May 11, 2020

ADDENDUM NO. 2

Please attach this Addendum to the Project Manual. The Addendum is hereby made part of the Contract Documents on which the Contract will be based and is issued to modify or correct the Original Contract Documents.

Bid Date: The Bid Date is Thursday, May 21, 2020 at 10:00 A.M. local time.

GENERAL:

- PROTOCALS THE BID OPENING PROCEDURE: DUE TO COVID-19
 PROTOCALS THE BID OPENING WILL BE BY "TEAMS MEETING".
 THERE WILL NOT BE AN IN PERSON BID OPENING.
 Any contractors submitting a bid, please email
 chuck.grebe@hcps.org and missy.valentino@hcps.org an email
 contact address to receive an invitation to attend the TEAMS
 meeting bid opening. Each firm will receive an email with a link to
 access the bid opening. The bid date is Thursday May 21, 2020.
 Sealed bids are due at 10:00 AM. MBE requirements are due by
 10:30 AM.
- A2.1 See attached Agenda of the Pre-Bid Conference meetings. Also attached is the sign-in log of attendees.
- A2.2 Attached is report of Pre-Bid RFI Questions and responses to date for items PB-1 PB-47. PB-34 is open. The response is included below with item A2.5. The report will be updated with the next Addendum.

PROJECT MANUAL

- A2.3 Project Manual: 00 83 00 General Scope of Work:
 - 1. 2A Package:
 Add item 61. "The 2A Contractor shall remove and dispose of the existing concrete ramp next to the Auditorium as shown on drawings A-1.5 and A-3.2. The 6A Contractor will install the new concrete ramp and adjacent sidewalks."
 - 2. 6A Package:

Add item 7. "6A Contractor shall remove the existing metal louvers at the existing door frames as noted on demolition plans and will provide and install the new metal panels shown on Drawing A-8.0."

"Delete Item 110. In its entirety."

Add item 199" The 6A Contractor will furnish and install the new retaining wall as shown on Drawing A-3.2 in its entirety."

May 11, 2020

- 3. 8A Package:
 Delete from item 1. "Translucent Panels."
- 4. See attached clarification sketch SK-Add#2.1.
- A2.4 Project Manual: 02 41 19 Selective Demolition: 3.3 Protection of Existing Systems During Demolition and Renovations, Item E: Delete reference to "Obtain the services of Baltimore Sound for final connections to the existing Data, Sound, and TV Systems."

Insert: Refer To Specification Section 27 05 00, "Common Work Elements For Communications Systems" and for status of all low voltage (Division 27 and 28) systems, and specific information relative to work to be included in the contract versus Owner responsibilities for each system. Refer to Electrical Demolition Drawings (E1.xx series) for General Notes regarding temporary suspension of existing low voltage systems wiring and devices and demolition/removal of existing low voltage wiring and devices; and to Electrical Special Systems (E5.xx series) drawings for new work associated with all low voltage (Special) systems.

- A-2.5 Project Manual: 08 71 00 Door Hardware: Page 38, Hardware Set 32: add door A220.01 (at new IDF Room).
- A-2.6 Project Manual: 11 40 00 Food Service Equipment. Please insert attached Standard Detail 5.06 Vent Duct Detail at end of section. This is in response to RFI PB-34. Reference to this detail is Item #5 on page 48 of this section.
- A-2.7 Project Manual: 23 09 00 Building Automation System: Replace entire section with attached new section.
- A-2.8 Project Manual: 23 73 13.10 Custom Air-Handling Units: Replace entire section with attached new section.
- A-2.9 Project Manual: 25 55 00 Automatic Temperature Controls: Delete section in its entirety.
- A-2.10 Project Manual: 26 05 25 Basic Electrical Materials and Methods: Revise paragraph 2.3.E.1 to read as follows: "For branch circuits protected by an overcurrent protective device with trip rating of 400 amperes or less (conductor size #600 kCMIL or less), installed above dropped ceilings or within drywall partitions, type MC (metal clad) cable may be used where permitted by the NEC and local codes as interpreted by the local Electrical Inspector. No Romex (Type NM) or BX cable shall be permitted"
- A-2.11 Drawing Clarification (Drawing not reissued) E0.11Existing /New Power Riser Diagram
 - A. MTS-1: Manual Transfer Switch MTS-1 shall be a 480-volt, 600 ampere, 3 Pole, Double Throw, non-fused disconnect switch in NEMA-1 enclosure. The feeder from this switch to OSDP-1 shall be Feeder 500E as indicated in the Circuit and Feeder Schedule on Drawing E0.15.

May 11, 2020

- B. MTS-2: Manual Transfer Switch MTS-2 shall be a 480-volt, 600 ampere, 3 Pole, Double Throw, non-fused disconnect switch in NEMA-1 enclosure. The feeder from this switch to OSDP-2 shall be Feeder 500E as indicated in the Circuit and Feeder Schedule on Drawing E0.15.
- A-2.12 Drawing Clarification (Drawing not reissued) E0.43 Site Plan Existing Conditions and new Work Lighting: 2/E0.43 Site Plan New Work Lighting Entry Area: Conduit and branch circuit wiring serving Type OA Pole Lights in Front Entry Plaza shall be run in the east/west direction below the blacktop of the Bus Driveway Loop. Do not, under any circumstances, disturb steps or concrete plaza between planters and building or the steps between the planters. Excavate within planters to bring conduit out south side of the planters below grade. Saw cut and repair the sidewalk and curb on the south side of the planters. The driveway is to be resurfaced.

ATTACHMENTS:

Pre-Bid Meeting Agenda
Pre-Bid Conferences Sign-In Log
Pre-Bid RFI Report
SK-Add#2.1
Standard Detail 5.06 Vent Duct Detail
Project Manual Section 23 09 00 Building Automation System
Project Manual Section 23 73 12.10 Custom Air Handling Units

DRAWINGS: UNDER SEPARATE ATTACHMENT THE FOLLOWING DRAWINGS ARE REVISED AS PART OF THIS ADDENDUM.

ARCHITECTURAL:

- G-0.1 INDEX Added Civil Drawings
- A-0.5 DOOR SCHEDULE Corrected door heights
- A-1.3 MAIN LEVEL FLOOR PLAN AREA C Horizontal duct chase detail notation
- A-1.6 UPPER LEVEL FLOOR PLAN AREA A New room IDF A220.-1
- A-2.3 MAIN LEVEL CEILING PLAN AREA C Coordination updates with duct and lighting in Rooms C120, C121, and C131
- A-2.5 MAIN LEVEL CEILING PLAN AREA E- Added ceiling grid in four rooms, Corrected grid in Kitchen
- A-2.6 UPPER LEVEL CEILING PLAN AREA A Ceiling with new room IDF A220.01
- A-3.3 WINDOW REPLACEMENT ELEVATIONS- Revised storefront door heights.
- A-3.4 WINDOW REPLACEMENT ELEVATIONS Revised storefront door heights. Delete W20
- A-3.5 WINDOW REPLACEMENT SECTIONS Revised storefront door heights.
- A-3.14 WINDOW REPLACEMENT SECTIONS Revised storefront door heights.

May 11, 2020

- A-5.4 WHEELCHAIR LIFT DETAIL NEW WORK SECTIONS, DUCT CHASE DETAIL Add Detail 6
 Duct Chase Section
- A-7.10 AREA E MAIN LEVEL ENLARGED PLANS AND INTERIOR ELEVATIONS Clarified exterior ramp and wall
- A-7.12 AREA A UPPER LEVEL ENLARGED PLANS AND INTERIOR ELEVATIONS Corrected sink cabinet model numbers
- A-11.1 ELECTRIC ROOM DEMOLITON AND FLOOR PLAN Dimension corrections
- A-11.2 ELECTRIC ROOM RCP AND ROOF PLAN Clarified tapered roof insulation
- A-11.3 ELECTRIC ROOM ELEVATIONS Dimension corrections
- A-12.01 RESTROOM/CONCESSIONS BUILDING LIFE SAFETY PLAN, DOOR SCHEDULE, DETAILS Coiling Counter Door material notes.
- A-12.1 RESTROOM/CONCESSIONS BUILDING Revised Section markers
- A-12.3 RESTROOM/CONCESSIONS BUILDING ELEVATIONS Revised Section markers
- A-12.4 RESTROOM/CONCESSIONS BUILDING ELEVATIONS Coiling Counter Door material note correction
- A-12.6 RESTROOM/CONCESSIONS BUILDING SECTIONS Coiling Counter Door material note correction
- A-12.7 RESTROOM/CONCESSIONS BUILDING SECTIONS Coiling Counter Door material note
- A-12.8 RESTROOM/CONCESSIONS WALL SECTIONS Realigned section.
- A-12.9 RESTROOM/CONCESSIONS BUILDING WALL SECTIONS Coiling Counter Door material note correction

CIVIL: REPLACE THE CIVIL DRAWINGS IN THEIR ENTIRETY WITH THE ATTACHED

- C-01 SITE IMPROVEMENTS TITLE SHEET
- C-02 SITE IMPROVEMENTS EXISTING CONDITIONS AND DEMOLITION PLAN
- C-03 SITE IMPROVEMENTS SITE LAN
- C-04 SITE IMPROVEMENTS SITE ENLARGEMENT 1 OF 3
- C-05 SITE IMPROVEMENTS SITE ENLARGEMENT 2 OF 3
- C-06 SITE IMPROVEMENTS SITE ENLARGEMENT 3 OF 3
- C-07 SITE IMPROVEMENTS SITE UTILITY PLAN
- C-08.1 SITE IMPROVEMENTS SITE UTILITY PROFILES 1 OF 3
- C-08.2 SITE IMPROVEMENTS SITE UTILITY PROFILES 2 OF 3
- C-08.3 SITE IMPROVEMENTS SITE UTILITY PROFILES 3 OF 3
- C-09.1 SITE IMPROVEMENTS SITE DETAILS 1 OF 3
- C-09.2 SITE IMPROVEMENTS SITE DETAILS 2 OF 3
- C-09.3 SITE IMPROVEMENTS SITE DETAILS 3 OF 3
- C-10.1 SITE IMPROVEMENTS RETAINING WALL 1 OF 3
- C-10.2 SITE IMPROVEMENTS RETAINING WALL 2 OF 3
 C-10.3 SITE IMPROVEMENTS RETAINING WALL 3 OF 3
- C-11 PUBLIC WATER & SEWER PUBLIC WATER TITLE SHEET
- C-12 PUBLIC WATER & SEWER PUBLIC WATER PLAN
- C-13 STORM WATER MANAGEMENT TITLE SHEET
- C-14 STORM WATER MANAGEMENT PLAN

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION JOPPATOWNE, MARYLAND

ADDENDUM NO. 2

May 11, 2020

C-15	STORM WATER MANAGEMENT ESD DRAINAGE AREA MAPS
C-16	STORM WATER MANAGEMENT QUANTITY DRAINAGE AREA MAPS
C-17	STORM WATER MANAGEMENT DETAILS
C-18	STORM WATER MANAGEMENT NOTES
C-19	STORM WATER MANAGEMENT PROFILES
C-20	STORM WATER MANAGEMENT LANDSCAPING PLAN
C-21	EROSION AND SEDIMENT CONTROL TITLE SHEET
C-22	EROSION AND SEDIMENT CONTROL OVERLAY PLAN
C-23.1	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS 1 OF 2

MECHANICAL:

C-23.2

M0.01 MECHANICAL GENERAL NOTES & DEMOLITION NOTES - Drawing List updated

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS 2 OF 2

- M0.12 HEATING WATER RISER DIAGRAM Hot water mixing valve for outside air temperature reset added to riser diagram.
- M0.23 MECHANICAL SCHEDULES (CONTINUED) Fan terminal unit FTU-E-11 for stage area added to schedule.
- M1.05 MAIN LEVEL FLOOR PLAN AREA E HVAC EX. COND. & DEMOLITION Additional ductwork to be removed due to substitution of DRH-1 with FU-E-11.
- M2.01 MAIN LEVEL FLOOR PLAN AREA A HVAC EX. COND. & NEW WORK
 - A. Adjustment to routing of bathroom exhaust ductwork.
 - B. Plenum above Kiln Room to be sectioned off to eliminate possible mixing of dryer, bathroom and general exhaust.
- M2.03 MAIN LEVEL FLOOR PLAN AREA C HVAC EX. COND. & NEW WORK
 - A. Layout of ductwork, heating water piping and fan terminal units in "FOT LAB C131" modified for structural/lighting coordination.
 - B. Layout of ductwork, heating water piping and fan terminal units in "FOT LAB C121" modified for structural/lighting coordination.
 - C. Layout of ductwork, heating water piping and fan terminal units in "MULTIPURPOSE ROOM C120" modified for structural/lighting coordination.
 - D. Layout of ductwork, heating water piping and fan terminal units in "CORRIDOR C102" modified for structural/lighting coordination.
- M2.05 MAIN LEVEL FLOOR PLAN AREA E HVAC EX. COND. & NEW WORK
 - A. Added transfer air ductwork and associated air devices serving "CUST E139".
 - B. Added return air duct work and associated air devices in "CORRIDOR E100".
 - C. Removed Door Undercut's in rooms adjacent to "CORRIDOR E100".
 - D. Duct Re-Heat Coil serving stage changed to constant volume Fan Terminal Unit.
 - E. Relocated air device that was conflicting with Cooler in "KITCHEN-E111".
- M2.09 BOILER ROOM PART PLAN HVAC EX. COND. & NEW WORK
 - A. Four (4) Electric Unit Heaters added to room.
 - B. Chemical treatment equipment located in room.
 - C. Note for housekeeping pads added.
 - D. Building Automation System control panel added.
- M2.10 MAIN AIR HANDLING UNIT ROOM PART PLAN HVAC EX. COND. & NEW WORK Two (2) Electric Unit Heaters added to room.

May 11, 2020

- M2.11 CHILLER YARD PART PLAN HVAC NEW WORK
 - A. Location of Temporary Boiler shifted.
 - B. Added notes providing mounting information on Mechanical Equipment serving Main Electric Room.
- M3.01 ROOF PLAN HVAC NEW WORK Duct routing of RTU-4 modified.
- M3.03 TUNNEL PART PLAN HVAC EXISTING CONDITIONS AND NEW WORK Duct routing modified in boiler room.

ELECTRICAL:

- E0.01 ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES -
- E0.22 ELECTRICAL SCHEDULES Updated panel schedules.
- E0.23 ELECTRICAL SCHEDULES- Updated panel schedules.
- E0.26 ELECTRICAL SCHEDULES- Updated panel schedules.
- E0.27 ELECTRICAL SCHEDULES- Updated panel schedules.
- **E0.29** SHEDULE OF TELECOMMUNICATION OUTLETS
 - A. Updated notes.
 - B. Added Details of Classroom Telecomm Devices
- E2.02 MAIN LEVEL AREA B POWER Revised room name from "Cust. b126" to "Elec. b126."
- E2.05 MAIN LEVEL AREA E POWER
 - A. Added symbology and circuits for EUH's & VF-7 in main electric room (VF-7 had a circuit just not symbology)
 - B. Added symbology and circuits for FCU-5
- E2.09 LOWER LEVEL AREA D POWER Added symbology and circuits for EUH's
- E2.10 PARTIAL ROOF PLAN ELECTRICAL Revised schedule of mechanical equipment connections, added row for HP-5
- E3.02 MAIN LEVEL AREA B BASE BID LIGHTING Added light fixture tags for wall packs
- E3.03 MAIN LEVEL AREE C BASE BID LIGHTING Shifted light fixtures and added (2) light fixtures in FOT C121.
- E3.05 MAIN LEVEL AREA E BASE BID LIGHTING Removed light fixtures showing over new cooler in main kitchen, revised light fixtures in OFFICE E138, CUST E239, TCKT E140, IDF E141
- E4.03 MAIN LEVEL AREA C ADD ALTERNATE LIGHTING Shifted light fixtures and added (2) light fixtures in FOT C121.
- E4.05 MAIN LEVEL AREA E ADD ALTERNATE LIGHTING Removed light fixtures showing over new cooler in main kitchen, revised light fixtures in OFFICE E138, CUST E239, TCKT E140, IDF
- E6.02 ELECTRICAL PART PLANS Added receptacle for chemical treatment system, added power for EUH's in boiler room
- E6.07 ELECTRICAL PART PLANS Shifted light fixtures in MULTIPURPOSE ROOM C120

FIRE PROTECTION:

- FO.01 FIRE PROTECTION, SYMBOLS ABBREVIATIONS AND NOTES Revised drawing list,
- F2.01 MAIN LEVEL ZONING PLAN AREA A FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION JOPPATOWNE, MARYLAND

ADDENDUM NO. 2

May 11, 2020

- F2.02 MAIN LEVEL ZONING PLAN AREA B FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.
- F2.03 MAIN LEVEL ZONING PLAN AREA C FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.
- F2.04 MAIN LEVEL ZONING PLAN AREA D FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.
- F2.05 MAIN LEVEL ZONING PLAN AREA E FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.
- F2.06 UPPER LEVEL ZONING PLAN AREA A FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.
- F2.07 UPPER LEVEL ZONING PLAN AREA B FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.
- F2.08 LOWER LEVEL ZONING PLAN FIRE PROTECTION Revised fire protection drawings to document removal of existing sprinkler system and installation of new complete system.

End of Addendum No. 2

HARFORD COUNTY PUBLIC SCHOOLS PRE-BID CONFERENCE AGENDA

Joppatowne High School Limited Renovation

Tuesday May 5th: 9:00 am 2A, 10:30 am 8A & 9A, 1:30 pm 6A Wednesday May 6th: 9:00 am 15A, 1:00 pm 16A

I. INTRODUCTIONS

A. Opening Comments

- Welcome to Harford County Public Schools for the Pre-Bid Conference for the New Joppatowne High School Limited Renovation Project.
- 2. Introduction of Guests:

A. Harford County Public Schools:

Charles Grebe, Assistant Supervisor in Planning & Construction Christopher Morton, Supervisor of Facilities Management Stephen Fantasie, Construction Project Assistant

Banta Campbell Architects:

Mike Campbell, President

George W. Stephens, Jr. & Associates, Inc.

Wayne Karch, Civil Engineer

Bala/SVA Consulting Engineers:

Stephen Spinazzola, Mechanical Engineer Richard Williams, Electrical Engineer

Oak Contracting Construction Manager:

Jim Folkemer, Project Manager
Joe Tiberi, Director of Pre-Construction
James Fowler, MEP Coordinator
Eric Green, Superintendent

 Project Description- It was determined that a Limited Renovation is the most feasible and economical method to address the school's systemic needs and address the most critical educational needs.

Educational Enhancements include spaces for Homeland Security signature program, Child Development Labs, Professional Foods Lab, Graphic Lab and related support classrooms. Additionally, HCPS will coordinate with Harford Community College with a flex space for partnership.

Structural includes correcting areas where the slab and interior walls have settled over

Joppatowne High School – Pre-bid May 5th & 6th

the years due to settlement of soil below the slab per the structural engineers report. The replacement of brick veneer along the south auditorium stage from where water penetrated behind the wall. New windows and storefronts throughout the building to be more energy efficient. Replacement of the metal pan ceiling throughout with new acoustical ceilings.

Mechanically the facility is operating on HVAC equipment and systems that are over 35 years old. Replace the water-cooled chiller with air cooled chiller, provide VRF system in the Administration core, new air handling equipment, new DOAS equipment, new ATC. Plumbing: replace the existing domestic water service, the existing storm system is terra cotta that was found to be clogged and broken in many places. The piping will be replaced with cast iron.

Electrical: the existing electrical service will be upgraded to meet current codes.

Fire Service: replace existing domestic water service that supports the fire sprinkler system.

Other work: Replace ADA compliant door and hardware, replacement of exterior doors, replacement of floor finishes, replacement of toilet partitions, replacement of student lockers, replacement of majority of toilet and lavatory fixtures. Replacement of existing stadium bleachers and press box.

II. ADMINISTRATIVE DETAILS

A. Sign-in Sheet

Please sign in

B. Availability of Plans & Specs

Bid Documents may be obtained through the Construction Manager Oak Contracting LLC, 1000 Cromwell Bridge Road, Towson, MD 21286; (410) 828-1000. To register as a bidder and to have access to the Bid Documents please contact Michele Wixsom at mwixsom@oakcontracting.com or Steve Krell skrell@oakcontracting.com by email.

C. Bidding & Project Schedule

Sealed bids will be received by the Board of Education of Harford County in the Harford County Public Schools Administration Building Board Meeting Room, 102 S. Hickory Avenue, Bel Air, MD 21014 as follows:

- May 21, 2020 @ 10:00 AM: Contract Packages 2A Sitework, 6A General Trades, 8A Entrances & Storefronts, 9A Finishes, 15A Mechanical and 16A Electrical. No later than 10:30 AM submit MBE Attachments 1A. All bids will be publicly opened and read aloud at 10:30 AM.

Joppatowne High School – Pre-bid May 5th & 6th

Bid documents are to be submitted in duplicate. 10% Bid Bond is also required.

D. **Bid Opening Procedures** BOE Approval – June 8, 2020

IAC Approval – July 9, 2020

NTP - July 10, 2020

Substantial Completion: July 31, 2022

Ĕ. Contractor Qualification Statement - Contractor's wishing to submit proposals issued by Harford County Public Schools shall be prequalified by HCPS as set forth by the Code of Maryland Regulations (COMAR), 21.05.02.05. Contractor shall submit a Contractor's Qualification Statement (AIA Document 305 - 1986) three (3) days prior to receipt of bids, to HCPS Planning & Construction Department. Can be emailed to my attention:

chuck.grebe@hcps.org

Prevailing Wage

Maryland State Prevailing Wage rates will apply to this project because there is more than 50% State Participation.

G. Alternates - There are 10 Alternates on this project:

- 1. Demolition of existing stadium bleachers and press box. Construction of new metal bleacher and press box system.
- 2. Construction and installation of concessions/restroom building in stadium area.
- Construction and installation of team/storage building in stadium area. 3.
- Replace designated hardware at doors in gymnasium and lower lever locker area. 4.
- Replace macadam walk adjacent to curb at west side of drive adjacent to building and 5. extending west to Falconer Road.
- In lieu of installing existing fluorescent lighting fixtures in new ceilings, all existing 6. lighting fixtures with LED type fixtures as indicated on electrical drawings.
- Replace existing metal student lockers with new, replace existing metal toilet partitions 7. with new plastic toilet partitions.
- 8. Replace two existing steam kettles and steam dishwasher in kitchen. Replace existing kitchen hood.
- 9. Kitchen E111: revise existing freezer/cooler into a single freezer. Revise exterior panels for single entry door. Add new cooler box at southwest corner of E111.
- 10. Window replacement: two story window replacements in Area A and B with modified curtain wall window detailing. Refer to drawings on sheet A-3.15.

III. MINORITY BUSINESS ENTERPRISE PROCEDURES

Bidders are to please carefully read the MBE instructions and information. If there are any questions please call HCPS at 410-638-4090.

- A. Each Trade Package has a Goal Please look at Goals and Subgoal requirements that have been set for each Trade package.
 - 2A Sitework: 15% 7% African American, 4% Asian American
 - 6A Carpentry: 30% 7% African American, 4% Asian American
 - 8A Aluminum Framed Entrances: 15% 7% African American, 0% Asian American
 - 9A Drywall & Acoustical: 15% 7% African American, 4% Asian American
 - 15A Mechanical: 25% 7% African American, 4% Asian American
 - 16A Electrical: 25% 7% African American, 4% Asian American
- B. Documents required with bid:
 - 1. Bid Bond
 - 2. Affidavit of Qualification to Bid
- C. Documents required within thirty (30) minutes of submitting the bid proposal:
 - Attachment "1A" Certified MBE Utilization and Fair Solicitation Affidavit & MBE Participation Schedule

Note: Bid Bond, Attachment "1A", must be submitted in proper form and content at the time of bid opening or the bid will be rejected as non-responsive.

- D. Documents required by low bidder within 10 days:
 - 1. Outreach Efforts Compliance Statement
 - 2. Statement of Intent
 - 3. Request for Exception Form
 - 4. Minority Business Contractor Unavailability Certificate

IV. <u>EMPLOYMENT OF SEX OFFENDERS AND OTHER CRIMINAL OFFENDERS</u>

A. Section 11-722 of the Criminal Procedure Article of the Maryland Code prohibits any person with a contract with a local Maryland school system from knowingly employing an individual to work at the school if the individual is registered as a sex offender pursuant to Section 11-704 of the Criminal Procedure Article.

- B. The Contractor shall acknowledge the following requirements of Section 11-722 of the Criminal Procedure Article, and Section 6-113 of the Education Article, Annotated Code of Maryland.
- C. Direct unsupervised and uncontrolled access with students is prohibited. If you, as the Contractor/Site Supervisor, witness or suspect your employee(s) entering into a student area, action must be taken immediately to rectify the situation.
- D. The apparent low bidder shall complete and submit the Employment of Sex Offenders and Other Criminal Offenders Affidavit, (Section 006400), which is specified in the bid documents within ten (10) working days after notification that the firm is the apparent low bidder.

V. ARCHITECT INFORMATION

- A. Permits HCPS will pull the Building Permit and apply for the Demolition Permit. Prior to approving the Demolition Permit for the project, there must be an electrical, plumbing and mechanical demolition permits in the system.
- B. Administrative Information. All questions regarding the bid, or the Documents, must go through Oak Contracting, send questions by email (in MS WORD format) to Jim Folkemer at ifolkemer@oakcontracting.com.
- C. Addenda: Last day for questions is 6 days prior to bid, May 15, 2020. Please acknowledge addenda on front page of the Form of Proposal.
- D. Clarifications:
 - *) The contractors were reminded that they are to have the Contract Package number on the outside of both envelopes when submitting their bid. The envelope with the Form of Proposal, MBE Attachments, and the Bid Bond, it should state if MBE Attachments 1A are enclosed or if MBE Attachment 1A is in a second envelope.
 - *) If anyone would like an up to date listing of bidders to contact Jim Folkemer at ifolkemer@oakcontracting.com and he will email you the most current listing.
 - *) As a result of this meeting there will be an addendum issued. Bidders are to start listing addenda on the Form of Proposal with number one (1) as the first.
 - *) In all contract packages, specification sections are referenced. These are the first tier specification sections, bidders are cautioned to refer to the "RELATED SECTIONS" portion in these first tier specifications to see what other specifications apply.
 - Glass containers (e.g. soda bottles, glass jars, etc.) are not permitted on the job!
 - *) The bidders were reminded how it is their contractual obligation to furnish their superintendents with all addenda on the prints and specs before coming to the site. Use of prints or specs without addenda is prohibited.

- *) The bidders were told that all questions are to go through Oak Contracting.
- *) All bidders were issued a password to be able to download the complete set of Documents in digital form and all bidders are to familiarize themselves with all the sheets of prints, all the pages in the specifications, and all addenda. An excuse for not having something in a bid, just because it was not where the bidder was looking, will not be accepted when the project is underway.
- *) The bidders were reminded, that once under contract, they are prime contractors with their own mandatory, full time superintendent on the job, that has fully read the specifications and understands the scope of work for this contract package. This contractor will be required to have a field office and necessary sheds while working on this project. Before starting work on the site, the superintendent for the contractor will be required to sign the CM's specification to signify that the superintendent has read and understands the contract documents. Once on the project the superintendent will not be changed without permission from the Owner! The Contractor's superintendent will also be responsible to coordinate the work of his entire crew, including the work of a subcontractor and a subsubcontractor! If a subcontractor, or even a sub-subcontractor, is working on non-work hours (weekends, holidays, evenings, etc.) the superintendent of the contractor shall also be present.
- *) The bidders were reminded how it is their contractual obligation to furnish their superintendent with all addenda on the prints and specs before coming to the site. Use of prints or specs without addenda is prohibited.
- *) The work times are 7:00 AM to 7:00 PM, Monday through Friday.
- *) Soil testing for compaction and material testing will be performed by the Owner.
- *) At time of substantial completion, the 2A Contractor shall provide a full certified survey of the entire site. This survey must be sealed by a registered land surveyor.
- *) In the Contract package the word Contractor is used. The word Contractor means the Contractor of the package being described (in the 16A Package the word Contractor means the Electrical Contractor, in the 15A Package it means the Mechanical/Plumbing Contractor, etc.), not some other contractor or the CM.
- *) A CPM schedule will be co-authored with the successful contractors once the contracts are signed.
- *) The bidders were told that all active Contractors are required to attend the progress meetings, weather permitting, and these meetings will be tape/digitally recorded to assist in the writing of minutes.

- *) All meetings will be documented, and digital photos will be taken to document the progress of the work.
- *) Bidders were reminded that all Contractors are required to submit "As-Built" Drawings prior to receiving final payment, along with O&M manuals, warranties and Commissioning. Refer to Division 1 of the Specifications for information. Prior to approving the monthly requisition contractors will be asked to show their on-site copies of their As-Builts to the Architect/Owner/CM before the requisition from that contractor is approved.
- *) The requirement for coordinated drawings will be strictly enforced.
- *) It was pointed out how all contractors are responsible for Divisions 0 and 1 of the Project Specifications.
- *) Requisitioning for products without an approved shop drawing will not be permitted.
- *) There will be weekly superintendent's coordination meetings held on site and all active contractors must have their superintendents in attendance.
- *) During the entire course of this project, all contractor's personnel are to wear hard hats at all times even when the project is winding down. Each hard hat is to have the company Logo on it (or the company name) on the front and on the back of the hard hat the first name of the person wearing the hard hat. There will also be badges issued to workmen who have to perform work inside the building, before being issued a badge, a photocopy of a driver's license will be made and kept on file. A background check of each individual will be performed prior to issuance of the badge. Violators of this requirement (the hard hats and badges) will be fined \$100.00 per occurrence!
- *) No boom boxes or other forms of radio/music sources are permitted on this project! Any such devices brought to the jobsite will be confiscated and destroyed!
- *) Every bidder to carefully and completely familiarize themselves with the Bid Documents.

 Just because things were done in a certain way on a previous Harford County Public School projects doesn't necessarily mean they will be done the same on this project.
- *) The 15A Contractor shall cooperate with, provide any and all documents to, and assist the Commissioning Authority as outlined in the Specifications.
- * The existing Harford County Public Safety Bi-Directional Amplifier and antenna system (light blue coax cable) is noted on the Electrical Demolition Drawings to remain in service. This system must be protected and remain in service throughout the construction, including in active construction areas.

Youth's Benefit Elementary School – Pre-bid May 15, 2014

- *) The emergency generator will provide for a "Community Area of Refuge" All work in the Cafeteria, Kitchen, Gymnasium, Locker Rooms, Main Lobby, Administrative Suite and adjacent circulation areas will be on Emergency power.
- *) Mechanical and Electrical specifications require that "Prior to submission of any shop drawing submittals, and not more than thirty (30) days after award of the contract, submit to the Engineer, for approval, a complete list of all Sub-Contractors, Materials and Equipment Manufacturers proposed for the project. This list shall include the proposed manufacturer of all equipment proposed for the project." These must be submitted and approved before any submittals will be accepted or reviewed.
- *) The MDF, which is the Communications Hub of the building, is to be reconfigured during the first summer. While there will be on-going work in this room throughout the project, the basic reconfiguration of the room, and basic power distribution inside the room, with a temporary feed to the new panelboard, must be completed prior to start of school in September 2020, with sufficient time for HCPS to complete their work to get the school data network, sound system and other systems up and running.
- *) Corridor ceilings are to be removed in an early stage of the construction, and will remain out during much of the project. Until new systems and ceilings are installed, the existing lighting fixtures and ceiling mounted devices are to be temporarily supported from the existing structure. Existing low voltage cabling is to be assumed to be unsupported. The Electrical Demolition Drawings call for new J-Hooks and temporary support of all existing cables.
- *) All questions must go through Oak Contracting and any conversations with the Architect or Engineer are not binding.

VI. TOUR OF SITE

VII. <u>CONCLUSIONS</u>

2A Pre-Bid Meeting Attendance Sheet Joppatowne High School Limited Renovation Project

Tuesday, May 5th, 2020 - 9:00 a.m. Joppatowne High School

555 Joppa Farm Road, Joppa, MD 21085 Bid Opening – Thursday, May 21, 2020 - 10:00 a.m. Harford County Public Schools Administration Building Board Room

102 South Hickory Avenue, Bel Air, Maryland

Unce come	HCPS Poc	410-638-490	Chock grate Chars.org
MIKE CAMPASIA	BANTA CAMPBOUL LARCHIEGTS	410 290 90g	meampbelle bentecompbellican
LOE TIBERI	BAK CONTERCTING	410-828-100	jfiteri @ oakconhaching.com
DAN CRISPINO	GOOLSEAUICES		the crispins & good sory
WAWE KALO	GUSTEPHUS	410-297-224	wkarch egwstyken
Jin Ormod	Mile - Tex 1742 No. 100	443414-11	o find arc-nd con
Nele Thappe		443-618-1170	
Jason Walker	Custodial Coordinactor	143-487-92	3 Juson, halker QHOS a
Jim Folkemer	OAK CONTRACTING	410-828-1000	dfolkemen @ ONK COMPACTING. COM
	Number 1		

8A & 9A Pre-Bid Meeting Attendance Sheet Joppatowne High School Limited Renovation Project

Tuesday, May 5th, 2020 - 10:30 a.m.
Joppatowne High School
555 Joppa Farm Road, Joppa, MD 21085

Bld Opening – Thursday, May 21, 2020 - 10:00 a.m.
Harford County Public Schools Administration Building

26 Btc.	Barnes A.	410-838- 090U	bole burnes pur
Frenk Wood!	Savicon	240:538 - G198	Frank W@ Scholcon Lask Com
Frank Russell	- Westier	447 975-2353	flood Derukon-usa.
Lucie Javeson	This Joyce Agenty	(702) 635-607D	Luxe Etheronice
Joe Merry	Grey (Son Inc	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	jmercey Cyraynan w
Jasa Walker	HCP3 (usradial)	442-987-4253	Jason, Wilker OHCB.
KARL FAUSER	APEX Piping sys	302-433-982	KFAUSER BATEXPIPING CI
Certil Heliss	THI GENERA CONTRA	roes :	Americanie Gitoriani
Jux Cess	HCK Pro	410: 638-469s	Chuck grabell history
Hunter Panolt	- North Point Balles	416-241-4101	hps/rott@aplince
	A STATE OF THE STA	u(C	

419

10 10 30 130

A Billi

8A & 9A Pre-Bid Meeting Attendance Sheet
Joppatowne High School
Limited Renovation Project
Tuesday, May 5th, 2020 - 10:30 a.m.
Joppatowne High School
555 Joppa Farm Road, Joppa, MD 21085
Bid Opening – Thursday, May 21, 2020 - 10:00 a.m.
Harford County Public Schools Administration Building
Board Room
102 South Hickory Avenue, Bel Air, Maryland

George Plant	E. PIKAUMIS CONSTIG IGOD ENSTERL DUE BRITIMORE NO 111111	410-522-6022 410-977-645	gpikavnis Qupedison
Elmer Sucalsot	Advanced Security saveand 6318 Beisterstown R.D. 212	しゅうしん タムしん ハタト	2 Hampmlaksmith @gmail.com.
Gina William	6712 LOLAHPOLO PI	3018641650	gina@ clydemchemogine.
	A AGE AGE AGE AGE AGE AGE AGE AGE AGE AG		gina e Joon clydemahanryine com
*			
AND		NAMES OF THE PROPERTY OF THE P	Language Company
			50
State Control of the	± pa 1		2
**************************************	2 A MARKETARA MAR	1 de la constant de l	± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±
		1 0 N 11	
			g g
			Land Control of the C

6A Pre-Bid Meeting Attendance Sheet Joppatowne High School Limited Renovation Project

Tuesday, May 5th, 2020 - 1:30 p.m. Joppatowne High School 555 Joppa Farm Road, Joppa, MD 21085

Bid Opening – Thursday, May 21, 2020 - 10:00 a.m. Harford County Public Schools Administration Building **Board Room**

102 South Hickory Avenue, Bel Air, Maryland

	11983		
Once Gees	Elok	416-638-498	dhareemres.com
BARTIESIAL	Deglas Soft	L13L	
Mey Sacal Xot	Advanced Security Susean Lat 6318 Reisterstown RD mozum	H10-464-2001 U10-561-6031	ZHAMEM LOCKSMITHE A. GMAIL.
Cem Fine Page	TMI GENERAL CONTRIBETA BOOK PARCUEION FORL PARCONLES MD ZIZZA	(416) 668-1210 (416) 668-1364	K TABLES OF STREET OF STREET
Skoak Bahnak	Homewood G.C. 4710 Monroe St. Cockeysville, Md. 21030	410-628-896 410-628-2158	ESTIMATING Q Horiguebogs NERAL COM
Hunter Parrott	North Point Builders	416-241-4161	parate appine con
Adam Carbash	IST Deme	MØ332038(adameisid mo.com
Warren Rumphrey	TSI Demo	4103350381	where O isiding com
Logen Viter	Branner Builder El.	410-344-376	logan literace branner builders c
Chris Barrens	POS	1443 257 7288 410	bids @ power components y stans as
	NUMBER OF THE PARTY OF THE PART		

15A Pre-Bid Meeting Attendance Sheet
Joppatowne High School
Limited Renovation Project
Wednesday, May 6th, 2020 - 9:00 p.m.

Wednesday, May 6th, 2020 - 9:00 p.m.
Joppatowne High School
555 Joppa Farm Road, Joppa, MD 21085

Bid Opening – Thursday, May 21, 2020 - 10:00 a.m. Harford County Public Schools Administration Building

Board Room

102 South Hickory Avenue, Bel Air, Maryland

Chuck Garage	McPs.	410-630-4096	Check-grobe Characy
		410-327-4450	BEBERNEIL Q MARYMEC, COM
GREG EBEEWEU Steve Brank	PALA 1SLA	413-291-7108	rado balazva con
Stefan Builen	Suprecie Anto, Spinklike	313-842-0061	Stefan with superior
Theur Booss	Romand Construction	46952-7100	Abose e Rumadosa com
BN/ KEHRULY	Romal	410.252.7100	WKEHEN 4C Ko Moeksa l
Druce hephani	Towson Hechmical	410 668 - /210	dshipped & bearing
Distro Negetania	Tenf A: TCO	4103588078	Dustin @ Tempalicon Hunging
DANSHANAHA	Denver-Elek	410 574-8400	dshanahan@ denver-elek.com
Mickey Glandon	and Co. S. Type 11.	410 666 3000	nglendon Quetymus.
Jim Fowler	DAL	# 1	

15A Pre-Bid Meeting Attendance Sheet
Joppatowne High School
Limited Renovation Project
Wednesday, May 6th, 2020 - 9:00 p.m.
Joppatowne High School
555 Joppa Farm Road, Joppa, MD 21085
Bid Opening – Thursday, May 21, 2020 - 10:00 a.m.
Harford County Public Schools Administration Building
Board Room
102 South Hickory Avenue, Bel Air, Maryland

Frank Wood			
Frank Yousell	Servicon. Inc	(240)538-10198	Francia servicos usa.
we Jawon	+JA	(p3)463-1764	live exhausy congency co.
Jeff DeShayes	1704	ZOZ 8 15 729 <u>2</u>	Jeff@thejoyceagene
YOU TIBERI	DAL		Jibene ogkemline
		###	to file. It's seem of the seem
The second secon			A Transaction of the Control of the
7L	4	*] %	· · · · · · · · · · · · · · · · · · ·
. 467-43		i:	
mili		P	Alteria
		THE	
a and the second	Magazi La		
Same en .			The second of th
			BETTER OF THE STATE OF THE STAT
		, and the control of another the control of the con	
	B.	The second secon	
4 ·	nous La no verigo	The second se	to a section of the s

16A Pre-Bid Meeting Attendance Sheet
Joppatowne High School
Limited Renovation Project
Wednesday, May 6th, 2020 - 1:00 p.m.
Joppatowne High School
555 Joppa Farm Road, Joppa, MD 21085
Bid Opening – Thursday, May 21, 2020 - 10:00 a.m.
Harford County Public Schools Administration Building
Board Room
102 South Hickory Avenue, Bel Air, Maryland

Chuck, Greek	Hers I have been seen as a seen seen seen seen seen s	410638-40%	Chuckigaleehearung	
Ryan Bowings	BoMork Electric Soul, man st. Hampitreid yMD 81074	HIN-446-1007	rbowings@bonumelectric.com	
Ed Rasust	UALLEY LIGHTING SIGNI GOI HAMMING STEIN RJ	443-201.9894	crosusk@valleLightug	co.
Jahn Moratz	Action Electric Amorden	410879 5887	Johnmoretz@Acc	4
The second secon	The state of the s	A STATE OF THE STA	Principles and Control of the Contro	
	A distribution of the second o			
	The second of th		*	-
THE POWER TO SERVICE AND ADMINISTRATION OF THE POWER TO SERVICE AND	A segmentalization and	4	mey s	
**************************************	311 1 1 1 1 1 1 1 1 1			
The state of the s	Mygystas at the control of the contr	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Table 1	



Request for Information Summary Log with Answers

Joppatowne High School - Limited Renovation (1908) Request for Information Summary Log with Answers

555 Joppa Farm Road Joppatowne, MD 21085

Number	Status	Subject	Created On	Question	Date Resolved	Answer
PB-01	● Closed	Wall Section A-12.9 - Counter Shutters	04/28/2020	Wall section A-12.9 calls for counter shutters of anodized aluminum. Spec section 08 33 13-3 2.2 components, e. hardware, b. calls for motors. Sub section f, calls for galvanized steel slats, not anodized aluminum.	05/05/2020	Notes on A12.9 will be revised to reflect galvanized metal in lieu of anodized aluminum. Slats will also be galvanized. The units will be manually operated.
				So are we looking for galvanized slats or anodized aluminum?		
				Are the doors to be motorized?		
PB-02	Closed	Request to add Manufacturer	04/27/2020	Please see request below from Havtech.	04/27/2020	Only the manufacturers listed in the current specification are acceptable on this project
				We request that Aaon be added to the list of acceptable bidders for Variable Air Volume Packaged Rooftop Units – Spec Section 237413.		
				We request that Daikin be added to the list of acceptable bidders for the Split System Air Conditioners – Spec Section 238129.		
PB-03	Closed	Existing Equipment	04/27/2020	Our question is about the specifications bid form:	05/05/2020	The items are alternates to identify specific costs that will be carried by HCPS Food Services in lieu of the construction budget. Steam is being removed from
				ADD ALTERNATE 8 & 9 have to do with replacing existing steam equipment and revising existing cooler/freezer to a freezer only. The specs or drawings do not show us any existing equipment. Can you please clarify what is needed."		the building to these items are being replaced.

Page 1 of 7

sed "Services" for data, sound, and TV systems final connection	04/28/2020	In Project Manual 1, under 02 41 19-24 Selective Demolition, section 3.3E states the following: "Obtain the services of Baltimore Sound for final connections to the existing Data, Sound, and TV Systems." Baltimore Sound was purchased by CTSI in 2017. Could you please clarify who we should obtain services from for the final connections to the existing data, sound, and TV systems?	5/05/2020	Delete reference to "Obtain the services of Baltimore Sound for final connections to the existing Data, Sound, and TV Systems." Refer To Specification Section 27 05 00, "Common Work Elements For Communications Systems" and for status of all low voltage (Division 27 and 28) systems, and specific information relative to work to be included in the contract versus Owner responsibilities for each system. Refer to Electrical Demolition Drawings (E1.xx series) for General Notes regarding temporary suspension of existing tow
				voltage systems wiring and devices and demolition/removal of existing low voltage wiring and devices; and to Electrical Special Systems (E5.xx series) drawings for new work associated with all low voltage (Special) systems.
sed Fixture Type Drawing E-3.02	04/28/2020	On print E3.02 the fixture type is missing on the outside wall mounted fixtures and can you identify these fixtures?	5/06/2020	Will clarify this in the next Addendum. The referenced exterior fixtures are type OB3,
sed Tile in restrooms	04/30/2020	on the elevation of the Restrooms A-7.1 & A-7.2 they are showing just the wet walls getting tiled. Just want to clarify that they are not tiling the entire restrooms on the walls	5/05/2020	New Porcelain Ceramic wall tile in renovated existing gang toilets: New porcelain ceramic till will be on new walls (Wall Types B and E) in toilets and newly furred walls (Wall Type L) in renovated gang toilets. The remaining walls are structural glazed tile to remain. Toilet Rooms A110, A127, A130, B110, B125, B130, D154, D155, A211, A227, B211, B229. Newly constructed toilets: New porcetain ceramic tile on all walls. A112A, C124B, D114, D117, D118, D143, D144, D171, D162, D172.
sed Plan Discrepancy	04/30/2020	Civil plans do not show what is what on the site plan and there are no detail numbers. There is no way to tell what is called out as what, specifically.	5/06/2020	There will be an update to Civil drawings provided with Addendum No. 2. The above items will be addressed.
sed	Plan Discrepancy	Plan Discrepancy 04/30/2020	Civil plans do not show what is what on the site plan and there are no detail numbers. There is no way to tell what is called out as what,	Civil plans do not show what is what on the site plan and there are no detail numbers. There is no way to tell what is called out as what, specifically. Also, the legend for Alt. 5 on C-03, please clarify

Joppatowne High School - Limited Renovation (1908) Request for Information Summary Log with Answers

Number	Status	Subject	Created On	Question	Date Resolved	Answer
PB-08	Closed	Blinds	04/30/2020	Do they want the blinds on all exterior windows including corridors and entrances or just classrooms/offices? interior windows? interior sidelites, doorlites?	05/05/2020	Blinds will be located at: All exterior regularly occupied spaces (Classrooms, Media Center, Multipurpose, FOT Labs, Kitchen, Offices, etc.) Interior at individual Offices (Resource, Security Liason, SB Counsel., etc.) and Planning Spaces.
						Blinds will not be located at: Exterior entry/exits doors and adjacent storefront. Classrooms, Seminar spaces, any student occupied area.
PB-09	● Closed	Glass Types	05/01/2020	1. The glass types provided in section 088000 do not appear to be used in the drawings. Please confirm the following: A) Glass type SG-CT should be used at all interior frames, except where noted to be fire rated. B) Glass type IG-DP should be used at all exterior frames, except where noted as spandrel or insulated metal panels. Please also confirm that Solarban 60 low-e should be used in this makeup (similar to FG-EHS). C) Where spandrel glass is labeled, the unit should be the same as IG-DP (including low-e) but adding ceramic frit spandrel coating to the #4 surface. D) Please provide a specification for insulated metal panels.	05/05/2020	Confirming use of glass types: A) Glass type SG-CT should be used at all interior frames, except where noted to be fire rated. B) Glass type IG-DP should be used at all exterior frames, except where noted as spandrel or insulated metal panels. Please also confirm that Solarban 60 low-e should be used in this makeup (similar to FG-EHS). C) Where spandrel glass is labeled, the unit should be the same as IG-DP (including low-e) but adding ceramic frit spandrel coating to the #4 surface. D) Insulated Metal Infill Panels shall be similar to Mapes -R panels. 1" anodized aluminum faces over substrate layer and polystyrene insulation minimum R-4.74. Similar products by: Citidal Glazeguard 1000 WR, H&H Metals, and Laminators Thermolite.
PB-10	Closed	Proposed Schedule	05/03/2020	Can a schedule be provided giving us a rough idea of when the different trades will be required on site? Also, in the 8A scope item 14 notes that some activities will need to be performed at night. Please provide more detail as to what needs to be done at night so we can build it into our pricing. Refer to drawing G-1.3 you rough schedule.	05/05/2020	Refer to drawing G-1.3 shows the "Rough" construction schedule.
PB-11	● Closed	Door Type Conflict	05/03/2020	On sheet A-0.4 door #A100.01 is labeled as hollow metal and a new door going into an existing frame. On sheet A-1.1 this door appears to be labeled as storefront type W20. Which is correct?	05/05/2020	Door A100.01 is Hollow Metal new door in existing frame. W20 will be deleted.

Joppatowne High School - Limited Renovation (1908) Request for Information Summary Log with Answers

Number	Status	Subject	Created On	Question	Date Resolved	Answer
PB-12	● Closed	W16 openings	05/03/2020	On sheet A-1.6 the W16 openings do not appear to be shown on the floor plan. Please confirm that they are only required on one side of the corridor, as shown on the elevations.	05/05/2020	W16 window units occur only on the east side of Corridor A203.
PB-13	● Clased	Basis of Design - Ultra-thermal System	05/03/2020	Specification section 084113 2.01.A.1.a notes the storefront basis of design to be Kawneer 451UT which is an ultra-thermal system. The u-value of .69 noted in 084113 1.04.G does not require an ultra-thermal system as it can be met with a standard system. Is ultra-thermal required?	05/05/2020	08 41 13 Paragraph 1.04G: Correct U-Value to .37. This value is required to meet prescriptive requirements of the International Energy Conservation Code for replacement of existing glass and windows. This is also noted on Drawing G1.1 IECC Notes.
PB-14	Closed	Door Hardware	05/03/2020	Is door E101 to receive hardware set #17? This set notes door E101.01 which is not on the door schedule.	05/05/2020	Door E101.01 should be noted as E101.00. This door is located at the south end of Corridor E101.
PB-15	Closed	Hardware Set Door C103.01	05/03/2020	Please provide the required hardware set for door #C103.01.	05/05/2020	Door C103.01 should have hardware set #17.
PB-16	Closed	Scope	05/03/2020	Please confirm that display cases are not in the 8A scope.	05/03/2020	Display cases will be in the 6A scope.
PB-17	Closed	Steel Angle (Scope)	05/03/2020	Please confirm the steel angle shown in 6/A-3,8 is not in the 8A scope.	05/05/2020	This will be in the 6A package and clarified by Addendum.
PB-18	● Closed	Frame Locations - Sheet A-8.0	05/03/2020	Sheet A-8.0 shows frame types 4C and 4D as receiving new metal panels. Which scope are these in? Where are these frames located?	05/05/2020	The frames are existing where louvers must be removed and replaced with 1" insulated metal panels. The locations are noted in Demolition Notes 20 & 21 at main level Drawings D-1.1-D-1.5, and Demolition Notes 10 & 11 at upper level D-1.6 and D-1.7. Insulated Metal Infill Panels to be similar to Mapes-R, Citidal GlazeGuard 1000WR, H&H Metals, or Laminators Thermolite. Face panels to be anodized alumninum.
PB-19	Closed	Scope-Ticket Booth Window	05/03/2020	Please confirm the ticket booth windows shown on A-14.6 are not in the 8A scope.	05/03/2020	Windows are part of the ticket booth,
PB-20	● Closed	Piping application of heating system	05/04/2020	Looking for clarification for piping application of the heating system. 23 21 13 -7 3.1 B. Hot-water heating piping, above ground, NPS 2-1/2" and larger does not list schedule 40 steel pipe. 3.1 E. Chilled-water, above ground, NPS 2-1/2" and larger lists schedule 40 steel pipe. Also if you look at print page M0.12 there is 6" pipe from the mechanical room to the first branch. Do you want all this pipe in copper or should this be schedule 40 steel pipe?	05/05/2020	Heating Piping 1 1/2" and larger can be Schedule 40 Steel. Provide Dielectric fittings at all points where copper and steel are connected.

Joppatowne High School - Limited Renovation (1908) Request for Information Summary Log with Answers

Number	Status	Subject	Created On	Question	Date Resolved	Answer
PB-21	● Closed	Specification for Equipment Designated as a DRH	05/05/2020	Please provide info or spec for the piece of HVAC equipment designated as a DRH as found on MO. 12 and M2.05.	05/08/2020	DRH - Duct reheat coil is being changed to a constant flow terminal unit. This revision will be included with Addendum No. 2.
PB-22	Closed	Door Height	05/06/2020	Please confirm the door height for the following door marks:	05/06/2020	The storefront doors noted A135.02 , B100.01, C100.00, C103.01, C124.01, D170.02, E100.01 will be 7'-0" height. The storefront frames will be revised.
				A135.02 , B100.01, C100.00, C103.01, C124.01, D170.02, E100.01. The corresponding storefront types on the schedule indicate a 8'-0 opening height but the door schedule calls for 7'-0"		·
PB-23	Closed	Hardware-Door E 101.00	05/06/2020	Please confirm the door mark E101.00 receives hardware set 17.	05/06/2020	This is same question as PB-14. In the Hardware Set 17 the Door Number should read E-101.00. Confirming it is hardware set 17.
				The door mark E101.00 shown at Window elevation W5 on sheet A-1.5 does not appear in the door hardware specification. There is a door mark E101.01 indicated at hardware set 17 which does not appear on the door schedule.		·
PB-24	Closed	Door Type A-100.01	05/06/2020	Please confirm the door mark A100.01 is a new aluminum entrance.	05/06/2020	This is same question as PB-11. Door A100.01 is new hollow metal door within existing frame. Frame type W20 will be deleted.
·				The door mark A100.01 shown at window elevation W20 on sheet A-1,1 is indicated on the door schedule as a new HM door within an existing frame. Should it be a new aluminum entrance? If so, please provide correct door opening height.		
PB-25	Closed	Number Circles on Sanitary Riser Drawings	05/06/2020	Please identify the numbered circles found on the sanitary riser drawings.	05/06/2020	The numbered circles indicate Fixture Units for the specific fixtures.
PB-26	Closed	Alternate 4	05/08/2020	Which contractor is responsible for alternate 4? (Replacement of existing door hardware @ gym and locker room)	05/08/2020	This work is in the 6A Scope of work.
PB-27	Closed	Lauvers	05/08/2020	Which contractor is responsible for providing new louvers?	05/08/2020	If the louvers are in the door frame system it will be whichever contractor is supplying that system. If it is a stand-alone louver it will be by the 15A Contractor.
PB-28	● Closed	Translucent Panels	05/08/2020	If the louvers are in the door frame system it will be whichever contractor is supplying that system. If it is a stand-alone louver it will be by the 15A Contractor.	05/08/2020	Please refer to the Addendum

Joppatowne High School - Limited Renovation (1908) Request for Information Summary Log with Answers

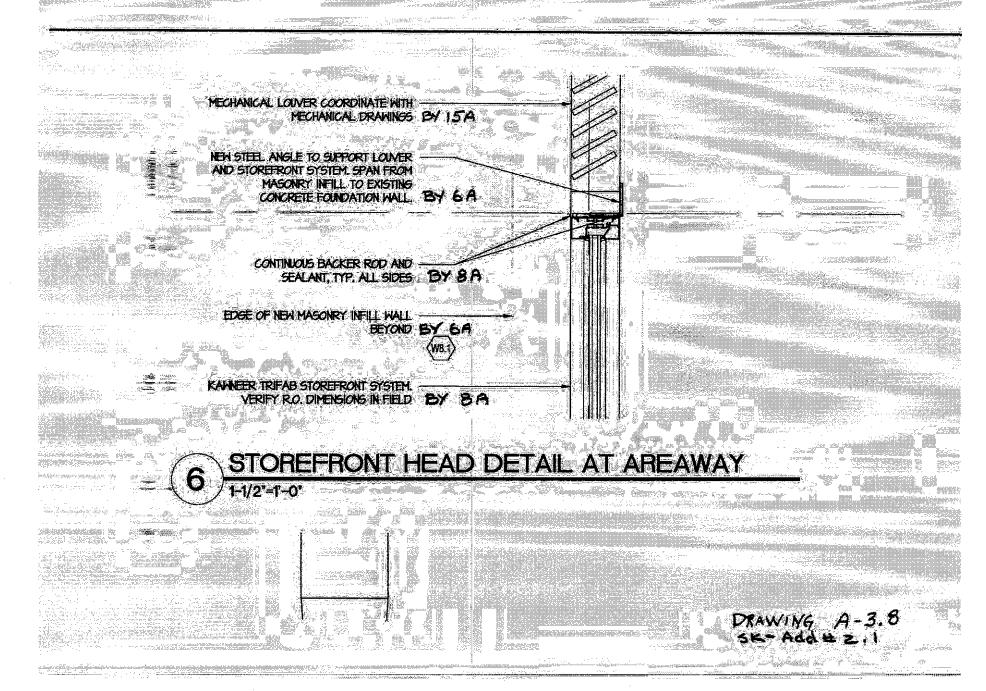
Number	Status	Subject	Created On	Question	Date Resolved	Answer
PB-29	Closed	Interior-Exterior Finish	05/08/2020	Please confirm the interior and exterior finish for all 1" insulated metal panels (glazed into storefront system) is to be flat, smooth, clear anodized atuminum.	05/08/2020	Confirmed. Flat, smooth clear anodized aluminum inside and out.
PB-30	Closed	Existing storefront support angles	05/08/2020	Please confirm that the 8A contractor is not responsible for the repair and/or replacement of existing storefront support angles.	05/08/2020	The 6A Contractor will be responsible for this angle if needed.
PB-31	● Closed	Firestopping-Fire-safing-Fireproofing	05/08/2020	Please confirm that the 8A contractor is not responsible for supplying and/or installing any elements of firestopping, firesafing, and/or fireproofing.	05/08/2020	Fire stopping is not required.
PB-32	Closed	Demolition Scope Clarification	05/08/2020	Please provide more information, elevations, sections, and/or details regarding the 8a contractors demolition scope between building sections A and B. Architect.	05/08/2020	The existing exterior windows in building section A and B are being removed by others with the exception of window type W16. "
PB-33	Closed	Details ·	05/08/2020	Are there any storefront head/sill/jamb details?	05/08/2020	Storefront details are part of window and storefront sections with the A-3 series of drawings. Majority of storefront is replacing existing within existing openings.
PB-34	Open Open	Vent Duct	05/08/2020	Spec section 110 40 00 Item #5: Vent Duct (on page 48) says constructed and installed per Detail 5.06. We cannot find this detail anywhere. Please advise.		
PB-35	Closed ·	Weight Room (101) & Storage Room	05/08/2020	The weight Room 101 and Storage Room are not indicated on the FP Plans. Are these areas NIC?	05/08/2020	These areas will be covered with Fire Protection. An updated drawing will be issued with Addendum No. 2.
PB-36	Closed	Press Box Windows	05/08/2020	See A-14.5: Please confirm that the press box windows are not the responsibility of the 8a contractor	05/08/2020	The press box is in the 2A Scape
PB-37	Closed	Curtainwall System	05/08/2020	See A-3.15: Please confirm that it is acceptable to utilize a single continuous curtainwall system (tied back with steel clips at existing steel or existing slab at 2nd floor) in lieu of (2) different storefront units.	05/08/2020	A continuous curtain wall section will extend beyond the face of the brick and beyond the edge of roof coping above. That is not acceptable.
PB-38	Closed	Louver to right of Column line C	05/08/2020	See 4/A-3.1: Is this a louver to the right of column line 'C'? New or existing? If new, please provide dimensions and details.	05/08/2020	The louver is existing in the utility space above Auxiliary Gym Storage. No work in this contract related to this louver.
PB-39	● Closed	Existing soffit @ new storefront units	05/08/2020	Please confirm that the 8a contractor will not be responsible for the patching, repair, and/or replacement of existing soffit located at the head of the new storefront units.		

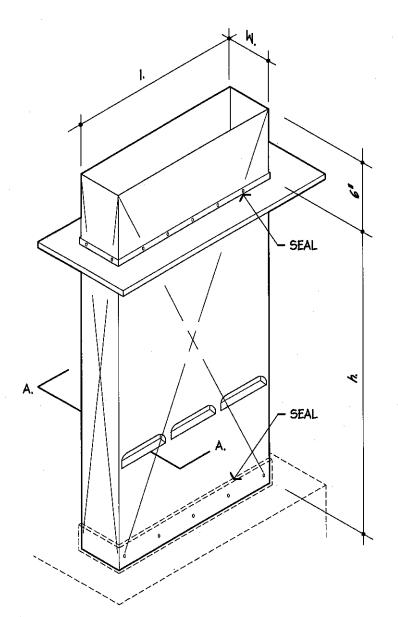
Joppatowne High School - Limited Renovation (1908) Request for Information Summary Log with Answers

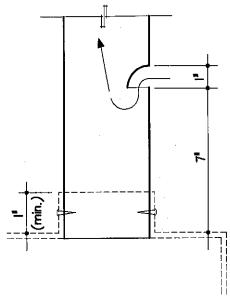
555 Joppa Farm Road Joppatowne, MD 21085

Number	Status	Subject	Created On	Question	Date Resolved	Answer
PB-40	● Closed	Existing Steel Angles	05/08/2020	Please confirm that the 8a contractor will not be responsible for the inspection, repair, and/or replacement of the existing steel angles that will be utilized as storefront head support	05/08/2020	It is in the 6A Package.
PB-41	Closed	Steel Lintels	05/08/2020	Please confirm that the 8a contractor will not be responsible for providing new steel lintels or new steel storefront support angles.	05/08/2020	It is in the 6A Package
PB-42	Closed	Wood blocking	05/08/2020	See 4/A-3.6, 2/A-3.7, 4/A-3.9, 4/A-3.12, and 2/A-3.13: Please confirm that the 8a contractor will not be responsible for supplying and installing wood blocking at new storefront head condition and that wood blocking for storefront head conditions will be supplied and installed by the general trades contractor.	05/08/2020	The wood blocking for these details is by the 8A Contractor.
PB-43	● Closed	Spandrel Glass Unit requirements	05/08/2020	 Please confirm that insulation, brake metal pans, shadowboxes, etc. will not be required behind spandrel glass units 	05/08/2020	Insulation behind spandrel will be per window detail sections in the A-3 Series of drawings as part of knee walls. No brake metal panels, shadow boxes, etc are required behind spandrel glass units.
PB-44	● Closed	New Steel Angle Support	05/08/2020	8. See 6/A-3.8: Which contractor will be responsible for supply and install of the new steel angle to support louver and storefront system?	05/10/2020	It is in 6A Package.
PB-45	● Closed	U-Factor	05/08/2020	Just an FYI – the U-factor listed in the aluminum framed entrances and storefronts specification is 0.69. This is very high. A U-factor of 0.69 could be achieved utilizing a non-thermal system (which is not what you want for a project like this).	05/08/2020	This is a repeat question of PB-13. 08 41 13 Paragraph 1.04G: Correct U-Value to .37. This value is required to meet prescriptive requirements of the International Energy Conservation Code for replacement of existing glass and windows. This is also noted on Drawing G1.1 IECC Notes.
PB-46	Closed	Removal of existing louvers	05/08/2020	See 4a, 4b, 4c, and 4d on A-8.0: Which contractor will be responsible for removing the existing louvers?	05/08/2020	It is in the 6A Package.
PB-47	● Cłosed	New Insulated panels	05/08/2020	See 4a, 4b, 4c, and 4d on A-8.0: Which contractor will be responsible for supplying and installing the new insulated panels? Furthermore, are there louvers at every existing	05/08/2020	The locations of louvers to be demolished and replaced are in Demolition Notes 20 and 21 for Main Level Demolition Drawings, and notes 10 and 11 for Upper Level Demolition Drawings.
		·		Furthermore, are there louvers at every existing door sidelite and above every existing double door?		opper Level Demolition Drawings.

Page 7 of 7







SECTION A-A

- a. DUCT-18. GA. S/S WITH (3)
 1" x 4" LOUVERS DIE STAMPED
 INWARD TO ALLOW FLOW OF COOL
 AIR FROM DISHWASHER. DUCT
 TO FIT TIGHT TO INSIDE OF
 VENT. SECURE WITH S/S SCREWS
 AND SEAL WITH SILICONE.
- b. CEILING TRIM-18 GA. 5/5,
 1" x 2" ANGLE TRIM SECURED
 TO DUCT WITH SILICONE. PERIMETER CRIMPED TO PROVIDE A
 HUG-TIGHT EDGE TO CLG.
- h. VERIFY. DUCTS OVER 60" SHALL BE CROSS CREASED FOR RIGIDITY.
- I. \$\psi\$ w. 1. DISHWASHER EXHAUST REQUIREMENTS. INCREASE DISHWASHER MANUFACTURERS CFM EXHAUST REQUIREMENTS FOR EACH VENT BY 50% TO ALLOW FOR AIR INDUCTION THROUGH DUCT VENTS.
 - c. EXHAUST DAMPER REQUIREMENTS, WHEN D.W. VENTS ARE NOT EQUIPPED WITH DAMPERS, EACH DUCT SHALL BE PROVIDED WITH AN 18 GA. 5/5 DAMPER AND LOCKING QUADRANT LOCATED BETWEEN THE LOUVERS AND D.W. VENT.

(END OF SECTION 114000)

NYIKOS ASSOCIATES, INC. Food Facilities Design/Consulting	DESCRIPTION:	DISHW
---	--------------	-------

DISHWASHER VENT DUCT

STANDARD DTL: 5.06 PAGE: 114000-72

SECTION 23 09 00 - BUILDING AUTOMATION SYSTEM

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

- A. The Contractor, through the use of an Automatic Temperature Control (ATC) System Supplier, shall furnish, install, and place into service the complete heating, ventilating, and air conditioning (HVAC) monitoring and control system, all in accordance with the requirements of the Contract Documents. The HVAC monitoring and control system shall communicate with the existing Harford County Public Schools (HCPS) Building Automation System(BAS).
- B. The System Supplier shall assume and execute full responsibility to select, furnish, install and connect, test and calibrate, place into operation all specified components, assemblies, and accessories needed for a complete and functional system of HVAC monitoring and control in full compliance with the requirements of the specification.
- C. The existing Joppatowne High School Building Automation System (BAS) is a Johnson Controls Metasys System.
- D. The ATC System shall be one of BACnet MS/TP direct digital controls as manufactured by Johnson Controls utilizing electric actuation. A minimum of one (1) Network Automation Engine (NAE) shall be installed as a web-based extension to the existing Metasys network for the Joppatowne High School. Application Specific Controllers (ASC) removed under the renovation will be turned over to HCPS. A Metasys "companion" or NCM-based system is unacceptable.
- E. Communications: The Building Automation Contractor shall be responsible for full communications to the existing HCPS Metasys network. Full communications means, the HCPS facility operators will be able from the existing Metasys operator workstations fully utilize the Metasys network manager software. The BAS operator will be able to receive alarms, logs, and reports; monitor operating conditions; change control setpoints and operating schedules; and operate equipment as desired at all existing Metasys operator workstation locations.
- F. The System Supplier shall be a single firm, or corporation subcontracted by the Contractor to assume full responsibility to perform all engineering, to select, furnish, and place into operation a complete and functional system of HVAC monitoring and control. Acceptable System Supplier shall be "Factory Branch Office" of the following:
 - 1. Johnson Controls, Inc., 60 Loveton Circle, Sparks, Maryland (telephone: 410-527-2607).

Other bids by wholesalers, contractors, and franchised dealers are not acceptable.

1.2 WARRANTY

A. Standard Material and Labor Warranty:

- 1. Provide a two year labor and material Warranty on Controls Contract work provided under this Contract.
- 2. If within 24 months from the date of acceptance of the Controls Contract work and following receipt of written notice from the Owner the product is found to be defective in operation, workmanship or materials, then the product shall be promptly replaced, repaired or adjusted at the option of the Controls Contractor at the cost of the Controls Contractor.
- Maintain an adequate supply of materials available directly to the Project site such that replacement of key parts, including programming, may be promptly carried out. Warranty work shall be done during the Controls Contractor's normal business hours.
- 4. Maintain an on-site record of all work done, all items removed from site, all items returned to site, all new replacement items installed, and all remedial programming and database entry work undertaken including software revisions installed. Maintain a record of all calibrations required as a result of Warranty service.

PART 2 - PRODUCTS

2.1 CONTROLS SYSTEM ARCHITECTURE

A. General

- 1. The Controls Systems shall consist of multiple Nodes and associated equipment connected by industry standard digital and communication network arrangements.
- 2. The Operator Workstations, Servers and principal network computer equipment shall be standard products of recognized major manufacturers available through normal PC and computer vendor channels not "Clones" assembled by a third-party subcontractor.
- 3. Provide licenses for all software residing on and used by the Controls Systems and transfer these licenses to the Owner prior to completion.
- 4. The networks shall, at minimum, comprise, as necessary, the following:
 - a. Operator Workstations fixed and portable as required by the Specifications.
 - b. Network computer processing, data storage and communication equipment including Servers and digital data processors.
 - c. Routers, bridges, switches, hubs, modems, interfaces and the like communication equipment.
 - d. Active processing network Application Nodes including programmable field panels and controllers together with their power supplies and associated equipment.
 - e. Addressable elements, sensors, transducers and end devices.
 - f. Third-party equipment interfaces as required by the Contract Documents.

- g. Other components required for a complete and working Control Systems as specified.
- 5. The Specifications for the individual elements and component subsystems shall be minimum requirements and shall be augmented as necessary by the Contractor to achieve both compliance with all applicable codes, standards, the requirements of the AHJ at the site and to meet all requirements of the Contract Documents.
- 6. The BAS shall provide interface and control for all sight lighting.

B. Network

- 1. The Controls Systems shall incorporate primary Tier 1 network(s). At the Controls Contractor's option, they may also incorporate multiple and integrated secondary Tier 2 and tertiary Tier 3 networks.
- 2. The networks shall utilize only copper and optical fiber communication media as appropriate and to comply with the applicable codes, ordinances and regulations and the AHJ. They may also utilize digital wireless technologies if required by the Project and approved by the Architect and the AHJ.
- 3. The Owner shall provide all private and public telephones lines, ISDN lines and Internet Service Provider services and connections as necessary for the Controls Contractor to complete the work as contracted at the Owner's direct cost. The Controls Contractor shall identify the specific requirements in a shop drawing submittal.

2.2 OPERATOR INTERFACES

A. General

- The Controls Systems Operator Interfaces shall be user friendly, readily understood and shall make maximum use of colors, graphics, icons, embedded images, animation, text based information and data visualization techniques to enhance and simplify the use and understanding of the displays by authorized users at the OWS.
- 2. User access shall be protected by a flexible and Owner redefinable software-based password access protection. Password protection shall be multi-level and partitionable to accommodate the varied access requirements of the different user groups to which individual users may be assigned. Provide the means to define unique access privileges for each individual authorized user. Provide the means to on-line manage password access control under the control of a project specific Master Password. Provide an audit trail of all user activity on the Controls Systems including all actions and changes.
- 3. The Operator Interface shall incorporate comprehensive support for functions including, but not necessarily limited to, the following:
 - a. User access for selective information retrieval and control command execution.
 - b. Monitoring and reporting.
 - c. Alarm and non-normal condition annunciation.

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION JOPPATOWNE, MARYLAND

BUILDING AUTOMATION SYSTEM

- d. Selective operator override and other control actions.
- e. Information archiving, manipulation, formatting, display and reporting.
- f. Controls Systems internal performance supervision and diagnostics.
- g. On-line access to user HELP menus.
- h. On-line access to current as-built records and documentation. At minimum, one (1) copy of all record documentation shall be stored on a designated OWS or Server and be accessible to the Owner.
- Means for the controlled re-programming, re-configuration of systems operation and for the manipulation of database information in compliance with the prevailing codes, approvals and regulations for the component applications and elements.
- j. Means to archive all Controls Systems Contract Project specific configuration databases, software programs and other pertinent operational data such that any component of the software and project specific operational databases may be reloaded on-site from archived data.
- 4. Provide on-line reports and displays making maximized use of simple English language descriptions and readily understood acronyms, abbreviations, icons and the like to assist user understanding and interpretation. All text naming conventions shall be consistent in their use and application throughout the Controls Systems. Submit proposed naming arrangements for approval prior to data entry.
- B. All devices, including OWS, Servers and Application Nodes, required to support and drive the Operator Interfaces shall support multiple independent user terminals through a theoretical unlimited number of Browsers.

2.3 CONTROLS SYSTEMS APPLICATIONS – GENERAL

A. General

- 1. The Controls Systems Application Nodes (AN) shall include all monitoring, control and data handling Nodes including programmable field panels and controllers.
- 2. AN shall be programmable and governed by the requirements of their applicable codes, approvals and regulations for their Application.
- 3. The AN shall be designed, packaged, installed, programmed and commissioned in consideration of their specific service and prevailing operating conditions. They shall be proven standard product of their original manufacturer and not a custom product for this Project.
- 4. A failure at an AN shall not cause failures or non-normal operation at any other system AN other than the possible loss of active real-time information from the failed AN.
- 5. Ancillary AN equipment, including interfaces and power supplies, shall not be operated at more than 80% of their rated service capacity.
- 6. AN shall comply with FCC Part 15 subpart J Class A emission requirements.
- 7. AN shall maintain all programming in non-volatile or battery backed memory and shall automatically resume normal monitoring and control following the restoration of stable electrical power after a power outage.

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION JOPPATOWNE, MARYLAND

BUILDING AUTOMATION SYSTEM

2.4 CONTROLS SYSTEMS FIELD DEVICES

A. Input Devices:

1. Additional devices

- a. Materials: (e.g. Stainless Steel, Waterproof, etc.)
- b. Rating: (e.g. Compliance Standard, Enclosure Rating, etc.)
- c. Mounting: (e.g. Pipe Insertion, Wall, flush, etc.)
- d. Range: (e.g. Working Range)
- e. Accuracy: (e.g. ± percent full scale)
- f. Protection: (e.g. Overpressure, short circuit, etc.)
- g. Output: (If applicable, e.g. 4-20mA, etc.)
- h. Special: (Special characteristics e.g. fail open, approved mfr., etc.)

2. Air Low Differential Pressure Switch

- a. Rating: NEMA 1.
- b. Mounting: Duct Insertion.
- c. Range: 0.05" to 5.0" WC, complete with field adjustable setpoint.
- d. Protection: Overpressure to 1 PSIG.
- e. Output: Form C Contact, minimum 50VA.
- f. Special: Automatic reset, provide complete installation kit including static pressure tips, tubing, fittings and air filters.

3. Air Low Differential Pressure Sensor

- a. Rating: NEMA 1.
- b. Mounting: Duct Insertion.
- c. Range: 0.05" to 5.0" WC.
- d. Protection: Overpressure to 1 PSIG.
- e. Output: 0-10vDC, 4-20mA.
- f. Special: Provide complete installation kit including static pressure tips, tubing, fittings and air filters.

4. Air High Differential Pressure Switch

- a. Rating: NEMA 1.
- b. Mounting: Duct Insertion.
- c. Range: 1" to 10" WC, complete with field adjustable setpoint.
- d. Protection: Overpressure to 1 PSIG.
- e. Output: 2 Form C Contacts, minimum 360VA.
- f. Special: Manual reset, provide complete installation kit including static pressure tips, tubing, fittings and air filters.

5. Water Differential Pressure Switch

- a. Materials: Brass bellows.
- b. Mounting: Pipe mounted.

BUILDING AUTOMATION SYSTEM

- c. Range: 2-26 PSI, 1.2 PSI fixed differential.
- d. Protection: 120 PSI Differential overpressure, 180 PSI static pressure.
- e. Output: Form C contacts, 50 VA.
- f. Special: Pipe taps and shut off valves provided by Div. 15.

6. Temperature Sensors

- a. Materials: Nickel element in a copper tube.
- b. Mounting: Duct/Pipe, Room.
- c. Range: -50°F to 250°F, 55°F to 85°F.
- d. Accuracy: 0.1%.
- e. Output: Resistive 1000ohms @ 70ºF.
- f. Special: Duct Element Holder, Brass Well Assembly, Room Mounting Bracket and Cover.

7. Humidity Sensors

- a. Materials: Polymer.
- b. Rating: class 2.
- c. Mounting: Duct or Wall.
- d. Range: 20% to 80%.
- e. Accuracy: +/-3%.
- f. Protection: 0-100% non-condensing.
- g. Output: 0-10vDC, 4-20mA.
- h. Special: Duct or Wall Mounting Kit.
- 8. Air Flow Switch
- 9. Water Flow Switch
- 10. Current Switch
 - a. Materials: Encased copper.
 - b. Rating: 600vAC.
 - c. Mounting: Split Core.
 - d. Range: 1.5amps to 50 amps.
 - e. Action: Trip point adjustment.
 - f. Output: SPST, N.O.
 - g. Special: Status LED.

11. Current Transducer

- a. Mounting: Field Mounted.
- b. Range: 60 Hz nominal.
- c. Accuracy: +/-2% full scale.
- d. Protection: 250 A max current.
- e. Output: 4-20mA.

12. Static Pressure Transducer

a. Rating: NEMA 1.

BUILDING AUTOMATION SYSTEM

- b. Mounting: Duct Insertion, Pipe Insertion.
- c. Range: 0-25 in. water column unidirectional, 0- +/- 5 in. water column bidirectional.
- d. Accuracy: +/-1% full scale.
- e. Protection: 10 PSIG.
- f. Output: 4-20mA, 0-5 VDC, 0-10 VDC.

13. Differential Pressure Transducer

- a. Rating: NEMA 1.
- b. Mounting: Duct Insertion, Pipe Insertion.
- c. Range: 0-25 in. water column unidirectional, 0- +/- 5 in. water column bidirectional.
- d. Accuracy: +/-1% full scale.
- e. Protection: 10 PSIG.
- f. Output: 4-20mA, 0-5 VDC, 0-10 VDC.

14. Water Flow Monitoring (GPM), Commercial Grade

- a. Materials: Electrolyses Nickel Plated Brass.
- b. Rating: 2.5gpm to 60,900gpm.
- c. Mounting: 2.5" minimum pipe diameter to 36".
- d. Range: 50:1.
- e. Accuracy: +/-2% @04 to 20ft/sec.
- f. Protection: 400psi @ 180ºF.
- g. Output: 0-10vDC, 4-20mA.
- h. Special: Hot Tap Assembly.

15. Water Flow Monitoring (GPM), Vortex Shedding

- a. Materials:
- b. Rating:
- c. Mounting:
- d. Range: 50:1,
- e. Accuracy:
- f. Protection:
- g. Output: 0-10vDC, 4-20mA.
- h. Special: Hot Tap Assembly.

B. Output Devices

- 1. Electric/Pneumatic Transducers
- 2. Controls Relays
 - a. Materials: Gold Flash.
 - b. Rating: 10amps @ 120-277vAC.
 - c. Mounting: Standard Electrical Box.
 - d. Protection: NEMA 1 Housing.
 - e. Output: SPDT, DPDT.

BUILDING AUTOMATION SYSTEM

f. Special: Provide LED for position indication. Provide with HOA switch, except when used in Smoke Control applications.

C. Controlled Devices

- 1. Ball Valve
 - a. Materials:
 - b. Rating:
 - c. Mounting:
 - d. Range:
 - e. Accuracy:
 - f. Protection:
 - g. Output:
 - h. Special:
- 2. Butterfly Valve
- 3. Globe Valve
- 4. Control Damper
- 5. Electric Damper Actuators:
 - a. Rating: NEMA 2 Enclosure.
 - b. Mounting: Direct mount.
 - c. Stroke: 90 seconds end to end full stroke, 15 seconds return to normal for spring return.
 - d. Protection: Electronic stall protection.
 - e. Control Input: 0-10 VDC or 0-20 mADC.
 - f. Power: Nominal 24 VAC.
 - g. Torque: Size for minimum 150% of required duty.
 - h. Duty Cycle: rated for 65,000 cycles.
 - i. Special: Output position feedback, manual override, field selectable rotational/spring return direction, field adjustable zero and span.
- 6. Electric Valve Actuators.
 - a. Rating: NEMA 1 Enclosure.
 - b. Mounting: Direct mount.
 - c. Control Input: 0-10 VDC or 0-20 mADC.
 - d. Power: Nominal 24 VAC.
 - e. Protection: Stall protection.
 - f. Torque: Size for minimum 150% of required duty.
 - g. Special: Output position feedback, manual override, field selectable direction, field adjustable zero and span. For spring return provide field selectable spring return direction.
- 7. Pneumatic Valve Actuators
- 8. Pneumatic Damper Actuators
- 9. Combination Fire/Smoke Dampers w/actuator
- 10. Smoke Dampers

BUILDING AUTOMATION SYSTEM

- 11. Variable Frequency Drives
- D. Other Controls Devices
 - 1. Electric Thermostats
 - 2. Humidistats
 - 3. Pressure Controller

PART 3 - EXECUTION

NOT USED.

END OF SECTION

SECTION 23 73 13.10 - CUSTOM AIR-HANDLING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Variable-air-volume, single-zone air-handling units.

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design vibration isolation and seismic-restraint details, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Casing panels shall be self-supporting and capable of withstanding 133 percent of internal static pressures indicated, without panel joints exceeding a deflection of L/100 where "L" is the unsupported span length within completed casings.
- C. Seismic Performance: Air-handling units shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."

1.4 ACTION SUBMITTALS

- A. Product Data: For each air-handling unit indicated.
 - 1. Unit dimensions and weight.
 - 2. Cabinet material, metal thickness, finishes, insulation, and accessories.
 - 3. Fans:
 - a. Certified fan-performance curves with system operating conditions indicated.
 - b. Certified fan-sound power ratings.
 - c. Fan construction and accessories.
 - d. Motor ratings, electrical characteristics, and motor accessories.
 - 4. Certified coil-performance ratings with system operating conditions indicated.

- 5. Dampers, including housings, linkages, and operators.
- 6. Filters with performance characteristics.
- B. Delegated-Design Submittal: For vibration isolation and seismic restraints indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 1. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
 - 2. Design Calculations: Calculate requirements for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.

1.5 <u>INFORMATIONAL SUBMITTALS</u>

- A. Coordination Drawings: Floor plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Mechanical-room layout and relationships between components and adjacent structural and mechanical elements.
 - 2. Support location, type, and weight.
 - 3. Field measurements.
- B. Seismic Qualification Certificates: For air-handling units, accessories, and components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Source quality-control reports.
- D. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air-handling units to include in emergency, operation, and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Filters: One set(s) for each air-handling unit.

Custom Air-Handling Units Bala Project No. 70-19-410

- Gaskets: One set(s) for each access door.
- 3. Fan Belts: One set(s) for each air-handling unit fan.

1.8 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of air-handling units and components.
- C. ARI Certification: Air-handling units and their components shall be factory tested according to ARI 430, "Central-Station Air-Handling Units," and shall be listed and labeled by ARI.
- D. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 "Systems and Equipment" and Section 7 "Construction and Startup."
- E. ASHRAE/IESNA 90.1 Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6 "Heating, Ventilating, and Air-Conditioning."
- F. Comply with NFPA 70.

1.9 COORDINATION

- A. Coordinate sizes and locations of concrete bases with actual equipment provided.
- B. Coordinate sizes and locations of structural-steel support members, if any, with actual equipment provided.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements.

 Manufacturers offering similar products may be incorporated, they include and are limited to, the following:
 - 1. Ventrol
 - 2. TMI Climate Solutions
 - 3. Air Enterprises
 - 4. EAS

2.2 MANUFACTURED UNITS

A. General Description: Factory assembles, consisting of fans, motor and drive assembly, coils, dampers, plenums, filters, drip pans, mixing dampers and other accessories as indicated on drawings or schedules.

B. Motor and Electrical Components: Refer to Division 15 Section "Electrical Requirements for Mechanical Equipment."

2.3 **AIR HANDLING UNITS**

- A. GENERAL: This specification covers the performance requirements and the material/construction requirements of custom-built air handling units. The detailed performance and data sheets and/or equipment schedule drawing(s) are considered part of this specification.
- B. Warranty: The manufacturer shall provide the parts warranty for equipment manufactured and all vendor supplied components. The said warranty shall cover replacement of all defective parts for a period of 12 months from equipment start up, not to exceed 18 months from date of shipment.
- C. Submittal: The successful manufacturer shall provide Shop drawings and submittal data for review. The submittals and shop drawings shall be complete in all respects including the following information:
 - 1. Overall unit dimensions and individual components and section dimensions.
 - 2. Sound data can be provided on the fans based on AMCA standards and the manufacture can provide calculated sound data from a computer program.
 - 3. Shipping and operating weight of unit and/or sections.
 - 4. Materials of construction.
 - 5. Cross section details of typical wall, floor and roof construction.
 - 6. Component equipment data as detailed in component specification section.
 - 7. Unit performance data including sound data.
 - 8. Details of coil support in a coil bank.
 - 9. Piping connection sizes and approximate locations.
 - 10. Door and window sizes and elevations.
 - 11. Drain pandetails.
 - 12. Operating and Maintenance Data

D. Product Delivery, Storage and Handling

1. All equipment shall be delivered to the job site suitably packaged and protected for overland trucking using heavy-duty protective shrink-wrap plastic. Unit will ship as knockdown for field construction. See section 2.4.D.

E. General Design Considerations

1. Coils shall be arranged so that space between coils is a minimum of 24", unless specifically shown otherwise on drawings. Fan compartment shall be arranged such that the space between the fan inlet(s) and the housing is a minimum of 75% of fan diameter, unless noted or shown otherwise on the schedule or drawings. Coil assembly shall have provisions to facilitate total or partial removal from coil bank. Housing shall be designed and sealed to minimize air and water vapor leakage. Housing shall be designed and tested to meet maximum leakage of SMACNA class 3 when tested in accordance with

the procedure outlined in the SMACNA HVAC Air Duct Leakage Manual.

2.4 <u>UNIT CONSTRUCTION</u>

A. Unit Base / Floor / Framework:

1. The unit base frame is manufactured with an electrostatic pre-primed powder coated 2" X 5" X 0.125" HSS type rectangular structural tubing. The unit base frame is epoxy primed and coated with a polyurethane UV resistant topcoat for outdoor units. Unit base is fitted with 20" on-center C-channel cross support members. The completed unit base coating must be able to sustain salt spray testing of 1000 hours, per ASTM 117B. Sheet metal formed unit bases are not acceptable. The "Double Bottom" base features a 4.5" thick insulated walk-on floor as specified below. The base rails are fitted with Bolted removable lifting lugs at the unit or module (if demounted) corners. Sheet metal lifting lugs are not acceptable. Floor liner shall be 0.125 aluminum treadplate. Floor seams shall be sealed to create leak free joints. All seams shall be continuously welded to form a watertight assembly. The perimeter of the unit consists of a 11/2" upturned perimeter lip to create a drainable floor. The under floor liner shall be G-90 galvanized steel and recessed nominal 1/2" to allow for air circulation under the unit floor. All floor openings on outdoor units are complete with floor grating. The entire unit base must be polyurethane foamed in place with a minimum thickness of 3" and a minimum R value of 20. Fiberglass insulated unit bases will not be acceptable. Maximum deflection of floor shall be L/360 at design loading (L=span in inches), the minimum floor design load is 150 lbs./sq. ft. (distributed load), and the maximum point load on floor shall be 300 lbs. (over 1 square foot).

B. UNIT BASE (Curb mounted design)

- 1. The unit shall be constructed on the existing concrete floor with a new concrete curb. The new concrete curb will be 12" wide x 6" high. Manufacturer shall be responsible for coordinating exact size and location of curb.
- A pre-fabricated base shall be provided in the cooling coil section under the
 cooling coils. The base shall be constructed of structural aluminum or stainless
 steel and shall include a sloped sump IAQ drain pan. Drain pan shall be
 constructed of stainless steel. Condensate piping shall be extended through the
 unit base.
- 3. The unit floor shall be coated with a nominal 24 mil DUR-A-GARD High Build Epoxy/Urethane, Chemical and Abrasion Resistant Floor Coating System with POLY-THANE #1 performance topcoat as manufactured by DUR-A-FLEX INC. Once the installation is complete the floor coating shall have the following physical properties.
- 4. Panel structural strength:
 - a. Maximum deflection of walls and roof shall be L/200 at +/-10" w/c/ for 2" foam insulation construction (L= span in inches).

C. Cabinet Insulation:

1. The polyurethane injected foam, 2.5 pcf with an effective thermal conductivity (C) of 0.154 BTU in/hr sq. ft. °F). The foam insulation has an ozone depletion potential of 0, a global warming potential of 0 and is VOC exempt. It is also rated UL94 HF-1.

D. Cabinet - Smooth Exterior Panels:

- Formed and reinforced wall panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed. Outside Casing shall be solid 16-ga, Bright spangled G-90 galvanized steel, double dieformed 4" thick panel secured with 1/4" hex head, zinc plated fasteners at 12" oncenters.
- 2. The inside liner shall be 20-ga, G-90 galvanized steel. Liner shall be secured with sheet metal screws to outside casing at 12" on-centers.
- 3. The unit construction needs to be thermal break PVC (poly-vinyl chloride) closed cell foam gasket meeting NFPA 90 A and B. The panel construction must meet a minimum R value of 12 in the walls and ceiling. The injected foam insulation has a mean R value of 13 for 2" thick unit.
- 4. IBC construction
 - a. Units shall be IBC certified for design short period acceleration (Sds) of 0.6g with standard screw spacing between panels (12" OC).
 - b. The unit construction needs to be of true No-Thru-Metal construction, meeting NFPA 90 A and B. The 2" thick panel is injected with foam insulation with a mean R value of 13 (hr sq.ft.°F / BTU).

E. Knocked Down Unit Construction

1. Unit shall be shipped in pieces small enough to fit through the available opening(s), yet large enough to minimize work required in the field by installing contractor. No pre- assembly performed at the factory. Each piece or assembly of pieces shall be clearly marked and refer to a clear and concise assembly drawing. The factory must provide a field supervisor to supervise the assembly from start to finish. Manufacturer shall guarantee the performance of the field assembled units just as if they were built in the factory. Approval by factory personnel shall confirm that installing contractor followed all assembly procedures and that unit will perform as specified. The local manufactures representative is not an acceptable substitute. The supervisor must be a direct employee of the manufacturer.

F. Field Leakage Test (Performed by the AHU Manufacturer)

Each unit shall be field tested in general accordance to guidelines of AMCA 210 standard. The casing leakage of the unit shall not exceed 1/2% of the design airflow of the unit when tested at the fan dead head pressure or 1.5 times of the maximum operating pressure. (Units under 10,000 CFM shall be tested in accordance with SMACNA Class 3 requirements). Wall and roof deflection shall

not exceed $1/200^{\text{th}}$ of the span of the panels when operating at 1.5 times the scheduled operating pressure or a maximum of 10" WG static pressure. The manufacturer must perform the leak test. The manufacture is responsible for all repairs necessary to complete and pass the leak test. Neither the contractor or local representative will be an acceptable substitute performing the field leakage test.

G. Drain Pans and Cooling Coil Support Structure

1. Condensate Drain Pans are IAQ design, 18-ga., 304 stainless steel and incorporate a double slope shape to eliminate standing water. All drain pans have a "Double Bottom" attached to welded structural steel base, with a minimum of 1.25" of polyurethane spray foam insulation under the drain pan under the lowest point. Drain connections are standard stainless steel 1-1/4" MPT connection. All coils are to self-supported to reduce unit height to a minimum. All coils shall be mounted on raised supports above drain pan to facilitate cleaning and coil removal. Coils shall have independent removable access panels on both sides of the coil to allow for coil pull.

2.5 ACCESS DOORS AND PANELS:

- A. Access doors are constructed with a double wall construction and an extruded aluminum frame. The door frame features a built-in no-through-metal high density resin barrier and a perimeter gasket. Door frames with no thermal break are not acceptable. The door gasket is seamed together at each corner to prevent leakage through the door. Door is attached to the unit with 3 axes adjustable stainless steel or powder coated steel hinges. Doors shall open against higher pressure side. Where this is not feasible due to site constraints, an interlocking mechanism furnished on the fan section access door with a de-energizing switch complying with CAL-OSHA, ETL and the mechanical protection requirements of UL 1995 will be provided.
- B. Inspection access panels and doors shall be sized and located to allow periodic maintenance and inspections. Provide access panels and doors in the following locations as shown on drawings
- C. Dual-paned tempered glass with vacuum seal windows, molecular sieve sealant and thermally broken frames shall be supplied as shown on unit drawings. Singled paned windows are not acceptable.
- D. All outward swinging doors must be equipped with a door chain to limit door swing.
- E. Fan Array Manufacturers
 - NAS, Nortek Air Solutions, including Governair, Huntair, Mammoth, Temtrol, Venmar, Ventrol, Greenheck, Twin City and New York Blower.
 - 2. Approved Equal

- a. Must be submitted per project specifications
- b. Must guarantee submitted AHU performance for flow, pressure, and acoustics at the perimeter boundary of the unit.
- c. Any corrective acoustical treatment, added airway tunnel lengths, increased electrical service, and any structural modifications necessary to meet specified and scheduled performance shall be provided at no additional cost to the owner to meet the specified performance criteria.

F. Fan Wheel HPF-A100

- 1. Fans shall be aluminum airfoil wheel, Class III, direct drive arrangement and shall be individually housed. Fans shall be certified by AMCA for performance. Fan shall be housed in a "cell".
- 2. Fan housing or "cell" shall be constructed of aluminum or stainless steel with perforated inner liner, melamine insulation, with either solid or perforated outer panels as required by application.
- 3. Each fan/motor assembly shall be dynamically balanced to meet AMCA standard 204-96, for fan application class BV-5, to meet or exceed a rotational imbalance Grade G.55, producing a maximum rotational imbalance of 0.022 inches per second peak, filter in. "Filter in" measurement indicates that the specified balance grade must be achieved at the submitted design operating speed for the fan(s).
- 4. Fan and motor assemblies shall be designed for application in multiple fan arrays.

G. Motors (See Chart Below for Available Options)

AC Motors:

- a. All motors shall be standard foot mounted type, TEAO or TEFC motors selected at the specified operating voltage, RPM, and efficiency as specified or as scheduled elsewhere.
- b. Motors shall meet the requirements of NEMA MG-1 Part 30 and 31, section 4.4.2.
- c. Motors shall be as manufactured by Baldor, Siemens, or Toshiba. Motors shall be available in 1/2 HP increments at nameplate HP ratings from 1.5 HP through 12HP.
- d. All motors shall include permanently sealed bearings and shaft grounding means to protect the motor bearings from electrical discharge machining due to stray shaft current. Motors provided with hybrid ceramic bearings, when specified, do not require shaft grounding devices.
- e. Steel cased motors and/or ODP motors are not acceptable.

H. Acoustical Performance

 The AHU unit shall provide the specified acoustical performance as scheduled for the unit supply discharge opening(s), RA opening(s), and the Outside air and Exhaust air opening(s).

- 2. Coplanar silencer(s) and/or sound attenuator(s) shall be provided to meet specified acoustical requirements. Sound attenuator cross sectional area shall be selected to not exceed 500 fpm. Losses from sound attenuating devices must be included in the fan performance selection.
- 3. Listed or alternate manufacturers, other than the basis of design, providing fan arrays that incorporate fans which are not manufactured by the AHU manufacturer, must provide modeled acoustical performance of the AHU unit.
- 4. Sound and performance data for approval showing only single fan performance for multiple fan array application will be returned without review.
- Any proposed remedy for deviations in submitted sound power levels shall be approved by a registered acoustical consultant as selected by the owner or architect. Costs for review of proposed changes shall be borne by the contractor.

I. Multiple FanArrays

- The fan array shall consist of multiple housed fans or "cells", spaced in the air
 way tunnel cross section to provide a uniform air flow and velocity profile
 across the entire air tunnel cross section and components contained therein.
- 2. Each fan and motor assembly shall be removable through a 24" wide, free area, access door located on the discharge side of the fan wall array without removing the fan wheel from the motor.
- 3. All fans in the multiple fan arrays shall be AMCA certified for performance per AMCA arrangement "A" testing configuration. The submitted fan performance shall be inclusive of system effects attributed to the fan mounting arrangement, fan enclosures, back draft dampers, and other fan appurtenances not considered when AMCA certified performance per AMCA arr. "A" is determined. Submitted AHU/fan performance that does not indicate allowances for system effects for the back flow prevention device(s), wheel enclosures, safety screens, bearing pedestals, belt guards, or the fan and motor enclosure in which each fan is mounted, will be returned to the contractor disapproved and will need to be resubmitted with all of the requested information included for approval. Added system effects for acoustic attenuators, or other devices required to meet specified fan performance and sound levels must be indicated in the submitted fan selection data.
- 4. Fan system power requirements or sound power levels that fail to meet specified performance levels shall be corrected to meet specified performance levels at no additional cost to the owner. Any proposed corrections for power or sound deviations from specified values must be submitted to the engineer for approval prior to implementation of any proposed corrective procedure.
- 5. Manufacturers that do not manufacture their own fans for the specific purpose of use in multiple fan arrays, shall provide a letter guaranteeing submitted AHU performance for flow, pressure, and acoustics at the perimeter boundary of the unit signed by an officer of the OEM fan manufacturer being submitted. Any corrective acoustical treatment, added airway tunnel lengths, increased electrical service, and any structural modifications necessary to meet specified

performance ratings are generated with manufacturer's AHRI certified selection software.

7. Manufacturer

a. Coils shall be Ventrol, Heat Craft, Coilmaster, Aerofin or equivalent.

8. Headers

a. Seamless copper with die-formed holes to provide a parallel surface to the coil tube for strong brazing joints.

9. Connections

a. Copper O.D. sweat with interchangeable nozzle type refrigerant distributors. Coil circuiting shall be as indicated in air handling unit schedule.

10. Casing

a. Minimum 6 ga. Galvanized steel with 1-1/2" die-formed flanges to permit easy stacking and mounting. Intermediate tube supports are supplied on coils over 44" fin length with additional supports every 42" multiple thereafter.

11. Testing and Performance

- a. All coil assemblies are leak tested under water at 500 PSIG. PERFORMANCE is CERTIFIED under AHRI Standard 410. All coil performance ratings are generated with manufacturer's AHRI certified selection software.
- b. Coils Manufacturer Coils shall be Ventrol. Heat Craft, Coil Master, Aerofin or equivalent.
- 12. Casings shall be minimum 12 GA galvanized steel, braced and flanged (punched if necessary, for duct or wall mounting). End casings shall have smooth, embossed tube holes to avoid abrasion during expansion and contraction. Dampers shall be wrap around "clamshell" design. Dampers shall be minimum 16 GA galvanized steel with aluminum hinges & stainless steel pins. Interconnecting bars shall be stainless steel. Operator lever arms shall be welded to a common shaft for permanent alignment with pivots on bronze oilite bearings. The operator shall connect to the damper linkage via threaded ball joint rod ends.

2.8 FILTERS. FILTER FRAMES, AND FILTER BANKS

A. Pre-filters

 The filter shall consist of a pleated media, media support grid, and enclosing frame. The media shall be non-woven cotton fabric and shall be designed to consistently increase efficiency throughout service life of filter with an initial MERV 8 rating. The media support shall be a welded wire grid with an effective open area of not less than 90%. The grid shall be bonded to the filter media to eliminate media oscillation and pull away. The enclosing frame shall be constructed of rigid, heavy duty, high wet strength beverage board. The frame shall be bonded to the filter pack. Standard sizes shall be 12" x 24" x 2" and 24" x 24" x 2". All filter holding frames must be caulked in between them to minimize bypass air through the frames. Filters shall be American Air Filter Perfect Pleat, or equal by Cam- Farr, Eco-Air or Airguard. Provide Dwyer Instruments Inc Series 2000 Magnehelic gauges across each filter bank.

B. Filter Frame Assemblies

1. Constructed of galvanized steel, specifically designed and sized to have matching mounting holes such that frames may be riveted together. Frame comes with pre-installed gasket so as to provide a surface onto which the filter will self-seal. Filter frames come with stiffeners which are installed between each column of filter frame. All filter holding frames are caulked in between them to minimize bypass air through the frames. Proper structural support (every 5 frames wide) is provided when reinforcement is required for attachment of frame assembly to existing AHU casing / building structure as well as complete safing and proper air seal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine casing insulation materials and filter media before air-handling unit installation. Reject insulation materials and filter media that are wet, moisture damaged, or mold damaged.
- C. Examine roughing-in for steam, hydronic, and condensate drainage piping systems and electrical services to verify actual locations of connections before installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Equipment Mounting:

- Install air-handling units on cast-in-place concrete equipment bases. Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete." Section 033053 "Miscellaneous Cast-in-Place Concrete."
- 2. Comply with requirements for vibration isolation and seismic control devices specified in Section 230548 "Vibration and Seismic Controls for HVAC."

- 3. Comply with requirements for vibration isolation devices specified in Section 230548.13 "Vibration Controls for HVAC."
- B. Suspended Units: Suspend and brace units from structural-steel support frame using threaded steel rods and spring hangers. Comply with requirements for vibration isolation devices specified in Section 230548 "Vibration and Seismic Controls for HVAC.
- C. Arrange installation of units to provide access space around air-handling units for service and maintenance.
- D. Do not operate fan system until filters (temporary or permanent) are in place. Replace temporary filters used during construction and testing, with new, clean filters.
- E. Install filter-gage, static-pressure taps upstream and downstream of filters. Mount filter gages on outside of filter housing or filter plenum in accessible position. Provide filter gages on filter banks, installed with separate static-pressure taps upstream and downstream of filters.

3.3 CONNECTIONS

- A. Comply with requirements for piping specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to air-handling unit to allow service and maintenance.
- Connect piping to air-handling units mounted on vibration isolators with flexible connectors.
- D. Connect condensate drain pans using NPS 1-1/4, ASTM B 88, Type M copper tubing. Extend to nearest equipment or floor drain. Construct deep trap at connection to drain pan and install cleanouts at changes in direction.
- E. Hot- and Chilled-Water Piping: Comply with applicable requirements in Section 232113 "Hydronic Piping" and Section 232116 Hydronic Piping Specialties." Install shutoff valve and union or flange at each coil supply connection. Install balancing valve and union or flange at each coil return connection.
- F. Connect duct to air-handling units with flexible connections. Comply with requirements in Section 233300 "Air Duct Accessories."

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

C. Tests and Inspections:

- 1. Leak Test: After installation, fill water and steam coils with water, and test coils and connections for leaks.
- 2. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
- 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Air-handling unit or components will be considered defective if unit or components do not pass tests and inspections.
- E. Prepare test and inspection reports.

3.5 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.
 - 2. Verify that shipping, blocking, and bracing are removed.
 - Verify that unit is secure on mountings and supporting devices and that connections to piping, ducts, and electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, controllers, and switches.
 - 4. Verify proper motor rotation direction, free fan wheel rotation, and smooth bearing operations. Reconnect fan drive system, align belts, and install belt guards.
 - 5. Verify that bearings, pulleys, belts, and other moving parts are lubricated with factory-recommended lubricants.
 - 6. Verify that zone dampers fully open and close for each zone.
 - 7. Verify that face-and-bypass dampers provide full face flow.
 - 8. Verify that outdoor- and return-air mixing dampers open and close and maintain minimum outdoor-air setting.
 - 9. Comb coil fins for parallel orientation.
 - 10. Verify that proper thermal-overload protection is installed for electric coils.
 - 11. Install new, clean filters.
 - 12. Verify that manual and automatic volume control and fire and smoke dampers in connected duct systems are in fully open position.
- B. Starting procedures for air-handling units include the following:
 - Energize motor; verify proper operation of motor, drive system, and fan wheel. Adjust fan to indicated rpm. Replace fan and motor pulleys as required to achieve design conditions.

CUSTOM AIR-HANDLING UNITS

- 2. Measure and record motor electrical values for voltage and amperage.
- 3. Manually operate dampers from fully closed to fully open position and record fan performance.

3.6 ADJUSTING

- A. Adjust damper linkages for proper damper operation.
- B. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

3.7 <u>CLEANING</u>

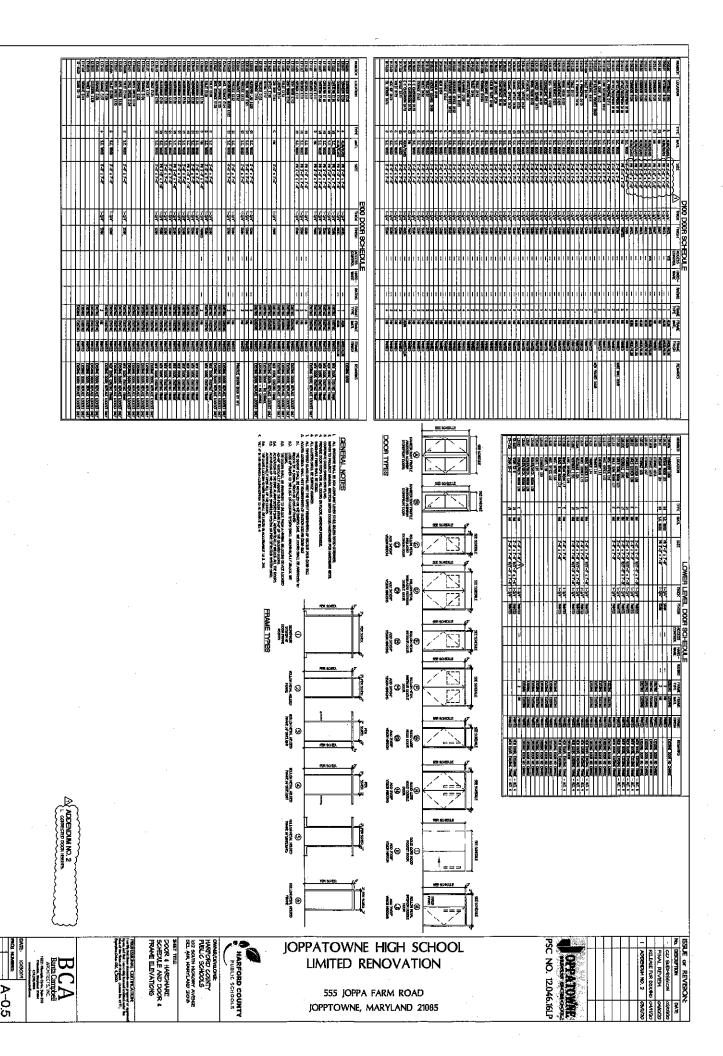
A. After completing system installation and testing, adjusting, and balancing airhandling unit and air-distribution systems and after completing startup service, clean air-handling units internally to remove foreign material and construction dirt and dust. Clean fan wheels, cabinets, dampers, coils, and filter housings, and install new, clean filters.

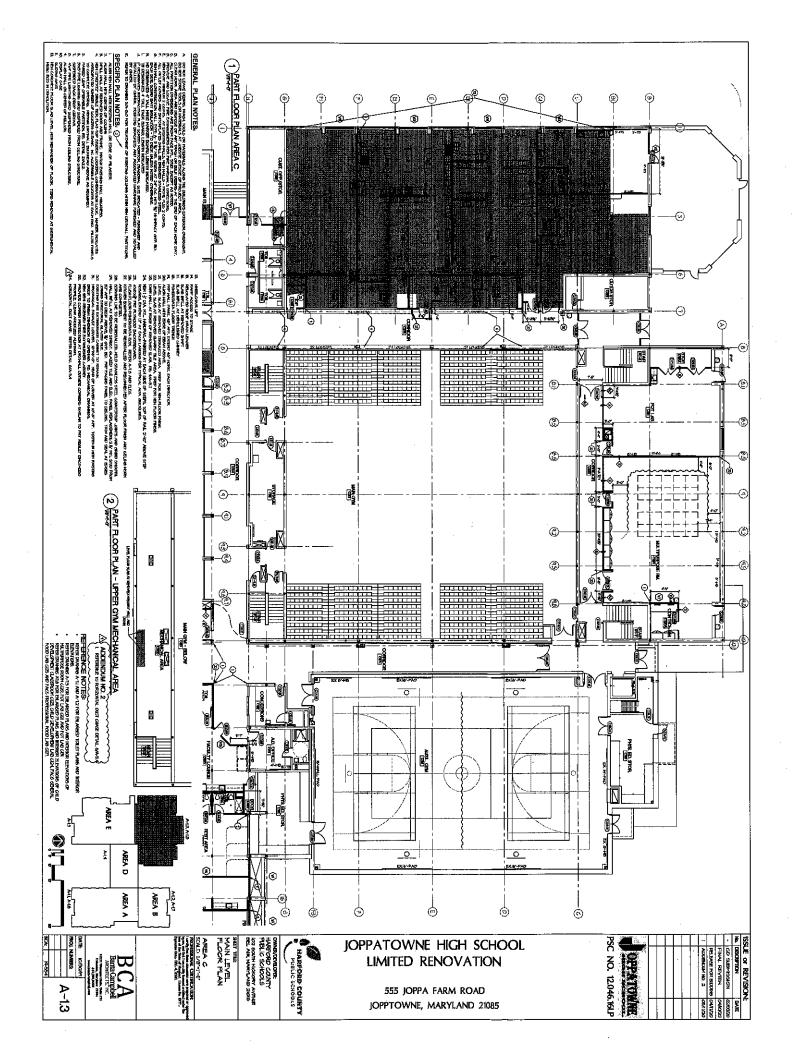
3.8 <u>DEMONSTRATION</u>

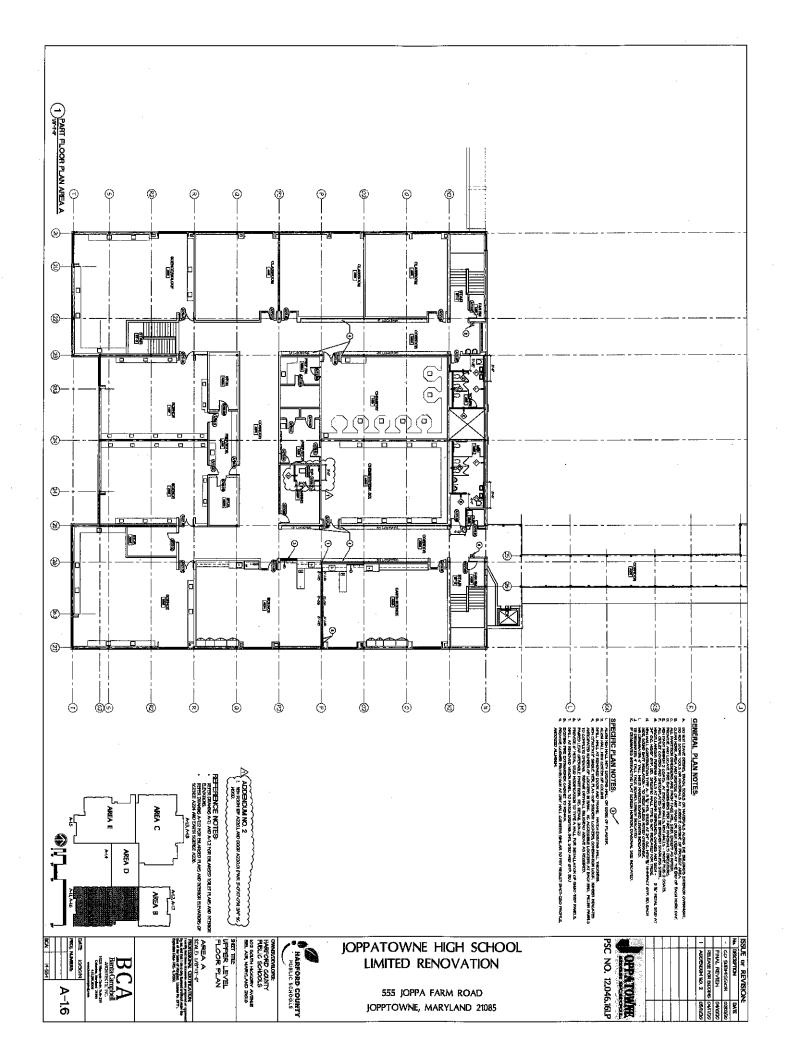
A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-handling units.

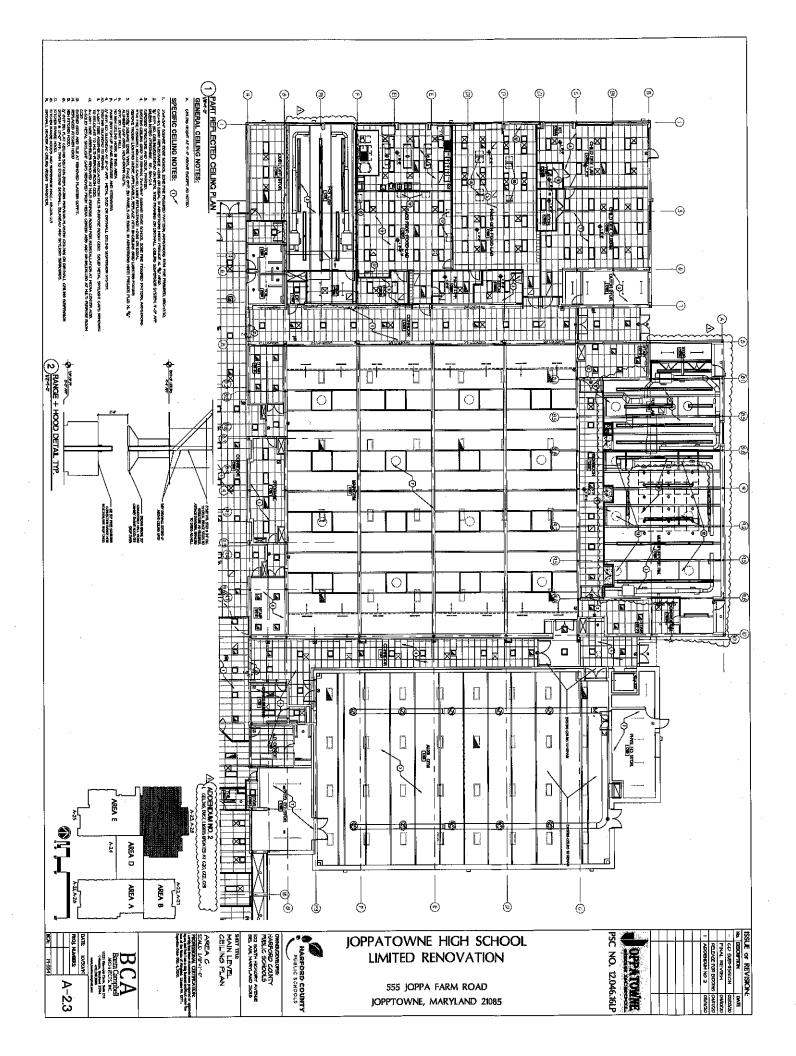
END OFSECTION

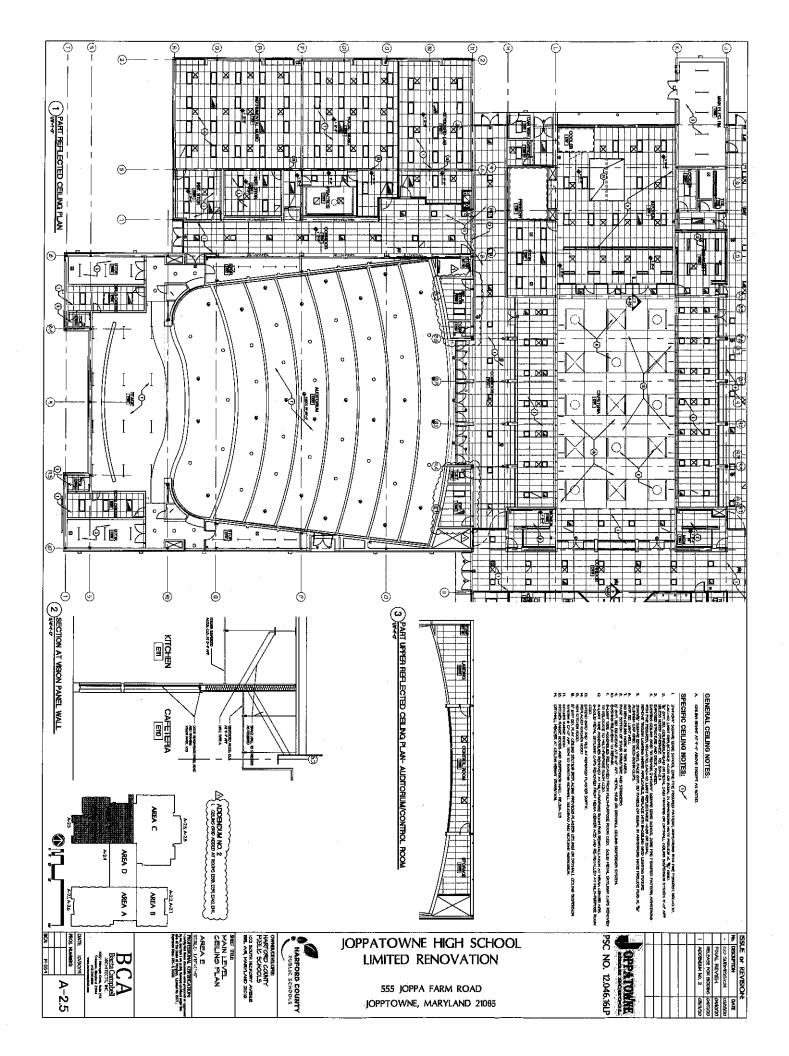


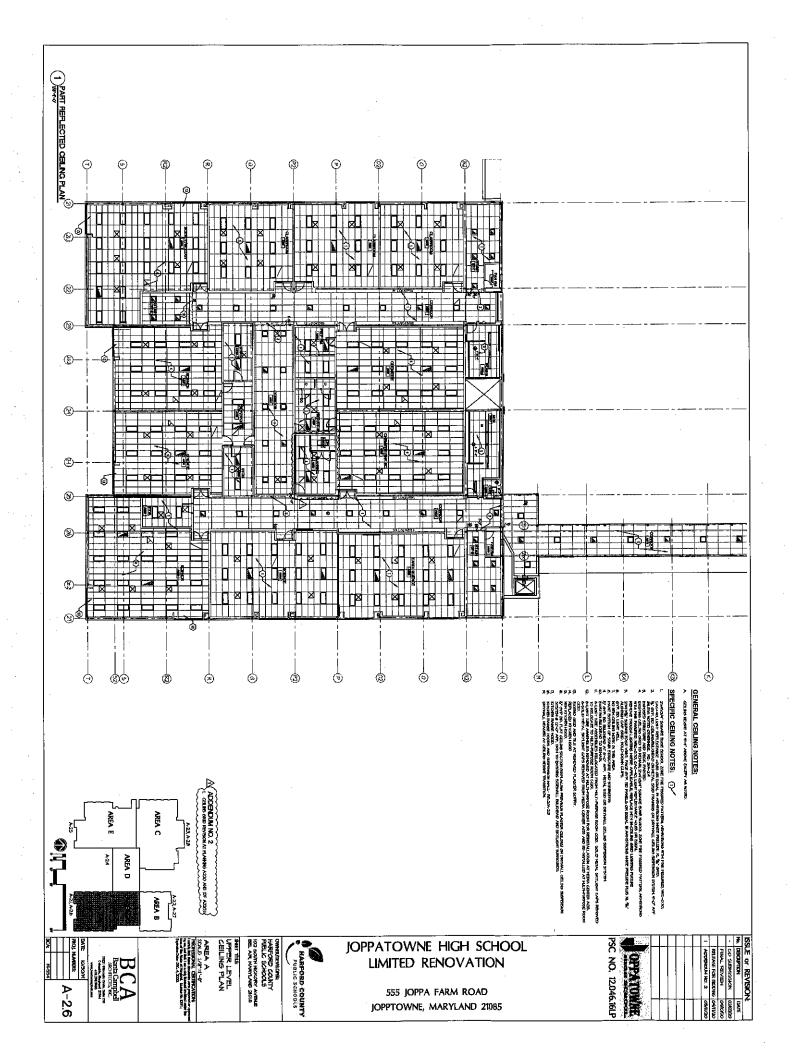


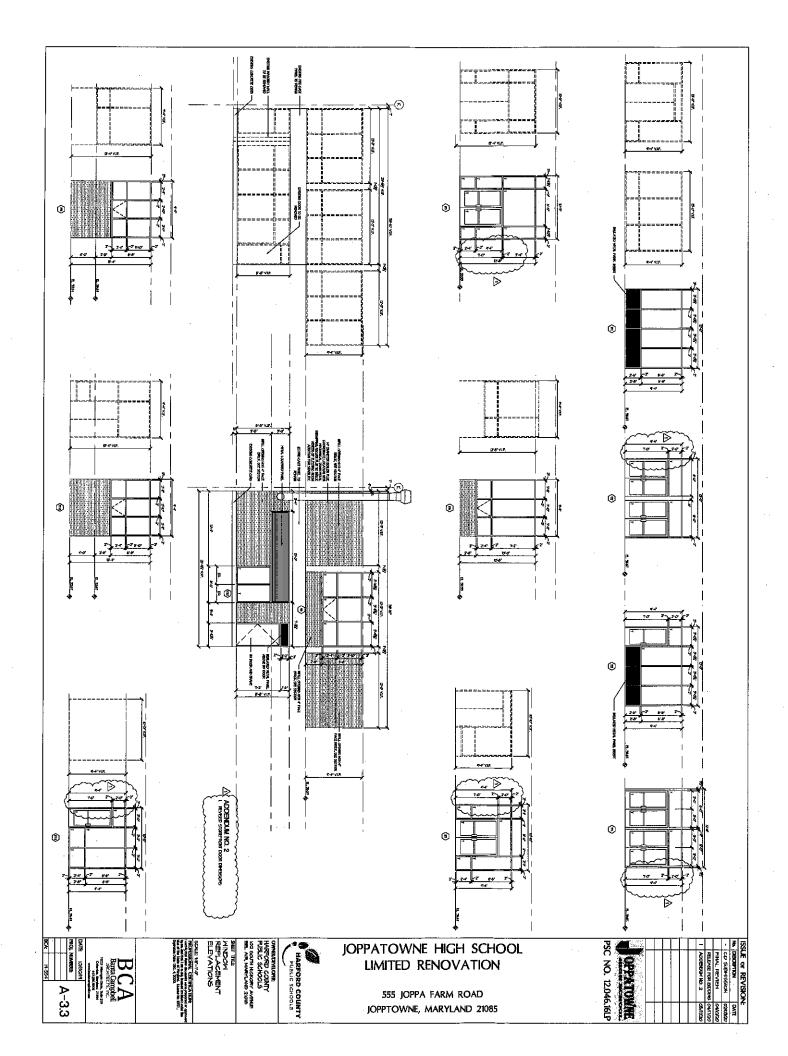


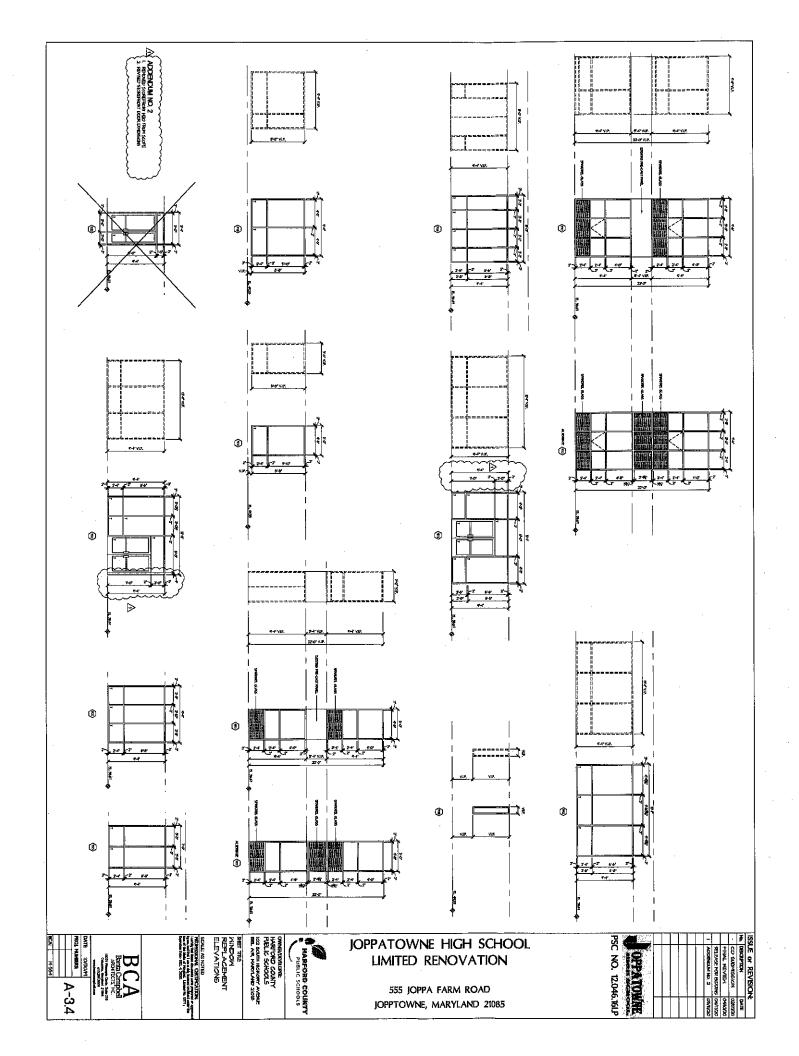


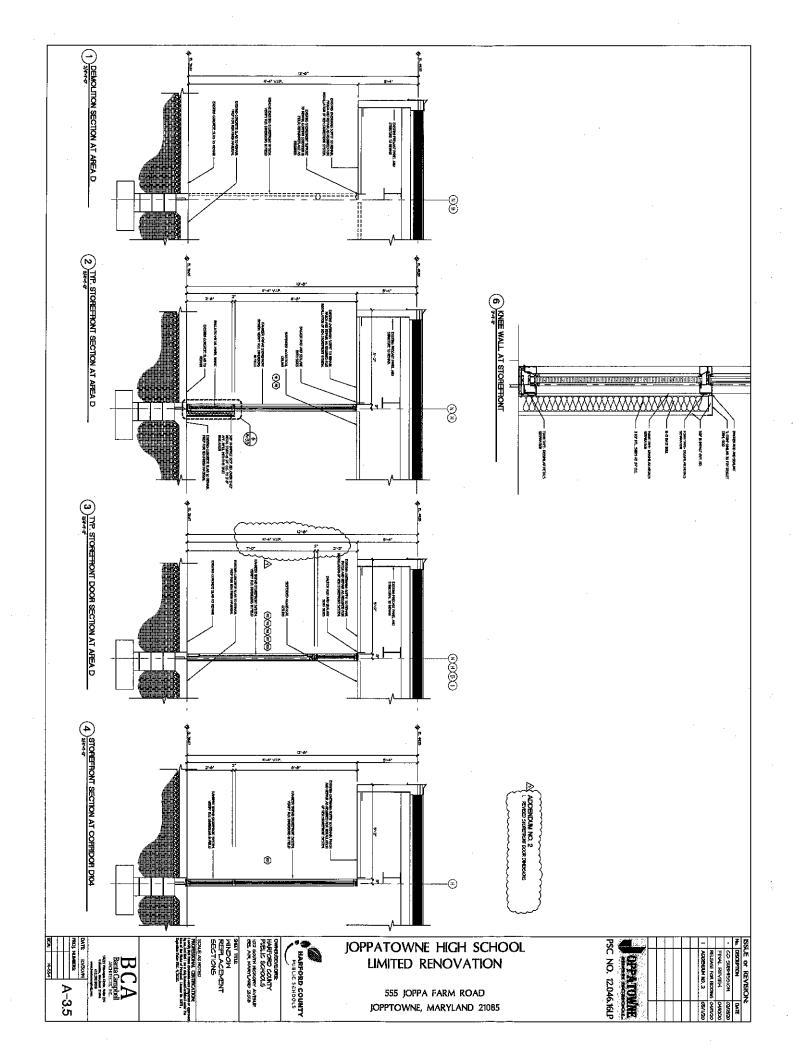


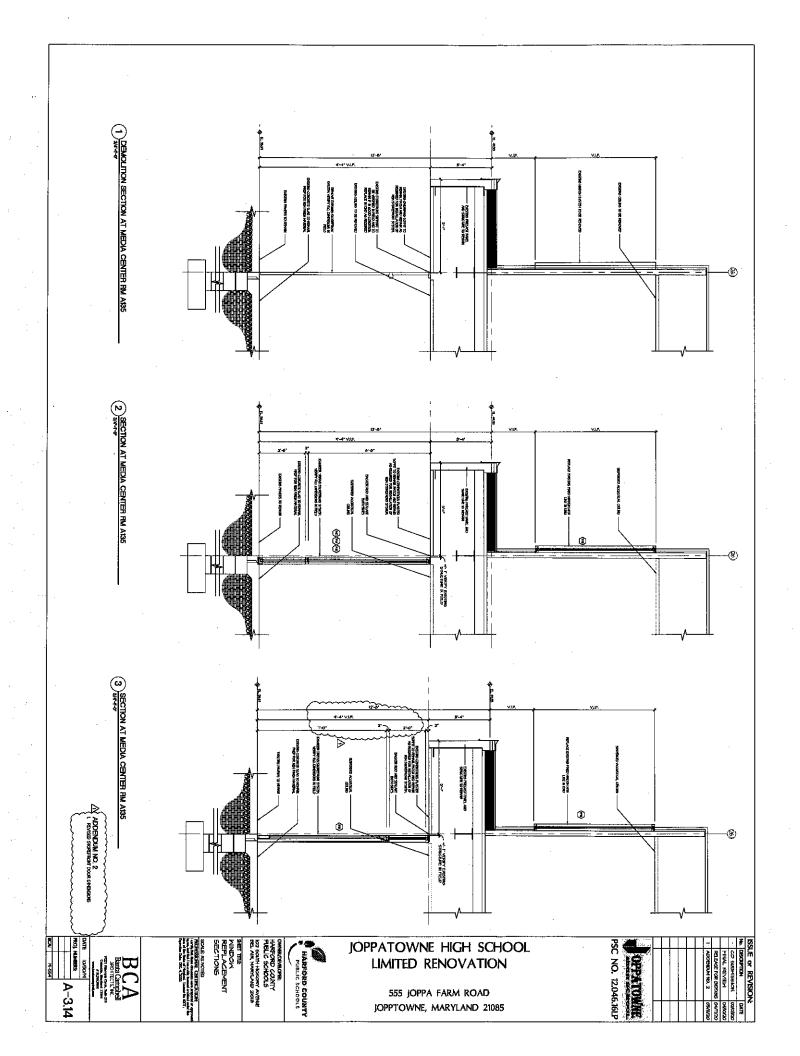


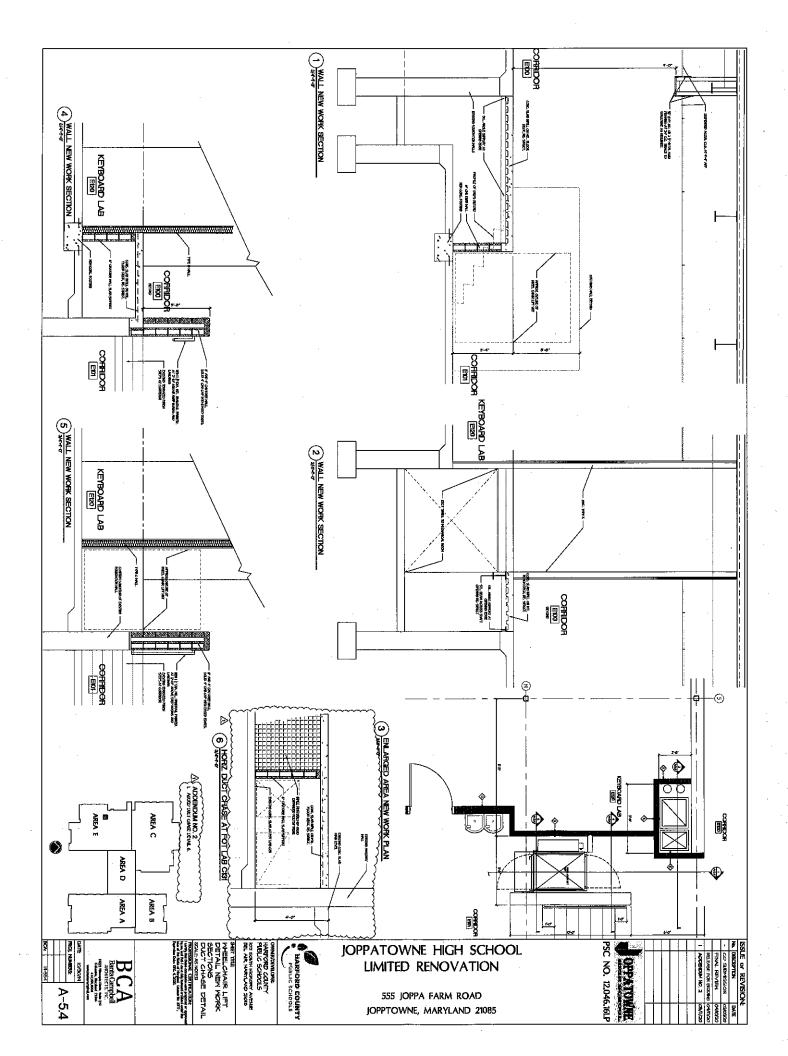


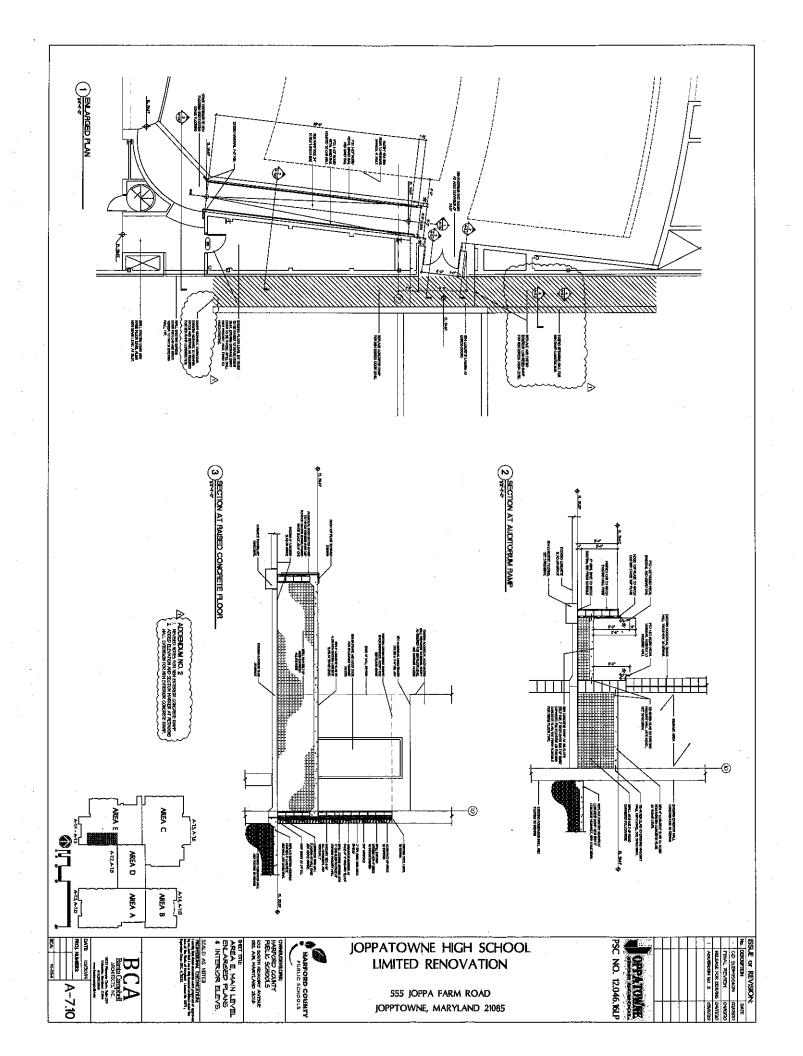


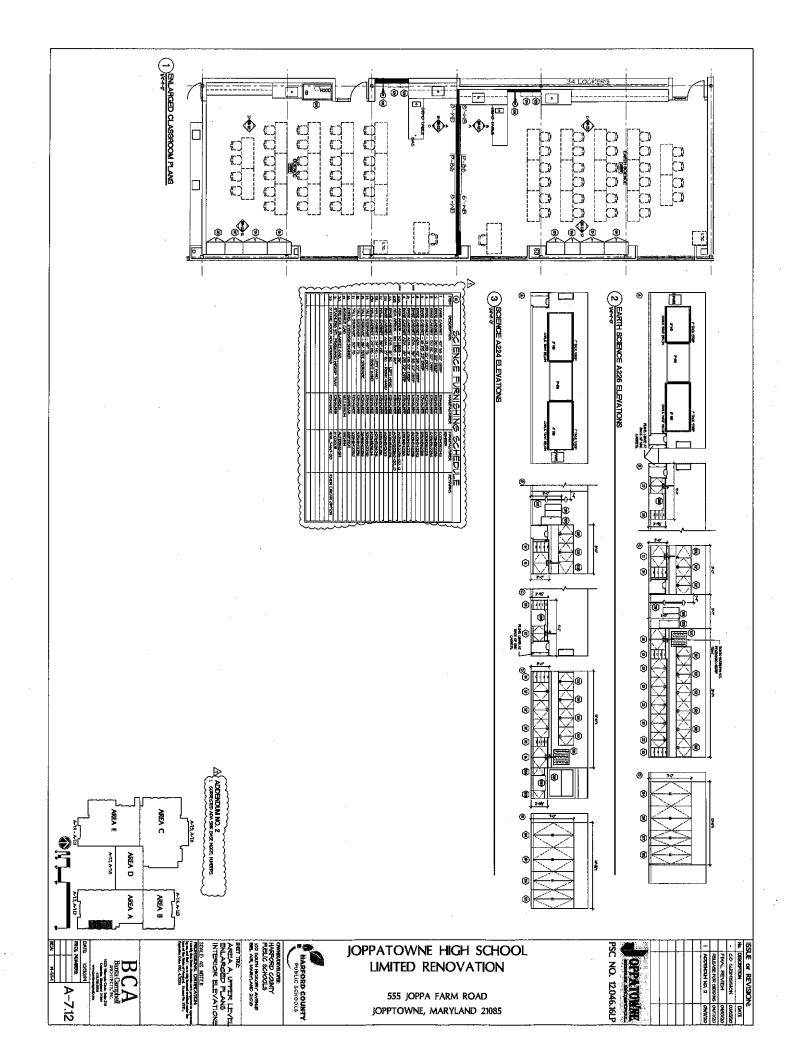


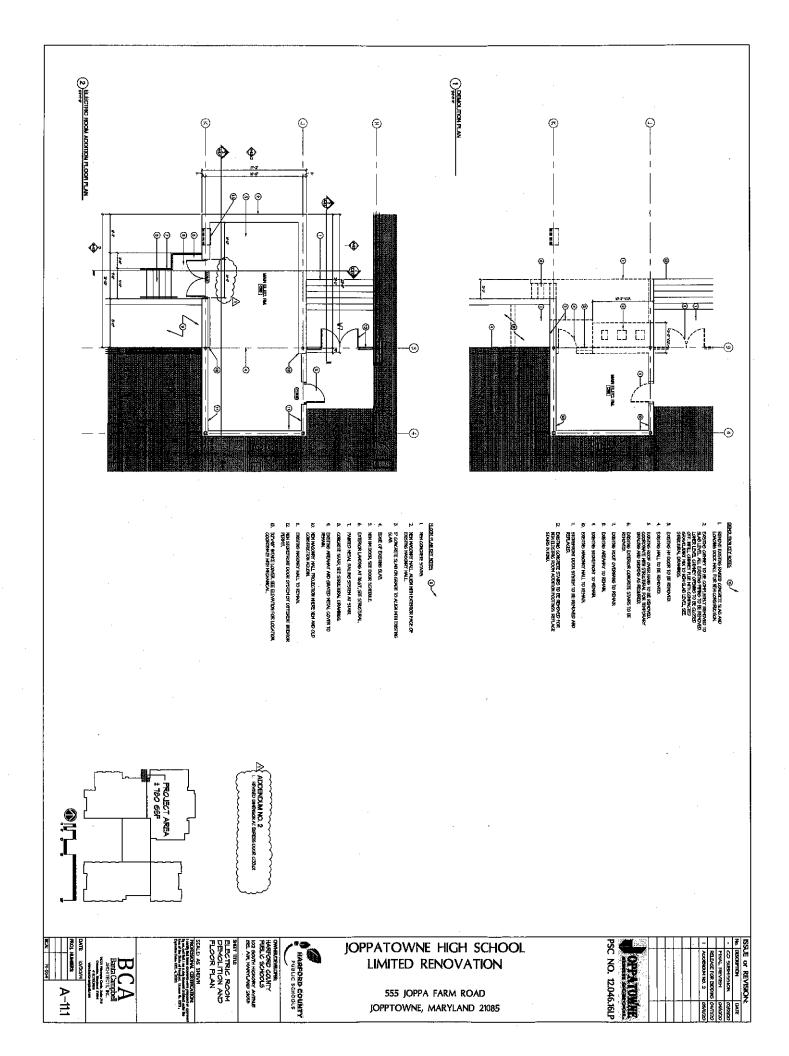


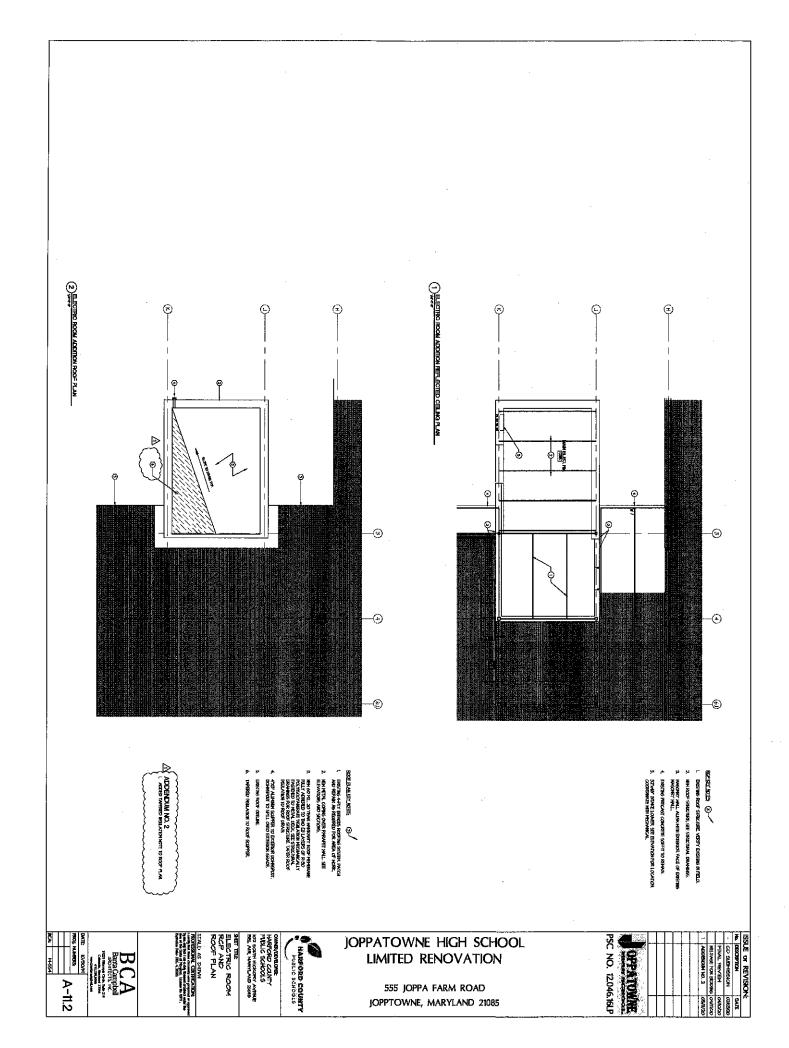


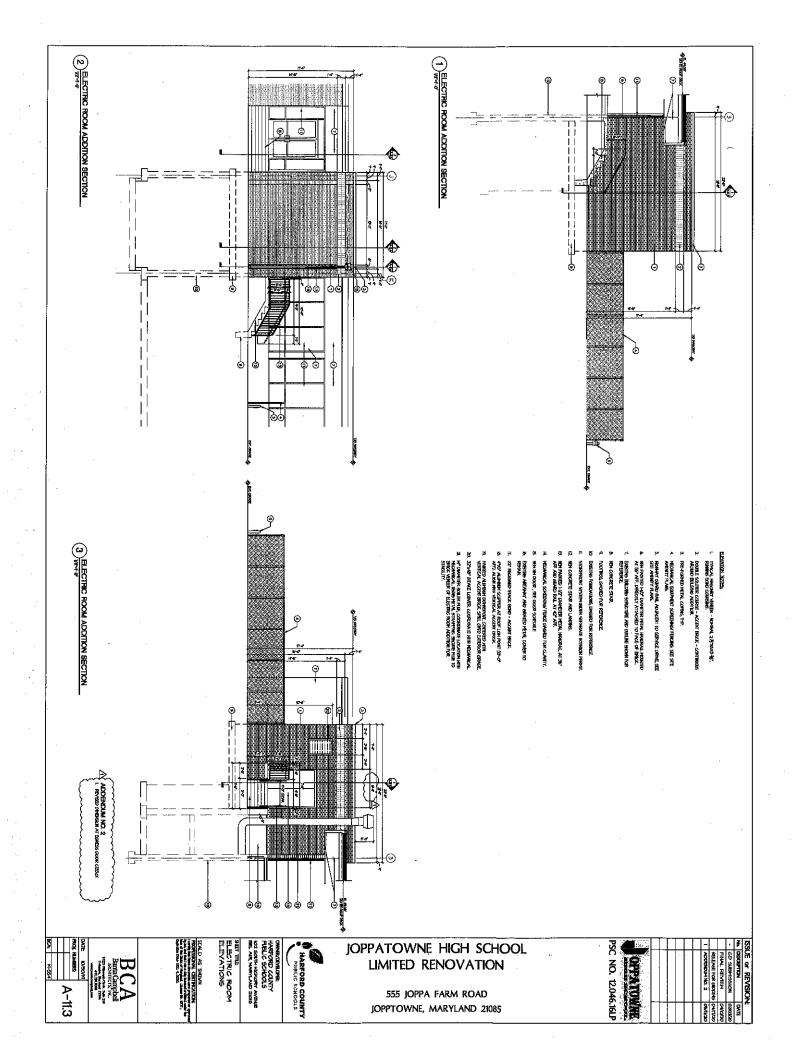


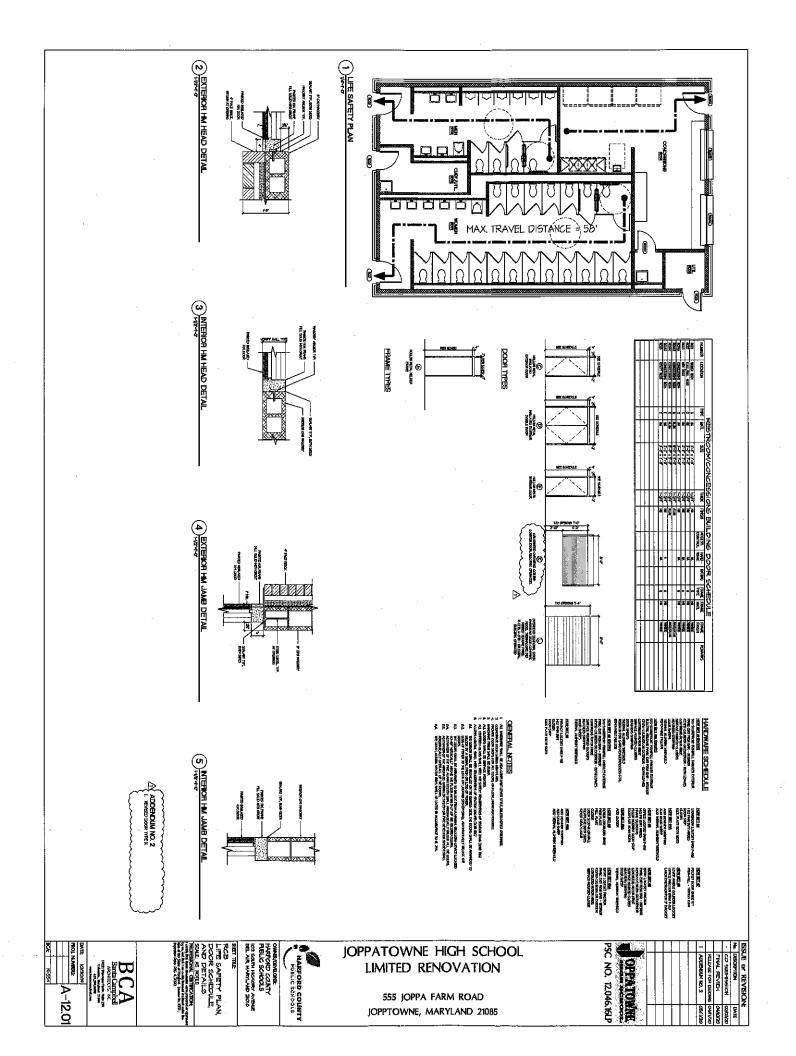


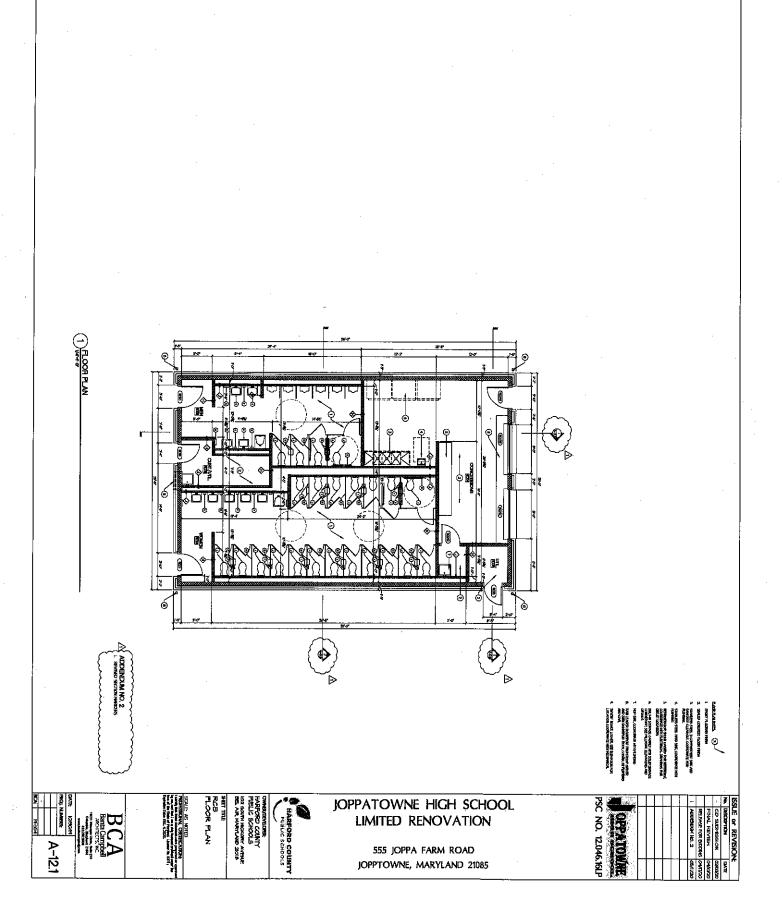


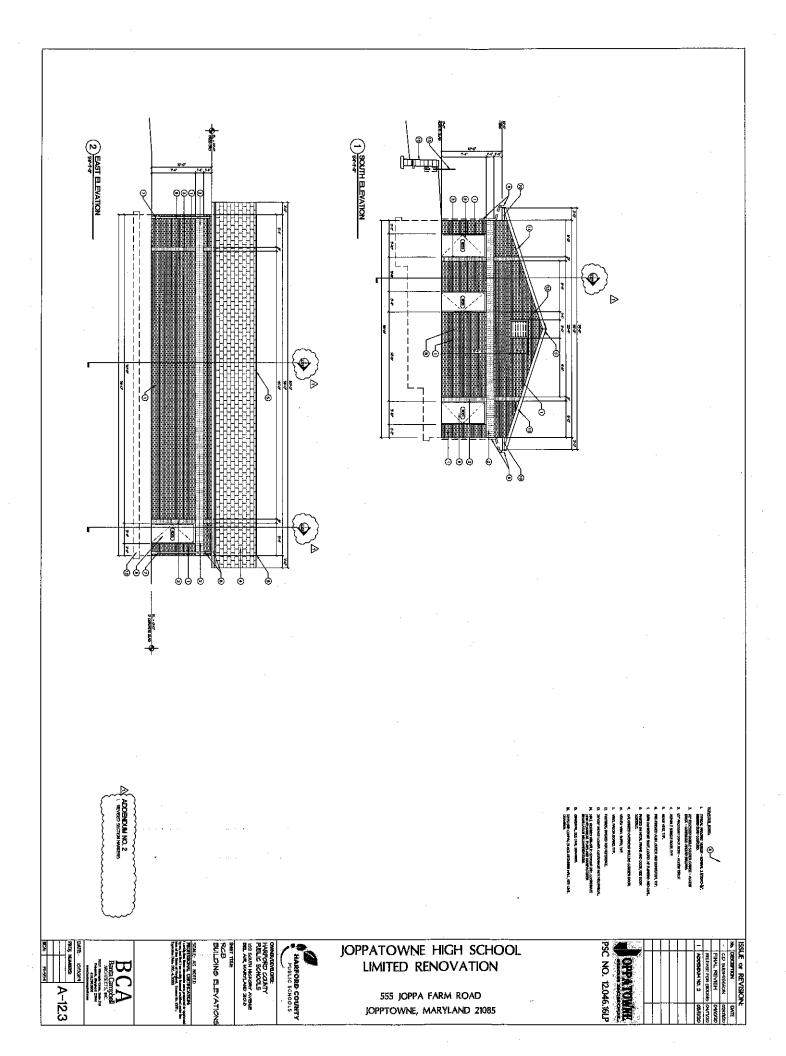


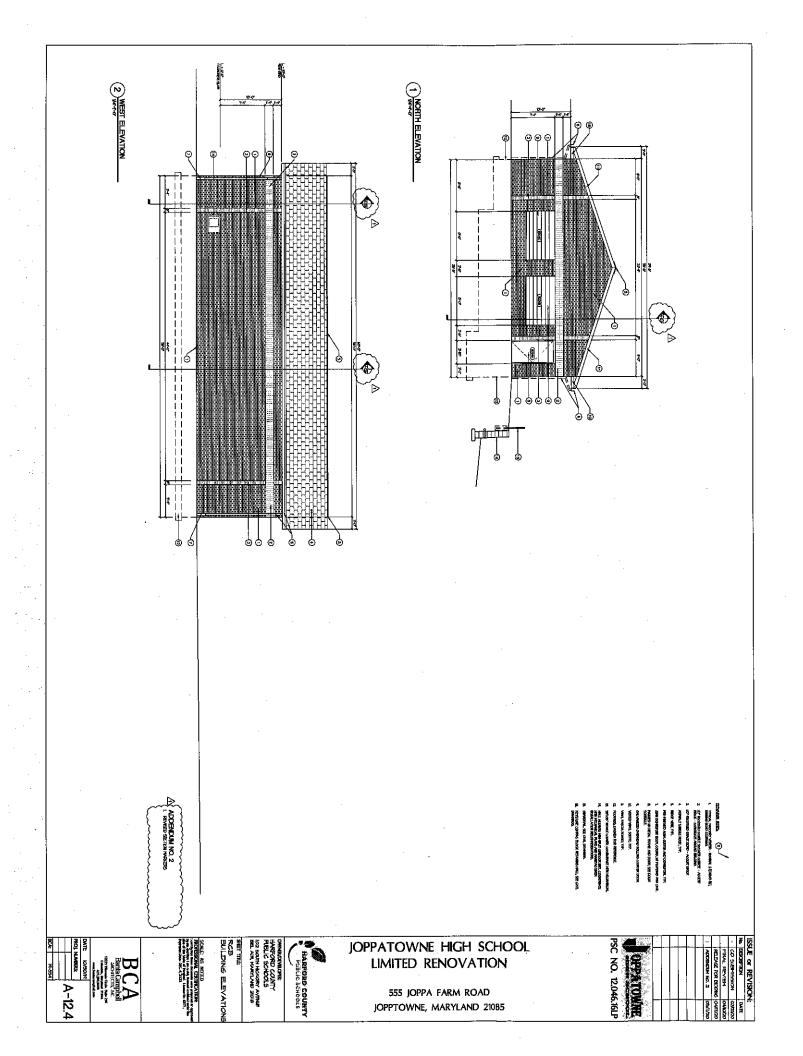


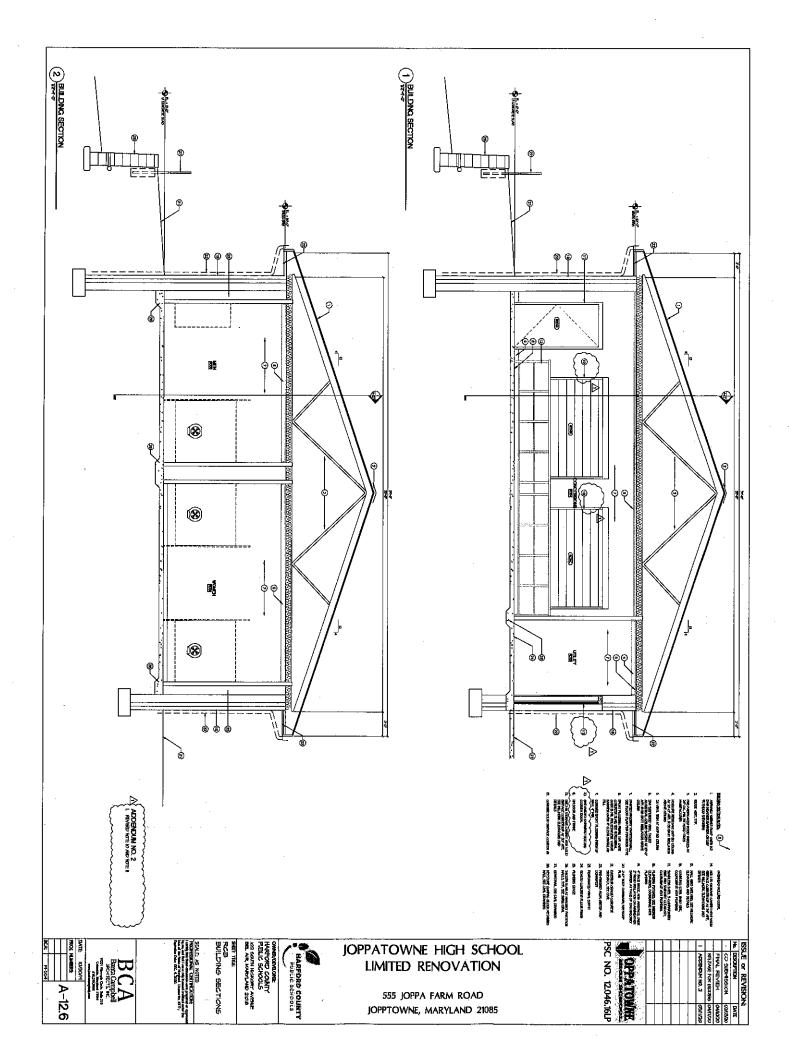


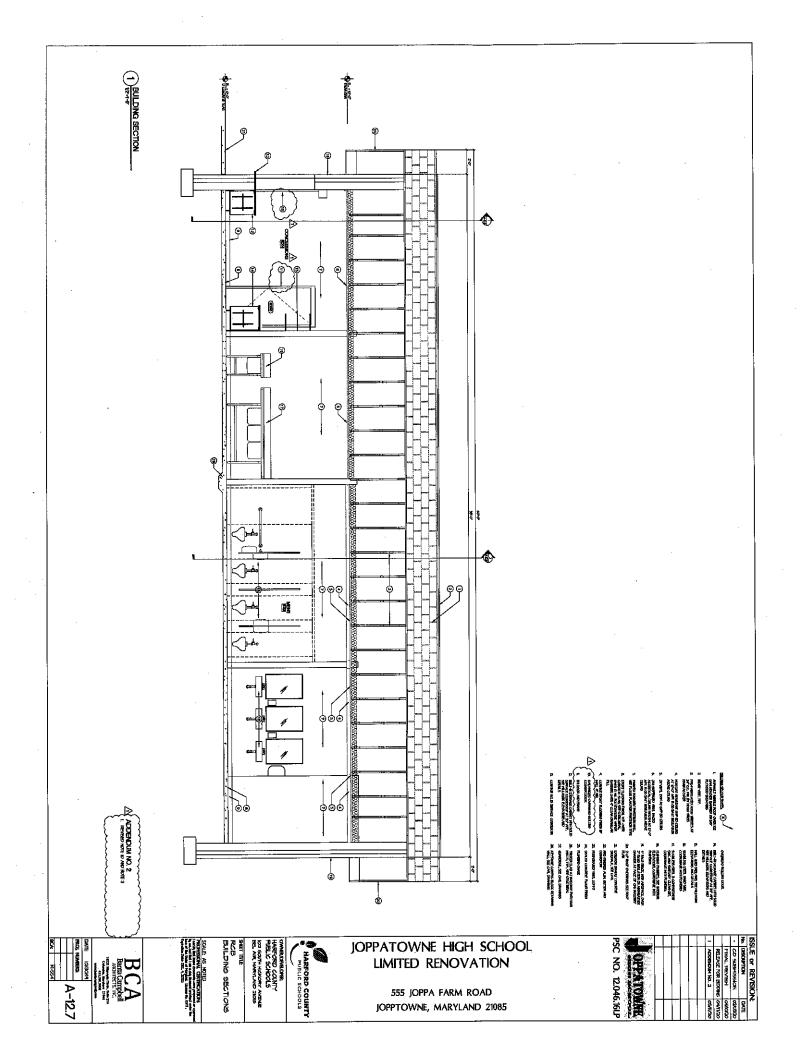


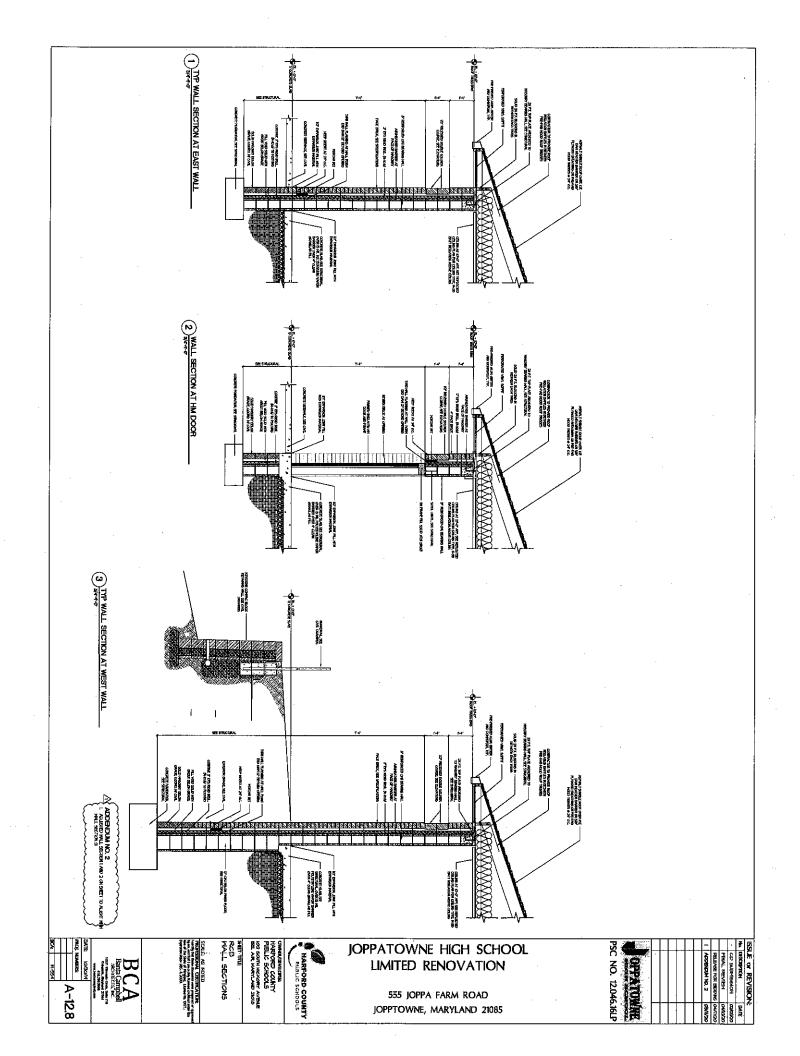


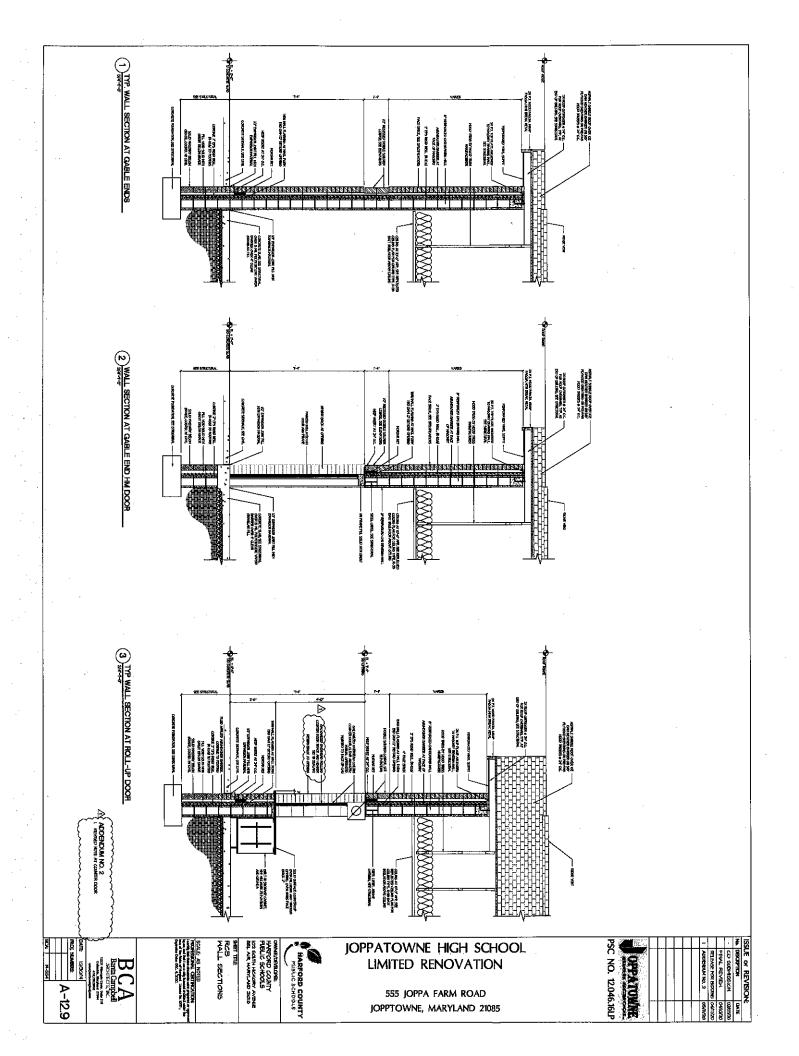












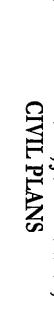
MISS UTILLTY

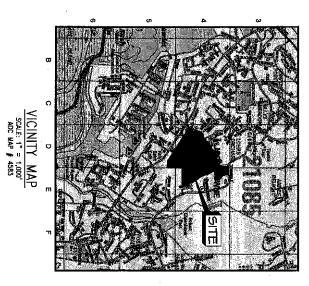
THE CHARLACIDE SHALL MOTHEY MESS UTILITY AT (800) 257-7777 AT LEAST 72 HOURS FROM TO STARTING EXCAVATION. ALL CONSTRUCTION SHALL BE ACCOMPUSHED IN ACCORDANCE WITH CURRENT HARRORD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.

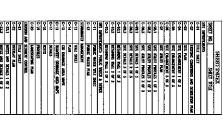
VERMICE WITH HANDOO SOIL CONSERVATION CETRACT PERMIT MUNICIPALITIES IN

dizistis curs and guttes and/on walk shall be relieved to the nearest john and lan be replaced as required with equal or better anternas with approval of exponent

JOPPATOWNE HIGH SCHOOL 555 JOPPA FARM ROAD, JOPPATOWNE, MD 21085 SITE IMPROVEMENTS FOR











SITE IMPROVEMENTS

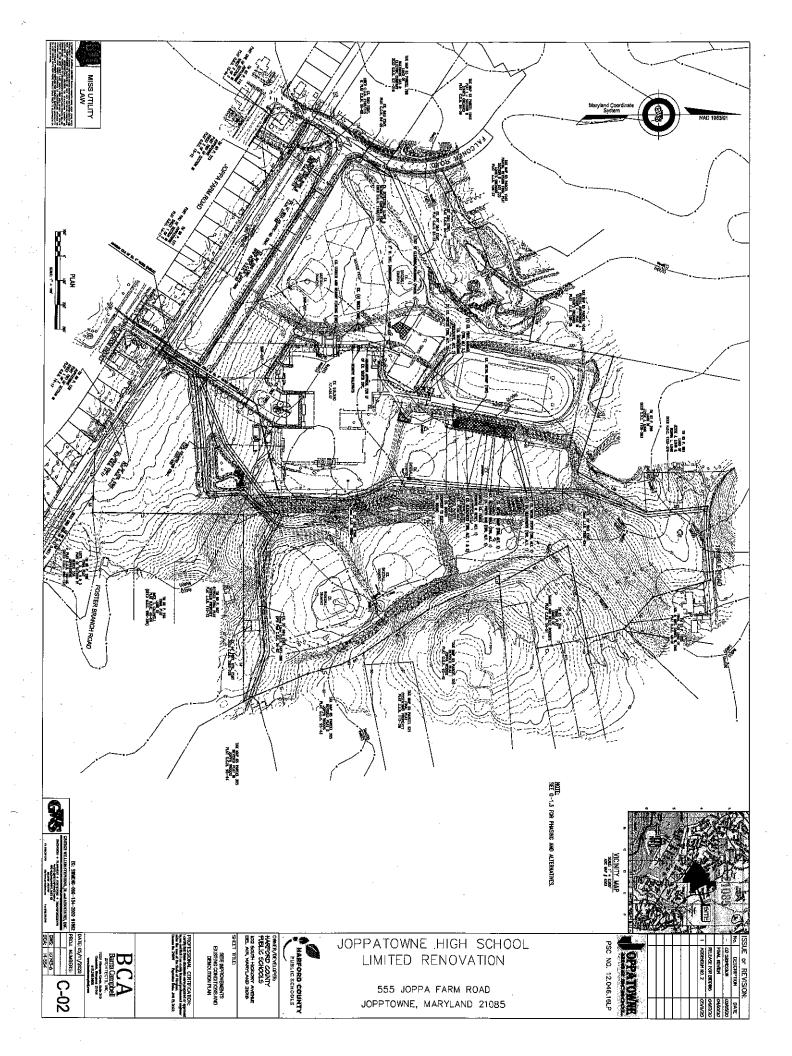
BET VERNETONES HTEFT CONTA HTEFT CONTONES HTEFT CON ET TILE

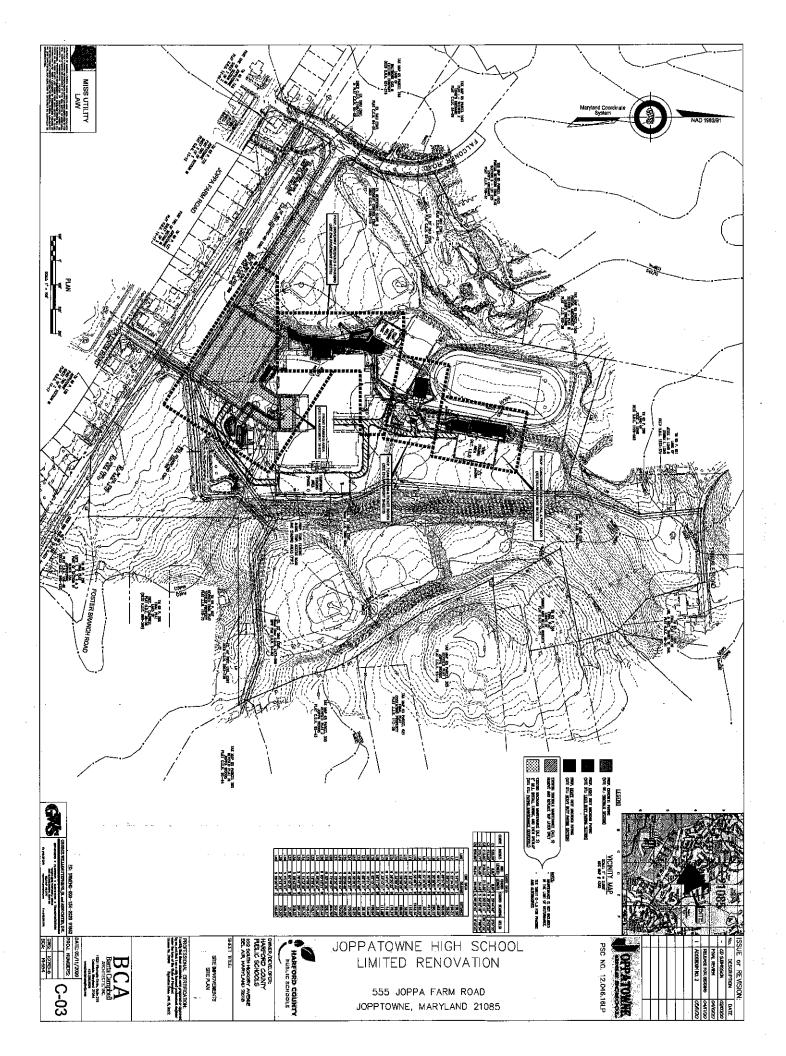


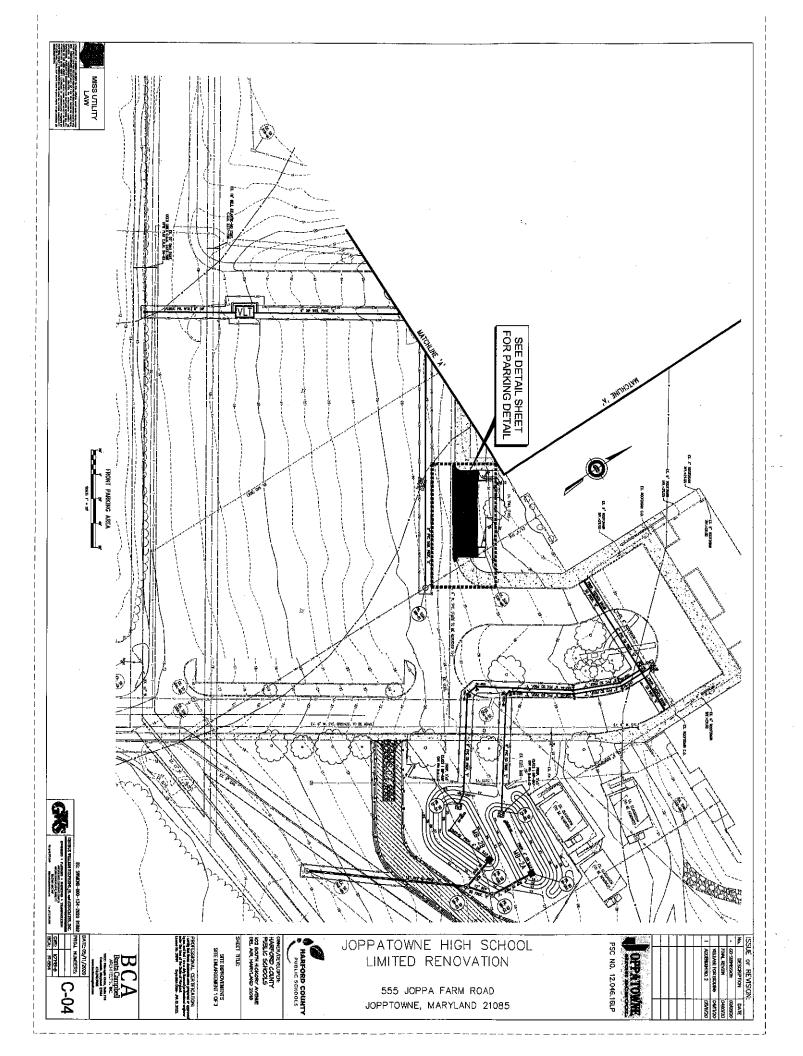
JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

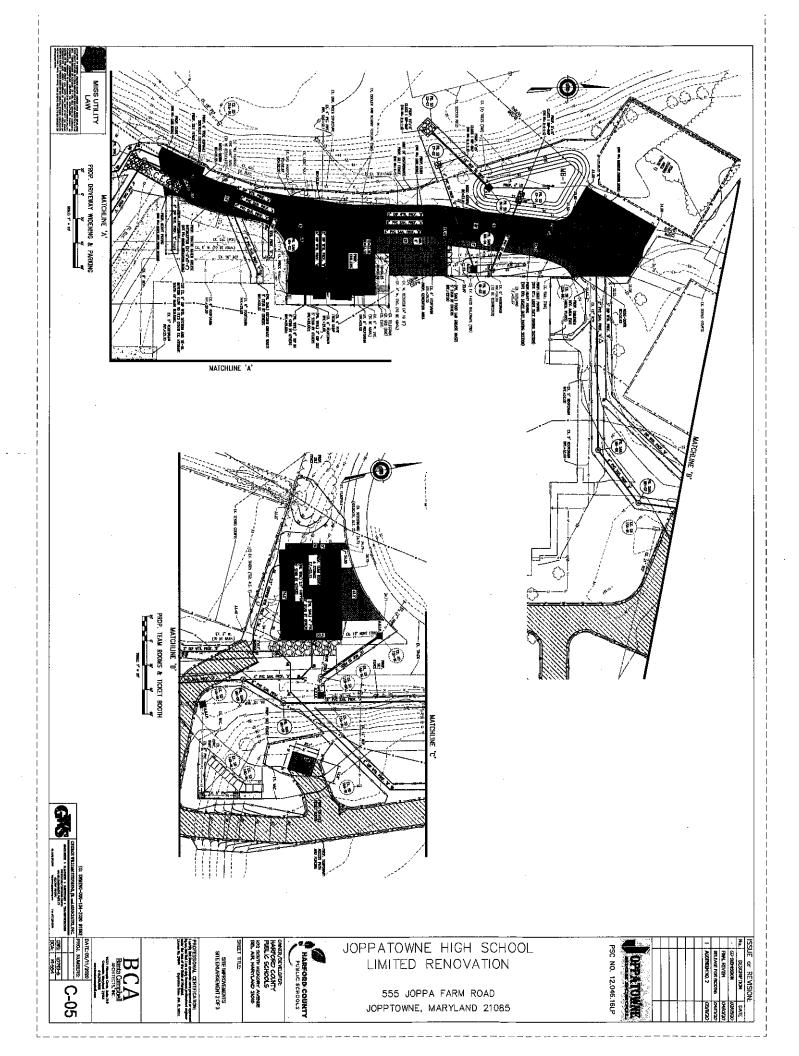
> 555 JOPPA FARM ROAD JOPPTOWNÉ, MARYLAND 21085

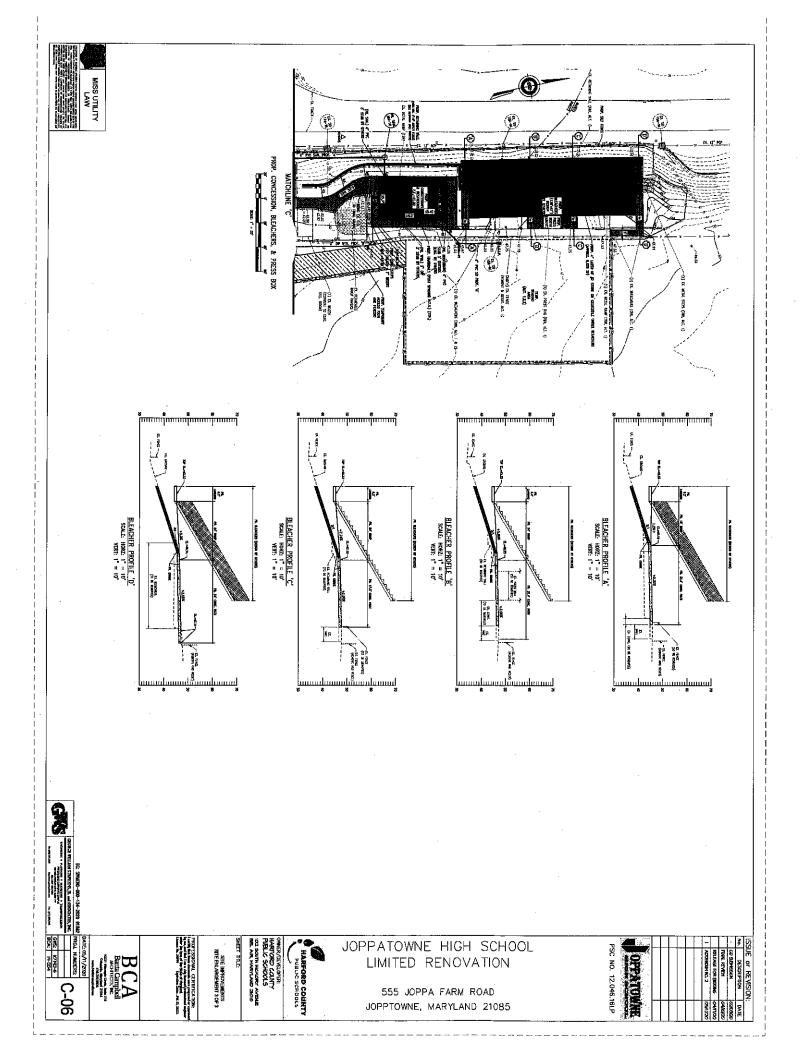
,	9.0					
3				Г		
5	注				-	
3						
10000000						
	建	Ш		<u> </u>		
5						
	4.7		L.			

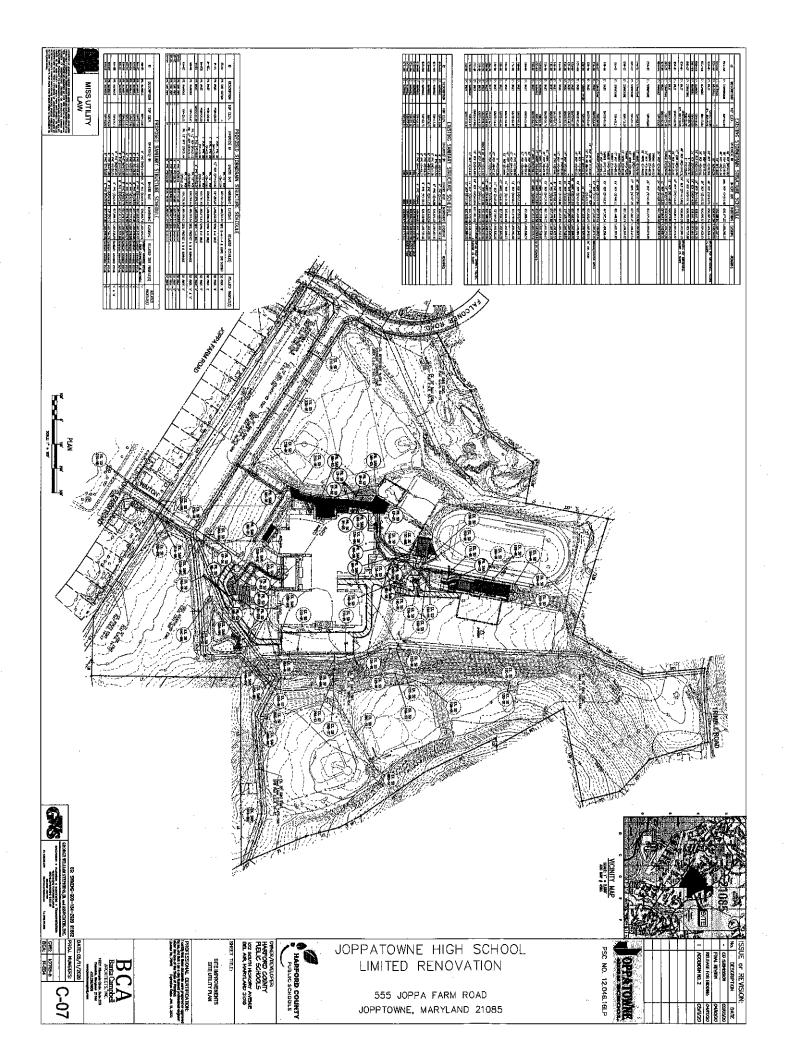


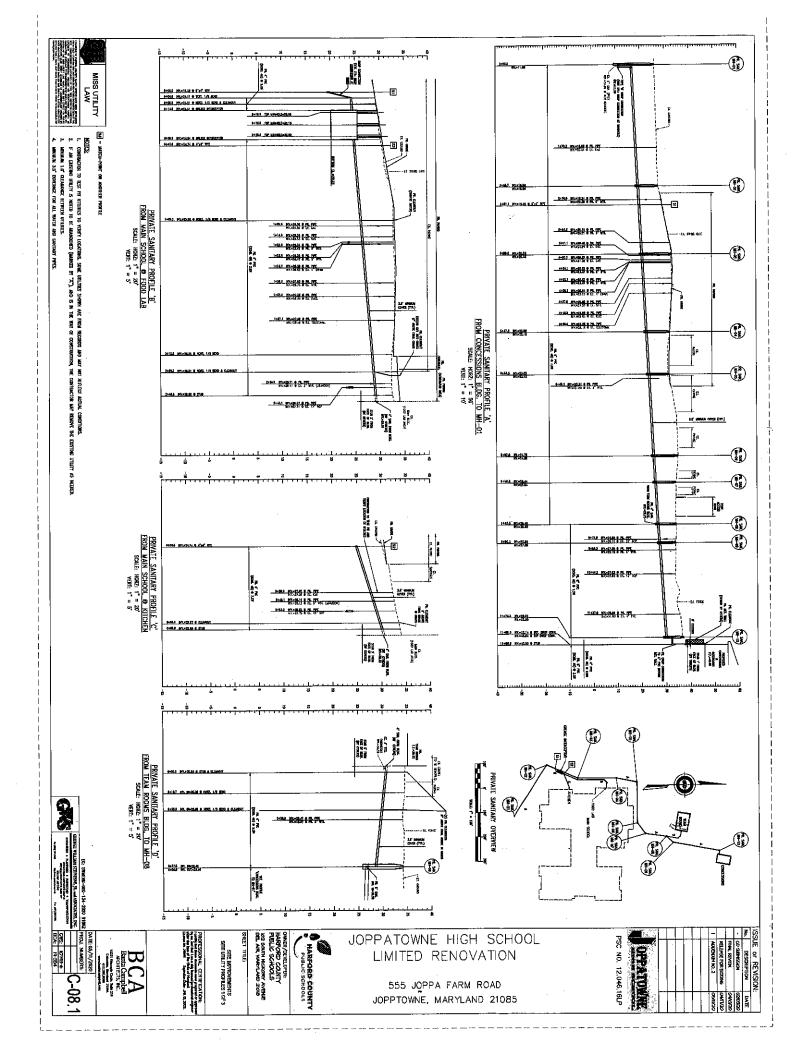


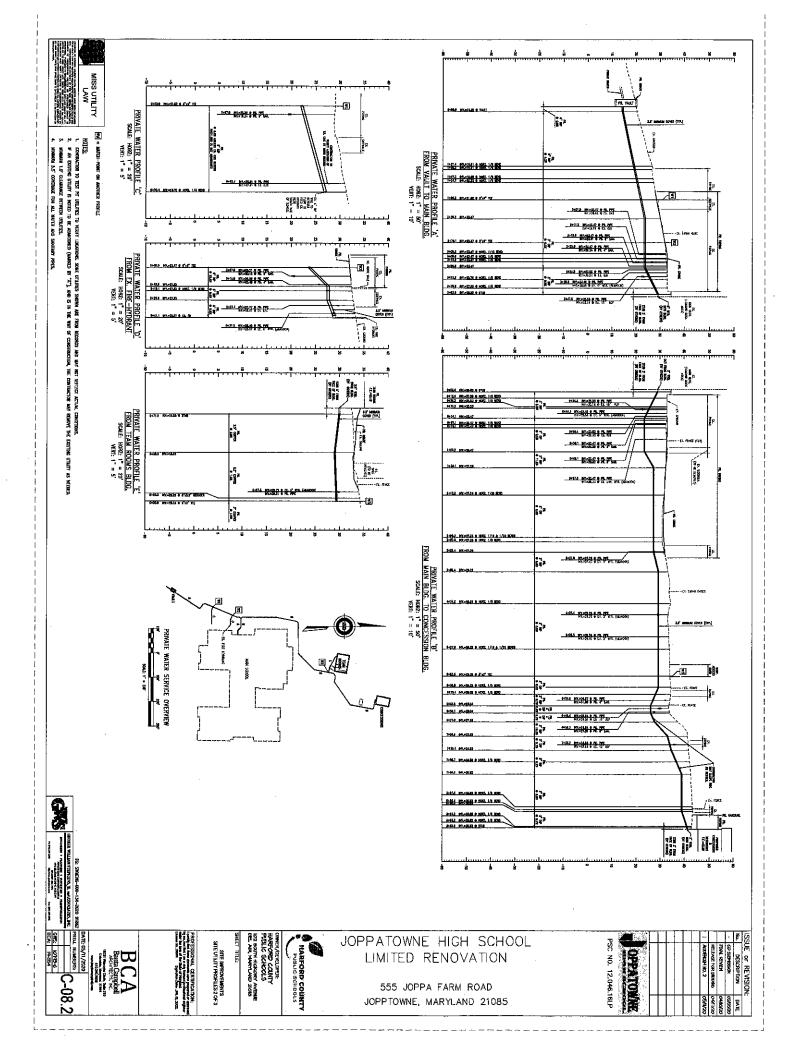


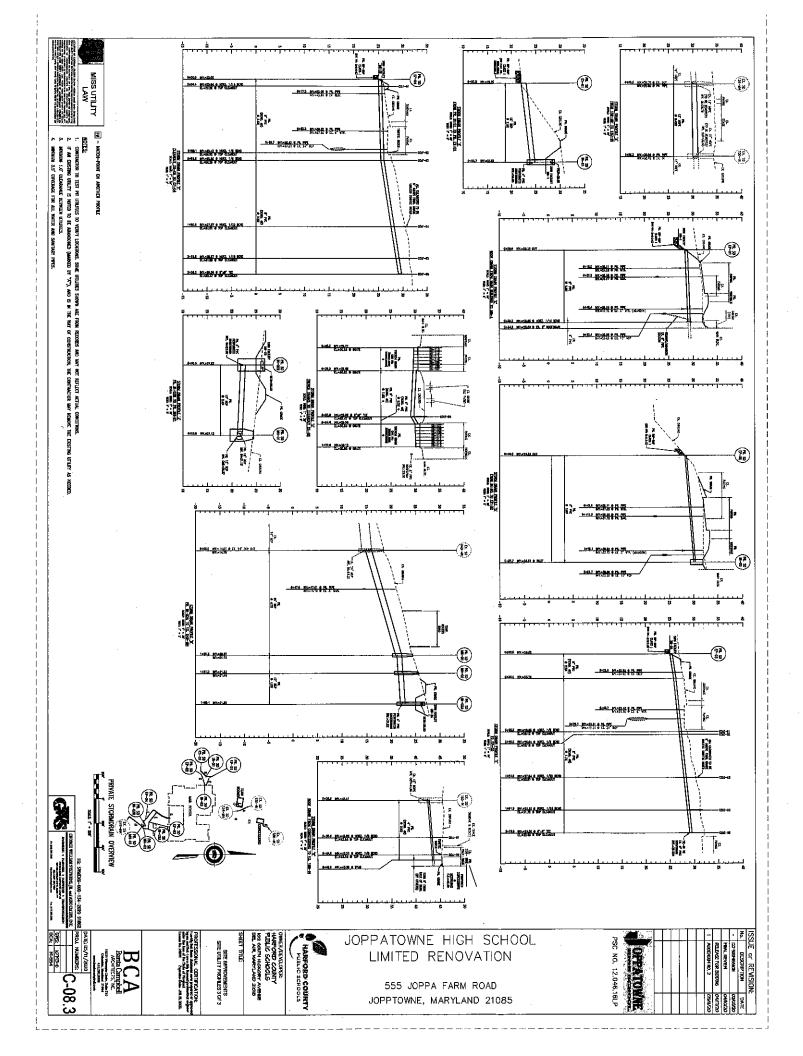


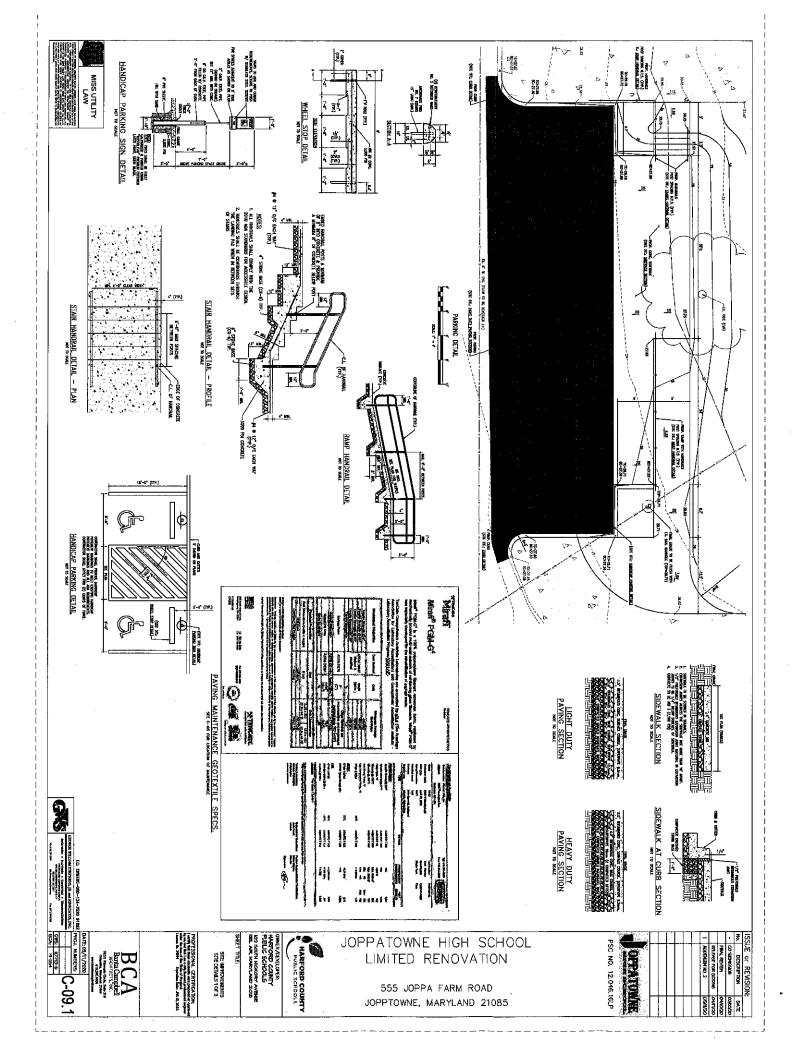


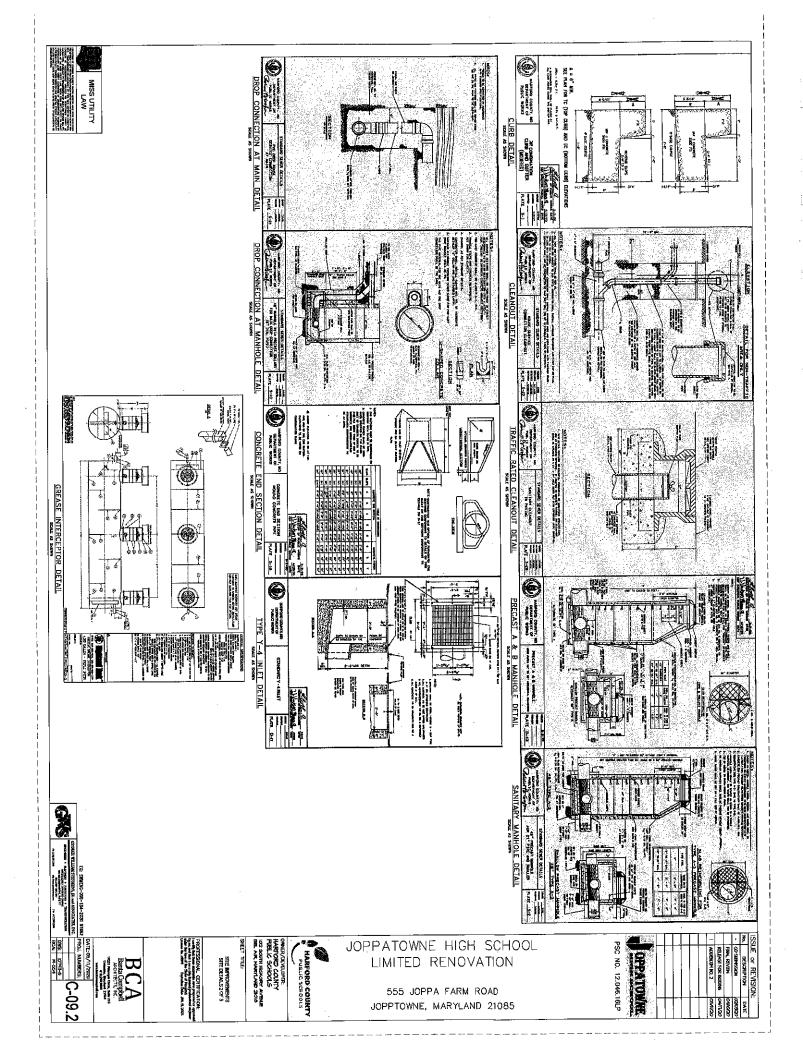


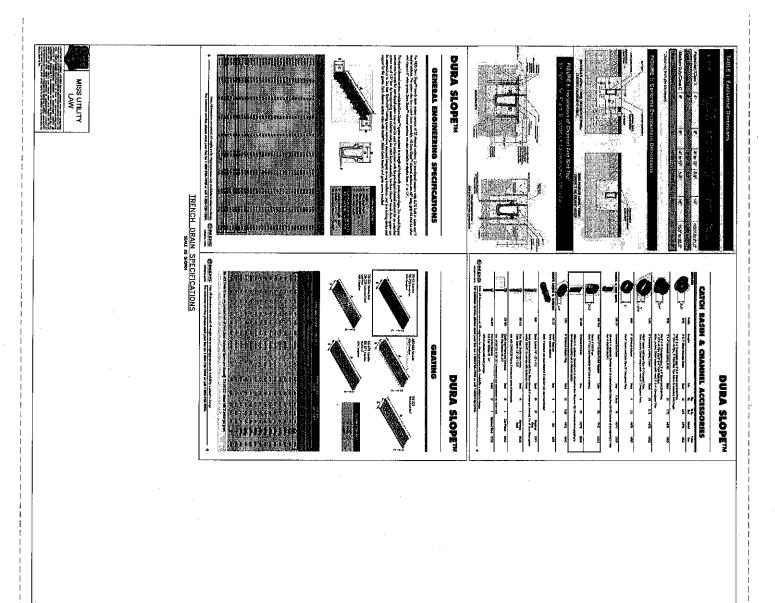














BCA
Benta Campbell
Active Tr. No.
122 Active Tr. No.
123 Active Tr. No.
124 Active Tr. No.
125 Active Tr. No

SITE IMPROVEMENTS
SITE DETAILS 3 OF 3
SITE DETAILS 3 OF 3
SITE DETAILS 3 OF 3

HARFORD COUNT

PUBLIC SCHOOLS

OWNER/DEVELUPER:
HARFORD COUNTY
PIBLIC SCHOOLS

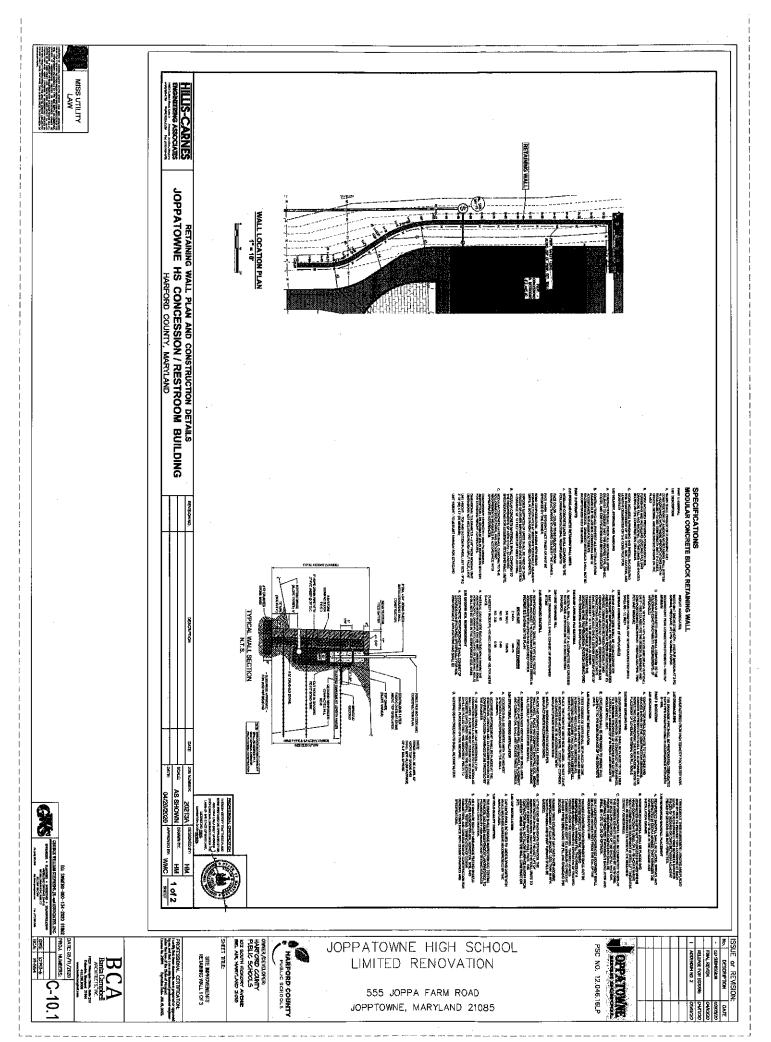
IOZ SCHIT HIGGORY ANDLE
EXT. AIR HARFLAND JOSE

EXT. AIR HARFLAND JOSE

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

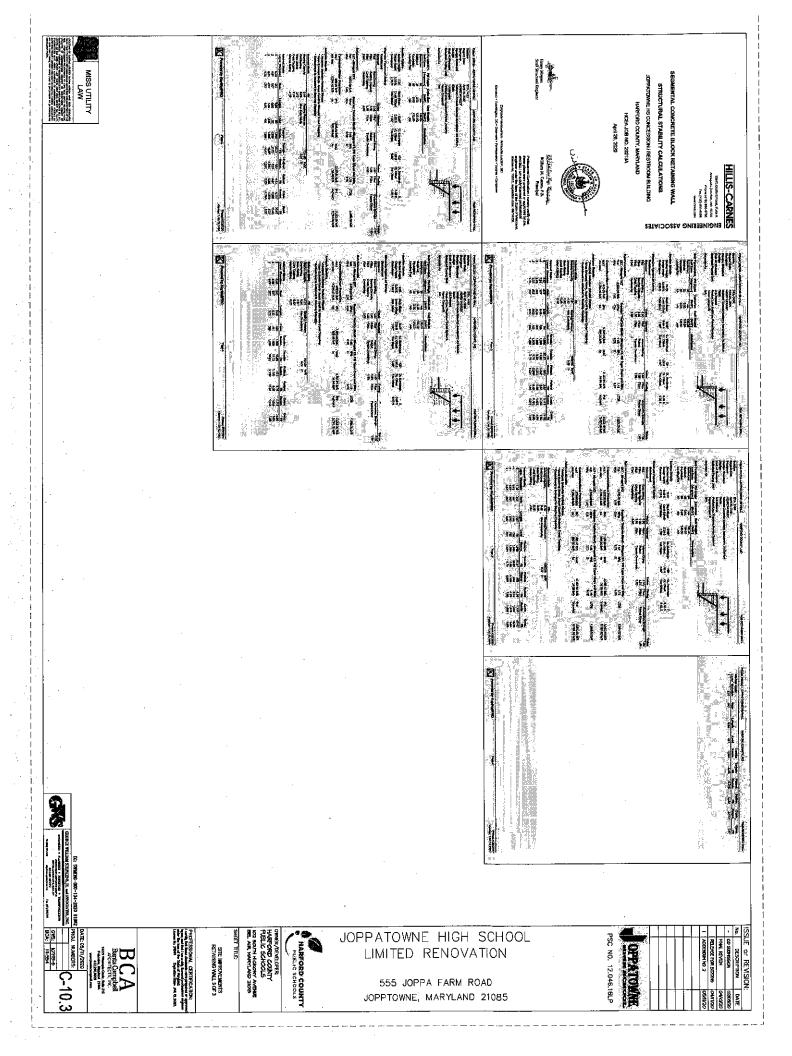
~					1			-	No.	Ū,
PSC NO. 12,046,16LP					ACCEPCIAM NO. 2	SELEAGE FOR BIDDING	HEWEL TANES	CD SUBMISSION	DESCRIPTION	SSUE OF REVISION
Ę	桶				05/11/20	04/11/20	04000	02/03/20	DATE	ľ

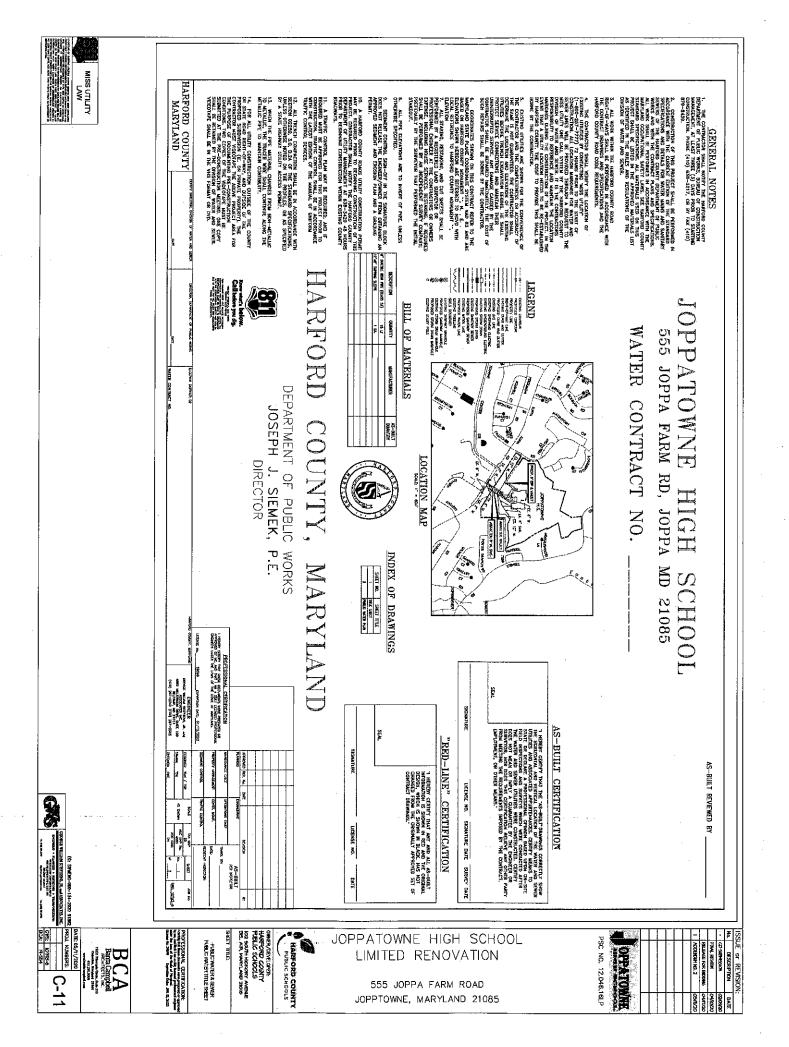


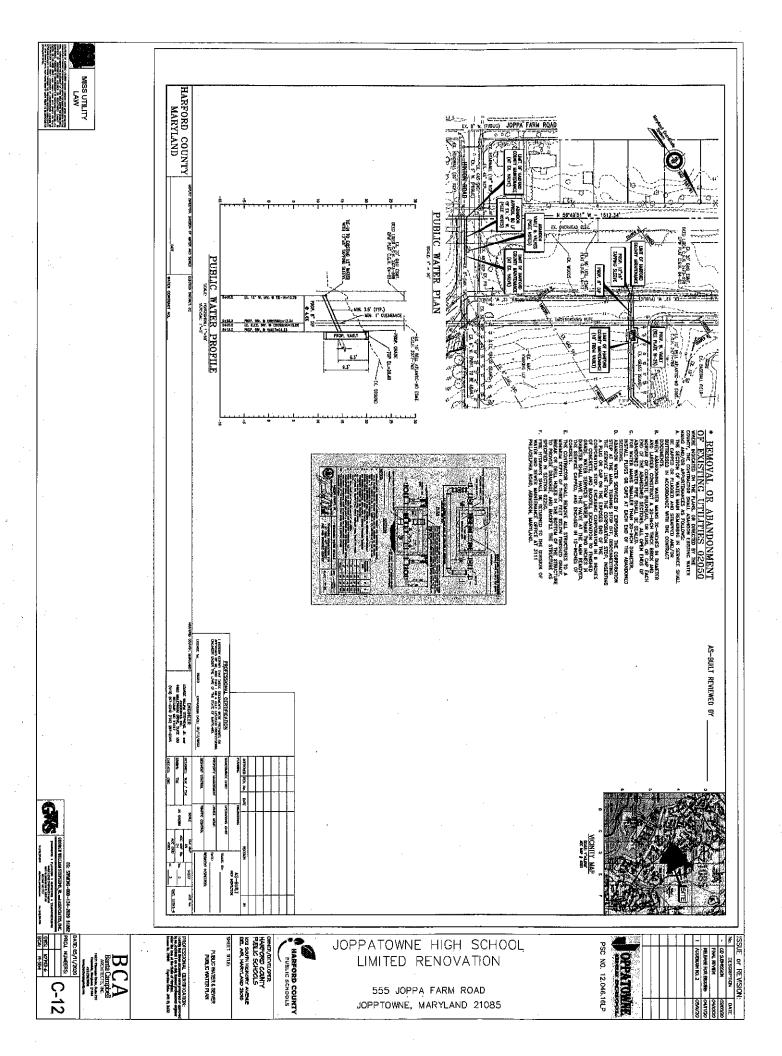
MISS UTILITY HILLIS-CARNES JOPPATOWNE HS CONCESSION / RESTROOM BUILDING
HARPORD COUNTY, MARYLAND WALL ELEVATION PROP, SANITARY & PVC PIPE TO MILIO TO BE INSTALLED DURING WALL. CONSTRUCTION - DOUBLE CAP AS NUMBER TO
PROVIDE SMOOTH SPACE
TRANSFICAN AND PREVENT
EXPOSING BACK OF BLOCK D APPRENEED BY: WHAC SHEET END OF WAL OWNER/DEVELOPER:
HARFORD COUNTY
FUELIC SCHOOLS
102 SOTH HICKORY AVENUE
EEL, AIR HARCLAND 2006 TILL 133KS JOPPATOWNE HIGH SCHOOL HARFORD COUNTY BCA Banta Campbell Accorders, No. SITE IMPROVEMENTS RETAINING WALL 2 OF 3 LIMITED RENOVATION C-10 555 JOPPA FARM ROAD

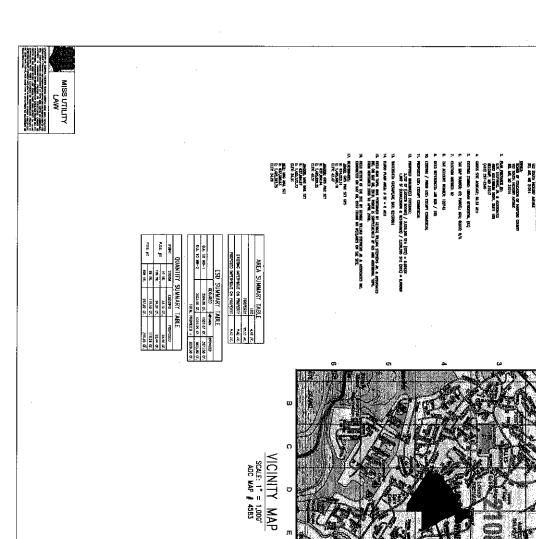
JOPPTOWNE, MARYLAND 21085

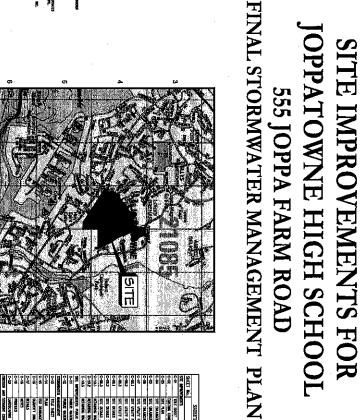
PSC NO. 12.046.16LP HINGI VALUE

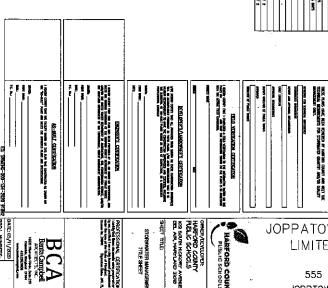












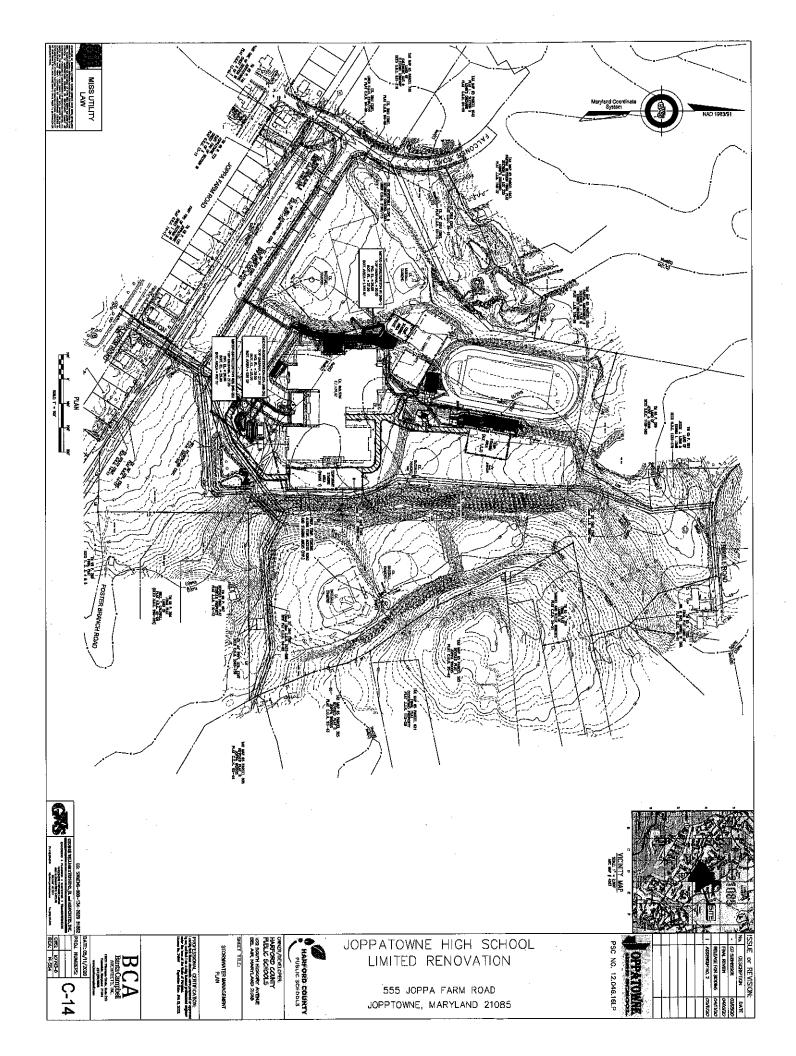
C-13

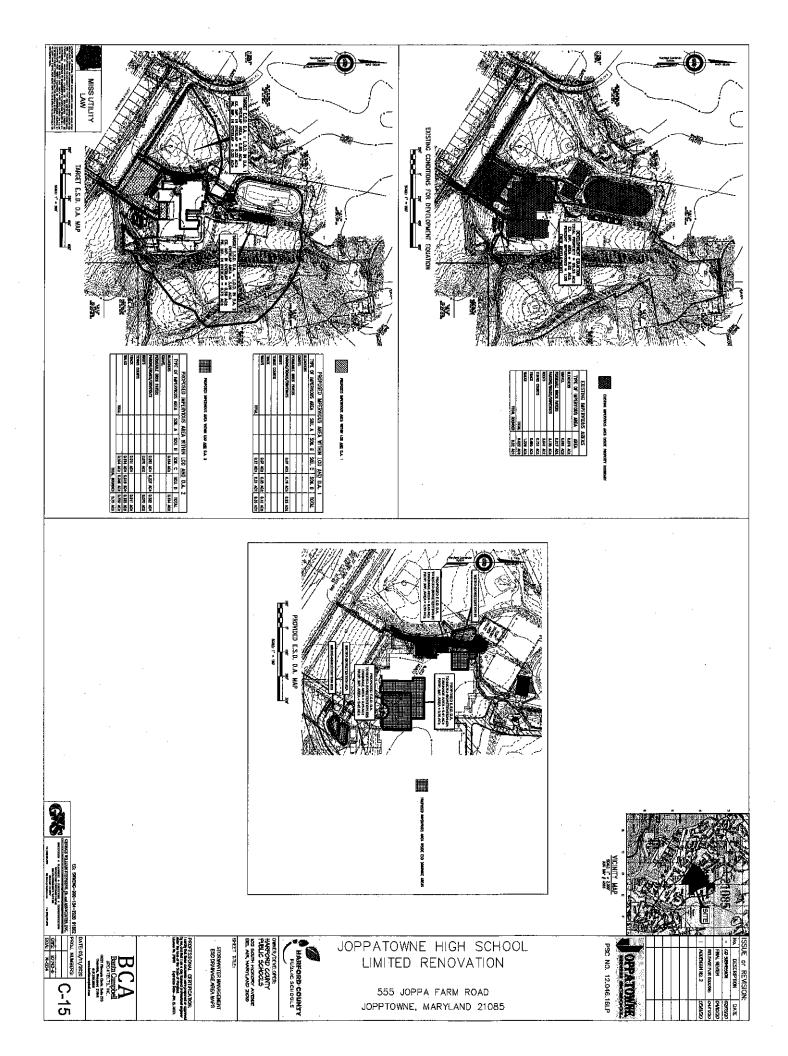
JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

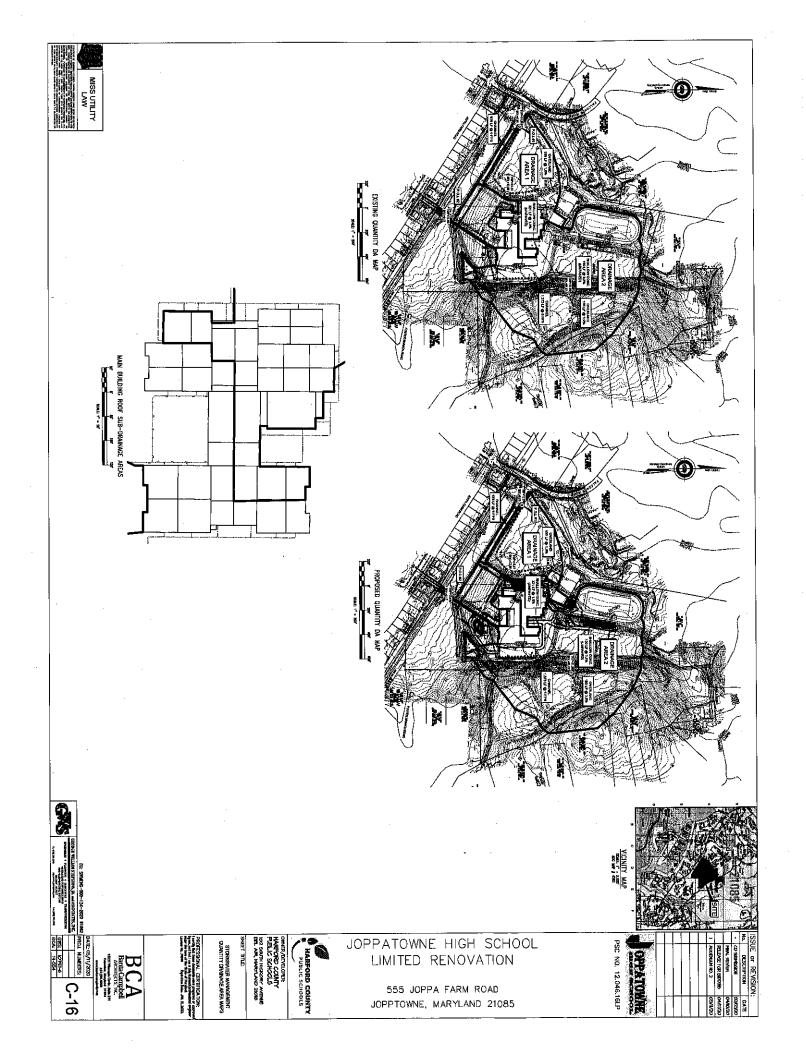
> 555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

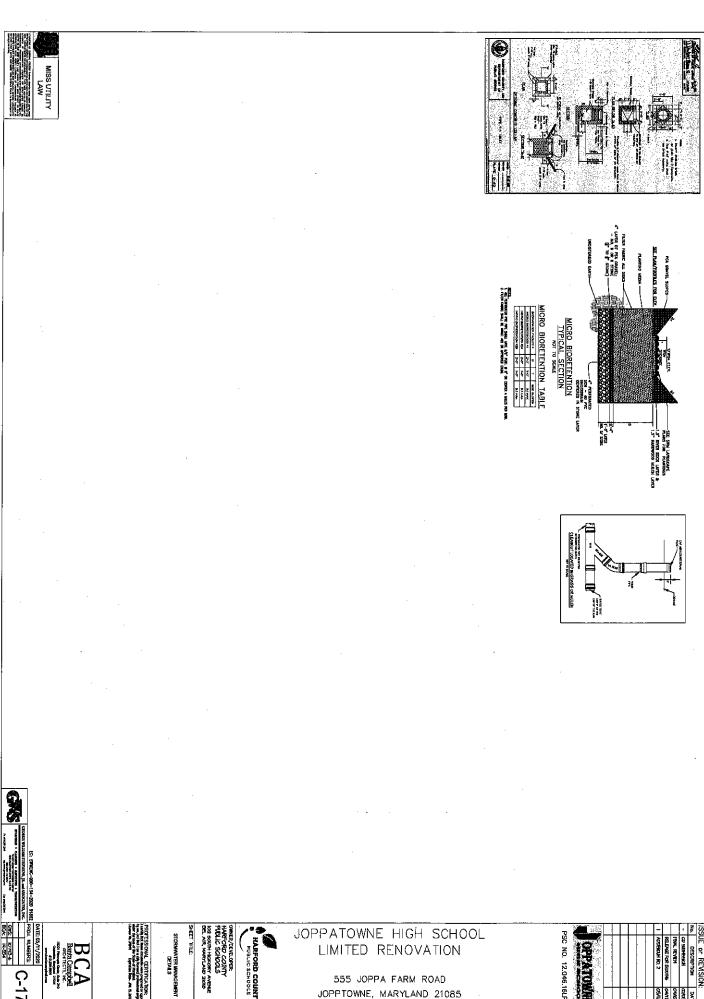
				-,			1	No.	8
MINAM				AUDENOM NO. 2	RELEASE FOR BIDONS	FINL REVEN	CD SIEMESSION	DESCRIPTION	SOL OF REVISIONS
揮				OZNIVZO	OMIZO	OMODO	02/03/20	DATE	Ľ

PSC NO. 12.046.16LP





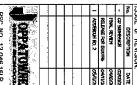


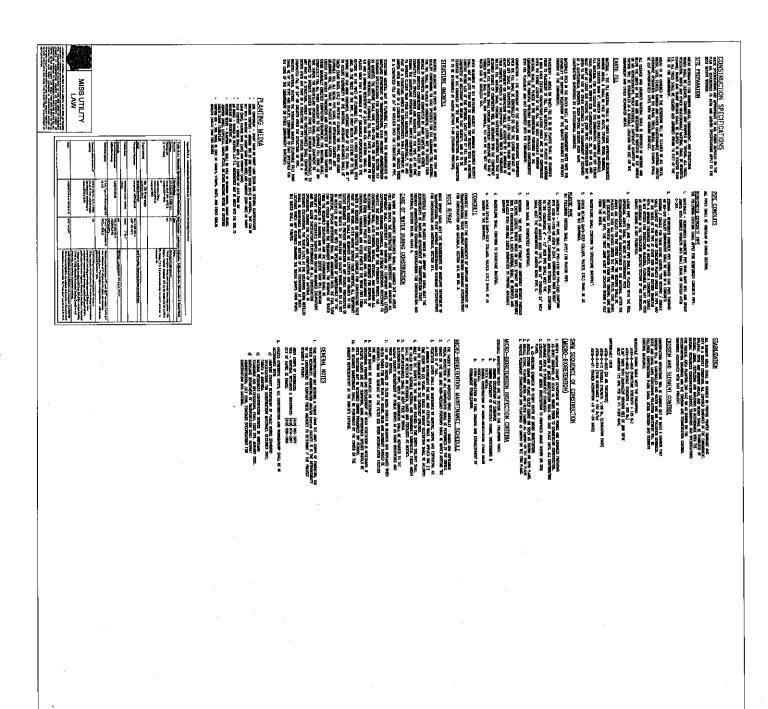






JOPPTOWNE, MARYLAND 21085







C-18

BCA Barta Campbell Accurate 13. PUBLIC SCHOOLS

ONNEA/DEVICEDEN:
HARTOND COMY
PIBLIC SCHOOLS
INZ SCHITH HARTOND YOUNG
BUT TITLE

STORIGHTH MANGGRENT
ROTES

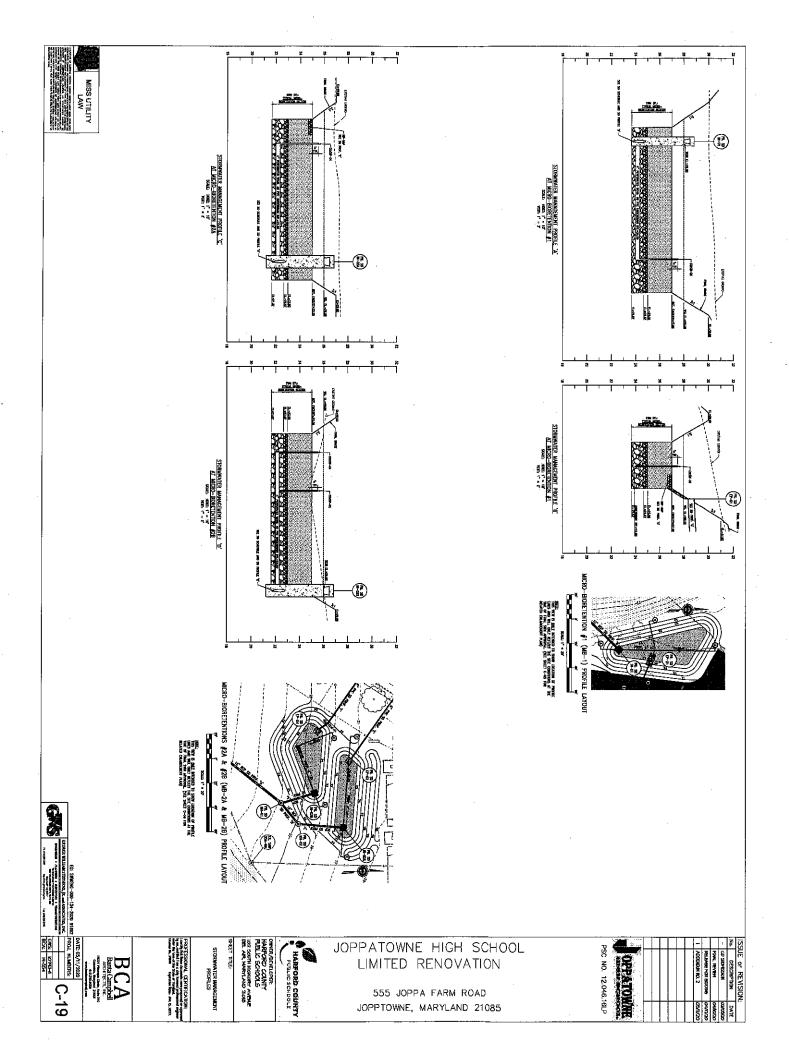
STORIGHT MANGGRENT
ROTES

STOR

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

> 555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

70						-			-	No.	83
PSC NO. 12.046.16LP						ADDIENDAM NO. 2	RELEASE FOR DISCINS	FIML REVIEW	CD STEMESION	DESCRIPTION	SUE or REVISION:
臣	續	Γ			Г	2002	04/1/2	2010	02/03/2	DATE	



TANK TILE	- ASSA TILEDAY TO MOTION					
o (menoso	MEN OF BOTTOM ENCLETY 4964 (MINISH PLANT CONTRACT) =	ESX OF 300				
MOTOL -	TOTAL PLANT COVERAGE PROTECTS -					
<u>.</u>	70.55	120 4.	SACTION	SHEED LINEUS SECTION	SHORES	6
2	132	30 F	THE TAKE	THE PERSON AND PERSON	Safet	7
I	2.1 \$	a h	ACTION 2004SYS: YMBBLL	VOREME VARIABLE	E	7
OUWATT	SPACING AREA (AI)	(MUTURE MEDIH)	CONNON NAME	STAN TOSKALOB	3411	NET
		BIORETENTION #2A	PLANT SCHEDULE - MICRO-BIORETENTION #24			

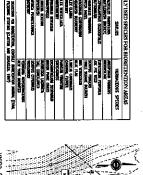
- 1	- 1	ı	_	_		_		
				6		THE		
			MEDITA MEDITA	MINOSEN CO	VENEZAL VIRGINISMO	BOLVACAT PARE		
			KSNECKE	SUR STA	THESE SEASONS HALLOW	COMMON NAME	PLANT SCHEDULE - MICRO-BIORETENTION #1	NOTE: CONTENCTO REPORTS 2. PLAN SUSSTILIZADO
	25. 米 四		120 14	30 h.	4 7	ANEJMÆ PLANT SPREAD (MATURE WIDTH)	PHORETENITON #1	CONTROLLE EXPONENT FOR TURNING MAKING, OF O.P.S.
ETITOM OF F	EST OF BOTTOM FACULTY AND A (MEDICAL PLANT CONTINUE) =	TOTAL PLANT COTTON	70.5 SE	Ė	125 \$2	INDIVIDUAL PLANT SPACING AREA (M)		HP.
ETITOM OF FACILITY AND A	CONTINUE) =	E CONTROL PROTECTS IN	١.	t	Ħ	QUANTITY		
1,250.0 9	1,100.5 9	1,502,7 9	20.00	21.1 25	2 10	(AILLAWTO X IV)		

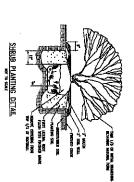


eutra and whole of Colonian for plasme of all plasts small et 19 may be. Colonia and 1900 is done mad on company of plast to at straigh, Colonia de Austria. Or actual

уданська, купеска, како мно как либовойсь

היבות הם באמנה יום אינוכנים או הואכן אנו אינו אינו מאוים או אולן מי ויאנו בנאיים או היבות מי מנטיאור האבול או ליאנץ לאנו על או אינול מי ויאנו מצוי





CONTRACTOR SHAPE, At All NACE, PROTECT ALL PLANS AND LOSS FOR CONTRACT OF ANY CONTRACT OF ANY

LANDSCAPE NOTES

THE WAY SHALL RE USD FOR FREEDE PROJUME.

THE WAY SHALL RE USD FOR FREEDE PROJUME.

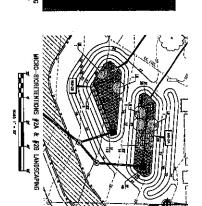
THE WAY SHALL RE USD FOR THE PROJUME.

THE WAY SHALL RE SHAPE TO PROTUCE THE PROJUME.

THE WAY SHALL RE SHAPE TO PROTUCE THE PROJUME.

THE WAY SHAPE THE WAY SHAPE TO PROTUCE THE WAY SHAPE THE WAY

(COMPACING SHILL JUTK THAT IN THE COST OF THE SECURISH METHODS HAVE CONTROL OF THE FOREIGN CHAPTERS AND THE FOREIGN CHAPTERS TO SECURISH CHAPTERS AND THE FOREIGN CHAPTERS



HARFORD COUNTY
FUBLIC SCHOOLS
102 SOUTH HICKORY AVDICE
EET, AR, WARTLAND 21018

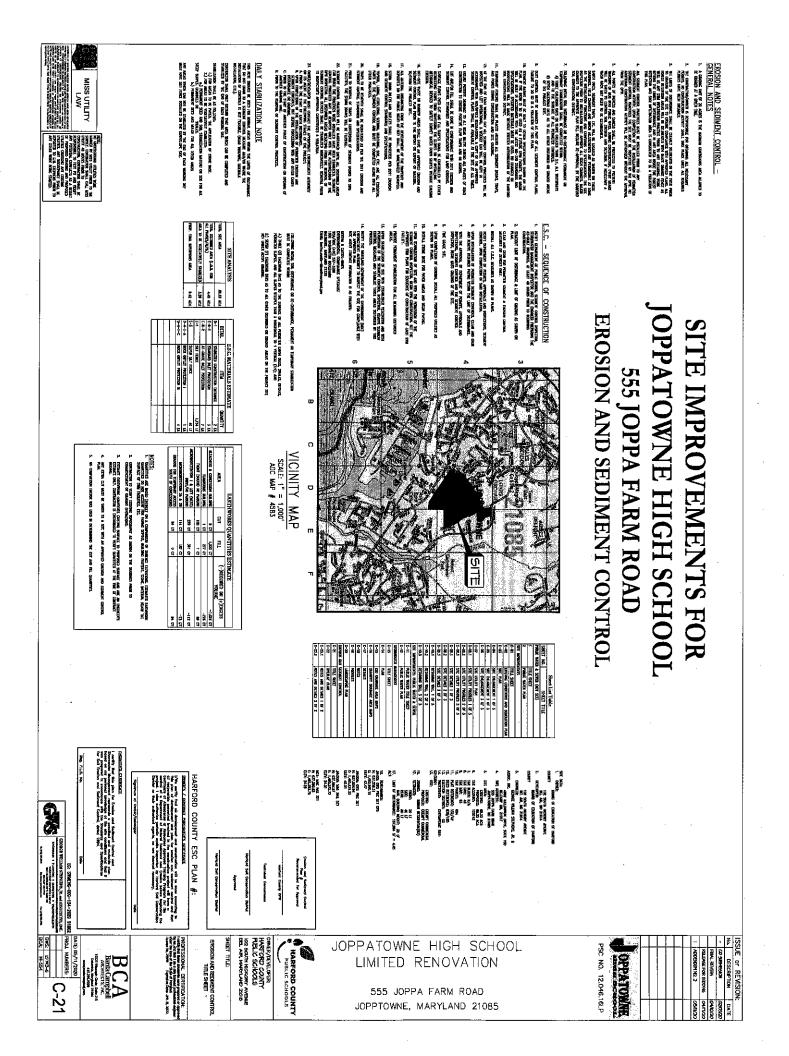
PUBLIC SCHOOLS

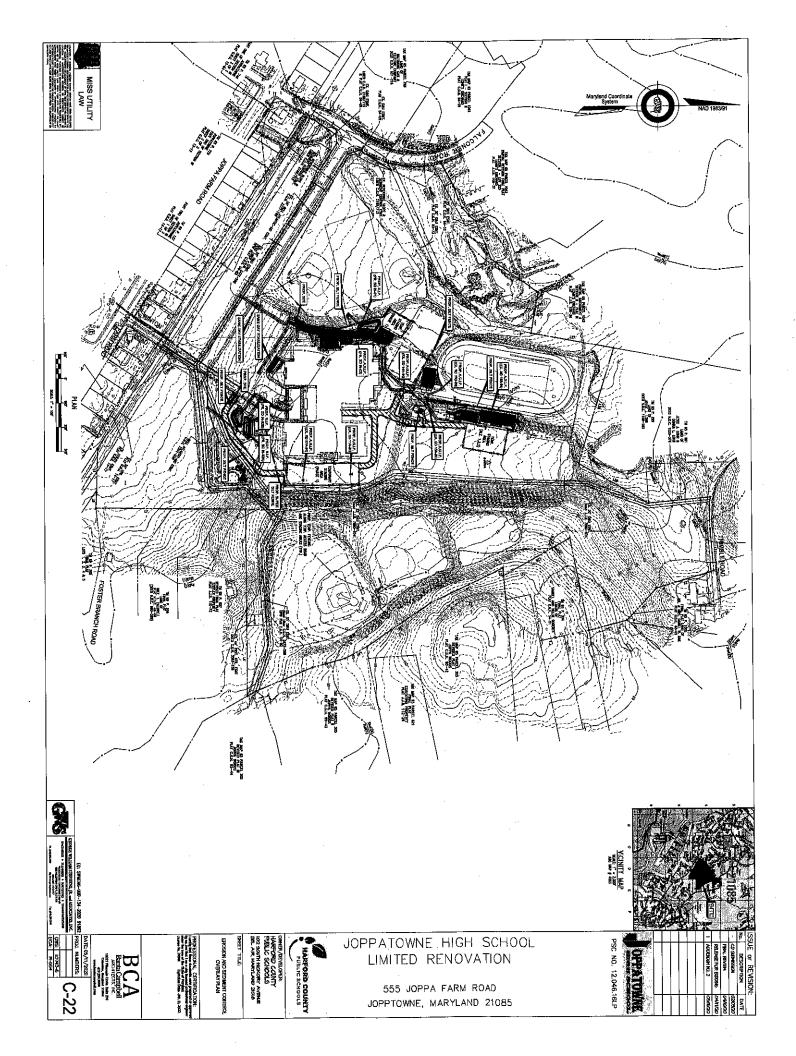
JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

> 555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

										٠			u			
VICINITY MAP			では、これでする				からいたジャスト		1				がでかり工作の名			
		F#	34	Z,	a.	ķ.	ď.	•	ì.		also.	1			3:	ı
		21		723	7 87	-	-	14.7	ž	O.		14.5	-1	-	-	l
- 2	d		٠.	1	,	ı				-			1	₹	l%	l
N. Andrew			1							AUDERUM NO. 2	RELEASE FOR BUT	FINL REVIEW	CO SIEMESSION	DESCRIPTIO	SSUE or REVI	
3	Į.	ed f	i i	l						2.2	ê	*	ž	[∄	2	ŀ

PSC NO. 12.046.16LP







NOTES AND DETAILS 1 OF 2



JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

							_		
Р		ì	-			ı			٠
PSC NO. 12.046.16LP						ADDRESS NO. 2	RELEASE FOR BIDDONS	HIAL REVIEW	NORSEMENTS OF
Ę	演					05/1/20	cauro	0410120	02/20/20

A CHERN PRINCIPAL CHRISTO S'ACCOMM SAL DA COPIN CE IN 3 MACE ET MACE HAR CARRATANA NA CHRISTON SINCE SAL SI LORGICA, EL MES NO SE MACE AL CHRISTON CHRISTON SINCERNA CHRISTON, TATO NE COR SI LORGICA, EL MES NO SE MACE AL CHRISTON SILITON NE MECHANICA CORRECA LORGICA SI UN CARRA MAS TO SE TANCON MACE MANNES PARALLO, 19 35. CORTOR OF THE ALPIC. INCOMPOSITE USE AND POSSURE MAY NOT THE COP S TO 5 MICHES OF SOLE OF GROOMS ON OTHER MALES.

A, A SAL, TEST IS REQUEED TOK HAY EVAN'S VERMONANT OF S. ACKES ON HOME THE ISMAEN SOIL Home required for previously restraint estimationers are:

C. CHARTO AREAS MEST HE MANGAMED IN A TIME AND EVEN CHART AS STORING ON THE PLAN, THAN SOMMETS ON CONSIDERS LOCKEDING TO A DEPTH OF 3 TO 3 HIGHES. E VALCANDA DE VARIONERIES DE IDAZON DE VEGNAÇO DE CH-RUE 2012 DO HAS MÉS ÉMIL. LAS Explicas

COMPANY STREET, LANC SAVE 35 400HL TOCOPILE FOUL

CHECHTAL STATES THE STATES THE STATES THE STATES THE STATES THE STATES THE CHECK THE STATES THE STA sta, is falodo ordi propado sircos, prop to comandado os premados paísticos en la superior se estados estados en estados estados estados estados en en estados en est LINE IS LIATED TO AREAS HAVES 21 OIL PLATED SUPER WHERE

n, the son, waters as so somethy that the receive 2000 is but received to Nats on therest communic supplies of marking and report nationals. MONG STALE SUZAES HAN ST. MENNY SACOT COMPOUNDED HAN DE SET SON MONG HAN DESTRUCTION SEN TRESSURE E HEL LINGUET. MENNET ROLL LA ME ADDERNACO CONTINUES INALERIA LIZZE LO MINAL CINCALIN

H. Royal Mas III. (802 of Modous Plants of Mari faits, sich as behade eines, Max (1865), avenden eines, mut sehet, muten fit, thereit, ok othere as sychotol

, Terson substrates on ambourars, as estimated by a quayty automober of an appoint by the appointers appoint automobile, and in cisio as call of the

when collings has an iso primes as the fact to have a will be about a λ with the area of the collines as the fact to the area of the collines as the fact to the area of the area of the collines as the fact to the area of the area of the collines are a second of the collines A PRICE MALES TO ALL SECONO ARRICO MODIFICATION FOR SECONOMINE.

IN YOUR MARKEN AND ARRICON FOR THE OTHER ALL SECONOMINE ARE SECONOMINE ARRICON AND ARRICON AR

L IMPRICAT INTERPRIT ENGAGE M A 6, TO 8 MENI ANTRA LICENTE COMPACTI DI A PERCENTE N 4 MENTE SUPPRIME NE DE RECONDEUL PETRO NA ALMONÍ DINO SOCIO NO COM PROCIDE TREI N. MANDRAS DE AUTORIANO DE RECONDEUR AND RECONDE

SERVEDI CONTRA PRACTICES ALST IX SERVENDE INCO APPLING TOPILL

C. TOPPOL MAST HET SE PLACES IS THE TOPPOL OR SHOOM, OF HIS MICH CHEMISES IN: WHOLLING SUBJOUR, IS COPENSAGED HOT ON HIS A COMMUNICAL HIST MICH CHEMISES IN: IL TO PREPARE CHEMISE AND SECURED PREPARATION.

A A SE COST MONEY METT THE REPORT OF THE MARKET STATE OF THE A ALL SOST METTER THE REPORT OF THE PROPERTY OF THE MARKET STATE OF THE ANALYSIS C. BETTANESS THE MACHANT ON TOTAL CORRECT STORE HER STATE WHERE MACHANT AND TOTAL CORRECT STATE OF THE STATE WHERE MACHANT AND THE STATE MACHANT AND THE MACHA FEATURE THE APPROPRIATE SECURIO SECURIO MATERIA DE SANCO SECURIO DELLO D

II, $\mu\nu\gamma$ (57) in the district, expression to each order apply 40.7 TeV (500) and in each district, mal the school and with a variety male to prove coor see to the latter to prove coor see to A SIT SCHOOL HE RELIEF HE OF COMPENSAL CORP OF REMOVED THE CONTROL IN PROCESSED AND THE SERVER AT THE MOTE PROCESSED OF THE CHAPTER OF THE CHAPTER AND THE SERVER AT THE MOTE PROCESSED OF THE CHAPTER AND THE SERVER AT THE MOTE PROCESSED OF THE SERVER AND THE SERVER AT (ON THANCOID STREETS ARE RECORDED TO BRIT THE SEED AS SUCH A FASHING AS TO LOCAL TY A BUILD OF SAME CONCURRED, SECTIONS MADE IN THE APTER TURNISHES. OR CILIARCITE SITURIES RECORDISTI SETTOTO HAC MAD MADO COLUE SETO MAIN SOF

D, SOU DE SEED HEET HET DE FLACED DIS SOU SESTIMONT CHE HAS CLAFFED (HI OUT SHA) DAS CHERCUS VICTO HOUS DOOR ON CHERCUS CHE HAS CLAFFED (HI OUTS SHA) DAS CHERCUS ON CHERCUS SHAPE OF THE SEED OF THE

L E familità is sono affeto at de ting de schime, the affection bous social desti del dultario, seripcio, qui sonori fer acce foill de schime sonocco foto fisicale), sto fonose fue acre, sto (poussió), son donocc for acre. L APLY 522 M ING DECIDOS, PONCENCIAR TO LICH OTHER APLY MAY THE SEEDING M COCH ORDER OF THE SEEDING OW SEE SEEDS MAIN STREET, WAS RECORDED FOR A STREET, WITH MINISTRA

IL LINES CAST CHANGE ARRESTATION, LIMITATION (APT TO 3 THAT FITS ACKN WAY BE AWAYDD OF HOMOGOTTHING, ARRESTAT, MAY WARE THAT I THAT ARE APPLIED MY HOMOGOTTHING AT ANY CONTROL THAT ANY CONTROL OF HOMOGOTTHING AT ANY CONTROL OF HOMOGOTHING. MACH MATERIAS (IN ORBITS OF PRESENTA) AL ME SEED AND FEMTILEES ON SEE AND SEED MACRONIES AND WITHOUT RECOMPTION.

OF WHEN HERMOGERSHING ON ANY MODRIFICATE SEED AND THE SEE.

A 4000 ENLINCES FIND MUCH (WEN) CONSTINCE OF SPECIALT PROVISED INCO. TOWARD THE STREET HE WINDS VALUE OF THE STREET OF THE STRE AN A STIMAT CORRECTION OF THROUGHAY TRANSPAST MAPER, WITE, GAT, HE MARRY AND ASSESSMENT OF THE CONTRACT AND ASSESSMENT MATERIAL AS ASSESSMENT MATERIAL AS ASSESSMENT MATERIAL ASSESSMENT MATERIAL MATERI T ACK THEREOM WE'S THE CHEEN TO SETTING IN CITIZEN STREET,

THE THE PARTY WITH A THE PARTY OF THE A PORTICAL STATE OF THE PARTY OF THE PAR IN WITH WATHER WASH NOT CONCLUS ILLINETS ON COMPOUNDS AT CONCIDENCES. PHOTOMETER (MEST COMPANY OF THE PROPERTY OF TH

N. LEATHERSEY PASTE RETRIES NAY BE SEARCH ONCE ACCOUNTS AND THE THREE AND SECURE TO A THE THREE AND THE SEARCH ONCE ACCOUNTS ACCOUNTS AND THE THREE THREE AND THE SEARCH OF THE THREE ACCOUNTS AND THE SEARCH OF THE A TOTAL MENT MENT MENTAL MENTAL THAT MENTAL OF MENT IN MANUAL THAT MENTAL MENTAL OF MENTAL THAT MENTAL MENT E STREET, MONDETS, TOURS, STREET, STRE

L. HALTE HE SOM BANGANITE FOLKSPRE SKADNE AND LAMPE HETE HE HE HERZENS SE THE HET SKO HIG AND SKA MARKER CALLET HE SOM HAS FRANCISCH THI. DERFICE THE OFERIORIS OF LAMPE, THERME AND HEACHER ON ANY PICE OF SOM WHICH MAKEN.

K DE ANCIPCE OF ANTIGNE NAMEAL, BATTE DALF COUNCE DE PRIST REIX ON AN OFTEN AND SUFFICIALITY AS Examp to martína ment sue, to a servi de a mener, excer sun domne inc ment de the dat to freche Ref.

C, PREMITE PROMET, AN STORM THE CARD COURS NAVILLY TO THE CONTROL SUMD CONTROL CONTROL

enal comes de servicam spíraco, mente a dest exem de as lost o brias designes servicas en exposito de inc En sua comes de servicam spíraco, mente a dest exem de as lost o brias delixa servicas singuestas primitivos de

A, LE THE REAL MAY OF SEE ALL TERMENT HE WITH SMELTHER MASS ALLED PROBLET TO IT WITHOUT SEES THE SEES

, Diena Peroos of Cocesyneth ere redeminant of an aduce haveo del systom, legaty resour the subsect Alexandy people union for see.

l. 300 bust et hameste, belasted, arb noballo bujan a plesso et 34 bouel sob ent translaated bush Tas eesko bast et appente et an acedelest en sol soonest perk to its despulation. C. Sumulus see sections of sociality of streme shools to septem their bash also detail their see. And shafe their supprises terment with a field shoot of the upper like of the section. 6, 500 MLT RE MARMAC CET AT A GREENE STEL HETARIES OF 1/4 MCL PLUS OR MACE 1/4 MCH, AT THE TIME OF CLITING, MCCHINETHE CETAL HELDRESS MCC COZUNE, TOP GRAPPIS AND THATON, HEACH PLUS AND TORS ON INNETED CHAIN MAIL THE M. AND THATAN A. DASS OF THEFEINDS 300 HIST OF WHITHOU STATE COMMENTS SED LIMITS WIST DE WAS ARMADOL TO THE AMERICAND DESCRIPTION.

ų suo masi mai iš markstiro de temperamito vieni meninie cuntain (sacksties) dat do viti) mai aperend Affect es samma.

SA, NOTE MEST AT PROCESSO TO RETURNED MY COLOT MAKES AN INC. SAL ANALYZE MY CHARL PET A RECOGNIZE PROME OCCUPATION AND MAKES OF MAKES AND FAND FOR MAKE PET A RECOGNIZE PROME OCCUPATION AND MAKES OF MAKES MAKES

2. Cubrados está e (están el compositor esta compo em senar esta accesar en el esta en el el esta en el esta el esta en el esta el esta en el esta el

). Where the subsect is desire seally formed an otherwise of seath $\phi(x)$, which desire stype $\phi(x)$ and $\phi(x)$ is a transfact (dow-and proper for flow subsection) from to the state of the property of the

 ${\bf 4}$ (see And regulation and by a expant decreased and decorposition and the first of some if decays on other surplant bears.

A, Land Marthands Actor for department commands can make that any superstite that we contributed the contributed places contributed to seath for strain, contributed comme at any experiment of the contributed contributed comme at any experiment of the contributed and place (CONTRIBUTED CONTRIBUTED CONTRIBUTED A place (CONTRIBUTED CONTRIBUTED CONTRIBUTED

THE PARTY THAT HE WAS A STREET, THE PARTY THAT HE WAS A STREET, THE WAS A STREET, TH THEN TRANSPORTED IN SCHOOL OFFICE OF A STEEME EXCENT AFTER THE BUT AND WOLLD ON STREET WITH ALL AND SPECIALLY AS SECURITY OF SECURITY AND SECURITY OF SECURITY OF

I, Descrit and State of Marie at Acquisit and th Court is first in stack figher states and after such

No. DESCRIPTION

s, person fine, mass faculting, NOVEL SECTION, AND STATUS, Discount relatedar SECO AECA AS

STREET CHIESES LINE I WERE TO MICHAEL

C MINISTER MACE I DESCRIPTIVA MENNE STRAIGH WE STRAIGHT OF STRAIGHT OF STRAIGHT AND STRAIGHT WITH STRAIGHT AND STRAIGHT AN

LEDITACY PLANACE, SEL SA MENTAL DE COL DE ANCIO DEI RECORT MENTAL MENTALDES. Reclaires courses de 154, ancio de cychie, mentalo deo cestas seco. Rechardico cotros proficos Auchard Colines come mental de 15, de 25, de come et 2, laco, como et 15, coco é desau de tres contact Buchard Colines etre col macho (dal 16-25) de 181 tola, estado et recor. | Transference Construction Con

E. INC. TESTIN/CONTRACT RELEIGNESS. THAT SHE WITHER THE MOST IN MARKET PRIME ANGLE MARKET STATES OF THE MARKET PRIME ANGLE MARKET STATES THE MOST RESPONSE CLUSIONS AS TESTING MOST ANGLE MARKET STATES. THE MARKET STATES ANGLE STATES AND ANGLE THE MARKET T

SO-ANY MAND CHICAGO, MET LECUTE AND SECURE STATES OF THE TAXABLE STATES OF THE THE SECURE STATES OF THE SECURE STA notics Sulty indicates valeties field those lytts in the most careets university of mattland presentations Made 477, "Turbeacs coloring exceptionalists fish matthew"

E I DU ACCUME S DITON, SAPL PE SONOS WA ACCUME MUST HE FAIR CHARLES THE FAIR CHARLES SAPLE ACTIONS NOT TOURS READOR FOR TO THE 27 YEARS IN TO CLOSE IN THE CONTROL OF THE CONTROL OT THE CONTROL OF THE CO

Onthirtyppa gang Rad Person Basing Apriler Caper Triber Caper	Company Red Persons Remark Stangence	Cancerge	pacas	Same Strategy
다 또 느 좀 뭐	#8	a → 長 H	Application (see	The Table 2.5
State	34 mag	Hands Hands	Setting Dates	
F - 10	147.10	14.72	į	
á	1		=	,
	že Že		ě	10.5(2)
	7 A 22		Ø	١,
	i nă		Ě	ĩ

C KYCE MARK I UT! MEDANE STEMACY WERE MENTED.

THOSE WAS DECIMAL TO COME HAVE MARKET TO SHEME THOSE THOSE TO SHE HAVE MARKET TO SHEME AND THE MENTED TO SHEME THOSE THOS AT THE DIG OF LACK HIS, RECOLL THE COMPANIES CONTRIBUTED AND RECORDED, TO RECOLUTE THE CONTRIBUTED AND CONTRIB

ent, dag company by dead he o'heren eens et gemaan i han gapen jihada et compenn af compenn en hassel o'n ees (e esses) en desen ee da gemaan in eenstel en gemaan in eenstel en gegen af gemaan 'en bourren eft of de suide eesse hat heisessel de eftsche in termaan sombouw.

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085 PSC NO. 12.046.16LP

MINISTER

BCA
Banta Campbell
ARCHITECTS, INC.

NOTES AND DETAILS 2 OF Z

2 SOUTH HICKORY AVENUE

OWNER/DEVELOPER
HARFORD COUNTY
PUBLIC SCHOOLS

HARFORD COUNT

CENERAL NOTES

- THE MENT SMALL CHARGON IN THE MENT STRAIGHT OF ALL AMPLICACE COSTS & REGISATIONS, UP.
 CHICLERATA, IN MANAGEMENTS STRAIGHT OF HOLD ALL AMPLICACE, AND US HIS SEQUENCE OF THE SMALL AMPLICACE AND ALL AMPLICACES AND ALL AMPLICACES HOME AMPLICATION.
- RICHALMEN OF THEM SHALL PROPER ENGINEES ACCESSION FOR DESIGNAL REPORTED MAINTAINES OF THEM SHALL PROPER ENGINEES MODERATED OF LINEARISES AND SHALLESS OF LINEAR EXPENSION SHAPES SHALL REPORTED THE MAINTAINES MODERATE SHALL REPORTED THE MAINTAINES MODERATE SHALL REPORTED THE MAINTAINES OF LINEAR SHALL REPORT OF LINEAR SHALL REPORT OF LINEAR SHAPES AND ASSOCIATION OF LINEAR SHAPES AND ASSOCIATION
- WE CONSTRUCT THE WAY OF A LINE OF A DESCRIPTION OF A DESC NOT SHALL ROW TO GREW MO SEPAY TO THE ARE SET, THE TICK WITCHLE SHALL PRINCE HE ARE TO THE SHALL SHALL PRINCE HE ARE TO THE SHALL SHALL THE THE SHALL SHALL
- COMPAGE E SERVICATE DE MONTAN À MIL COMPAGE D'ENT IN 100,010 DENTA.
 PRAID COCRAMIT LIGHT D'A L'EXPANT, SERVICA ALTERNE PARE DANS LATERNE, PARE DA

WHENCE AND DELAW AT LICELLE INSURENCE WE ALLOWER WILL LIKE WITH STATES

- CONTRACTION STAFF, SENSON, ALL CORROS BUEST COSTOS CASON, SENSON ACCUSAÇÃO EN LA PRIME DO COMUNICACIÓN DE TORA TORA DE TALORE ALL BUESTOS COSTOS CASON, CALORE ANO PROPINCIA BUESTA DE OTOS TENNOS STAFF, ALL CORROS BUEST COSTOS CASON, CALORS ACCUSAÇÃO EN BRUTANO BUENTADOS. when to examine, the connector such Los all exists expendix and that expendix, free along the space such expension. The art december extrem degrees anythe specification, he connected shall even her by from the most structure requirement (directly, directly, edge, etc.). ndividi. Combactor shal occombie all sistem shat dens and there will direct.
- THE CONTINUES SAME EPERTMENT PROCES ALL MASSAUS AND EMPARTIE THAN CHROMADINAL AND PRECAL CHANCE (MR. PARL ACCEPTANCE). CLUS AND PROTES (A CHEMICS) MIRRIS CONSTITUTION. PROPER MRY MACTINES AND EXCHANGES TO ADPLICE THAN EMPARES. edance diamagu dal merades ada kir amansieni saat se asanadi seksaitdi setokadi Edance diamagu dalambadi as edioroj 10 sau de era aramsieni.
- compaction shall coordinate Location of all tail, place and Jacos Geometry and Structural and George Targets. REDICEMENT ARE RECORDED TO BE PRECIPATED WITH CLAIMENT AND/OR PRINC, CHROSALLY COORDINATE TRUES AND LOCATIONS OF THE CLAIRCHES DEPOSE PROBLEMENT COMBINANTE WITH FRAME, COCKRIGHT OF SIGNAL PORTERIORIES AND SIGNAI SIGNAI PETERRATIONS. some cutting and executed as recitied and whose reducishing to accommend her were and the edge of secting what.
- wen war avolves charcy with matemas continues assestes, acc, as other tooc matemas, even cal, was will essentia processes for resembles and respons.
- compaction shall schedule the minor under this compact with work of other thades as not to sold in default substances of the product. omphacha saul natut ca de art courlos proge to prachesac exdensit and paca to cutino dedans. N SHALL PROPRES FOR DIMENSES FOR SPECIFICATIONS PROPRED FOR INSTALLING AND SESSION SHOULDED OF CHIRACTERS CHALLED FACILITY CHIRACTERS SHALL FACILITY SHOULD SHALL CHIRACTERS CHALLED FACILITY CHIRACTERS SHALL OF INVENES MAST OF INVENES AND OR INVENES.

ALL COOL LINES LANCING NEW IN CONSISSIONES, BULL PURISHER, RANGELSCHOOL SE SCHOOL DE CONTROL DE COOL DE CONTROL DE CONTRO de voolsme struken. Somet elektriken has betaan behak kan til jag oppringen han somet elektriken han somet sin General han zentriken derhande han somet behak derhande de voord het somet somet de voord het somet somet de voord het somet de vo

fren 10 Europen Sortur, Cominctor Syml Perdon de Creato Syktur and Comessione Procedures. restrike all submace (brus, celvics, rocks) and rock) invivace davaged by the work of the Computer to there directly combined at no eatha cost to the direct. continuous saal acudas alt targel oceas ard devotuda aarenat 1900 assess as dec de cr

- Worke all booths of Derich Alexand, classes, classes, elected, etc. Assend for the Structures of East Months Electronic of 1985. Colorante of Singe in Holder Johnsons and Die All, double grows shall, de travordo of Autorold Rooms Johnsons to Harland Root Therante.
- skezineja, fitinas skom sakl be promod. No substitutos inil be algorgo mingat prod Combut from showern.
- PRINTE COMMUNICA POR/SMITE DIMPOS AND SMOTE DIMPOS AI DIGITS PASSNE THRIUCH FOR OR SMOTE PATE ASSEMBLES AS MODIFIED ON THE ARCHITECTURAL ORIGINAL
- PHONDE HEARY DUTY FLEXIBLE COMPETITIONS AT ALL FINS WLET AND CUTIET CHILDREN, COLUMNAS SANT HOL COMBLOX THE WOODS IN EXCLUSIVE THENCY INCLUDES SANT HOL OF WINDS MODE STEEREN. MARCE COORDINATE HIGH STEERENS

MONDE ACCUSTICALLY LINED DUCTHOOK 15 FIRST DOWNSTREAM OF ALL FAMIL, FAMIL COLL UNITS, FAMI

MECHANICAL GENERAL NOTES

METHANEL COMPACTER SMIL DUMME, SE DANINGS OF ALL TRACE AND OLD DEPARTS HOW WOOD SMILE OF COMPACT HOW WOO SMILE OF COMPACT HOW WOOD SMILE OF COMPACT HOW WOOD SMILE OF ANY OLD SMILE OF COMPACT HOW WOOD SMILE OF ANY OLD SMILE OF COMPACT HOW WOOD SMILE OF ANY OLD SMILE OF COMPACT HOW WOOD SMILE OF COMPACT HOW SMILE OF COMPACT

tan ant decorposat between company angles specialisment, me mediancial, compantan Saali base taga bad ingia taga sebagai regunerasin (qualiti, quantiti, see, etc.). e echanical compandre shall videry all disciscions and field committies at the size packs in braches and statement (automatics. The compandre shall discissions and anomatics of techniques and the size of the compandre shall be size of the compandre

THE METHODY CONTRACTOR SHALL PRESENTED PROTECT ALL INTERIALS AND SCHAPILIF RELI-DITION/SECTION OF PROSECUE (MARCY LATEL (MARCY ACCUSINATE). CLOSE AND PROTECT ALL OPEN FLARED CONSTRUCTOR. PROTECT HER MANDENS AND SCHAPICHT TO REPLACE (TOUS DIAMACE). distric establica solvaent hat indebess with bot armadaent saal ex reduct. Renstallen, reductes, regunds, stened er armadaen as requerd, in sait he bot Armadent.

CONSENSE METHODE, STREET RESILVATION WITH CONTROL CHRONICS. VISIT SITE PAIR ID AN ARD AND THE RECURSIONES FOR METHODE SERVICE RESILVATION, SEE THE EXCUSIONISE FOR ADDITIONAL RECURSIONES. TEMPRIT MOUNTO DI ME DIMINICA NOCERE MEN DE MANDRE SUPRIEI, DUCINENE COMPUTANE, SURSE CULUMNOSE, THAL JOIGH AND ACTE POERMANDE, AND ELECTRONAL RESULUCIONES CONCERCIONES THAL JOIGH AND ACTE POERMANDE, ACT DESIGNADE, TRANSPES AN ERRADIA DESIGNADA, THE ACTA DESIGNADO IN SECURIO ELECTRONIS IN THE WERK REVOLUCIONES. IN CRIMENTO SULLANI. owe groups, company and incompany agree. We are accordance also space and

STOKENHOE TOOKEN OL HT WITH LIGHE HIG BOOK CASHIES ANY SUMBINET HIG GLAGE LINGS. CORDINATE LOCATION OF HEW DUCTWORK, AND OCNOCS AND EQUIPMENT WITH LICHT FIXTLESS, PROVIDER PRINC AND ATDIOXING PRINC.

THE VIEW THE ACTUM, LOCALISE HAS DAVE INFORMS OF ALL COMPINED, WORKER, DECKES, THE COMPINED AT STATES, SOUTHWELL SHOULD BE, TARRES THE CONTROL HE WAS AN OF THE ACTUMENT OF THE COMPINED ACTUMENT OF THE COMPINED ACTUMENT OF THE ACTUMENT OF COORDINATE THEORETISMS THAT FOWL DIFFICURE LICENTIFIES. THEORETISMS SHALL NOT BE SIGNATED BY THE THEORETISM OF CHIPACOLOGY. matings pairs to especiating and houses in the ordistry with the united another than

PROME "DEPONAT CHRISTICHM PLUDS ON AL RECHRANDO HAG EXEMBET USD FOR HUMB, COURS, EMANT ON "SITUADIA LORSE CONSTRUCTION HOMBE RETLANT STRUCK REAL PLUTS HERS TO BLANCK, FINIS TO HIND FOR TO UND ONES TO DEMONE COURSELICH, PROME TELEFOR HAS LIBER OF BLANCK, FINIS TO HIND TO UND THE TO DEMONE HERST ALLERS IN ALL EXEMPLY.

PRITECHEN PRITECH ALL MICHINA, MAD EXPANSI FORM DESI, DISI AND DAMAC HAIL FINA. ACADITANCE, CLOSE AUL DUCT HAI CILIADRIA CORPOSCO, DIRECE CONSTRUCTION THIN SIZURIE PROTECTIFE CONTINUE BETORE, DURING AND ROLLOWING MEDILIATUR.

HALTS CHAPTER HATEL BETTALL DICTIONS AND PRINC CHESTAGE THAT TO HASTEGE OF STRUCTURE OR SHALL THAT AND AREA FOR RESIDENCE OF THE HASTEGE OF THE PROPERTY OF TH PEREZ CHARCIPAN DI SERVIN GULTURAN AND PRIMA STOTUS, METELT FOR DETERM, MOTET CH F DUSTRIA CULTURAN, PRIME AND REGIONATE E POURD TO HAVE DIMOS/DEVICES AND TO DICTURATE F REPLANDED TO BEQUARD.

> desine soum made om roof met 'n de moteren dagen al mages de Gonstadium f Mat mediteren en de en mom e bedaden, 'ne campartum simil mote ine da mour de Partumban en en en han mad. THE EXTENT OF RECOMMENT, DEMOLATION SHALL SE CONSTANTS AS RESISTED ON THE HISON SOMES RECOMMENT, DESIGNATION PLANS.

DRAWING TITLE

MECHANICAL DRAWING LIST

MICHAELE, MOR MAI IS TO REMAIN MICH STRICTING ON MICH IT IS SISSALED IS TO BE MORPH OR REMAIND SALL OF MAINTAIN STAMMATION OF PLACE WITH, MICH. OF ALL THAILY IS COMPLETED. RESISTALL MICHAELE MORE ON NEW STRUCTURE.

MENT NATIONALY WIT COMPANY MENTALD IN NOTICE OF A SHEET WENT COMPANY WITH THE WASHINGTON WE SHEET ON A STEEN WHY COMPANY WITH THE WASHINGTON OF A STEEN WASHINGTON THE WASHINGTON OF A STEEN WHY COMPANY WASHINGTON OF A STEEN WASHINGTON OF A STE

PROVICE ALL OYDEN, ETHINS, GRUBEL BUSINES, DOURS, DIFFIN, DICTINGAL FRING, POLILIONS AND ALL DICTINGAL OF PRIVA ANALYSI DUSINES CONSTITUES, DUCTINGA, CHANG, DUSINES STEEL, JASS CONSTITUENTE AND ALL DICTIONS AND

 Yer's All Currency Consecutor with Managery School Demons, North and Provided and Provided Consecutor and Provided Companies (North And Consecutor). ACCESSIBLE. BY ALL MUNES, STRUBBS, LINEAS, AND OTHER ACCESSIONES AND MUSICAL PHYSICS SHOW ACCESSIONES AND ACCESSIONES ACCESSIONES AND ACCESSIONES ACCESSIONES AND ACCESSIONES AND ACCESSIONES ACCESSIONES AND ACCESSIONES ACCESSI NAMEN ACTION PARIS AS REGIMEN FOR ALL WALES, OMFORE, CHROMES, ON OTHER EXPRESS. IN CHROSS REGISTS IN REPLAY — HI-CLURES FOR SERVE, AND HANDEWHEL OF ALL CHROMES. EXCENT AND DEVELOPMENT, CASES, SERVE LAND A MANY, EXCENT FOR THE CHROMES, CASES, SAME, DECISIONS, SERVE AND AND ANNOUNCE PARE CHROMES.

25. CLEM DISSING AND RELICIONED AN ORNICOS THOMOGRAF WITH NINGEL SOMY WHITE, RETHER AND INC.—MARIE ALL DAMAGES AND ORNICOS TO BE REJICUD, CLEM ALL ANS DEVICES WITH CONSTRUCTION OF CHAPFELLID. CONTINUENT SHALL HET CONCERL HET HERM WITH, HENSELTED EF HEIDHOELL HENSELN HANDE CH. CONTINUENTS SHALL HET CONCERL HERM CASUMENT BESELTION THE WITHIN ZA JOHNS, CONTINUENT CONTINUENTS SHALL HET CONCERL HERM WITH, HETMONEN, RECHARDESS OF SONEDHIE.

BILANCING DAMPERS SI ALL OUCH BRANCHES AND 10 AR DENGES.

WARN NORMINES HAS CONTROL OF THE WARN AND THE CONTROL OF THE CONTR

COMPONENT CONTROL OF ALL PUBLIC COLLAC.

SPECIAL THE WAY COUNTY CHAPT WITH EXPENSION IN ALL PUBLIC COLLAC. CHAPTERS

SPECIAL THE WAY COUNTY CHAPT WERE PERSONNEL BALLOW COLLAC. CHAPTERS

SPECIAL THE WAY COUNTY COLLAC.

SPECIAL THE WAY COLLAC.

SPE HOUSE YESSELM SELVEDE, FOR BRUINEL, BERLYNE DE SELVENCHINE CLUMENT, BELLENE SHALL BELLENE STALLER AND CHARLES TO THE CHARGEST OF DEPOSIT OF DEP

READY TEACHART AND PUTES AND PROMES NOW PUTES IN ALL ANY CONTINUOUS COLUMNATION OF CONSTRUCTION AND RESULTS DELANCATED. AI, ME, LOUIDE CORCO, DONS STORM ON HAMBERS ARE RECOMMENT OF LOCKEN, AND GOVERN AND GOVERN AND GOVERN AND GOVERN AND GOVERN AND GOVERN AND AND GOVER

ANY LOSSING ACCUMENT, WORK SURVING HE THESE DIMENTS IS RECOLUTED FOR THE COMMENTED HIGH. THE COMMENTED HIGH WAS DIFFICULTED AND DEFINITION LOSS OF THIS APPROXIMENT OF MAN SURVINCIAN AND CHARTES SHILL BE RELECTED BY THE COMMENTED THE RESERVANCIAN CONTINUES OF THE COMMENTED THE RESERVANCIAN AND THE RESER WIT WESTERS OF COMPANIES FOUND CHAPTE CONSTRUCTION SHILL BE REALISH TO HE CHAPTER SHOULD DESCRIPE THE WAS IN QUESTION IS RESULTED, DESCRIPE AT THE CONTROL SHELL BE INFORMED AT THE COMPANIES OF THE CHAPTER AT THE CONTROL COST. PROME AL MEZILARIOS STILL THEORID BOOK REVIEWED HE HEAVING STALTING.
LIMPHOTALS TO: 10 SAPPER REVIEWEL SERVICES OF OH REVIEWER STALTING.
LIMPHOTA BOOK SCANNEY HACKES SHALL RE SUZD HEAD ON THE RESHIT OF THE RESPECTANCE.
SCHOOL REVIEWER SHAPPINGS.

property, and consists of fight subsect, work is provided this rollings relationst consists of root despiece, and consists of fight subsect to proper parage of fight such to equipment regard,

PROVIDE MEPROPRIATE SEPARATION RESIDENT THE CONSTRUCTION HERA AREA CALABOM COLUMNIC STREETS TO PROVIDE AND SUBSTRICTS HOUSERING TO ALLAWAY HOLD IN

ENAMES DEMANDE AND ANGRAN, DES DESSION DE FEMORES SANAL RECIDE DE PROPERTO DE LE Compressa and desse de manages dessiones deban des sons compressa and desse desse de les Combressa andre de Linguista de l'ac compressa de llocata de Segues de Desse de Compressa desse de l'actiones de llocata de l'actiones de llocata de l'actiones de llocata de l'actiones de l'action

PROPER SUITABLE THE BUILD PRICHAG FOR MICHAELS, SISTING MAY EQUIPMENT OPENING COUNTY BY VENUTURN. at al., these resp. we propose from accumulation of whise, majori, and rebest cales) of agents and distributions of the comprehens.

IN THE STATE OF STREET, THE STATE OF STATE OF STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, METANT INC. WANTS SHAFT BE CITIEDD WILD CANAETT.
WHICH WIT THAN TO METERS SHOW REMAINS HAND WIND SHOW SHOW SHOW IN THE STANDARD WANTS HAVE IN OF ALL SEA, ME THAT, COMMISS IN COSTING DUCTROSE TO BOOMS LET OF RESIDEAL, OF DUCT EMPIRES OF DUCK TO MAKE MEET, RESIDEAL, ALL EXCENSE OLICY COLLARS FROM EXCENSE QUICES TO RESIDE ALL COLLARS FROM EXCENSE QUICES TO RESIDE REMONE OF COMPANY COUNTRY, AND PERG SAIL HOLIDE REMONE, OF ALL ASSISTANCE WINES, HENGE, HENGE SUPPORT, AND PERG SAIL HOLIDE REMONE, OF ALL ASSISTANCE WINES. dicting incloneda, work that is to recommend in place. He relayada shall he (differential saftrated in place) at exister seness and consider morphy to be rejocked shall be ashard with chee and stokes until be-masslument.

MECHANICAL GENERAL NOTES

57. PHONES LIMINALIN Z MCCH (RAMA) IN SICKI CATAGO, FAR MODES PEDIUM. PITCH ESTITUM OF PEDIUM. TOMMOSS DIMAN. INCUITE EMAN. TO MEMBERT PEDIUM EMAN.] CHAMMOUS STOLL PARELS AND ROUNDE WITH THICK PRODUCES OF LOWER AREA WITH 15 CASE OR MODIFICATION SHALL SHALL SHALL WITH THICK PRODUCES OF LOWER AREA WITH 15 CASE

ALL OPPH-GUED BLITS HI CELLEY, FEBANG OF DEVICED SHALL BE INCONTRACTED FOR A MEMBER DESCRIPTION OF PRICES FROM THE OPPHRE TO A ALLER FEEZ TIONS OF ALL HEETS CONTROL HOTEL, CACH OPPHRE CHALL TEMPHRE HICH STRIPE HEST SCREEN. IC. LOALESS OTHERWISE MOTEL, ALL HERSCHIE PERMS RUMOUTS AND COMMERSATE COMM PROUS SWILL E COING CITHC CHARGOS' CHITTS WE SETZING AS ENGIN ON THE WITHOUTHWY SOLICITION

PROVED EQUATION WALKES AT EACH TADOR PRODUCT AND EACH TESTING, EQUIPMENT, FOR HORSON PROVED, PROVED EXAMINED WALKES AND EACH SAFETY PRINCE, PROVED COMMENCED MANAGEMENT AND SAFETY WALKE ON HORSOND ROTTLEN PRINCE.

COMPACTION SHALL PROMIE FRE SIDEMER, RECES ELEMENT, DUTINGNE AND PHAN FORETIME AND WARRE AND MARKET, PRINTERS. NESTAL PIER, TROPPHAY RE ACCUMENTAL TIMI M, ANDIA ACCUMENT, RECENTAL PIER, TROPPHAY AND THE METALLIST. ACCUMENT

PROPER RESIDENT THAN AND SECURE CLOSURES FOR ANY BULLONG OFFICING LIST OFFICIALS. THE CURRACTION IS RESPONSELLE FOR ANY BIRECHES OF SECURITY ON DIMAGE CAUSES AS A RESIDE OF RELIABILITY HOUSE,

EXTENSION WITH SECTION WITH COURSE WITH STATE OF THE SECTION OF TH zaell de vit dozhag zen'eutané didadusz dhang vit langoz az kenyezh andar. Zamit de viet kezadagoetla de veg commandos eo dane vit kezezzaek hachalloge eo digine ane

hen mar malnys acastas, poi of orax toro mazails, combactor shall hotef of maj we. Roma na housdan, attoriet to esvalish somomo pagatores for horage with/or pointer todo mazails.

SATING WIT ADMILE'S MOLICILOUS WIT COMMISCHED HERBOT WITH HAT LETS ON CHANTE HOM ING.

from Companies, 1,0005s, 100s and times equipment recursed for activated, when then companies of when. NORK SHALL CONTORN TO THE LATEST EXTROM OF ALL APPLICABLE LATE, CORES AND REGULATIONS HAVING MARKETINGS.

BCA Burning Company MO.OI

Expression orders

JOPPATOWNE HIGH SCHOOL

HANTOND COUNTY HARFORD COUNTY

MECHANICAL
GENERAL NOTES *
DEMOLITION NOTES

DE BOUTH HICKORY AVOID

東東

LIMITED RENOVATION

from in committing denotities ache, provide exemple faitses el heither d'échois at îné return Dict shafts foir désaure au système.

555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085 BALA|SW

PSC NO. 12.046.161.P

CO SUEMISCION
FINAL REMISCION
RELEASE FOR BIDDINS
ADDREDIM NO. 3

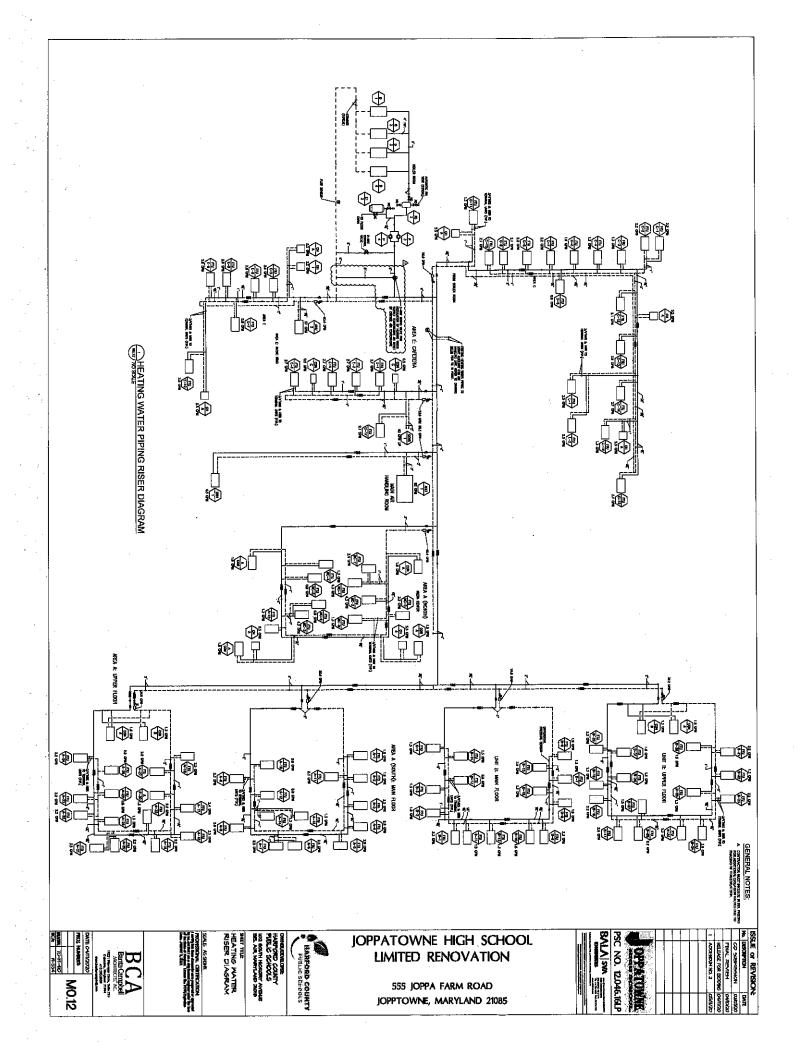
AND WIT COLUMN COMPANY MAY HEXTRAMA BY, HY DOZINE COMPANY ME METTODY WE METTODY COMPANY COMPANY MET HEXTRAMA TO STRAME COMPANY MET HE SAIL WAS A STRAME COMPANY MET HE SAIL WAS A STRAME COMPANY MET HE SAIL WAS A STRAME COMPANY TO SAIL WAS A STRAME WAS A STRAME COMPANY TO SAIL WAS A SAIL WAS A STRAME COMPANY TO SAIL WAS A SAIL WA

MECHANICAL DEMOLITION

NOTES

ISSUE or REVISION

ART LABOR, MICHAEL EXLURAGOY AND SCHOOL RECEIVED AND REPORTED TO BE EXCUSED HERE.



104÷1	ž X	Š	1	W.		Ž.	9	7		S-ant	₹.	ž	Ž.	100	Э. Э.	000	200	100	E JUST	2	200	2	100	8	100	680	0.00	77007	200	ğ	TO BZ	Ten	2	146	1000	į	10015	1990	140	1	FOUR		eeur'	1	1043	F1042	T N	1	4	W. PILL	104.24		71 ≱.2	, i	NAUL.	N-AUT	104-15	2	2	A.	1	1	10,44	1	Ž	FILL 2		9
ARTH YOUNG WATER YOUNG AND MODE AND AND AND ARTHRANGE. HOLD NOT AND	E» COMERCIAN "M.X"	MON BOOK 'NOM'	ACOUNTACTOR ACOUNTACTOR	STATE COLUMN TO THE STATE OF TH	HEAR COMPANY TO STREET STREET STATES	ATTLENES	DETAILED OF A PRINCE TEXT A DEST. STOR. "1225"	DESTRUMENTAL MASTER TOTAL & MIST. STOR. TELET	2772. 250a Paris	MANAGANO CANADA	CATCHEON TOTAL	CWEIBANTING	CAMETERSA TRULY	CONTROL CLEAR	HUTTHWOODERS TOTAL	ANTIPORTED TO THE COLUMN	STOK "COZON", STOK, "COCKA" & COMMODIN "CION"	GST, OFF-STOR, "SUZ"	ROTHER	MCS MON. RODO LAST TOTAL	STOR. YELSEY'S FACE OFF, YELSEY	PACS CON, FOOD US "CLES"	PACE CON FROM PLEASE.	CHED CO. CLASSIAN TOZZY & STORL TOZAN	CTANAGON ASTA	CARROON JULY	STATE STATE	CONSTRUCTION (SELEC	CLASSINGO TEZZ	DASSROOM "822"	AZES MODESAYO	AND DOMAN	Atta Hopeson	SCEL MODISATIO	OVER MORE AND A STATE OF THE ST	AREA STORY CONTROL FOR THE STORY OF THE	A STALL GROUP AL	Special (mb)	COMPANY THE	CASSACOM PAGE	Overegon James	P. ANTERON TRACE	CTV22MOOM JETTI.	CONSCION TOTAL IN DIVISION TO THE TOTAL TOTAL	Published Tituzz*	CASSIOCH TICE!	PLANTAGE AZZO	ALCO, MOLESCO, 1, WITCH, AND STOR	STOR, "SOME", METATION, "SOME A STORE, "SOURT CHEMISTRY SOMEONERITY SCHOOL "NZZS"	CEN. AUGIOO	ZIZK NODRZAVO	CYCHOOL NTA.	SCHOOL STORY	SCHOOL JUST	SCENCE "A225"	SECT. LYNESS HAND	COMMON AND AND AND AND AND AND AND AND AND AN	APTIN, EVENTS, LIV 9, OTH, SEGRECE	SE PLANNING OF PLAN	COMPUTER CHAME TALLY	COMPANY OF THE COMPAN	STANDARDON VITA	STIN, DEPLE SAN	ACT STUDY NATA	CLASSPORT YAZZ	CINSSECON VIZT	D ACCROOM SLAVE	NEA BOOD
A R	8 8	A S	2	S F	P. C	R	Ą	R J	1 8	Ę	2 5	R	#	Ŗ	₽.	R	Ŗ	A A	Ŗ	F	A	8 8	Ŗ	R	8	R	a s	R	Ŗ	A	8 8	Д	S I	8	8 1	B	8 5	ğ	8 2	8	A I	8 8	8	# #	Ą	a)		8 8	R R	Ą	R	S F	8	8 8	R 3	R PA	A A	R	D .	8	H S	R R	×	A A	B B	я 5	1	COMPRISE
ij ij	619	8	1 3	ž į	텧	ij,	Ş	Ę.	i	£	Ę 5	E	ş	ŝ	5	5 5	8	9 5	Ĕ	E	S	5	3	E S	5	3	8	ğ	ĕ	ă	ě	8	5	ā	100	ä	1,120	g	8 8	E	, 1860 (1860	8 8	5	ş	á	B	ä	e a	¥ §	1,000	Ē	1005	Ę	5 5	i i	ž E	5 E	¥	23	¥	į į	ğ	Ę	* 8	¥	5 5		3
2 E	5 3	a =	B	3 5	3	s (ĕ	2	i	Ħ	ž	ä	ž	ā	51	a e	8	ē 15	ĕ	8 8	8	8 8	ā	¥ S	8	ğ	5 5	i S	B	3	\$ 8	ā	8	8 8	8 8	B	# 5	2	iá 8	H	ä	i ii	ğ	ää	ä	ĕ	ä	8	i s	ă :	ž	ä	à	3 3	ů.	3 8	is à		8	5 B	B 8	ž ž	Ħ	# #	ķ	8		9
7.0	5 2	: :	ış,	2	2	8	ţ	2	2	ŧ	ŧ	ŧ	ŧ	Ē	e i	ŧ	Ĕ	2	E	ž	2	2 2	Ħ	£ 5	ă	ğ	2	E	Ę	ñ	t	ņ,	E)	174	Ħ.	E	ť	2	5	ā	ž l	Ę	Ħ	E	Ē	2	Ŧ	2 5	Ē	Ĕ.	Ę	Ħ	2	į	2		17.5	E	6 2	: 2	2	e E	¥	ž ž	i K	2		Daniel Commercial Comm
8 8	E 18	8 8	ij	a s	s	s je	ğ	8 1	ê	8	8	ä	8	E	5	9 8	Ĕ	EK	Ħ	2 2	8	3	8	2 8	â	ŝ	8 8	3 5	ä	3	2 2	15	8 2	¥ 15	g a	5 0	8 8	В	# B	1 11	8 1	1 B	B	9 3	8	8	8 2	8 8	5 5	3 3	8 K	8 8	ß	# 5	8	3 3	5 3	a	8 8	8	B 6	X H	E	8 8	t a	8 5		AGREEM
3 5	ė į	21 2	ä	ő		5	ij	5 E	i E	3	ž į	1,560	£	Ħ	Ę,	1	ž	i i	2	3 8	ā	ž ž	8	¥ 5	 E	E	BE	£ £2	ĝ	8	1 2	8	R	ż	2 3	×	8 4	Ħ	2 5	1	8	5 8	£	8 8	ä	E 5	S E	5 8	9 8	# 1	3 2	* 8	Į,	2 6		£ 5	ġ ś	Ħ	5 8	8 3	8 8	1 1	ä	ž S	ā	E E		MUNICIO
ŝ	Ęŝ	ę,	84	şş	5	şį.	ţ	į,		2	Ę,	8	8.1	Ę	K.,	4 4	Ę	S E	Ę	ş ş	ş	şş	5	Ş Ş	Ę	ŝ	8 5	1 5	84	ŝ	Ç.	8	e v	5	ĝ	5	45	Ę	ŝ,	Ę	Ę.	Ę	ŝ	F 84	ş	E,	10.27	S S	15	ŝ	1 1	Ş	Ę	ĘĘ	Ç,		\$ 5 5	1 5	1	63	5	\$ 5	Ę	5 5	1	Ę	1	N G
9 0	9	ş	ξ	9 5	3	ş	ŝ	Ę	2 2	ξ	E	92.5	10	5	ž,	g g	# I	2 4	95	8 8	£178	9	ş	5 5	15	3	100	Ę	ş	8.4	ž ž	2	ž.	2 29	4	ij	4	Ę	Š	9	1	į	ğ	ξŞ	92	Ę	χ	31 S	2	ž	ě	4 5	2	2	2	100	92.57	ě	50.00 P	8	Ę	1 3	8	5	12	86		100
E G	ē Ľ	B 8	t	c t	4	z	E		E	2	2	٤	E	5	127	1	Ł	2	ž	E E	ε	£ 6	c	E E	1.9	16	i i	: :	t	r l	5 5	E	r i	i E	E 6	ŀ	2 6	E	C 6	Ξ	E	ē	ē	6 5	6	5 E	E	S E	E	E E	Ľ	1 1		5 6	E	Ľ	E 0	E	3 3	3 2	E į	G	2	E E	E	£ ;	: 3	Ī
u u z X	u u g X	- خ اخ	\ *	3 7	3	دار دراج	l'	٠ زان	· ~	<u>ا</u>	۰ ترق	2	~ ·	~ %	ا انق	۰ ۰ ق ق	~ ق	v ~	~ ق	e la	7	~ ~	i i	~ ~	· X	w X	~ · - -	·	~	w	- - - -	~ 2	٠ ا		~ ·	ı X	w 1	ا ايرا	~ \	-	· ,	· ~	ا ق	۰ ۲ ۲	빍	۱۰ ټ	~ #	- - - - -	1	ا ا	~	* \ 3 5	~ <u></u>		ω . Έ	v N	2 4 3 5	 	· ·		N C	-	N	 	-	, . ,	- [ğ B
E 5	# # # #	\$ \$	1	\$ 5 \$ 5	IS IS	10.00	9	B. 1	3	Ş	THE PARTY	103	ģ.	157	TOTAL TOTAL	1 5 1 5	110.01	1 4	54	1 1 1 1	121	9 5	1	110	100	107	1	1 5	5	100	1 1	157	5	100	100	i ii	100	ja E	5 5 E 6	9	100	1	8	9 S	¥	100	10	5 5	1 5	100	110	5 5	5	9 5	110	2 5 2 5	15 15	13	122 22	1	100	1 5	5	104 104	107	103		ENG CAI ONL CAI
3 3 5 6	1 1 8 3	1 1 P 2	E E	3 3 6 6	*	-	TT	1 1 2 2	1				1					1 4	2	5 5 6 6	3) (9 5 (5	i E	2 5 2 1	1	5# E	3 1	1 4	5	<u>ال</u> ا	9 9 2 2	\$ E	3 : C	l R	1 1	# E	i i	1	1 5 C	1	2 1	1 1	2	4 5 L P	¹ 2	\$:	1 1 2 E	9 9 8 P	1 S	\$ S	1 3	9 5 E 8	1	9 5	<u>نوا:</u> د د) j	\$ 5 E 6	1 2	1 5 E 1	: 5i	5 5	15	19 12	\$ \$	i i	\$ 5 E C		3
4 G	다 다 를 끊		*	-	18	-	₩	,	i ii	* E		e E	÷ .		519	1 5	95 :	4 F	1	4 4 5 5	14	2 N	걸	* 4 6 5	7	g 8	8 6	+	1,000	+	- A	E .	9 5 5 5	22	# 6 5	2 2	9 6	ة يو	p s	2	F. 5	1 4	9	4 4	1 ⁴	۲ / چ		2 2	* *	5	۹ ۲	4 4 5 5	F .	4 4	5 4	2 4 5 5	B X	4	E S	. E	5 s	1 4 2 5	E	4 H	E	4 F		GH H
5 S	- 8 5 5	5 6	Ę	6 6		Ģ	Ğ	6	G	Ç	e 6	E E	e l	ç	DI S	# 84 6	Ę	- E	et E	6 6 6	5	ŞŞ	Ę	6 8	E	2.0	ē, š	Ę	B	Sį l		Ę	a E	E D	5 E	i ii	8 °	Ğ	5 6	G	B (i G	ŝ	G Ç	Ç	- E	G	5 5	8	g i	- 6 6	6 S	Si i	g g	e l	1 B	s s	Ę	- 6 5 5		E 6		8	- 8 6 6	e S	E E	1) ()
5 5 1	5 5	5 5	5	2 2		-	5	J .		5	5 6	5	5	5	5	5 1	5	5 5	ឥ	5 5	5	5 5	5	5 5	5	5	5 5	5	ដ	5	5	5	5 5	5 5	5	5	5 5	5	5 5	5	15 1	5	5	5 5	5	5 1	5 15	5 E	5 5	5 5	5 5	5 5	ŧ i	5 5	5	5 5	5 5	5	5 5	5	5 5	5	5	5 5	ä	5	1	₹
234/14/50 234/14/50	27/14/E	STATE AND ADDRESS OF THE PARTY	478/KI/A22	STATE INCO		100	CHAT /AZA	A 100 PM	27/14/20	ZAVIJAJETINE.	27,120	3-00-T-1-02-2	09/m/w22	10MT/142	andraine.	274/24/20	CONTURED.	277/1462	CONTINUE.	27V/147	77/1m80	TO LANGE	27/14C	CONTINUE.	277/1475	1000111000	11/1/2	Travalla M	57/LHK0	SAN MES	27/1/20	10 MIN 10 C		27711110	TOWNS WAS A	277/1475	MAN PAGE	25/17/24	27/1/20 20/1/20/20	277/74/25	22/12/20	05/W//2/2	55/Mt/A22.	TENTANTO	TO PARTY OF THE	CONTRACTOR DE	ENJACING.	TOWERS.	STATE AND	23/W/A22	00/95/A6/2	Design (ALC	DS Merce	TO PETAL	27//1400	27711460	DANTAGE TOWNS	277//1/00	27/14/10	277/11/0	STATUTE.	D)#17.442	Z77/14/50	2771/1488	CONTINUEZ	27111	1	ETECTION.
4 E	≈ R 9 y	1	k	8 8	3			2 .		8	4 F	2	* 1	2	8		*	7 2	2	5 H	2 2	4 4	¥	8 B	2	23	8 6		*	Ŷ,	× 2	2	¥ ,		* *		E S	13	8 12 8 12	Ŀ	2 1		2	a t	P		4 A	~ *	4 P	E .		4 5	8	M M	8	4 4	# W	Z z	2 2	i id	2 2	* *	r r	M M	, in	2 2	-	
+	\mathbb{H}	\mathbb{H}	H	+	1	Į	H	+	ł	H	1	H	+		H	+	H	+	H	f	H	Ŧ	H	+	H	H	+	ŀ	H	+	Ŧ	H	+	H	+	H	+		Ŧ	H	H	H	H	+		+	Ť		ľ	H		Ŧ	H	ľ	7	Ĩ	7	H	4	H	Η.	F	H	╀	+	H		
2 2	2 3	8 5	13	8 C	3	Š,	ļ		"	4		-]		P .	*	P.	2 2	å	* x	5		2	8 5	Ĭ	5	# S	* ×	2	C .	2 2	5		5 E		8	2 5	ľ	5 5		2 :	8	1	2 H	5	= 3	· =	= 2	2 13	3	, E	2 2	8	4 5	=	r a	3 5	٦	5 0	B	X D	* 5×	ř	ă ă	E	K :		# #
8 5 I	B 5	ā ē	ş	# #		۹۴ . k	[§	4 E	1	ā		1	<u> </u>	5	Q	1 6	12	1 4	4	į į	ă i	1 4	5	6 6 - -	Ę	ৰ	티 -	1 4	5	\$	1 5	Ā	1	Ĭ	Ę Ę	1	4 4	Ę	§ §	1	5	į į	Ę	\$ \$	5	6 8	į į	E S	1 5	Ę.	5	6 E	É	E E	6	į	F E	Ę	£ 5	5	4	8	Ą	E 6	Ę	2		25
3 3 S	2 4	2 2	3	2 2	3	ľ	Ş	7	5	۲		7	<u>ئا</u> د	3	3 :	1 5	3	· -	3	3 S	1	9 S	3	3 5 - -	3	5	2 3	5	2	; وار	3 5 	2	<u>ان</u>	19	3 5	2	3 3		3 3	15	5		2	3 5 	2	5 ;	1 3	2 5	15	3	1 5	9 Ş	5	9	5	7 5	3 3	1	2 2		5 5	15	2	5 5	3	5		OK THE
3 15		3 2	2	2 2		#	Ē	1	Į,			72.5	Ē,	É	ě i		ğ	ğ	3	1	3	1 2	B		Ę	Ř	2 6	Š	Ä	ķ	į	ğ		12	ě,	Ę	F 2	3		Ę	Ž į	1	Ę	Ę	4	F	Ę	2 2	1	2	Ę	2 9	2		Š	1 8	2	Ē	3 5	3	¥	18	ă	į	Ę	ž,		S (nd zees
ਹ ਹ । ਜ਼ ਜ਼ :	 a a		2	 	3	Ī		ľ	2	1	۱ ا	9	<u> </u>		9 °	1	1	- 0	1	10		1 2	n H	1		3		1 =	-	3,	10	ľ	۳°	, ,	2 =	-	a 0		2 2	10	9 :	, ,		2 2	12	۰ c		۲ ا	1 0		, p	9 0	2	1 3	۳°		9 P		7 0	֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	9 1	, ,		3 5	9	9 5	<u>'</u>	ğŝ
16/0754 16/0754	15/01%+	III.S / SIIIS	\$6,005≠	15/m2-	100		PSAID (Str.	DE LOS	ING / DIES-F	1-Sept (30)	No. June	45 J DE 5	Mary Carry	1570(50	MS/DIS-F	120	#51012#	NG/UNS-	4-S400 / SEA	15/m54	Thus / Others	ms/pars4	715 / URS-F	15/DRS+	are (mast	15/ DIS-	15/H24	14-END / SPIL	4-SHD / Sh	HEAD / SE	mg/mrs/	W. June	16/DIS-	#SHID! 300	15/00/4	4-Sato / 970	15 (m) 4	TITUS / DITES	THE JOINS A	aus Jung-F	ING (0175-4	TE/DISF	#Sein / Shi	75 / 2075 -	ME JOHN	187 DES-	PSub filtra	ME / OHS	THE JOINS OF	ns/ors	ms / ms+	HS / SIR-	PSTD154	18,000	THE PERSON	+Sud/Su	-540 (90)	are/outs+	THE POPE	Sam / Sutt	ms/ms-	145 (OFF-4	TE / DES-F	715/DES+	4-5400 / SPL	116/005+		1000
77	11		П	T	3	B	П	T	T	П	Ť		T	Т	T	T	П	T	П	T	T	T	Π	T	П	П	Ť	Τ	П	1	Ť	П	T		T	Т	Ť	П	T	П	1	T	П	T	П	Ť	Ħ	T	T	П	T	T	П	Ť	T	П	T	П	T	Ħ	Т	T	Π	T		Ħ	T	MI S

Barta Campbell
Arouters No.

Communication Scale

TOTAL CONTINUES

TOTAL C





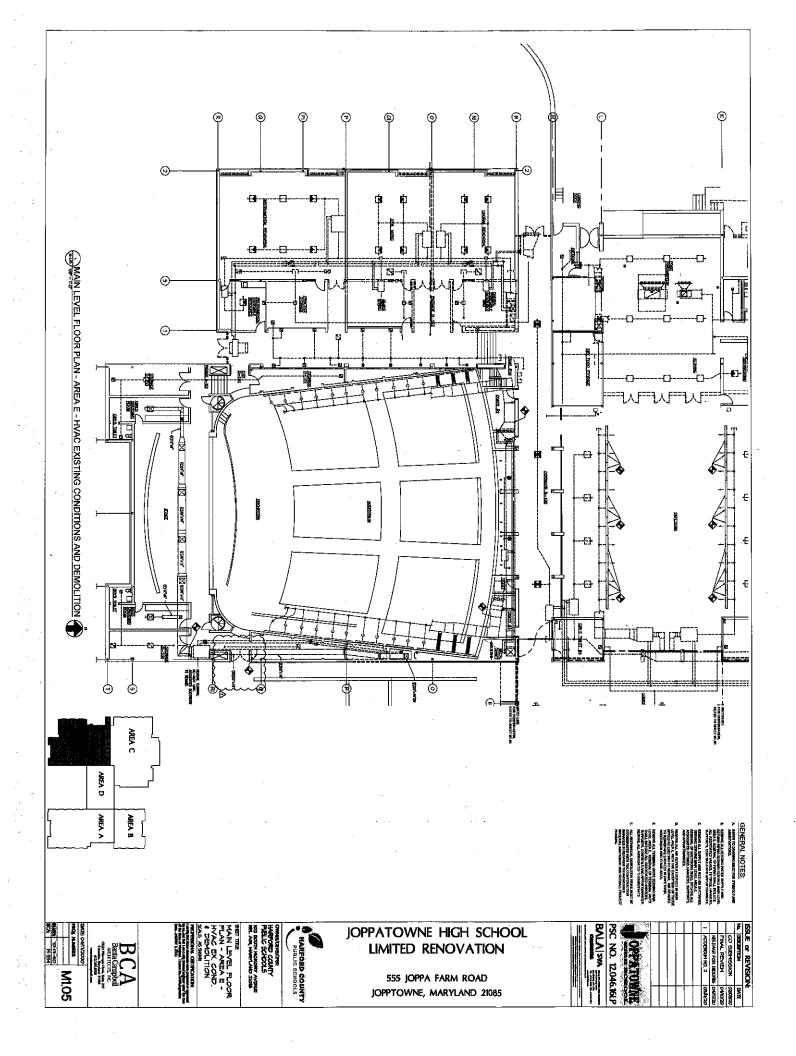


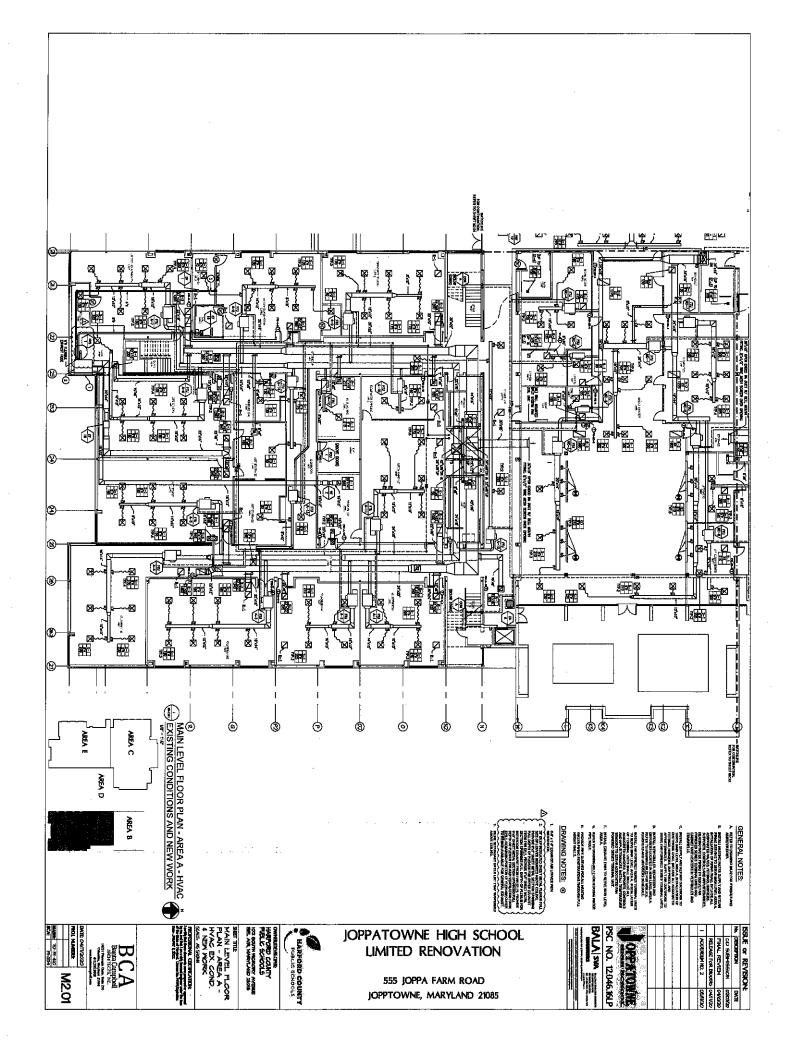


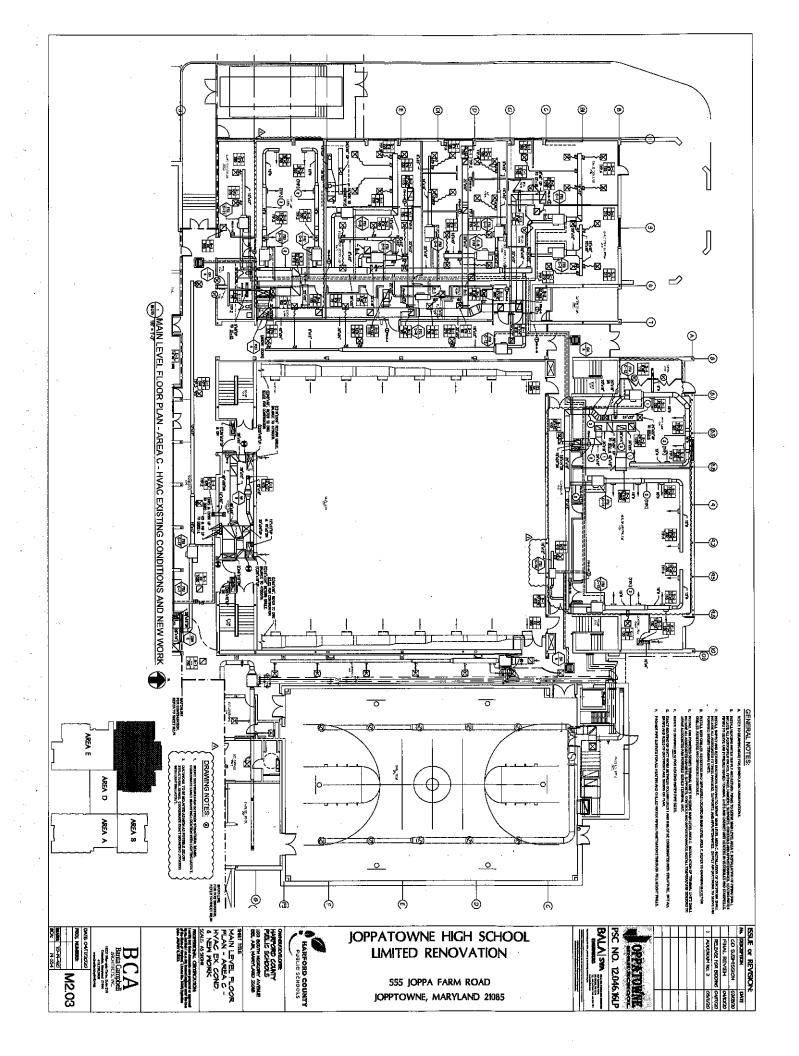
JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

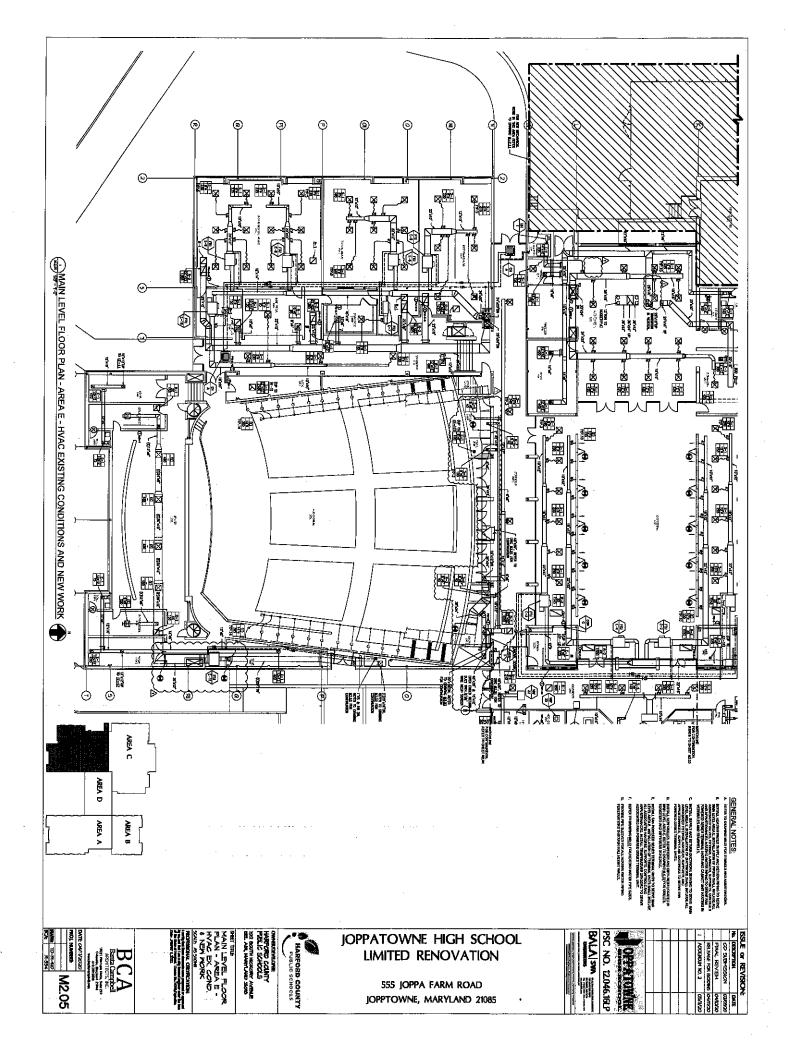
555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

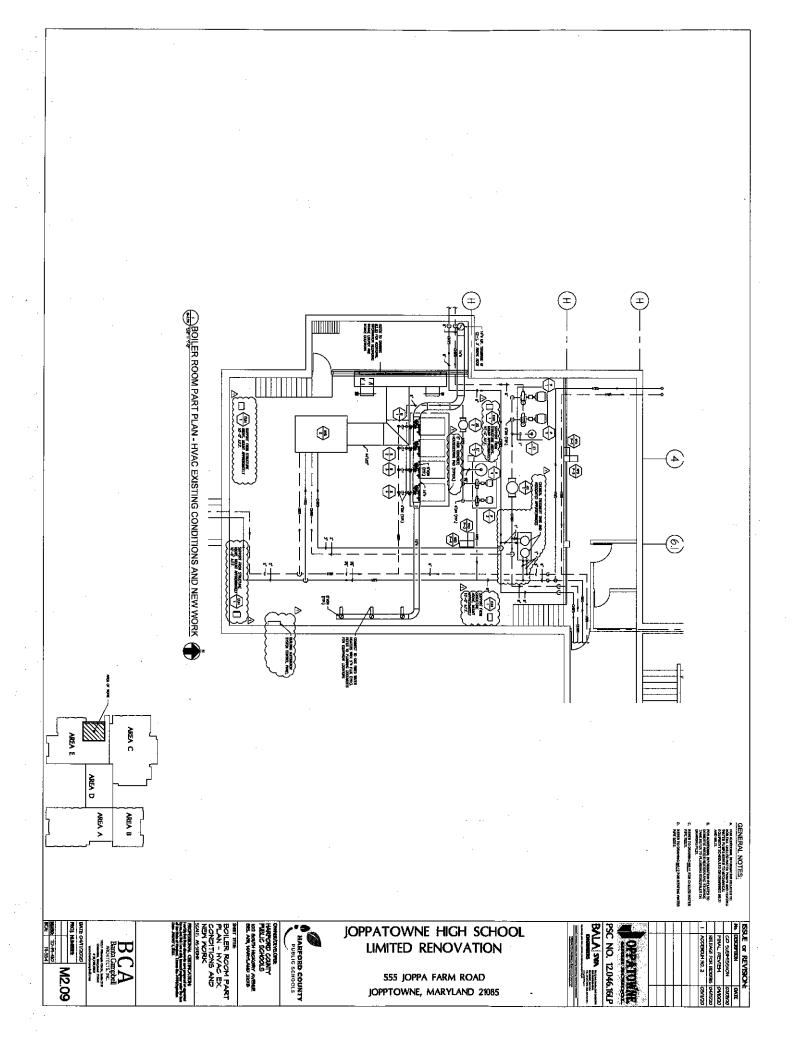


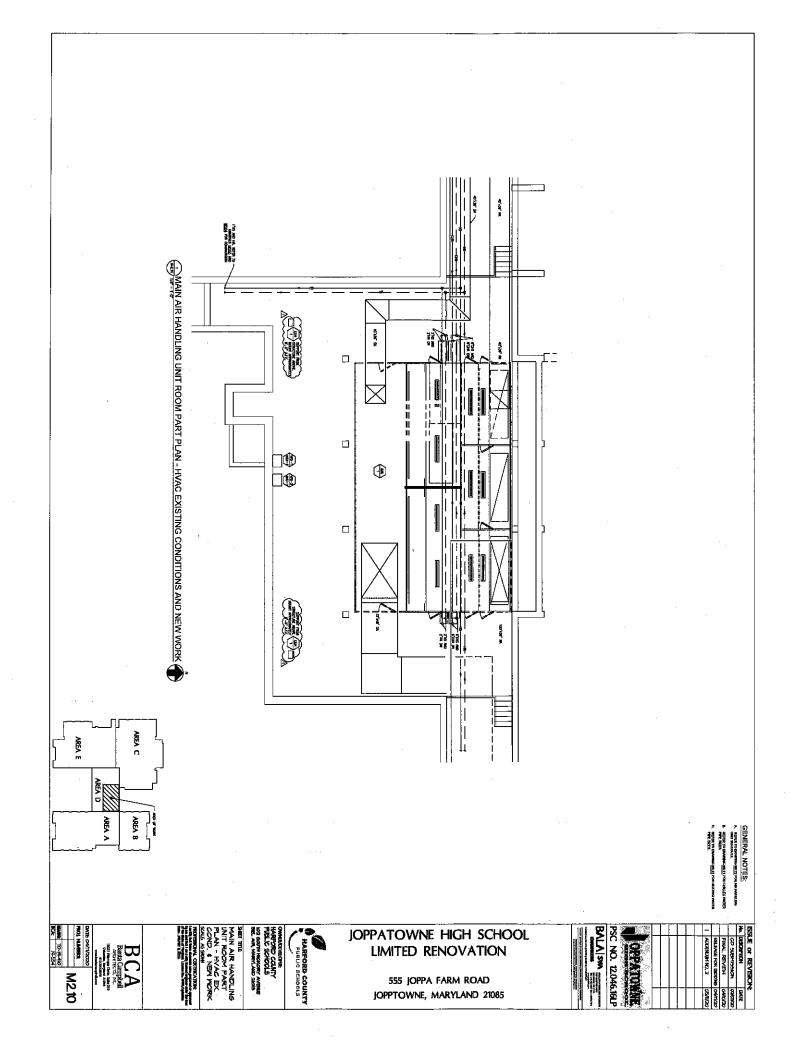


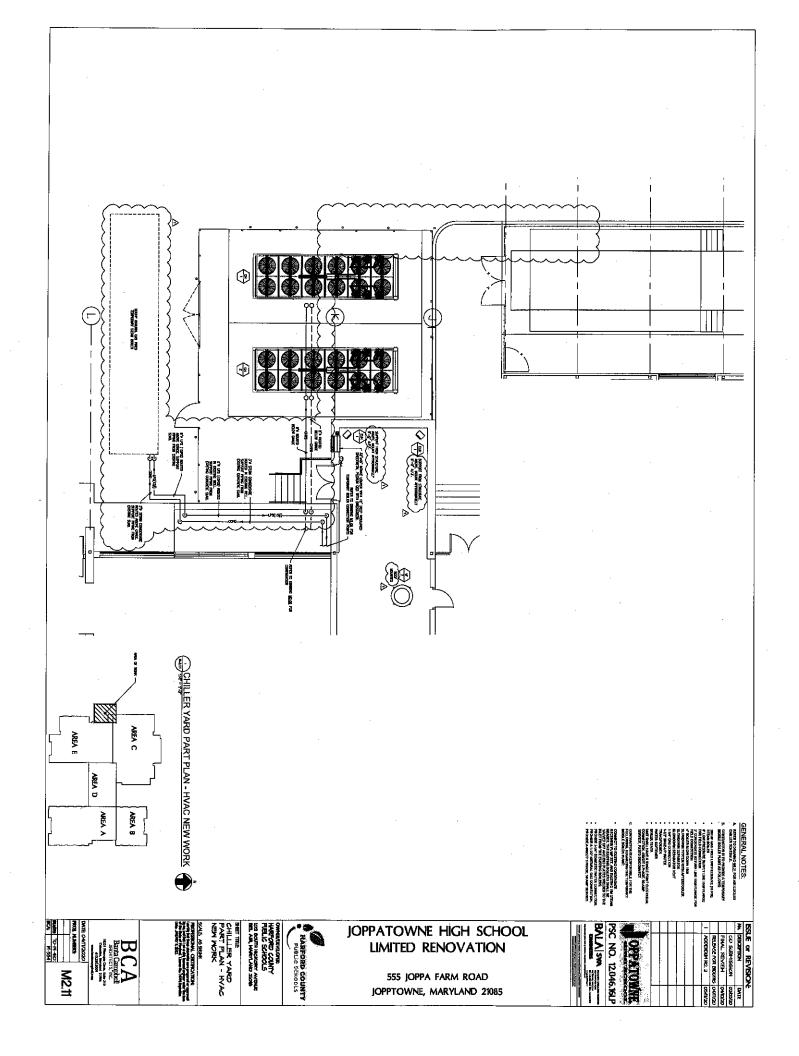


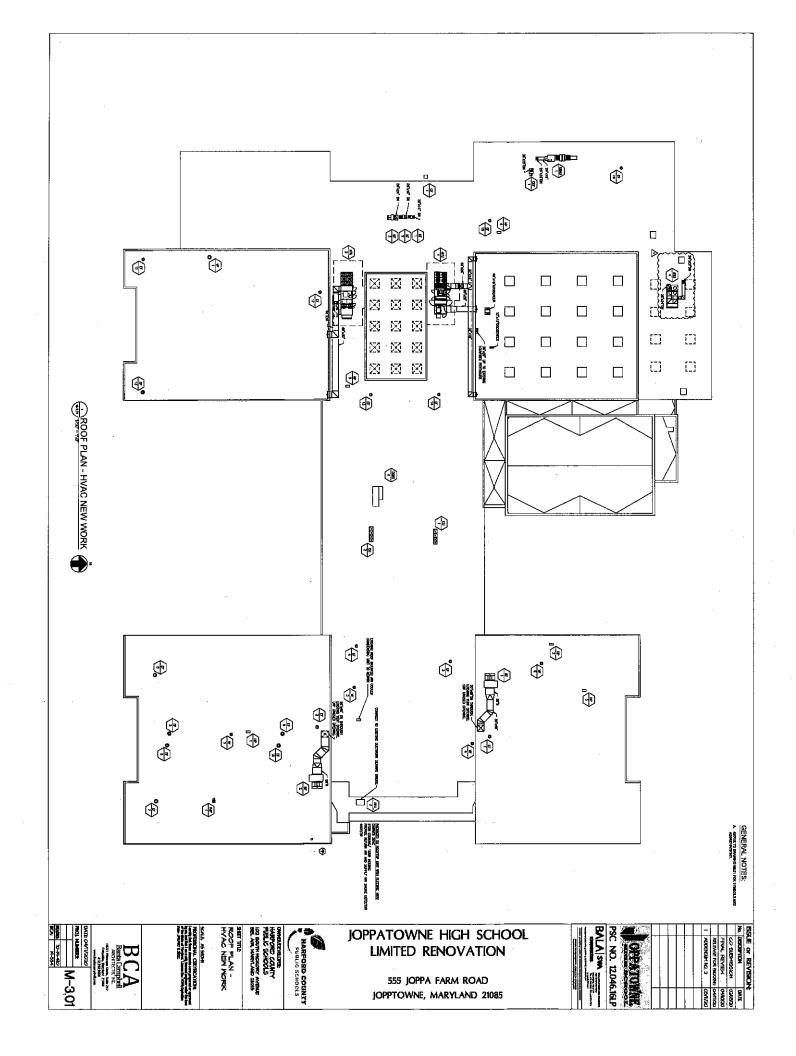


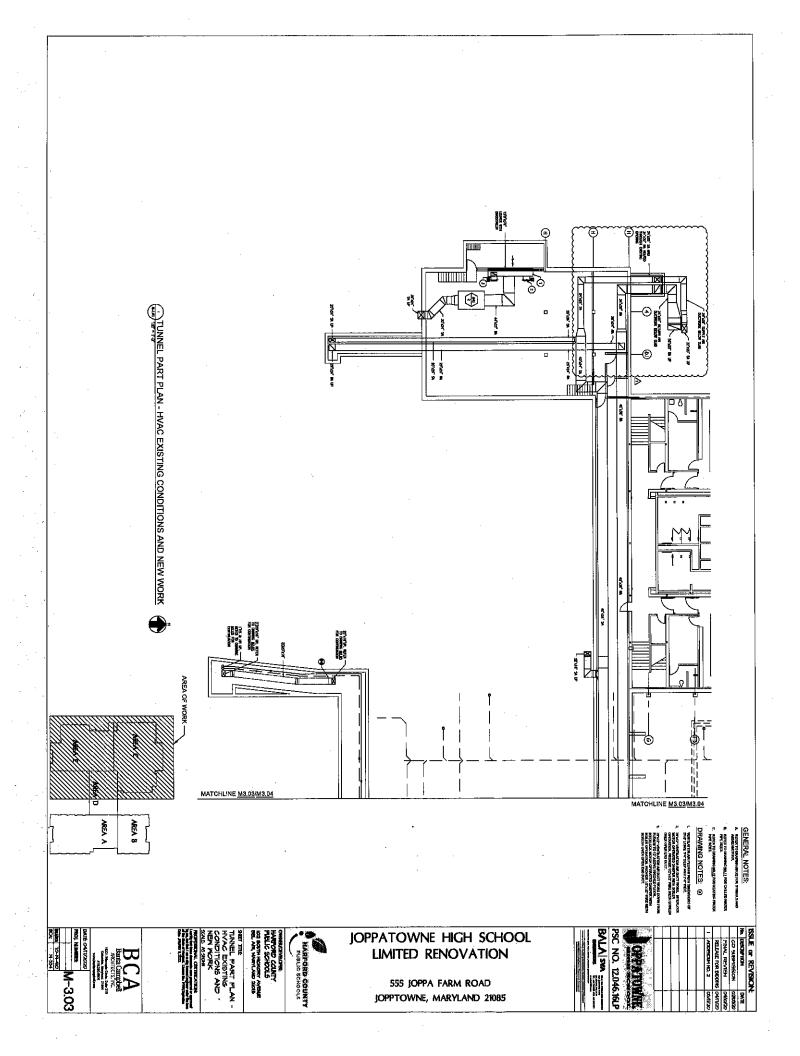


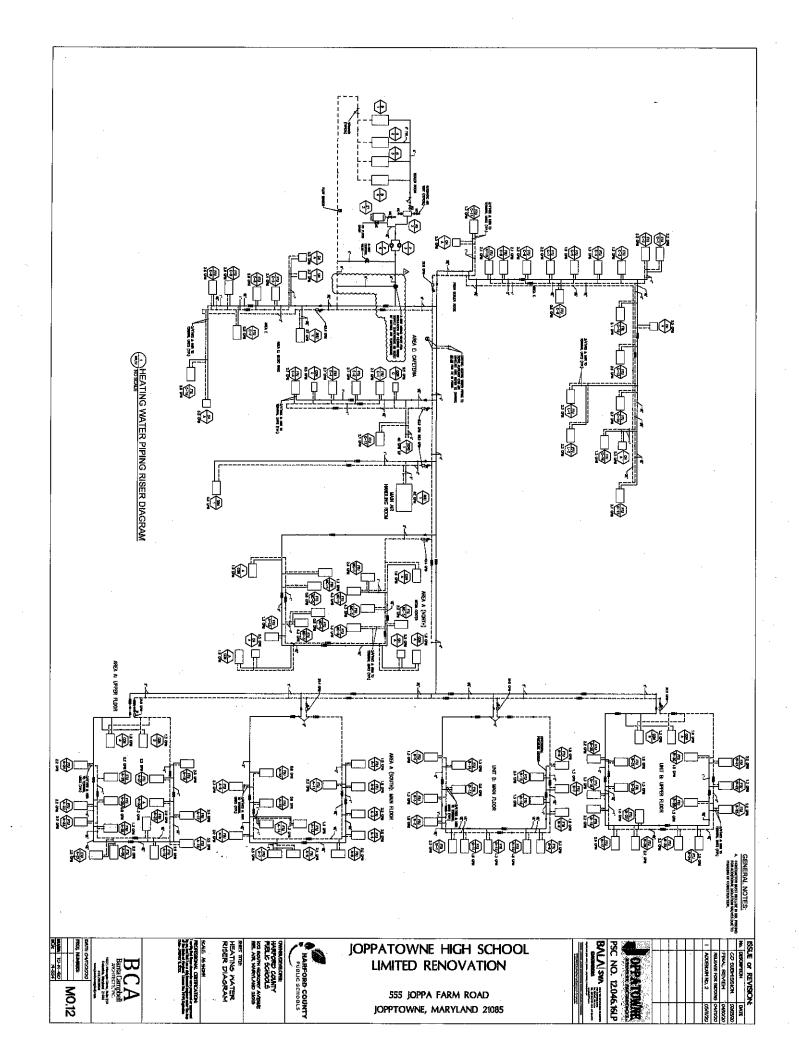












SERIES FLOW FAN POWERED CONSTANT AIR VOLUME TERMINAL UNIT WITH HYDRONIC HEAT SCHEDULE 36 NAME OF THE PERSON SAN NO. 35.0 2 250 Ē No.

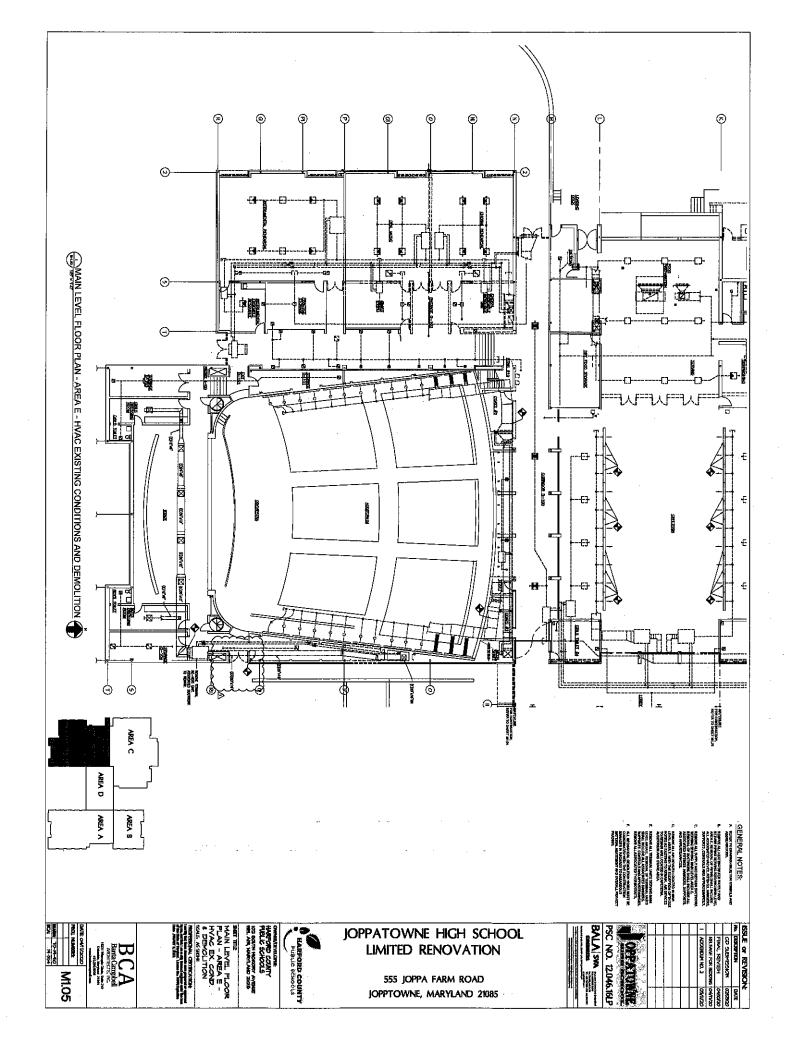


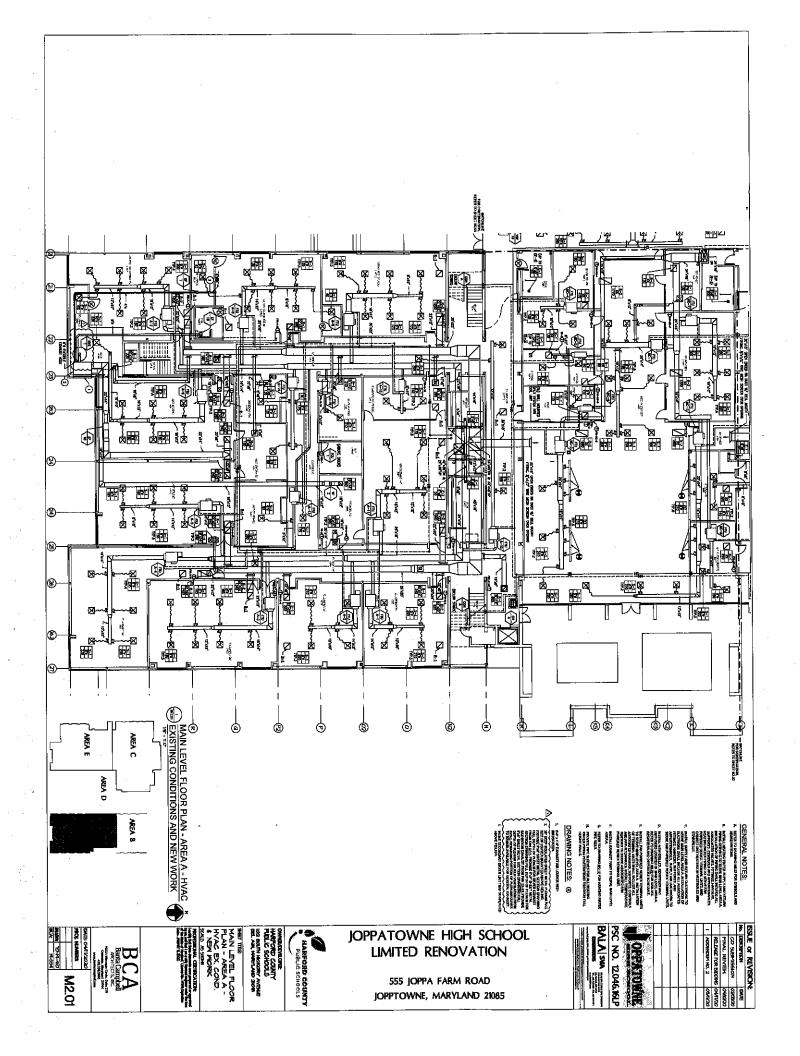


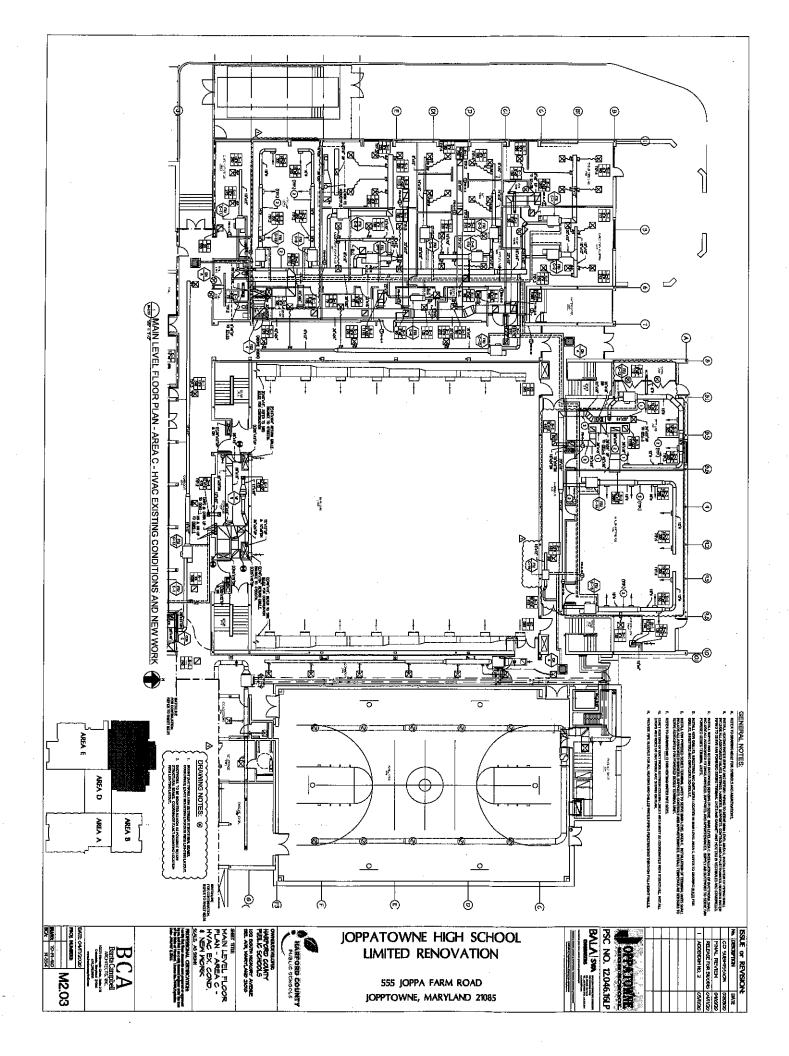
JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

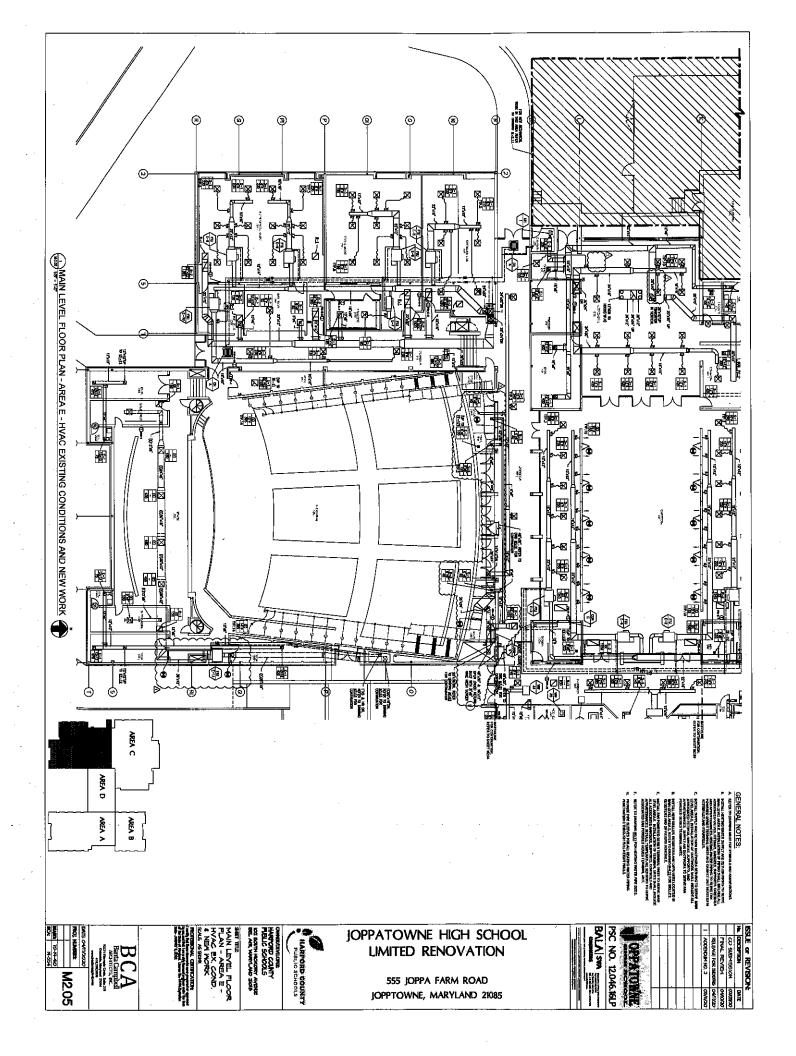
555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

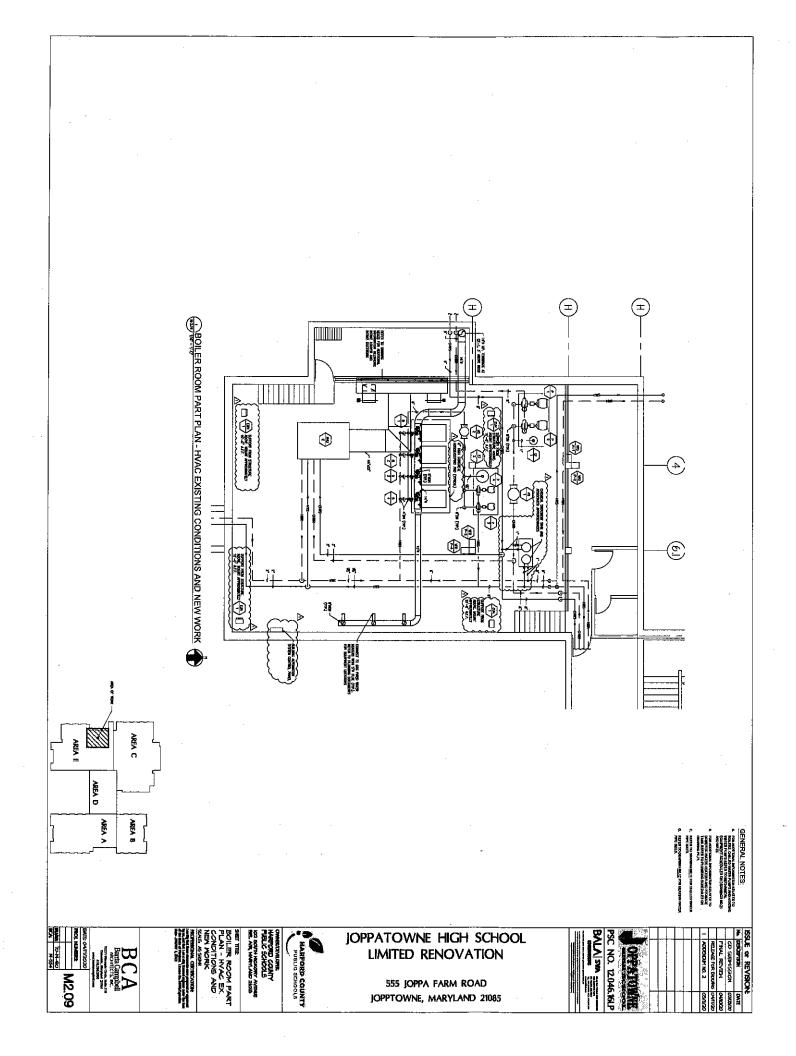
		_									-	
111	22 [3		П	Т	Т		-				7	
	LA SW	OFFEE					ADDENDIM NO. 2	RELEAGE FOR BIDDING	FINAL REVES	CD SUBMISSION	DESCRIPTION	
, , , , , , , , , , , , , , , , , , ,							02/11/20	02/11/90	DZ/OWO	02/22/20	DATE	

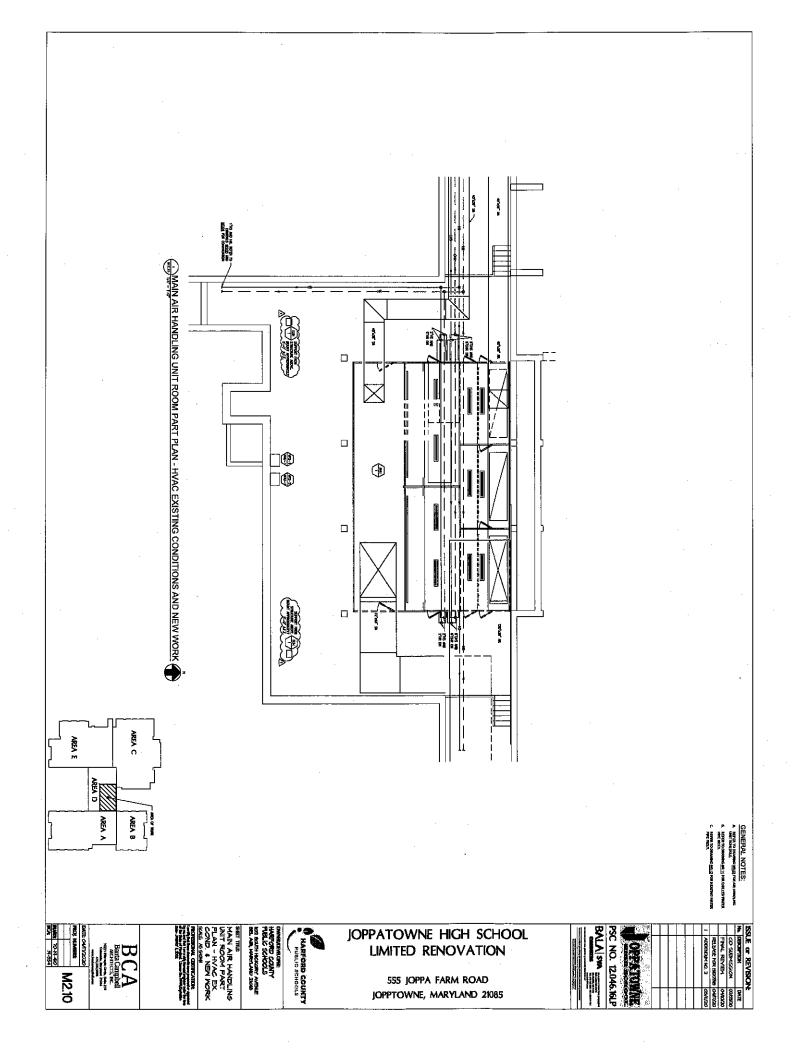


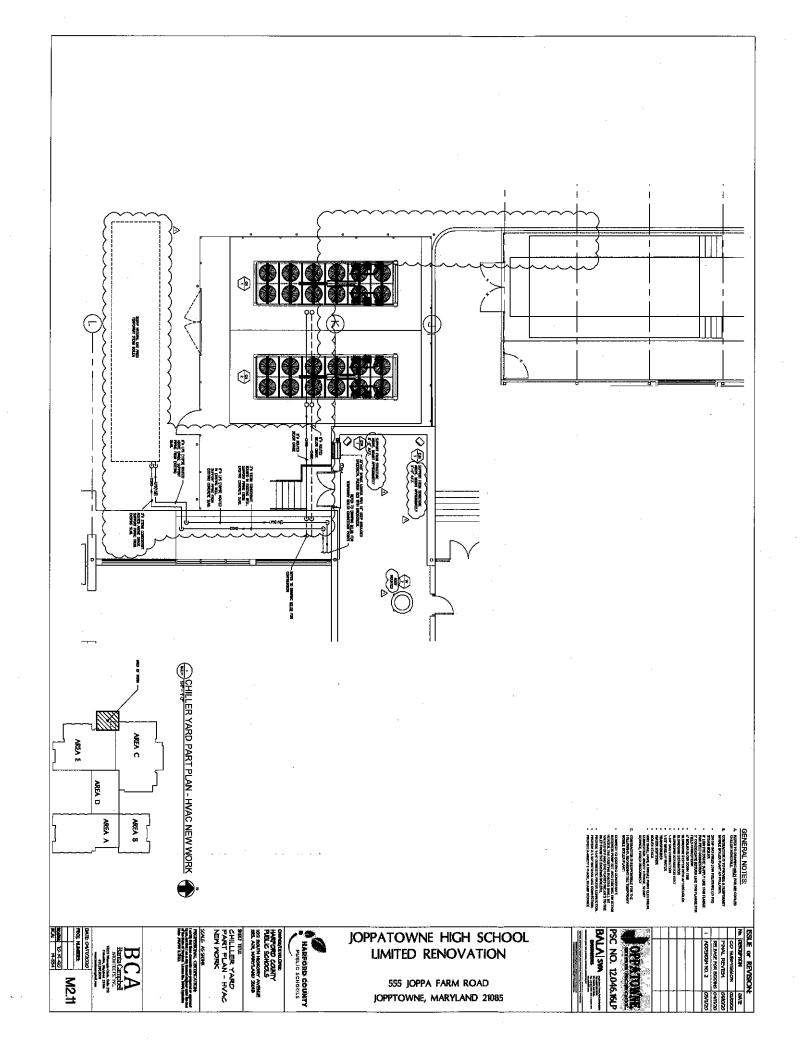


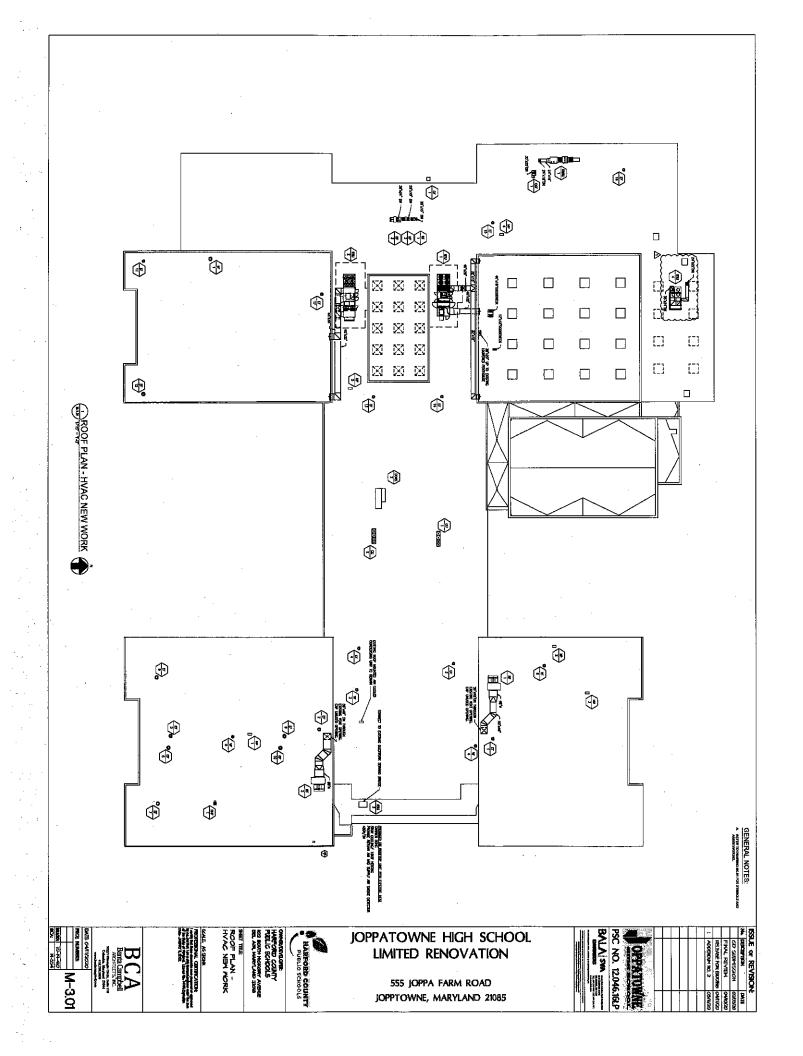


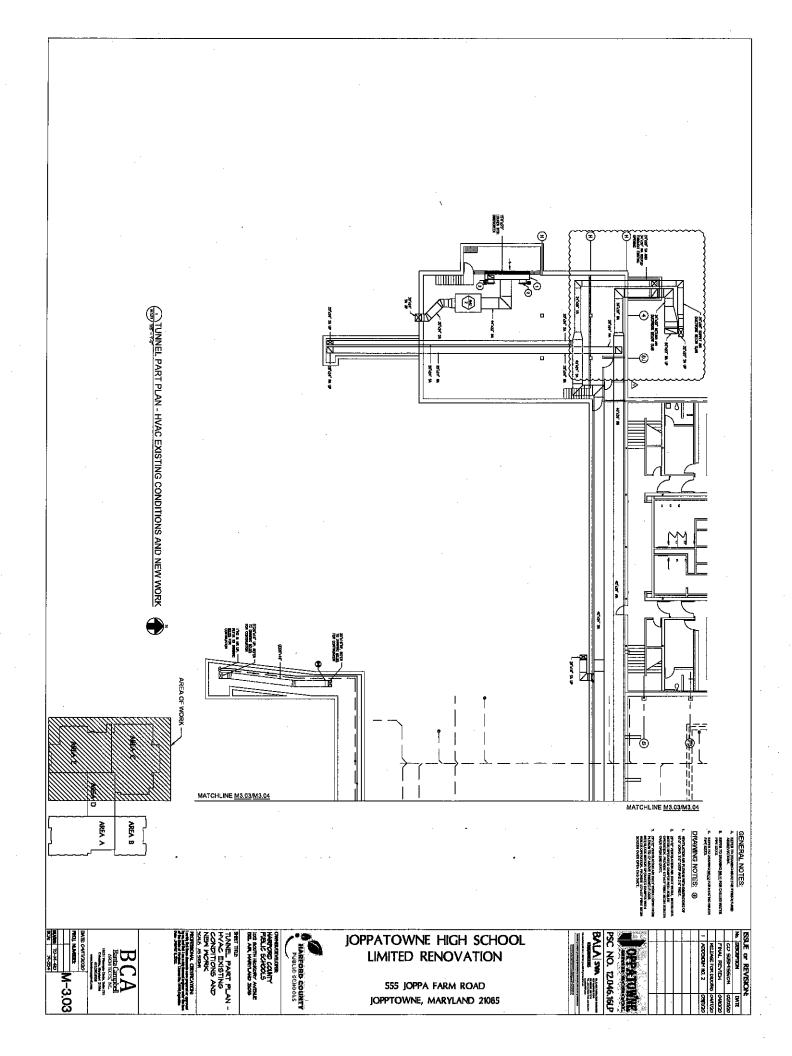


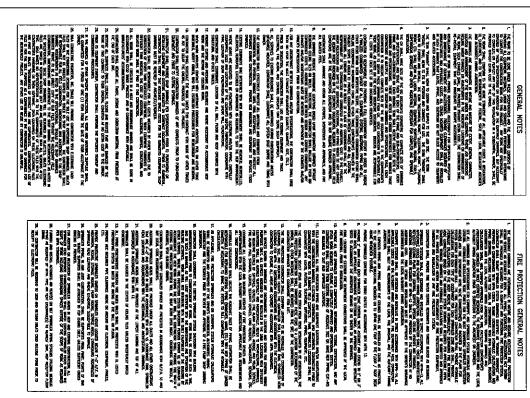


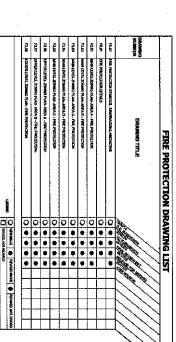


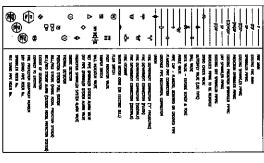












O concision action action to the concision action a

PIPE LOCATION NOTES

®	•	B Ø		#	***	99-	FIRE PRO
SHINGS FOR No.	COMPLET TO EXECUTED	THEFT SHITCH	CHANGE SCHOOL STATES OF CHECKING LAND. MATE, MATE	Published Are (free tast) Published Area (free tast)	MENCYLE ANNINCTIC OF MENCYCLE MENCYCLE CHORUNG ANNINCTIC MENCYCLE CHORUNG TO THE MENCYCLE	DECINO PRE MAI . STRONG PRE MAI . STRONG STRONG PRE	PROTECTION DEMO LEGEND

FIRE PROTECTION LEGEND

_					1		6	OH EC	CINCYN ION DINGS	5	Ь.	-
	ě	Ē	Omesica a sometimes a simulation	٠	S.		7		Ē	5	_	
_												
						ŕ	•	÷	•	•	o	STERS (EAST, STANKER PLAN - PREPARECTEM
_	Г	Ì'''''	\vdash	-	Н	۲	H				0	PERLEUEL ZINEKO PLASI, AREA SI-FIGE PROTECTION:
_			\vdash	├-	Н	Ť		-	·	-	0	PER LEYEL ZOMMO PLAN-ASSA A - PARE PRESECTION
_	Г			┢	Т	Ť	•	-	•	٠	0	ANTENET TEMBO SINE VINEY E - SHIP NASHEDINA
_	Г		H	-			•	Ť	•	•	o	UNIDERS TOWNS PLAN-AREAD - FIRE PROFESSION
				-	Ė	Ĥ			-	•	o	MAN TEACH STOMARY LAWS VISEY CO. HANG BANDESCHOOL
_	Г	Г	H		Н	ŕ	÷	÷	•	•	0	en LEVEL ZONANS PLANIANEA SI - FRE PROJECTION
_		T	H		\vdash	Ė	•			•	o	MAKENEL ZEMME PLAN-AMEA A- PME PROFESTION
_		-	H	┢	i	İ	•	Ť			0	RE PRINCESCINOL CRITALS
				-		ŕ					O	E PRITECTICA OYUMOOD, ASSEMBADOKS AND HOTEL
////	////	////	////		18 Ch 1	State of the state		3.00 V	The state of the s		à.	DRAWING TITLE
1	1	1	1	1	1	4	ᇉ	ត	불	ΙĘ	暑	FIRE PROTECTION DRAWING LIST
		ı			ı	١		ŀ	ľ			

JOPPATOW!	٧E	HIGH	SCHOOL
LIMITED	RE	NOVA	TION

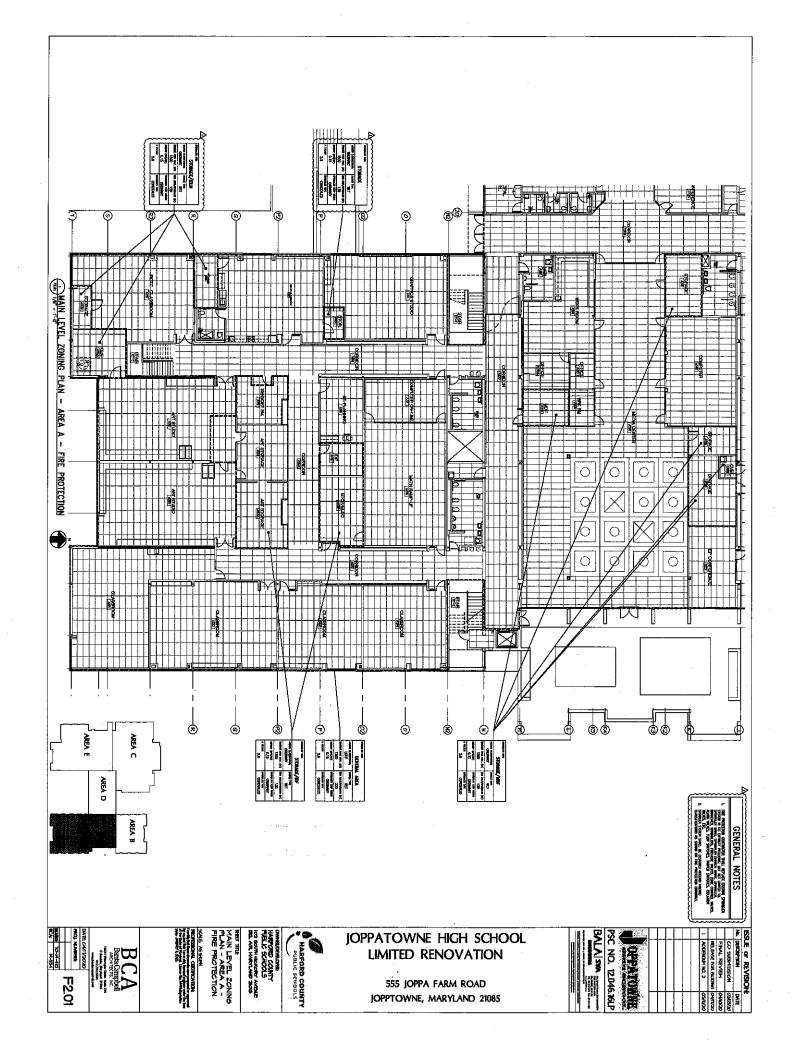
555 JOPPA FARM ROAD JOPPTOWNE, MARYLAND 21085

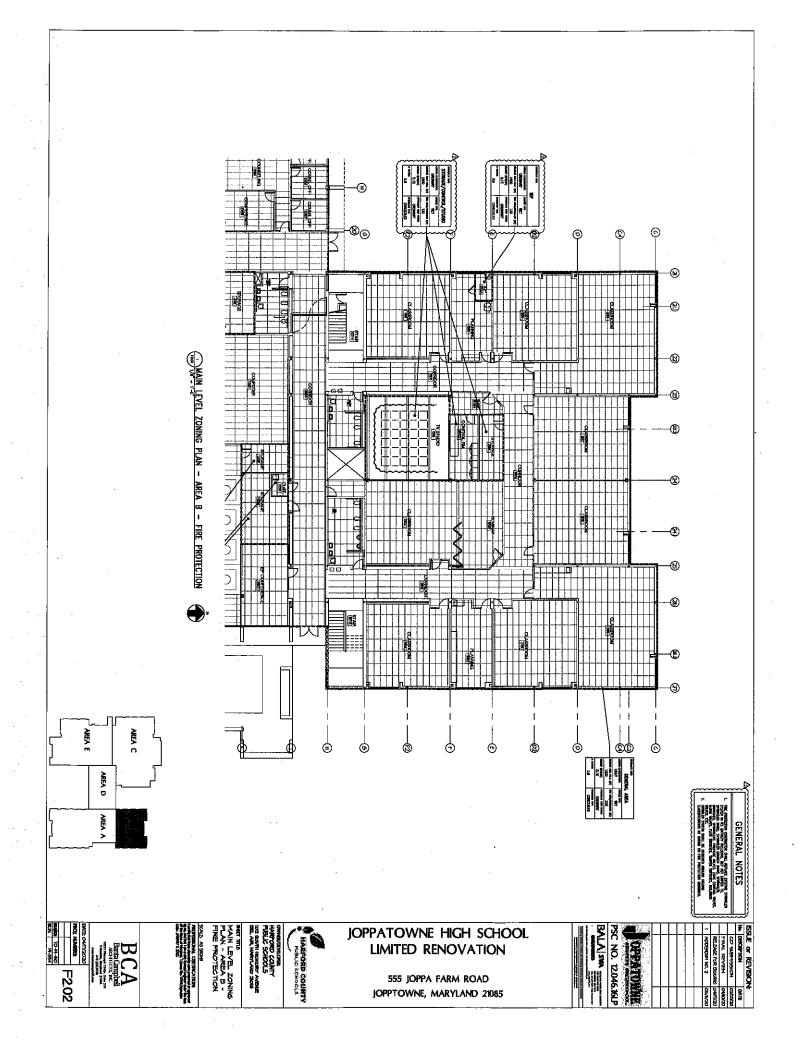


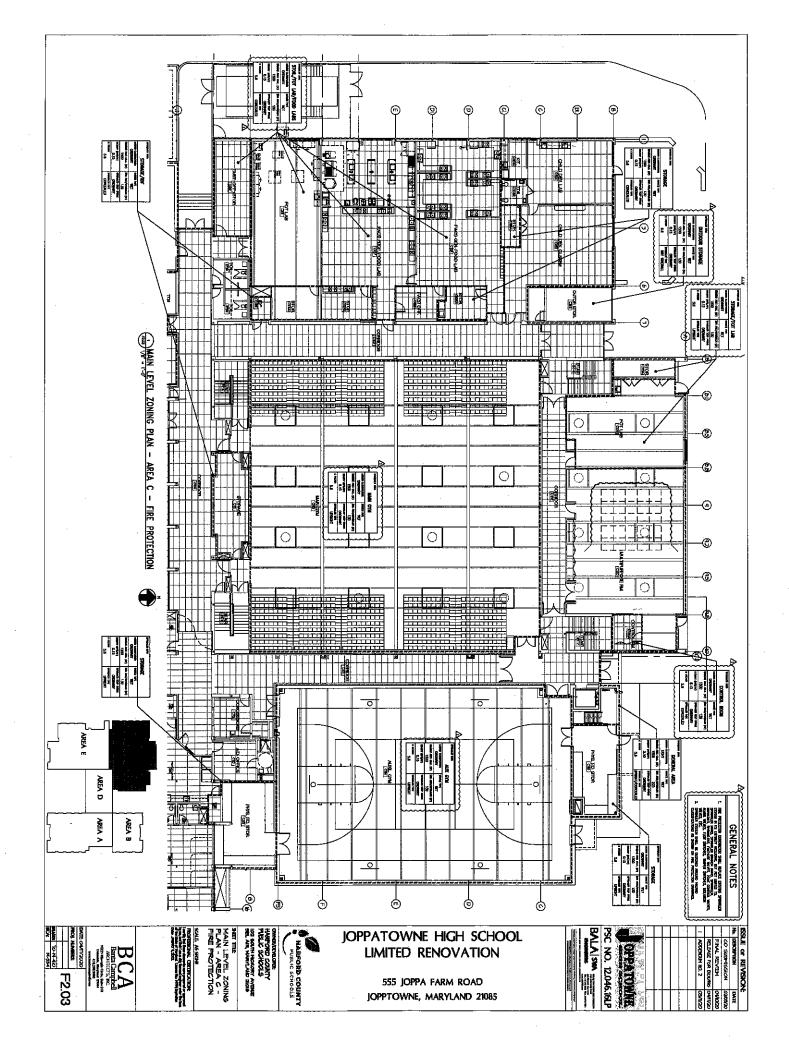
BCA
Barta Campbell
ACCHIECTS, No.
1921 Manual Cards, No. 278
Control, Sayabal Trial
Control

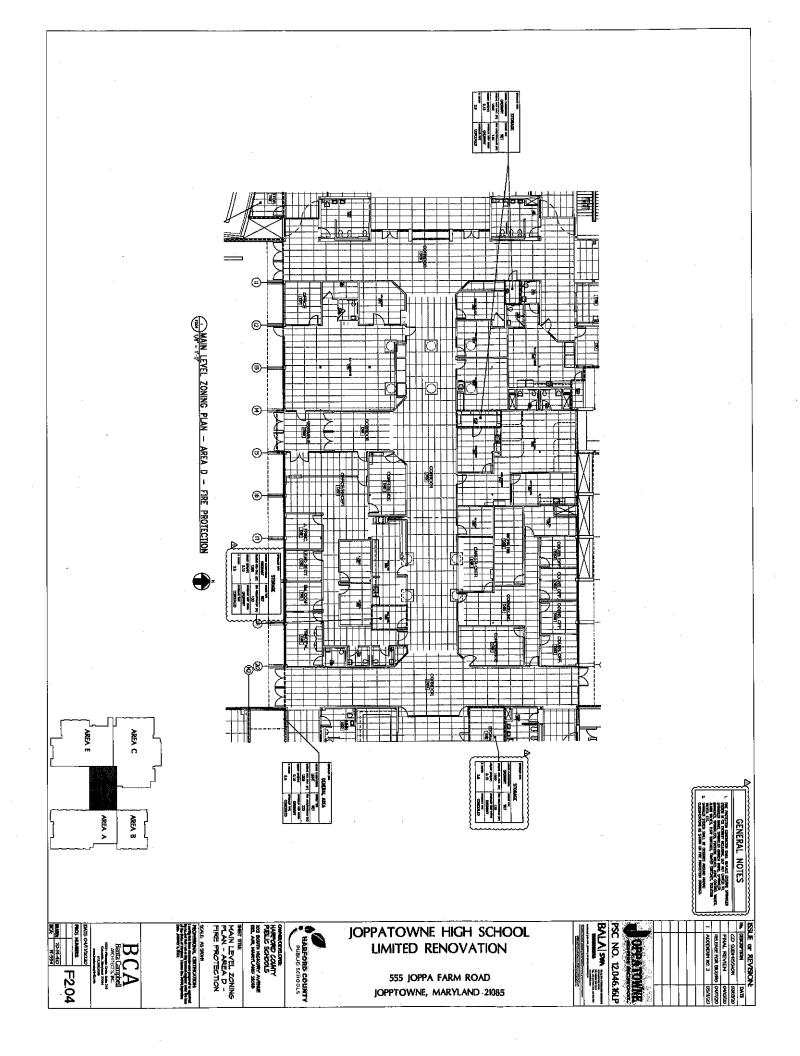
YMBOLS, ADBREVIATIONS AND E PROTECTION

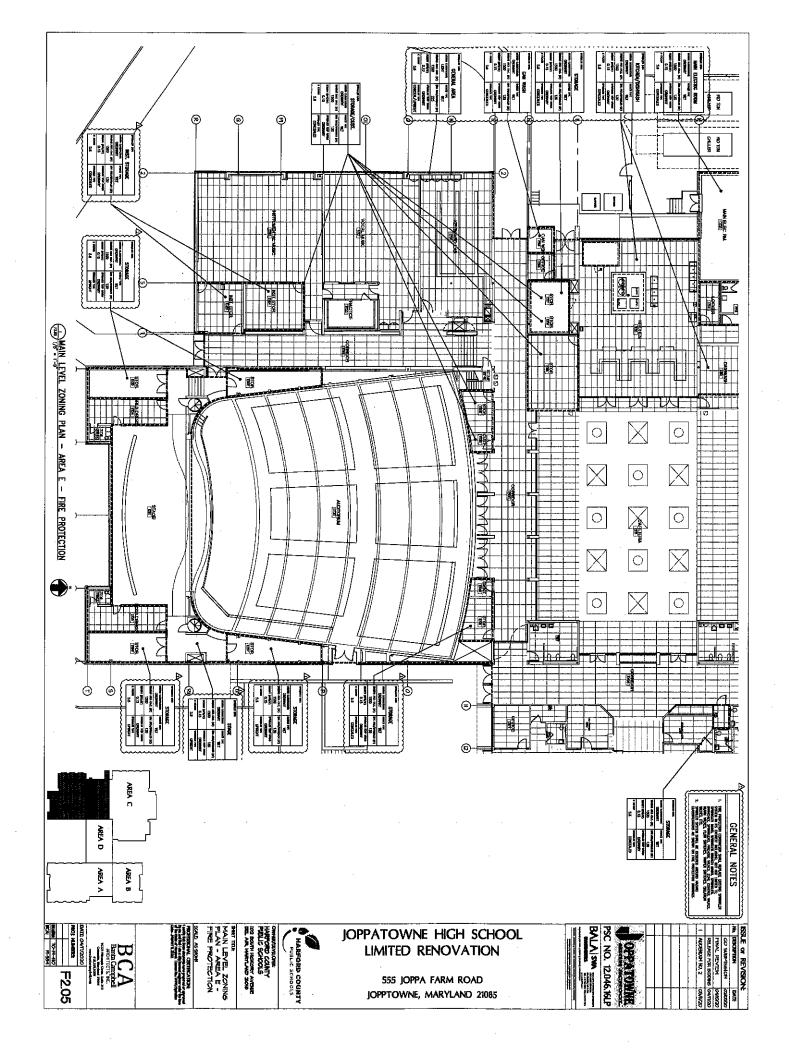
HARLORO CONILL CAMPRICACIONES OZ BOJIH HOKORY AYDU. BIL AJI, HARYLAND ZIOD

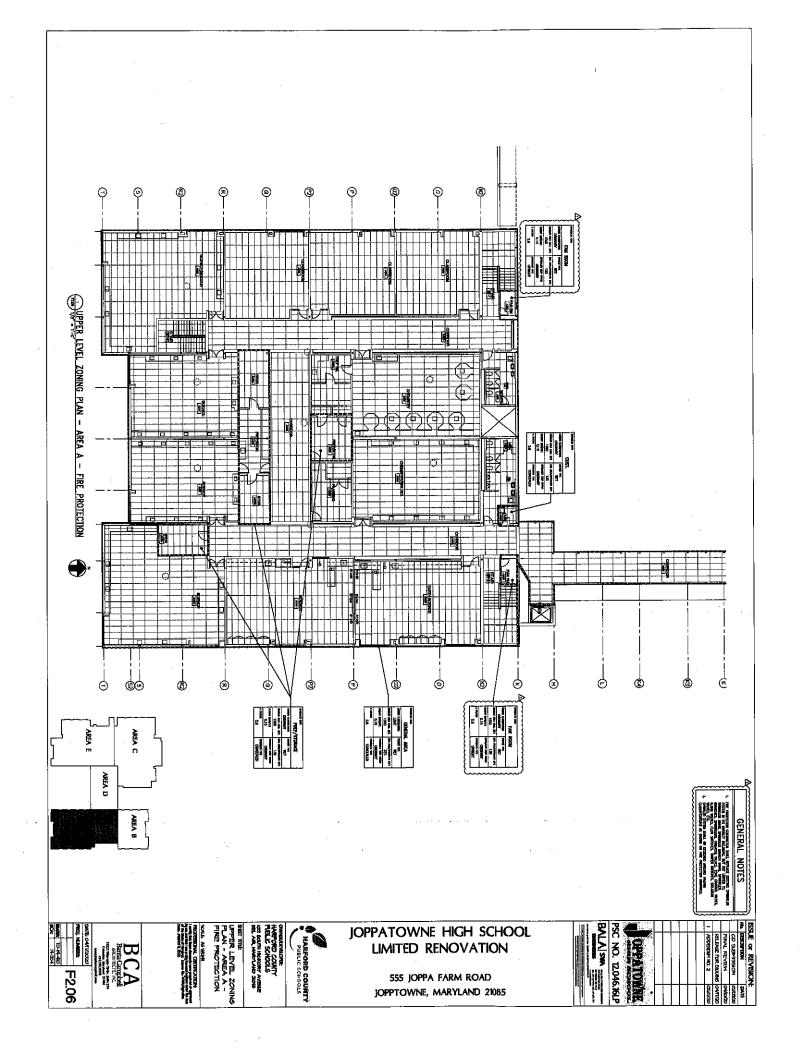


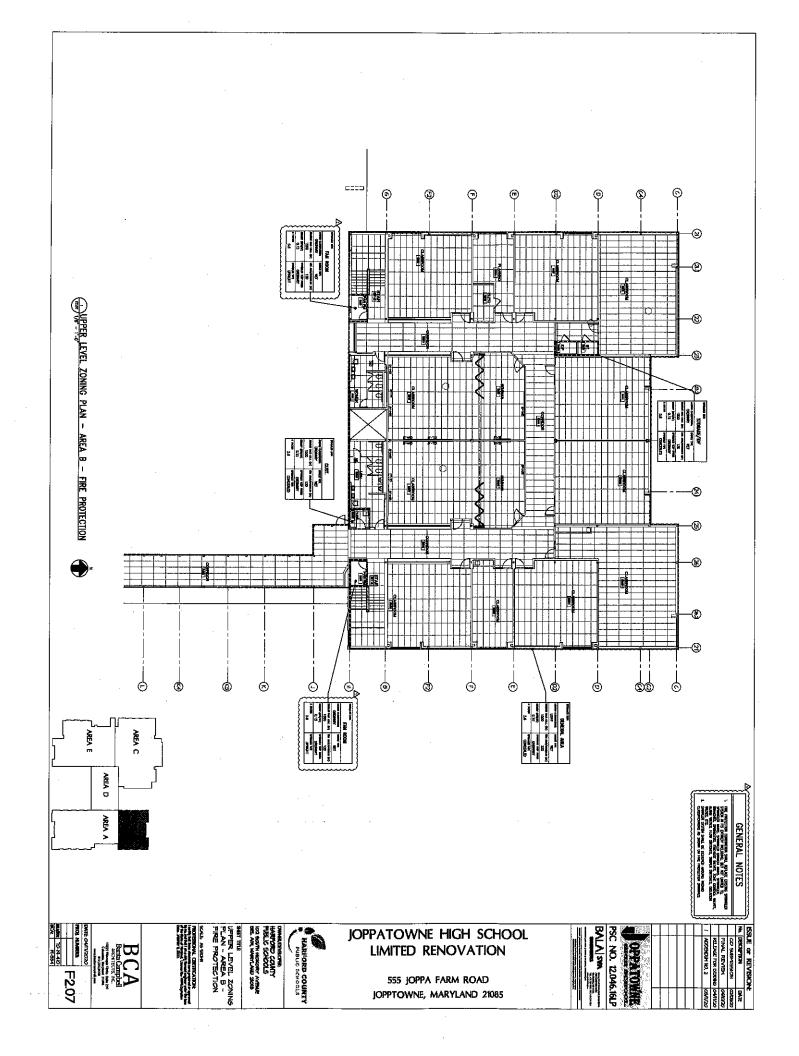


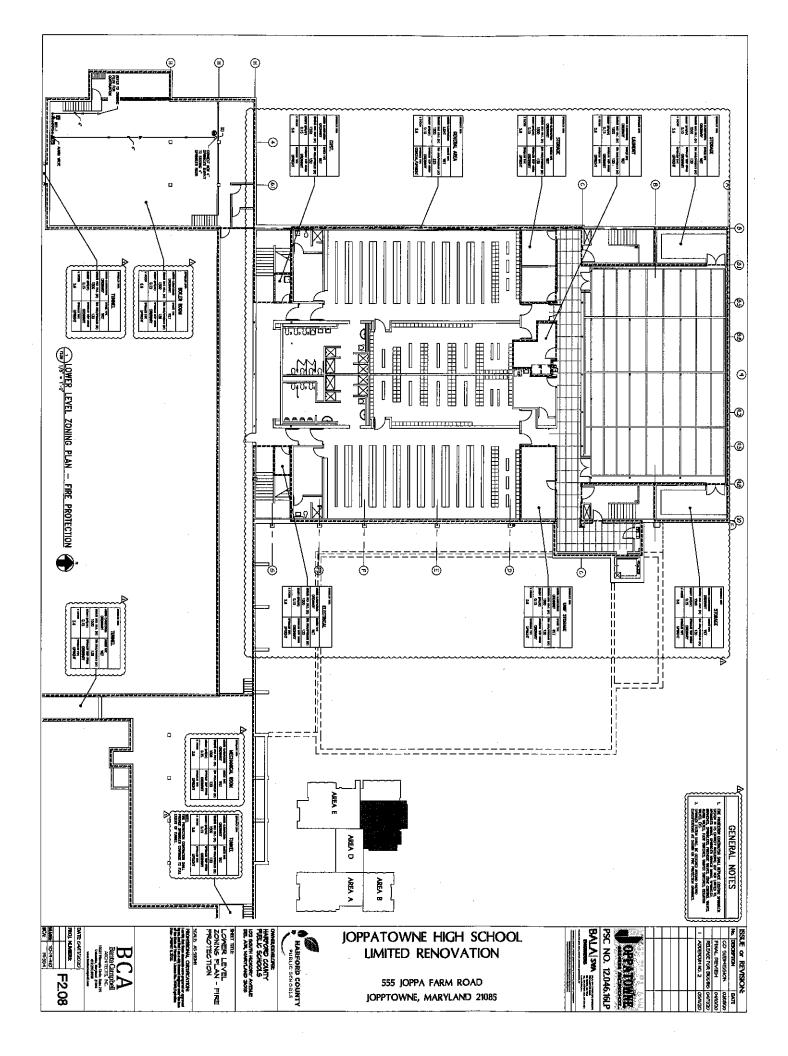












			,		
				·	
	•				
·					