successful.

Valley Park Community Center, Hurricane, WV
The new community center replaced an existing structure that was recently demolished earlier this year. The new building houses a commercial kitchen, administration wing, ballroom, and a locker room complex with administration quarters for the attached Wave Pool.

Charleston EDGE, Charleston, WV
The Charleston Edge renovation focused on bringing life to an old existing structure in the heart of downtown Charleston. The concept of the design was to create contemporary living quarters for the young urbanites of the city, while also providing a communitive atmosphere by including a rooftop gathering space for locals to enjoy.

CAMC Post Op, Teays Valley, WV
This project was a renovation of a hospital wing to be redesigned for recovery of Post Operation patients. This project included patient rooms, nurse's stations, and designing the space for optimal health and wellbeing.

Clarksburg, Richmond, Huntington, Salem VA Hospitals
During previous employment, Mrs. Chapman was heavily involved with renovations to various VA hospitals. Renovations included redesign implementing DIRTT wall systems, renovations to nurse, admirative and patient areas, as well as common's areas.

Robert Doeffinger, PE

Role
Engineering Principal

Professional Registrations
Professional Engineer (WV, VA, PA, OH, TN, KY, NY, NH, ME, NC, SC, FL, NJ, GA)

As ZMM's Principal Engineer, Mr. Doeffinger is in charge of the engineering disciplines, it is his responsibility to ensure that the mechanical and electrical engineering components of ZMM's design are coordinated and integrated into the final product.

After graduate school in Architectural Engineering, Mr. Doeffinger joined ZMM. He has over 35 years design experience in mechanical and electrical systems for buildings. He has a broad range of engineering experience in education, industrial and manufacturing facilities, large retail, correctional and jails, office buildings, and military facilities.

Mr. Doeffinger is responsible for new design and retrofit of chilled water systems for all building types including large regional shopping malls. He is involved daily with the firm's selection of appropriate systems for all building types and performs life-cycle cost analysis and energy studies.

Mr. Doeffinger is a member of the American Society of Heating, Ventilation and Air-Conditioning Engineers. He is the current national Chairman of the Technical Committee on Heating and Air-Conditioning Load Calculation. He is involved in writing the National Standard on the Method of Calculation, which will shape the nature of the future building energy use for the nation.

Project Experience
Charleston Civic Center, Charleston, WV
Mr. Doeffinger was the mechanical project engineer on the expansion and renovation to the Charleston Civic Center project. The $75M, 283,000 SF design-build project was a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was completed in October 2018. The mechanical design is expected to reduce the energy requirements defined by ASHRAE 90.1-2013 by an estimated 25% and extensive water savings will be shown. The project includes a new chilled and hot water central plant with extensive replacement and upgrades to the facilities existing mechanical systems. Multiple phases of construction will allow the Civic Center to remain operational throughout the construction progress.

Education
Master of Science Architectural Engineering, Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering, West Virginia University, 1973

Employment History
2005 - Present, President, ZMM
1976 - 2005, Vice President and Engineering Principal, ZMM

Civic Affiliations
- ASHRAE – Member of the Technical Committee Load Calculations Data and Procedures for 15 years, serving as chairman. Presently Chairman of the Research Subcommittee
- Advisory Board for the Department of Electrical Engineering Technology, Bridgemont Community and Technical College
- City of Pt. Pleasant, WV – 2nd Ward Councilman for 20 years

State Office Buildings #5, 10th Floor Charleston, WV Mr. Doeffinger was the Project Engineer for this renovation project The renovation of the tenth floor of State Office Building #5 on the State of West Virginia Capitol Campus was recently completed for the Office of Technology. The renovation was designed to meet the United States Green Building Council's LEED for Commercial Interiors standard. The renovations also include a low profile cable management system which maximizes the flexibility of the space. To commence the project, ZMM conducted a detailed investigation of State Office Buildings 5, 6, & 7, which included recommendations for improvement of the facilities. The renovation of the 10th floor of Building #5 was the first major interior renovation project that responded to the recommendations.

West Virginia Capitol Complex - Buildings #5, 6, & 7, Charleston, WV Mr. Doeffinger was the Project Engineer for the in-depth analysis of Buildings #5,6,& 7 at the State Capitol Campus. The study included the preparation of as-built plans, as well as an analysis of all building systems, including: Life Safety; Vertical Transportation; Mechanical; Electrical; Data; Façade; Structure; and Roofing. The analysis also included a study related to potential hazardous materials in the facility.

West Virginia Regional Jails, Mr. Doeffinger was the Project Engineer on ten West Virginia Regional Jails. In 2009 he was responsible for the HVAC renovation on four regional jails, including the replacement of rooftop HVAC units and Building Automation Systems.

West Virginia Army National Guard, Joint Interagency Training & Education Center, Camp Dawson, WV Mr. Doeffinger was responsible for the mechanical engineering design of the 600 room billeting expansion to the Regional Training Institute at Camp Dawson. The project is served by a 4 - pipe hot and chilled water system with an energy recovery ventilation system. This project received LEED Gold Certification.

West Virginia Research, Education, and Technology – Building 704, South Charleston WV Mr. Doeffinger is the engineering principal-in-charge of preparing a life safety analysis of the building as well as design services to improve the exterior façade of Building 704 at the WV Research, Education, and Technology Park. Building 704 had previously been utilized as a campus maintenance facility by Union Carbide and DOW Chemical. Bridgemont began utilizing the facilities for instruction in the Spring of 2011.

West Virginia Regional Technology Park (WVRTP) - Building 740, South Charleston WV Mr. Doeffinger is the engineering principal-in-charge of the new Steam Plant for Building 740. This project involves designing and constructing the Interim Steam Heating System throughout Building 740.

Bridgemont (BridgeValley) Community and Technical College Davis Hall Renovation, Montgomery, WV Mr. Doeffinger led an architectural and engineering investigation into the condition of Davis Hall to help Bridgemont Community and Technical College to develop a scope for the current renovation project, as well as a plan to undertake deferred maintenance at the facility. The project scope included remedying several life safety deficiencies, as well as improvements to the building envelope.

NGK Oxygen Sensor and Spark Plug Plant, Sissonville, WV Mr. Doeffinger was in charge of engineering design of the 250,000 SF NGK facility. The most recent 130,000 SF expansion moved NGK's spark plug production for the west coast to West Virginia. For both the oxygen sensor plant and spark plug plant Mr. Doeffinger designed a cycle water system for the manufacturing equipment.

The Plaza at King of Prussia, Pittsburgh, PA One of the largest retail centers in the east. Mr. Doeffinger has performed engineering services for the past 20 years. The project consists of a 5,000 -ton chilled water plant and 1,500,000 cfm variable volume system for tenants and constant volume air system for common areas and an engineered smoke control system. The most recent project is a 2011, 100,000 square foot expansion of tenant spaces, a renovation of the food court, and a 1,250-ton chiller addition to the central chilled water plant.

Samuel Butzer, PE, LEED AP BD+C

ZMM ARCHITECTS ENGINEERS

Role
Mechanical Project Engineer

Professional Registrations
Professional Engineer (WV, WI, IL)
LEED Accredited Professional

Mr. Butzer is a registered Professional Engineer with design experience in HVAC, Piping (Mechanical, Industrial, Laboratory, Medical Gas), Fire Protection and Plumbing systems. He has been responsible for an extensive range of projects that include Hospitals, Civic Complexes, Laboratories, Medical and Dental Office Buildings, Retail, Military Installations, Churches, Restaurants, K-12 Schools, Higher Education Facilities, Pharmaceutical Manufacturing, Natatoriums and Historical Renovations.

Mr. Butzer began his career in engineering with a mechanical contractor located in Wisconsin. His collective engineering experience includes projects that were design-build, design-assist and plan & spec. His background in engineering and 3D BIM design and coordination has provided him with extensive experience in the "real world" of HVAC and piping constructability. That experience has forged him into a leader at the integration of all construction disciplines into a multitude of building types and space constraints.

Mr. Butzer's dedication to the community and his civic affiliations demonstrates a strong connection to the engineering principles of energy efficiency, sustainability, occupant comfort and health.

Project Experience
Charleston Civic Center, Charleston, WV
Mr. Butzer was the Mechanical Project Engineer on the expansion and renovation to the Charleston Civic Center project. The $75M, 283,000 SF design-build project was completed as a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction is was complete in October 2018. The mechanical design is expected to reduce the energy requirements defined by ASHRAE 90.1-2013 by an estimated 25% and extensive water savings will be shown. The project included a new chilled and hot water central plant with extensive replacement and upgrades to the facilities existing mechanical systems. Multiple phases of construction allowed the Civic Center to remain operational throughout the construction progress.

Education
Bachelor of Science, Mechanical Engineering, University of Wisconsin at Madison, 2007

Associate of Science, Madison Area Technical College, Madison, WI, 2004

Employment History
2018 - Present, Board of Directors, ZMM
2013 - Present, Project Engineer, ZMM
2007 - 2013, Mechanical Engineer, WI
2005 - 2007, Mechanical Engineer Intern, UW-Madison FP&M

Civic Affiliations
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), President of West Virginia State Chapter
- United States Green Building Council (USGBC), Board Member of West Virginia State Chapter
- Marshall University Engineering Advisory Board Member
- Kanawha City Community Association Board Member

Harrisville Elementary School, Harrisville, WV
Mr. Butzer was responsible for designing the HVAC systems for the renovation and additions to the elementary school. Initial design development consisted of variable refrigerant flow (VRF) systems coupled with dedicated outdoor air (DOAS) systems for the Classrooms and Administration areas. Roof mounted air conditioning and exhaust equipment were provided for the new Cafeteria, Kitchen and existing Gymnasium. Budget and space constraints forced the design to evolve into individual, self-contained, interior air handling units for each Classroom. The units were able to meet ASHRAE 62.1 requirements for ventilation, the Acoustical Society of America's (ASA) requirement for sound, and every other standard such as individual classroom temperature and dehumidification control as set forth by the School Building Authority (SBA).

Appalachian Regional Hospital, Beckley, WV
Mr. Butzer is the Mechanical Project Engineer currently working with the hospital on multiple renovations. The ICU and OR departments will undergo Mechanical and Architectural upgrades in a multiphase project while the hospital remains operational. The existing kitchen will receive a new make-up air unit, and fan coil units to improve pressure and air balance relationships within the hospital. A dedicated HVAC unit was provided for the endoscopy suite to improve thermal comfort and provide code-required ventilation, air-changes and humidity.

Glenwood Elementary School, Princeton, WV
Mr. Butzer was the Mechanical Project Engineer for this successful project that came in under budget, on-time and with zero change orders. The first phase was duct cleaning and sealing that improved indoor air quality and reduced system demand by 8 tons. The second phase was the HVAC improvements which replaced all existing constant volume, single compressor, multizone, air handling units (AHUs) with new variable speed, multi-compressor AHUs. VAV terminal units were installed to create separate zones for each classroom. A new building automation system was provided for system controls and to incorporate the facility into the existing county-wide controls network. All electric heating was abandoned to maximize use of the hot water heating system. Mechanical upgrades saved the school an estimated 18.5% in the electric usage and provided them with over $13,000 in rebates from the electric utility.

Nicholas County Courthouse, Summersville, WV
The Nicholas County Courthouse is a Historic building constructed in 1898 with an addition executed by the Works Progress Administration in 1940. The courthouse was added to the U.S. National Register of Historic Places in 1991. Mr. Butzer led a project team responsible for upgrading an existing 2-pipe fan coil system into a 4-pipe system to provide simultaneous heating and cooling and meet the climate and comfort needs of specific occupants. A new 4-pipe system, variable speed pumps and 3-way valves were provided in the basement to achieve integration of the new system into the existing. Construction had to be phased to allow installation of the new heating loop while the existing system remained in cooling operation; the new cooling loop would be installed once the building switched over to the new heating loop. Welding and soldering were not allowed so materials such as PEX, pressure-seal copper and mechanical joint steel piping were specified. A new Building Automation System with most of the communication occurring wirelessly was chosen to minimize disturbances to the historical architecture of the building.

Gestamp West Virginia, South Charleston, WV
Mr. Butzer led a design team that was tasked to provide a mechanical system to separate out, or divert hydraulic fluid collected along with chilled water released from immense, automobile component stamping machines. The design included an aboveground oil-water separator, density meters, 3-way valves, storage tanks and a controls system to monitor fluid flow and guarantee separation or storage of non-compliant sanitary discharges.

Scot Casdorph, PE

Role
Electrical Engineer

Professional Registrations
Professional Engineer (WV)

Mr. Casdorph serves as an Electrical Engineer with ZMM providing electrical design services for a vast number of projects consisting of commercial, educational, correctional, institutional, and military facilities.

Mr. Casdorph is responsible for many facets of the project pertaining to electrical design such as interior and exterior lighting, power distribution, data system design, security, fire alarm, low voltage control systems, equipment specifications and performs electrical assessments during construction prior to the project's substantial completion date. Mr. Casdorph has participated on several LEED registered projects using energy conserving methods and utilizing lighting control systems and other means to meet or exceed ASHRAE 90.1, LEED, and energy code requirements.

Project Experience

Charleston Civic Center, Charleston, WV
Mr. Casdorph was the electrical engineer on the expansion and renovation to the Charleston Civic Center project. The $75M, 283,000 SF design-build project is being completed as a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was complete in October 2018.

Joint Interagency Education and Training Center (WVARNG), Kingwood, WV Mr. Casdorph was responsible for the electrical design of the 180,000 SF 3-story billeting/hotel expansion for the Army National Guard campus style facility for training and operational mission support. The expansion more than triples the facility size and increases the total capacity from 189 guest rooms to 600 guest rooms and suites. This project reached LEED Gold Certification.

Jackson County Armed Forces Reserve Center, (WVARNG), Millwood, WV Mr. Casdorph was responsible for the electrical design of the 76,000 SF single story military reserve center which serves both the West Virginia Army National Guard and the United States Army Reserves (USAR) units. The multi-use facility provides educational spaces for classrooms, distance learning, physical training and a weapons

Education
Bachelor of Science, West Virginia Institute of Technology, 1995

Employment History
2000 - Present, Electrical Engineer, ZMM
1995 - 2000 Electrical Controls Systems Manager, WV Engineering Firm

simulation center. The project is targeted for LEED Silver Certification.

Glen Jean Armed Forces Reserve Center, (WVARNG), Glen Jean, WV Mr. Casdorph was responsible for the electrical design of the 102,000 SF military training facility which houses the Armed Forces Reserve Center (AFRC), Military Entrance Processing Station (MEPS), and an Organizational Maintenance Shop (OMS). The AFRC contains the administrative and training space for the 77th Brigade Troop Command, the 1863rd Transportation Company, and the 150th Armored Regiment Company. The MEPS houses their administrative, medical, headquarters, testing and storage functions at the facility. A comprehensive 8,500 SF OMS vehicle maintenance shop provides space for six large service workbays for maintaining the military fleet.

Southside Elementary and Huntington Middle School, Huntington, WV Mr. Casdorph was the electrical engineer on this 156,000 SF facility. This project encompasses all phases of construction; demolition, major renovation and new construction. The original historic 26,000 SF three story school building was preserved and the remaining less than adequate facility was strategically removed to accommodate the new addition. The existing facility was completely renovated and brought up to new construction standards to blend with the new addition. The project consisted of two distinct school facilities existing on the same piece of property. The new construction blends seamlessly with the older historic structure.

Gauley River Elementary School, Craigsville, WV
Mr. Casdorph was responsible for the electrical design of the new elementary school. The project is consolidating Beaver Elementary School and Craigsville Elementary School into a new 375-student school. The school houses 3 Pre-Kindergartens, 3 Kindergartens, 2 first grade, 12 1st-5th grade classrooms, activity room, cafeteria, kitchen, media center, and administration spaces.

Lincoln County High School, Hamlin, WV Mr. Casdorph was responsible for the electrical power distribution throughout the 216,000 SF facility containing high school classes, vocational education, technical community college classes and a community health clinic. The project was a 2007 AIA Honor Award Winner.

Milton Middle School, Milton, WV Mr. Casdorph was responsible for the electrical design of the new 96,000 SF facility housing 700 middle school students grades 6 through 8.

Fort Gay PK-8 School, Fort Gay, WV
Mr. Casdorph was the electrical engineer and was responsible for the electrical power distribution and design. The New Fort Gay PK-8 School replaces the existing facility that has been in disrepair and lacking the spaces and technology delivery system required for 21st century learning skills. The total enrollment for the school is 603 Students. The new grade configuration separates the Elementary students from the Middle School students, but still allows use of the common spaces within the building. They share the Dining Room, Gymnasium, Media Center and a Stage.

Southern WV Community & Technical College, Williamson WV Mr. Casdorph was responsible for the electrical power and lighting distribution design of this 22,000 SF higher education facility. This project is being designed to meet the USGBC LEED Silver.

West Virginia Research, Education, and Technology – Building 704, South Charleston, WV
Mr. Casdorph is the electrical engineer for building 704 and responsible for electrical power and lighting distribution. Building 704 had previously been utilized as a campus maintenance facility by Union Carbide and DOW Chemical. Bridgemont began utilizing the facilities for instruction in the Spring of 2011.

West Virginia Housing Development Fund Office, Charleston, WV Mr. Casdorph was responsible for the electrical design of the 37,000 SF office building which provides natural daylighting into its interior spaces coupled with an automatic dimming system and motorized shade controls. This 2-story administrative facility houses approximately 95 to 100 employees with a flexible open office floor plan utilizing modular under-floor wiring to accommodate any future modifications of the workspace with minimal disruption to the employees. The project is targeted for LEED Silver Certification.

FaLena Perry, CDT

Role
Construction Administrator

Professional Registrations
EIT

Mrs. Perry describes her role with ZMM as Construction Administrator as an exciting and invigorating opportunity with new experiences every day. From varying jobsite conditions to the differing professionals she encounters on a daily basis, Mrs. Perry approaches construction administration with a fresh set of eyes and desire to help provide the best outcomes possible for each project.

Mrs. Perry has nearly six years experience working as a Structural Engineer with two of those being a Project Manager. Structural engineering experience includes projects ranging from everything including $135M university buildings down to residential homes and even historic restoration projects. Project variety includes Educational (K-12 and university), Commercial, Military, Office, Justice (Courthouses, Justice Centers, Police Department and Correctional), Multi-Use Residential, Civic (WWTP), Healthcare (Health Departments), Fitness (Gyms), Religious, Historic Restoration and an Arena. These projects are spread over Kentucky, West Virginia and Ohio.

Project Experience

Valley Park Community Center, Hurricane, WV
Mrs. Perry served as Construction Administrator on the new Community Center building and renovation at Valley Park. The $15M construction project included a new community building, ball fields and a playground. Mrs. Perry was responsible for the administrative duties, performing on-site observations and tracking construction progress. Mrs. Perry collaborated with the client, design team and contractors to confirm that project guidelines are satisfactorily met. The facility reached completion in May 2018.

Ravenswood Middle School, Ravenswood, WV
Mrs. Perry is serving as Construction Administrator of the high school addition that will house the two-story Ravenswood Middle School making this the 20th facility in WV that will combine both high school and middle school students. This project is limited with available space as it is to fit into the existing high school footprint.

Midland Trail High School, Fayetteville, WV Mrs. Perry is serving as Construction Administrator of the six room high school addition that will include a STEM lab as well as other

Education
Bachelor of Science, Civil Engineering, University of Kentucky, 2003

Masters of Science, Civil Engineering, University of Kentucky, 2005

Employment History
2017 - Present, Construction Administrator, ZMM
2009 - 2010, Design Engineer, Moment Engineers, Charleston, WV
2004 - 2008, Engineer, Project Manager, BFMJ Inc., Lexington, KY
2003 – 2004, Graduate Assistant, University of Kentucky College of Engineering

Civic Affiliations
- Project Coordinator, Forrest Burdette UMC, Family Life Center
- Sunday School Teacher for Young Professionals
- Cub Scout Den Leader Pack 236

classrooms. The large space planned for the STEM lab will encourage hands-on exploration, learning, and technology integration. This addition will address the under utilization of Midland Trail as well as Anstead Middle.

Project Experience Other Firms

University of Kentucky Biopharmacy Building, Lexington, KY

Mrs. Perry worked as team member in the design the new $134M College of Pharmacy Biopharmacy research building. The research facility builds on the state's initiative to address health challenges and disparities in KY. The building featured expansive auditorium style classrooms and a self-supporting stair, of which Mrs. Perry modeled and designed.

Kentucky Transportation Cabinet, DOH, District Five Office Building, Louisville, KY

Mrs. Perry acted as the Project Manager for this new office space for the Department of Highways. This project consisted of concrete and steel structural members. Mrs. Perry coordinated design efforts with a team of engineers, architects and the owner.

Moses Residence, Huntington, WV

Mrs. Perry was responsible for the structural design of the Moses Residence which includes ICF walls, timber, steel and concrete. This home is a zero net energy home and has platinum LEED certification.

Michael J. White, PE

ZMM ARCHITECTS ENGINEERS

Role
Structural Engineer

Professional Registrations
Professional Engineer (WV, KY, IN, TN, OH, SC)

Mr. White has more than 10 years of Civil/Structural design and engineering experience. Project experience includes new construction and renovation work involving the design and analysis of reinforced concrete, wood, structural steel, masonry and cold formed steel.

Project Experience
WVDNR Forks of Coal
Milton PK School
Midland Trail High School
Valley Park Community Center
Marshall County Readiness Center

Other Jobs from Past Employers:
Monongalia County Justice Center - Morgantown, WV
Lewis Co. Judicial Annex - Weston, WV
Charleston Correctional Work Release Center - Charleston, WV
Stevens Correctional Facility - Welch, WV
Marsh Fork Elementary School - Naoma, WV
WVANG Camp Dawson, Multi-Purpose Building - Kingwood, WV
BridgeValley Advanced Technology Center - South Charleston, WV
New River Community and Technical College Headquarters Building - Beaver, WV
Lewisburg Elementary School - Lewisburg, WV
Rainelle Elementary School - Rainelle, WV
Boone County Honors Academy Addition - Madison, WV
WVU Parkersburg Center for Early Learning - Parkersburg, WV
WVU Parkersburg Applied Technologies Center - Parkersburg, WV

Education
B.S., Civil Engineering, West Virginia University Institute of Technology, Montgomery, WV, 2006

Employment History
2016 - Present, Structural Engineer, ZMM
2016, Civil/Structural Lead, Jacobs Engineering Group
2013 - 2016, Structural Engineer, Chapman Technical Group
2010 - 2013, Structural Engineer/Project Manager, Moment Engineers
2007 - 2010, Structural Engineer/Project Manager, Advantage Group Engineers, Inc. (Cincinnati, OH)

Mark T. Epling, AIA, LEED AP, NCARB

ZMM ARCHITECTS ENGINEERS

Role
Specifications Writer

Professional Registrations
Registered Architect (WV, OH,)
LEED Accredited Professional
NCARB Certification
Construction Documents Technologist (CDT)

Mr. Epling is responsible for the creation and coordination of Project Manuals including specifications for all ZMM projects. The coordination duties include the incorporation of specifications from several design disciplines including structural, plumbing, HVAC, and electrical specifications.

Mr. Epling's duties also include determining the type and number of bid packages and resulting construction contracts for a particular project, and following through with the incorporation of the appropriate contract forms and contract conditions into the Project Manuals.

Mr. Epling began his career as a licensed Architect in October 1982 and has acquired experience in all aspects of the architectural practice working on a variety of building types including single-family homes, medical clinics, industrial facilities, theatre restoration, commercial-retail buildings, and college dormitory and elementary school remodeling.

Mr. Epling began working at ZMM in February 1998 and has worked in preparation and coordination of working drawings, construction contract administration, and beginning in June of 2006, took on the role of specifications writer and has remained in that capacity.

Project Experience
Mr. Epling's recent project experience includes the preparation of Project Manuals for the following ZMM projects:

Charleston Civic Center - Expansion and Renovation
WV State Capitol Roof Replacement
WV State Office Building #5, 6, & 7
WV Housing Development Fund
CFMO Expansion
Houston Company Store
Erma Byrd Center
Joint Interagency Training & Educational Center (JITEC)
Huntington East Middle School
WV Army National Guard - Glen Jean AFRC

Education
Bachelor of Architecture;
Virginia Polytechnic Institute and State University; 1977

Employment History
1998 - Present, Project Architect & Specifications Writer, ZMM
1997 - 1998, Project Architect, OH Firm
1982 - 1997, Architect, Self Employed, Located in OH
1978 -1982, Intern Architect, OH Firm

Civic Affiliations
- American Institute of Architects, Member
- West Virginia Symphony Chorus, Member

WV Army National Guard - Jackson County AFRC
WV Army National Guard - Morgantown Readiness Center
WV Army National Guard - Logan-Mingo Readiness Center
WV Army National Guard - Marshall Readiness Center
Wood County Justice Center
Tucker County Courthouse Annex
Southern WV Community & Technical College
Bridgemont Community & Technical College
Milton Middle School
Barboursville Middle School
Kenna Elementary School
Craigsville Elementary School
Southside Elementary/Huntington Middle School
Iaeger - Big Creek High School
Lincoln County High School
St. Albans High School
Bradshaw Elementary School
Edgewood Elementary School
Hacker Valley Pre K-8 School
Beech Fork State Park Lodge
CAMC Teays Valley
Highland Hospital

Valley Park Community Center

Putnam County Commission

ZMM ARCHITECTS ENGINEERS

LOCATION:
Hurricane, WV

COST:
$8M

SIZE:
31,360 SF

COMPLETION:
2018

CONTACT:
1 Valley Park Dr.
Hurricane, WV 25526
304.562.0518

The new 31,360 SF Community Center building is the centerpiece of a multi-million dollar renovation to existing Valley Park in Hurricane, WV. Site work amenities being provided under a separate contract will include new baseball fields, soccer fields, tennis courts, playground space and additional parking. The project is being constructed for the Putnam County Parks and Recreation Commission with funds supplied by the Putnam County Commission.

The park's previous community building was torn down to make way for a larger, updated Community Center that includes 7,750 SF of conference space, commercial kitchen, offices for the Putnam County Parks and Recreation Commission and offices, locker-rooms and concessions for the existing Wave Pool.

The meeting rooms can accommodate individual events in three, separate rooms or can be expanded to provide 450 table-seated guests or 1,200 in a standing room only configuration. It will feature the latest technology in internet access, sound and lighting systems along with high-end interior finishes making it a perfect site for conferences and wedding receptions. The full service commercial kitchen will provide cooking and storage facilities for everything from small caterings to multi-day-day events. At the rear of the facility has a three-tiered concrete activity deck leading visitors to the Wave Pool.

Valley Park Community Center

Putnam County Commission

The exterior design concept plays off the existing Commons Building which incorporates stone accents, wood siding and multi-sloped roofing around a floor plan that emphasizes the internal components. The Community Center entrance is highlighted by a large, exposed wood truss bearing on tall, battered stone columns. These wood beams are featured at all entrances and carry into the meeting room prefunction to provide a fully-exposed, open wood structure. The majority of the building perimeter is brick veneer with the taller meeting room and entrance separated by cast stone banding. The more detailed facades for the prefunction space and office blocks feature punched windows set in horizontal wood siding with a stone veneer wainscot which gives the building a lodge feel. Sloped, standing seam metal roofing highlights the more visible portions of the building while flat roofs cover the support spaces.

Charleston Coliseum & Convention Center

ZMM ARCHITECTS ENGINEERS

LOCATION:
Charleston, WV

SIZE:
283,000 SF

COMPLETION:
Est. 2018

COST:
$75M

CONTACT:
John Robertson, Director
200 Civic Center Drive
Charleston, WV 25301
304.345.1500

AWARDS:
2019 AIA Honor Award
West Virginia Chapter

2019 AIA Citation Award
West Virginia Chapter

2019 AIA People's Choice
West Virginia Chapter

The Charleston Coliseum and Convention Center (formerly named Charleston Civic Center) Expansion and Renovation is a transformational project for both the city of Charleston and West Virginia. Our team was influenced by the strong authentic character of Charleston to remake the Charleston Civic Center into a more efficient, more sustainable, more dynamic and a more iconic best-in-class destination.

The design of the expansion and renovation of the Charleston Coliseum & Convention Center is inspired by the story of West Virginia. Defined by a rugged landscape, the early history of the state was dominated by extractive industries -- salt, coal, timber, trapping. This set the local character. With a foundation rich in resources, manufacturing added value to the raw materials with crafts like glass making and industries like chemicals and energy. This attracted a rich diversity of immigrants and a culture of craftsmanship that set the urban character. The economy is shifting from industry and service to information and technology. Again, the landscape and industry that shaped the region gives Charleston real advantages to exploit. The Creative Class, critical for the information and technology age, can live and work anywhere - what they want is access to the outdoors; real places with real character; and continuous education and entertainment.

Our design starts with an organizational concept inspired by this history. The Kanawha River is the social organizing link throughout the region, with settlement zones developing on whatever flatland the river provided --creating nodes of activities among the hills and valleys.

Charleston Coliseum & Convention Center

The renovated facility is a building that emerges from this iconic landscape, with the architecture and topography working together. The Coliseum & Convention Center also has distinct active nodes to celebrate each activity; arena, convention, and banquet, and these nodes are connected like the hills and cut rock faces that are seen throughout the state as people work to connect to each other through the landscape.

The first critical design objective was to create separate entries and identities for the arena and convention center. This allows for simultaneous events and clarity of use. For the convention center to thrive, it needs a real ballroom assembly space. Located overlooking the Elk River, the new ballroom pre-function space is the most dramatic feature of the center. Together, the three glass enclosed nodes --arena lobby, convention lobby, ballroom --define a unique Charleston event campus. As described above, the spaces that connect these nodes are inspired by the hills and cut rock faces that connect the towns along the Kanawha River. With the building emerging from the landscape and expressed as cut rock walls, the connecting areas are designed to be expressive and economical backdrops to the glass boxed nodes.

While the expansion transforms the southeast to the middle of the northern zone of the site, the existing building mass still dominates a portion of the northern and eastern campus. The dominant expression along these existing facades is the landscaped berms. As we imagined the new building expression emerging from the landscape, a strategy developed to transform these berms to reflect, at the pedestrian level, the overall design theme. Above the level of the berms, the new concourse level windows will open up the facade and provide a much needed break in the massing. The upper part of the arena was painted in two tones to match the new building, playing off the different faces. The north, south, east and west faces painted a lighter shade; and the northeast, southeast, southwest and northwest faces a darker shade. Dramatic exterior color-changing lighting on the northeast, southeast, southwest and northwest faces transform the look and feel of the center into a fun and festive landmark.

Joint Interagency Training & Education Center

WVARNG

ZMM ARCHITECTS ENGINEERS

LOCATION:
Kingwood, WV

SIZE:
285,000 SF

COMPLETION:
2013

COST:
$78.4M

OWNER:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446

AWARD:
2011 AIA Honor Award
West Virginia Chapter
Excellence in Architecture

ZMM Architects and Engineers, in association with AECOM, is providing architectural and engineering design services for the Joint Interagency Training and Education Center (JITEC), an Army National Guard campus-style facility for training and operational mission support. Sited on 30 acres at the northern end of Camp Dawson between the Cheat River and the foot of Brier Mountain, this 283,000-SF project includes the design of a new operations building; expansion of the billeting facility; renovation of the training facility; creation of a new base entry checkpoint and visitor center; and design for walkway connectors between all the facilities.

The project began with a review of the existing base master plan, followed by a revision of the master plan concept. JITEC is a training and educational facility – the vision behind the site design and updated master plan is that of a college campus atmosphere. The clients goal was to create a campus environment that integrates existing buildings with new ones, which was accomplished by using compatible, yet distinct building materials.

The new facilities are designed to meet all anti-terrorism/force protection criteria and are slated for LEED-NC Gold Certification from the U.S. Green Building Council. The new 82,000-SF operations building is prominently sited as the main focal point upon entering Camp Dawson through the secure access control point and visitor's center, also designed by AECOM. The building's exterior complements its West Virginia setting. The entire building front, composed of glass and pre-cast concrete walls, is open and inviting with glazing that reflects the surrounding trees and hills.

Joint Interagency Training & Education Center

Security requirements for the command center influenced the design of the attached, copper-clad "black box" that is an homage to the native rock stratification seen throughout the state.

The building consists of four distinct areas: the Joint Operations Center; a suite of secure training rooms; base headquarters and JITEC administrative offices; and a 6,000 SF server and telecommunications room.

Entry to the Joint Operations Center (JOC) is provided by a secure mantrap adjacent to a dedicated security office. Built to SCIF standards, the JOC contains a state of the art command center housing 48 permanent work stations in a theater-style configuration facing a large video wall, flanked by conference rooms and offices for both officers and support staff. Within the JOC is a secure area consisting of workstations, offices, and two divisible conference rooms with secure video conferencing capabilities. The secure area construction dictates a windowless environment, requiring proper lighting and creative use of materials to create an agreeable work atmosphere.

The 180,000-SF billeting (hotel) expansion more than triples the facility size and increases the total capacity from 189 guest rooms to 600 guest rooms and suites. Designed to relate to the existing architecture with similar scale, materials, textures, and massing, the addition also brings in new elements, such as iconic glazed building corner elements, to integrate the design of the new operations building. A new dedicated lobby with terrazzo tile flooring leads to a monumental stair with terrazzo treads, open risers, and a glass/stainless steel railing for access to the open lounge areas on the second and third floors.

The lobby's design provides a hotel atmosphere, underscored by the new Liberty Lounge, an upscale bar and restaurant area, with wood finishes salvaged from the gymnasium floor in the existing headquarters building. The new six "executive suites", are designed to the full amenities of corporate hotels.

Goodwill Prosperity Center

Historic Renovation

ZMM ARCHITECTS ENGINEERS

LOCATION:
Charleston, WV

SIZE:
10,200 SF

COMPLETION:
2015

COST:
$960,000

CONTACT:
Cheri Bever, President
Goodwill Industries
215 Virginia Street, W.
Charleston, WV 25302
304.346.0811

Goodwill's newly renovated Prosperity Center is located on Virginia Street (West) in Charleston. This facility will help prepare members of the community for the workforce, and will expand Goodwill's outreach opportunities. Inside the facility is several classrooms, a computer room, and a Career Center that is equipped with all the tools needed to prepare and apply for a job. A spacious and colorful lobby provides a relaxed atmosphere for visitors. Inside the center is a "Suited for Success" room where work-appropriate clothing will be available to those who need it.

The building, which was once the Charleston Transit Authority's bus garage, underwent a major exterior transformation. Layers of stucco were removed to open up the old garage bays, and glass was infilled into these openings to give the center a tremendous amount of natural light. The original brick was exposed, repointed, and painted. The improvements made to the exterior showcase the historic nature of the building while upholding the modern amenities needed for today.

Girl Scouts of Black Diamond Council

Volunteer Resource Center and Girl Zone/Urban Camp

ZMM ARCHITECTS ENGINEERS

LOCATION:
Charleston, WV

SIZE:
27,928 SF

COST:
$5M

COMPLETION:
Fall 2013

CONTACT:
Beth Casey, CEO
GSBDC
321 Virginia Street, W.
Charleston, WV 25302
304.345.7722

AWARDS:
2014 AIA Merit Award
West Virginia Chapter
Achievement in Architecture in Interiors/Graphics

Interior Before Pictures

The New Girl Scouts of Black Diamond Council Volunteer Resource Center and Girl Zone/Urban Camp is located on the West Side of Charleston, WV. The 24,650 SF project completely renovates and upgrades the existing buildings at 321 Virginia Street. The buildings were built in the early and mid-1900's, and were used as a car dealership showroom and parts building until 2008. By the time the Girl Scouts took possession of the building, it had fallen into a state of disrepair. The facility required environmental remediation, and the entire roof structure was damaged and had to be removed.

The Girl Scouts of Black Diamond Council purchased the vacant buildings in 2011 with the intent of converting them into a girl-centered facility for members and a volunteer-enrichment center for program resources and training. The program for the facility includes administrative offices, community/meeting gathering spaces, as well as a small hotel (Urban Camp) for Girl Scouts visiting Charleston. The Girl Scouts undertook the effort to transform the facility, creating an architectural style that would appeal to girls and young women, while utilizing colors and materials that would not become dated.

The main building brings all of the operations of the Girl Scouts of Black Diamond Council together under one roof and on one level. This building includes a volunteer meeting room, employee office space, flexible conference spaces, and a retail shop. The Virginia Street façade of the existing facility was removed, and more contemporary elements are utilized to speak to each of the functions. The Girl Zone/ Urban Camp reflects a more residential/outdoor tone with the use of a wood veneer, while the retail store has floor to ceiling storefront.

The storefront is etched with images of girl scouts and scouting slogans. The storefront is backlit in the evening, allowing the entire façade to reflect the function of the building. The entry is accentuated with a more vertical element and signage, giving hierarchy to the various elements, while the office areas are recessed from the corner with smaller openings, and a masonry veneer. Each zone has a unique identity.

The adjacent Girl Zone/Urban Camp conveys the feeling of a hotel or hostel and offers a place that Girl Scouts can stay during a visit to Charleston. While the main entry to the building faces Virginia Street, the entry for the Girl Scouts will be at the rear of the building. A small addition was developed to create a "check-in" area similar to a hotel. Adjacent to the "check-in" area is a great room where troops can gather to cook, congregate, and socialize. The "hotel rooms" utilize a dormitory arrangement, while the finishes and furnishings will be more like a youth hostel than a camp. The rear of the Girl's Zone/Urban Camp will reflect a more traditional camp environment, and includes an outdoor dining area and a fire pit.

With the mixed-use functions of retail, office, and residential, this unique project will be a vibrant addition to the emergent West Side community. The modern aesthetic of the facility will appeal to Girl Scouts and reflect the one of the Girl Scout's Journeys – "It's Your World – Change It!"

State Office Buildings 5,6, & 7

ZMM
ARCHITECTS
ENGINEERS

LOCATION:
Charleston, WV

COMPLETION:
On-Going

CONTACT:
Greg Melton
Director of General Services
Capitol Complex Building
Building 1, Room MB-60
1900 Kanawha Blvd., E.
Charleston, WV 25305
304.558.2317

More than forty (40) years ago, ZMM (as Zando, Martin, and Milstead) designed the original State Office Buildings 5, 6, & 7. Over the last several years, ZMM has been assisting the State of West Virginia General Services with various improvements to the buildings. These improvements have ranged from substantial renovations to maintenance and repair type projects, and include:

Roof Replacement
ZMM assisted the General Services Division with a roof replacement for all three buildings. The roof replacement utilized a white EPDM roofing material, with consideration being given to sustainability. The existing ballast, roof membrane, and rigid insulation were also salvaged as part of the roof replacement project. Several unused mechanical penthouses, antenas, and other abandoned equipment was also removed.

Electrical Courtyard Improvements
ZMM assisted the General Services Division with a project to expand the electrical courtyard adjacent to Building 7, and simultaneously improve the electrical service entry to buildings 5, 6, & 7. This project required both historical (matching the existing granite panels), as well as very technical electrical engineering design considerations.

Door and Window Replacement
ZMM has assisted with two separate projects, one to replace the windows in Buildings 5 & 6, and the second the replace the doors at the entries to Buildings 5, 6, & 7. These projects included building envelope and security considerations. The projects were designed and staged to minimize disturbance to the buildings occupants.

State Office Buildings 5,6, & 7

Major Renovations

ZMM provided design services for the renovation of the 10th Floor of Building 5 for the Office of Technology - a project that was recognized with a design award from the West Virginia Chapter of the American Institute of Architects. The project focused on demonstrating the potential that exists in State Office Buildings 5 & 6 if the floors are renovated in a more contemporary manner that moves the open office spaces to the perimeter, and pulls the offices adjacent to the building core. The project also involved close coordination with the State Fire Marshal, the introduction of a new sprinkler service and fire pump into the building, demolition, construction management, and hazardous material abatement. The project was delivered considerably under the anticipated project budget. ZMM has also assisted on renovations to the 8th Floor of Building 6 for the Department of Education and the 2nd, 3rd & 4th Floors of Building 6 for the Department of Education and Division of Personnel. Work on the 8th Floor of Building 6 is the only additional renovation constructed to date. ZMM has recently been released to provide design services for Floor 7, 8 & 9 of Building 5 and the 7th Floor of Building 6.

Caulk Replacement

ZMM provided design services to remove and replace all of the caulk located between the limestone and precast panels on the exterior of Buildings 5, 6, & 7. The project also included cleaning of the building's exterior along with some repair work. The project was coordinated with the Capitol Building Commission, although to date, the construction for this improvement has not commenced.

Valve Replacement

ZMM assisted with a valve replacement project to isolate mechanical risers in Building 5 & 6. This technically intensive mechanical project will give the General Services Division greater control over the system, and will help isolate various risers in the event of significant system failures in the future.

WV State Capitol Roof Replacement

ZMM ARCHITECTS ENGINEERS

LOCATION:
Charleston, WV

COMPLETION:
TBA

The West Virginia State Capitol Building was constructed in 1924-1932 and is listed on the National Register. The scope of work includes replacement of the roof on connectors and roofs above as well as the base of the dome. This project started with an in-depth study of existing drawings and site conditions and a site visit to the Capitol to ascertain the actions necessary to provide the new roof system.

The investigation included:

- Review all Roofing Components for Integrity/Ability to Control Moisture Collection/Removal
- Conduct Destructive Testing (Multiple Roofing/Flashing Systems?)
- Hazardous Material Testing of Components (Paint, Mastic, Insulation, Caulking)
- Review all Points of Roof Access: Walkways, Walkway Pads, Stairs
- Work with GSD to Develop Recommendations for the Roofing System
- Consider Building Envelope Performance/Insulation Requirements

All the roof system components will need to be reviewed for their integrity and ability to control moisture collection and removal from the building's roof. The components that are to be reviewed will include parapet walls, railings, wall conditions, colonnades, roof penetrations, roof drains, roof equipment, and walking surfaces. Investigative holes will need to be cut into the existing membrane to identify conditions of insulation, roof deck and any remains of former roofing materials and flashing systems. Test of roofing materials will need to be made for any possible hazardous materials. Our ability to provide comprehensive design solutions will be advantageous as it relates to mechanical equipment curbs and structural supports.

A report will be prepared and presented showing findings and recommendations from the investigation of all the roof conditions. The report will include recommended option for the roof membrane material, discussion of repairs to roof components, as well as any required repairs to the roof deck. Also included in the report will be a preliminary cost estimate including cost differences for each proposed option. ZMM will provide construction observation services and will work with the owner's representative during the construction process. We will be responsible for reviewing all shop drawings and questions that occur during the project. ZMM will also participate in all progress meetings and make site visits on a regular basis. ZMM will remain available to assist the state throughout the warranty phase of the project.

Construction & Facilities Management Office Expansion

WVARNG

ZMM ARCHITECTS ENGINEERS

LOCATION:
Charleston, WV

SIZE:
19,935 SF

COST:
$3.5M

COMPLETION:
2008

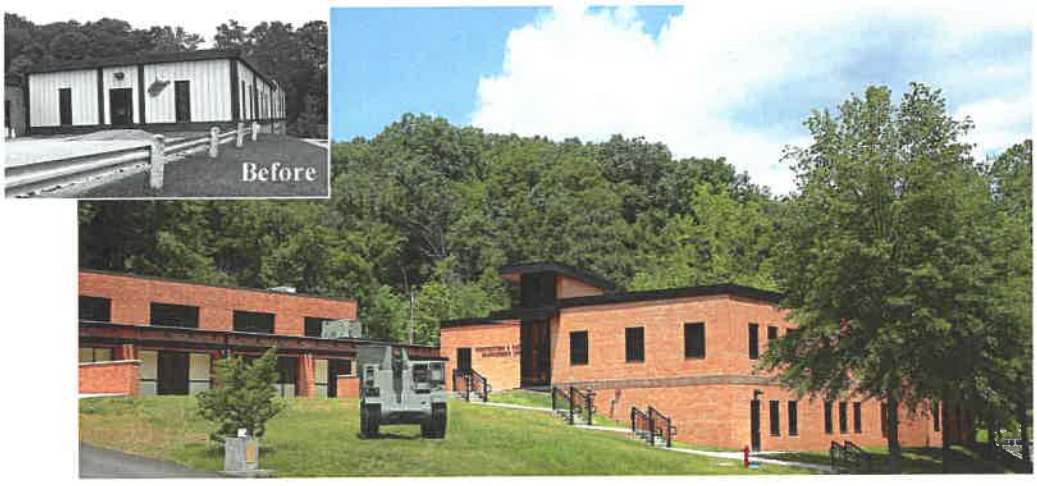
CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6539

AWARD:
2009 AIA Merit Award,
West Virginia Chapter,
Achievement in Architecture

The Construction and Facilities Management Office (CFMO) Expansion project will bring all of the operations of the CFMO together under one roof. The branches that will occupy this facility include: Director of Engineering, Environmental, Planning and Programming, Facility Operations & Maintenance, Business Management, Resource Management, and Design and Construction. This new facility is located slightly to the front, and adjacent to the existing facility, lending prominence to the new construction, and providing a new aesthetic to the entire complex.

This transitional space was designed to connect the two structures, while maintaining a connection to the outside through use of natural light, direct visual connections to the exterior, large volumes, irregular geometries, and the use of natural materials.

The entry design was coordinated with the Recruiting and Retention building to create an outdoor courtyard, along with new sidewalks, stairs and signage. The entry roof is sloped to provide a greater massing, while a lower canopy provides scale and protection from the elements. Large gathering and work spaces were located on the north elevation to take advantage of large expanses of glazing located to capture indirect light and views of Coonskin Park.



Wood County Justice Center Renovation

ZMM ARCHITECTS ENGINEERS

LOCATION:
Parkersburg, WV

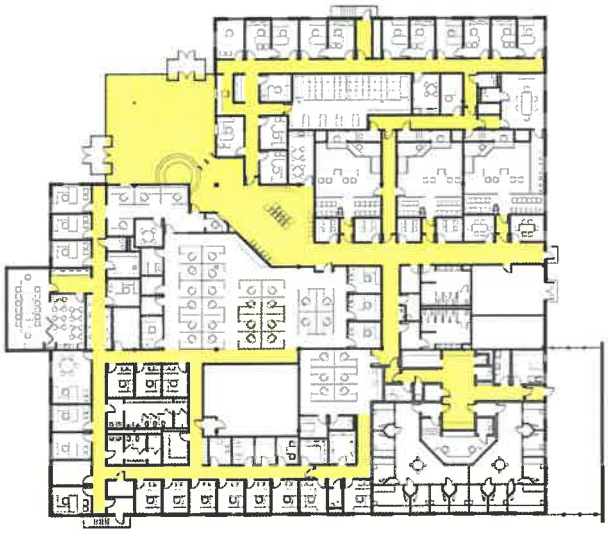
SIZE:
32,000 SF

COMPLETION:
2011

PROJECT COST:
$5M

CONTACT:
Mr. Blair Couch
Commissioner
No. 1 Court Square
Suite 205
Parkersburg WV 26101
304.424.1984
dbc@woodcountywv.com

This project was an extensive renovation of a 15 year old, 32,000 square foot, single story office building located in downtown Parkersburg, West Virginia. The building was purchased by the Wood County commission with the purpose of bringing together 3 government functions that had outgrown the 3 separate buildings that they occupied.



The renovated building consists of offices and 3 Courtrooms for the County's Magistrate Court system, public service windows for document pick-up and payment of fines, offices for the Sheriff's Department and Home Confinement and a 12-hour Inmate Holding Center.

Due to the building's new use, the interior was completely demolished leaving only the shell. The building's main entrance was relocated and redesigned to provide a new, more prominent identity to the building and to align with the new parking area created by the demolition of the adjacent existing magistrate court building. The old HVAC system was removed and replaced with a more energy efficient system and new, energy efficient lighting was installed. The project was designed around the U.S. Green Building Council's New Construction and Major Renovation Guidelines and is LEED Silver Certified.

Jackson County Armed Forces Reserve Center

WVARNG

ZMM ARCHITECTS ENGINEERS

LOCATION:
Millwood, WV

SIZE:
75,000 SF

COST:
$20M

COMPLETION:
Fall 2011

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446

The new facility houses both the West Virginia Army National Guard (WVARNG) and the United States Army Reserves (USAR). The primary user for the WVARNG will be DET 1 821st Engineering Company, who will be supported by a FSC of the 1092nd. USAR occupants will include PLT AMMO 261 OD and PLT 1 (Postal) and PLT 6 (Postal) of the 44th Personnel Company. The facility also includes an expanded Drill Hall that can serve as a convention and meeting space, which is being funded by the Jackson County Commission, additional federal appropriations, and the State of West Virginia National Guard.

The relationship between the structures became crucial to the site layout. The new facility is centered on the existing house, increasing the exposure of the facility from Route 2 - the major route of vehicular travel that parallels the Ohio River. Once the aesthetic of the building was established, the massing of the new facility was defined by breaking-down the facility into smaller mass elements that more closely reflected the Georgian Style, and that of many Army posts, such as Fort Meyer in Northern Virginia. The larger programmatic elements such as the Drill Hall and the storage areas employ an aesthetic that more closely implies their function.

The layout of the facility includes a main entry with the USAR and WVARNG Recruiting, Family Support, and Administrative areas located on separate sides (USAR to the left, WVARNG to the right). A transverse wing on the left houses all functions that have the potential for public use, such as the Drill Hall and the Educational component, while all primary military spaces developed along a similar perpendicular wing on the right. This allows for separate entries to be developed for public functions, while the remainder of the facility can be secured. The layout also creates a large central courtyard or parade field that would be located at lower grade to define the edge facing the river. This edge is defined by a canopy that connects storage and locker areas to the expanded Drill Hall.

Jackson County Sheriff's Office

ZMM ARCHITECTS ENGINEERS

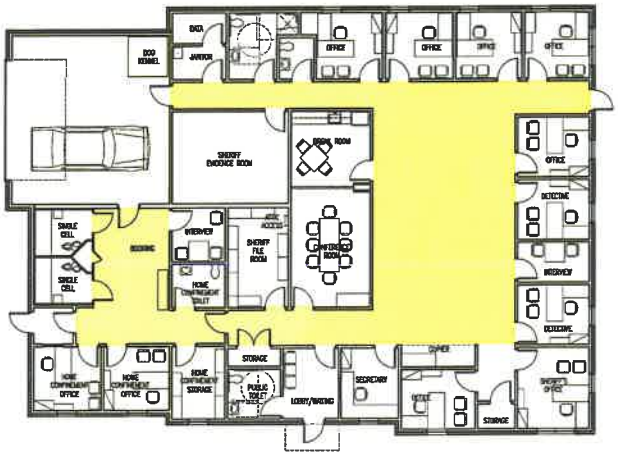
LOCATION:
Ripley, WV

COST:
Est. $1.6M

SIZE:
5,400 SF

CONTACT:
Sandy Garrett
Administrative Assistant
Jackson County Commission
Ripley, WV 25271
304.561.6539

The Jackson County Sheriff's Office was outgrowing their current facility, so a vacant lot was acquired adjacent to their existing building, which is located on the courthouse square in Ripley, WV. The one story sheriff's office will be approximately 5,500 sq ft. The cost is estimated to be $1.5 million. The building will function as a full sheriff's office, as well as contain all home confinement reporting necessities for the county.



An improved booking area will contain two holding cells, sally port garage space, interview room, and all crucial processing equipment. The sheriff's office will include a conference room, advanced evidence storage, a work area for the deputies with room to grow, and personal offices for the sheriff, chief, captain, lieutenants, sergeants, and detectives. The public will enter through secured vestibules while staff will have key card access at entryways. The new state-of-the-art building will help the Jackson County Sheriff's Department serve the public more efficiently and effectively.

Kenna Elementary School

Jackson County Schools

ZMM ARCHITECTS ENGINEERS

LOCATION:
Kenna, WV

SIZE:
48,000 SF

COST:
$10.8M

COMPLETION:
2014

CONTACT:
Mr. Blaine Hess
Superintendent
PO Box 770
Ripley, WV 25271
304.372.7300

AWARD:
2015 AIA Merit Award
West Virginia Chapter
Excellence in Architecture Design

The New Kenna Elementary School will serve approximately 375 students in grades Pre-Kindergarten through 5th Grade. The new facility will replace the existing school that was falling into disrepair and lacked the essential spaces for a thriving 21st Century learning environment. The new school includes a physical education/ cafeteria space, state-of-the-art media center, art/science room, music room, full kitchen, and two computer classrooms. The classrooms have large windows that allow for natural light, as well as great views to the surrounding wooded hills.

The entry area includes concrete inlayed into the brick wall that contains images of various state landmarks and features. The entrance also features an inverted gable that adds drama and scale, while the interior finishes were selected to reflect a natural river.

The site includes a separate bus drop-off area and parent drop-off area. There is also a designated Pre-K drop-off. A fenced Pre-K/K play area is provided, as well as a play area for the Grades 1-5. Several playing fields will be located on site as well.

We worked closely with the school's design committee to ensure their vision for this project. The school's materials include brick, stone, wood, and metal. The school colors and theme were incorporated into the interior design through paint, carpet, tile patterns.

Ripley Elementary Pre-K Kindergarten Center

Jackson County Schools

ZMM ARCHITECTS ENGINEERS

LOCATION:
Ripley, WV

SIZE:
14,540 SF

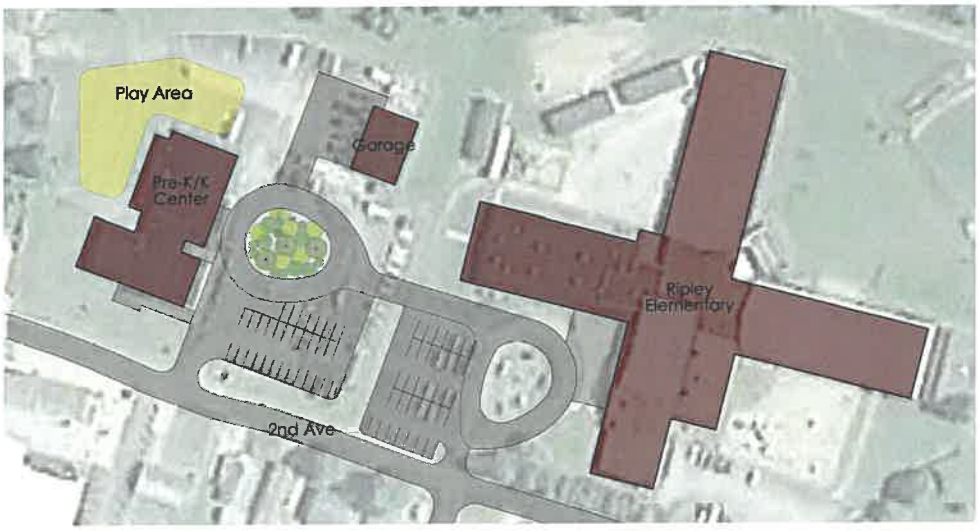
COST:
Est. $2M

COMPLETION:
2014

CONTACT:
Mr. Blaine Hess
Superintendent
PO Box 770
Ripley, WV 25271
304.372.7300

This new facility will consist of three Kindergartens, two Pre-Kindergartens, Title I classroom, administration area, and cafeteria. The existing gymnasium, kitchen, mechanical room, and restrooms will more than likely remain in their current location. ZMM recommends that all exterior doors be painted, and the overhead door be replaced with tempered/laminated glass to bring natural light into the physical education area. We also recommend an exterior canopy to be added to the student entrance to keep the weather off the students.

This will also clearly identify the location of the side entrance. We will work closely with Jackson County Schools to verify their vision, because it is important that the design reflects the quality that Jackson County Schools wants to convey to the community.



Client References

Greg Melton, Director of General Services
Capitol Complex Building
Building 1, Room MB-60
1900 Kanawha Blvd., E.
Charleston, WV 25305
304.558.2317

John Robertson, Director
501 Virginia Street, East
Charleston, WV 25301
304.348.8014

MAJ Dan Clevenger, WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6367

Beth Casey, CEO
Girl Scouts of Black Diamond Council
3211 Virginia Street, East
Charleston, WV 25302
304.345.7722

Cheri Beaver, President
Goodwill Prosperity Center
215 Virginia Street, West
Charleston, WV 25302
304.346.0811