



PURCHASING DEPARTMENT  
DIVISION OF BUDGET & FINANCE

100 West Washington Street, Room 3200 | Hagerstown, MD 21740-4748 | P: 240.313.2330 | F: 240.313.2331  
[www.washco-md.net](http://www.washco-md.net)

**PUR-1344**  
**ADDENDUM NO. 3**  
**INVITATION TO BID**

**HANCOCK LIBRARY**

**DATE: Wednesday, May 31, 2017**

**BIDS DUE: Wednesday, June 7, 2017**  
*(Revised date via Addendum No. 2) 2:00 P.M.*

To Bidders:

This Addendum is hereby made a part of the Contract Documents on which all bids will be based and is issued to correct and clarify the original documents.

Please acknowledge receipt of this Addendum at the appropriate space on the Proposal Form. This Addendum consists of five (5) pages and six (6) attachments.

**NOTE: All Bidders must enter the Washington County Administration Complex through either the front door at the 100 West Washington Street entrance or through the rear entrance (w/blue canopy roof) which is handicap accessible, and must use the elevator to access the Purchasing Department to submit their proposal and/or to attend the Pre-Proposal Conference. Alternate routes are controlled by a door access system. Washington County Government has announced new security protocols being implemented at the Washington County Administration Complex at 100 West Washington Street, Hagerstown. The new measures took effect Tuesday, February 14, 2017. The general public will be subject to wand search and will be required to remove any unauthorized items from the building prior to entry. Prohibited items include, but are not limited to: Weapons of any type; Firearms, ammunition and explosive devices; Cutting instruments of any type - including knives, scissors, box cutters, work tools, knitting needles, or anything with a cutting edge, etc.; Pepper spray, mace or any other chemical defense sprays; and Illegal substances.**

**ITEM NO. 1:** *Inquiry:* Different roof details on the architectural plans refer to 5/8" OSB sheathing and 5/8" sheathing at the roof. It is also refers you to the structural drawings. Sections A, B & C on S1.2 calls for 5/8" OSB and Timber Note # 6 on S0.0 calls for 5/8" CDX. Please clarify which we are to use.

*Response:* We consider either plywood or OSB to be adequate. The thickness shall be 5/8" minimum, and the plywood or OSB shall be rated for exterior use. Plywood or OSB panel faces shall be finished as required when used as substrate for roofing, adhere veneers, or other finishes. FOR EXAMPLE: Specification 07 54 19 Adhere Roofing 2.08 B indicates CDX (C side out) as substrate for roofing to be directly bonded to plywood.

Unless noted otherwise, the roof sheeting shall be 5/8" exterior grade OSB.

*(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)*

**ITEM NO. 2:** *Inquiry:* 1/A402: How does the 5/8" drywall edge get trimmed out where it meets up with the 3/4" x 3 1/2" shiplap douglas fir?

*Response:* Utilize painted, 1/2" x 1/2" flanged metal reveal drywall trim piece as manufactured by Fry Reglet, or equal.

**ITEM NO. 3:** *Inquiry:* Section 2/A304 does not show the steel beam wind girt which will cause a break in the stud framing. Please clarify the true framing condition we are to provide at this section.

*Response:* Wind girts are required to be continuous between columns at this location. The girt and wood blocking are depicted in Section 1 on Sheet A304. The girt and blocking shall be continuous from column to column between lines F, G, H, and I. See east elevation 2 sheet A201. (Note girts also required at glass area sills per structural drawings). Studs at "solid walls" between these column lines shall be framed to the girts as required. Revise Wall Section 2 on Sheet A304 to depict the steel girt and wood blocking similar to Wall Section 1.

**ITEM NO. 4:** *Inquiry:* Can the AISC Certification for the steel installer and erector be waived for this project? The steel scope is minimal in this project.

*Response:* Revise Contract Documents to **DELETE** requirement for AISC Certifications for steel installer and erector.

**ITEM NO. 5:** *Inquiry:* Confirm what lumber material in the structure (other than the equipment backer boards) is required to be fire retardant.

*Response:* No other wood lumber is required to be fire-treated.

**ITEM NO. 6:** *Inquiry:* Numerous sections on the structural plans state that the actual thickness of the 4" wood roof decking is 3 1/2". The 06 15 16 Wood Roof Decking specification refers to the actual thickness as 2 7/8". Please clarify

*Response:* 4-inch nominal thickness is required to span between the roof beams. 4-inch nominal thickness is considered to be 3 1/2-inch actual thickness as shown on the structural drawings.

Sheet S0.0, Structural Notes, Timber

**ADD 14)** Tongue & Groove Wood Decking shall have the following minimum material properties.

Bending Stress	1,200 psi
Modulus of Elasticity	1,400,000 psi

**ITEM NO. 7:** *Inquiry:* Detail 2/A304 shows the length of the east wall of as 2" x 6" framing. Plan S1.1 shows this wall as a 2" x 8". Please address.

*Response:* All wall framing at exterior walls at Col. Line '1' (and a portion of Col. Line 'B' and 'I') shall be 2x8 at 16" o.c. as indicated on structural drawings.

**ITEM NO. 8:** *Inquiry:* Where does the "flush wood paneling" in specification 06 40 23 to be installed in the project?

*Response:* "Flush wood paneling" is referring to the Douglas Fir, ship-lap, board walls.

**ITEM NO. 9:** *Inquiry:* The 18" x 24" supply duct shown on 3/A305 will not fit within the provided space based on the 9' - 0" ceiling height and the truss bearing elevation.

*Response:* An 18" deep duct does appear to fit.

**ITEM NO. 10:** *Inquiry:* Can we use Daycor Manufacturer for the hollow metal?

*Response:* Per the specifications, any manufacturer that can comply with the specifications is permitted.

**ITEM NO. 11:** *Inquiry:* No hardware set has been provided for door opening 113C.

*Response:* Provide Hardware Set same as specified for 113D.

**ITEM NO. 12:** *Inquiry:* Ceramic Tile Spec 09 31 00: 2.3.C calls for CT-2 Porcelain Stone Tile (wall tile) & CT-2A (wainscot top cap) to be located within Lobby 100. The Finish Schedule on A601 does not show this. Please clarify.

*Response:* **DELETE** reference to wall tile and cap, for use in lobby 100.

**ITEM NO. 13:** *Inquiry:* I am not able to print full size copies of the first two drawings from the set of documents that I received on disk from the Washington County Purchasing Department. These would be sheets CS-1 and CS-2. If possible, please reissue these drawings in a future addendum.

*Response:* Sheets CS-1 and CS-2 have been provided as a PDF attachment.

**ITEM NO. 14:** *Inquiry:* Building section 1 on drawing S3.0 shows (3) 1-3/4" x 20" LVLs between column lines A & B. These LVLs do not show up on the roof framing plan on S1.2. Please provide more detailed information on the location of these LVLs.

*Response:* Roof plan on S1.2 is correct.

Sheet S3.0, Section 1: **DELETE** "(3) 1¾"x20" LVL BEYOND" from between lines A & B.

**ITEM NO. 15:** **Drawing A501: Display Case-Section Detail '8':**

**DELETE** wood top note referencing Ash Wood. Add note: "Stained and sealed Douglas Fir cabinet, sides, back and top."

(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)

**ITEM NO. 16: Drawing E-3.1: Electrical Site Lighting Plan:**

Drawing E-3.1 (attached) has been revised at the request of the Power Company to re-route the main power from Funk Avenue to the back of the building, instead of placing a power meter on the front of the building and bringing power from an existing pole just off of Tonoloway Street. Notes have been added to the Drawing to detail those Changes. Contractor will dig trench and provide conduit from new power company pole to power meter at the back of the building. The Power Company will set the new pole, run wire overhead, and then underground through Contractor's Conduit and make connection to power meter.

**ITEM NO. 17: Drawing E-5.0: Electrical Power Riser and Schedules:**

Drawing E-5.0 (attached) has been revised to add/edit notes on the Electrical Power Riser to accommodate for the changes being made by re-routing the main power.

**ITEM NO. 18: Drawing C.3.0: Site Plan:**

Drawing C.3.0 (attached) has been revised at the request of the Power Company to re-route the main power from Funk Avenue to the back of the building, instead of placing a power meter on the front of the building and bringing power from an existing pole just off of Tonoloway Street. See item #16 above.

**ITEM NO. 19: Specification Section 07 54 19 – Adhered (PVC) Roofing:**

Specification section 07 54 19 (attached) has been revised.

**ITEM NO. 20: Inquiry:** The glass specs calls for “Windborne-Debris-Impact Resistant” glass, but laminated glass is not basis of design and aluminum system is not an impact system. Please confirm that glass does not need to be impact resistant.

*Response:* Windborne-Debris-Impact Resistant requirements will not be required.

**ITEM NO. 21: Inquiry:** Elevations A1, A2, A3 and A4 will need to change to a 2” x 6” storefront frame to meet the design load of 25 PSF, at the 12’-8” span. This being said, do you want all the frame changed to the same system?

*Response:* YKK aluminum storefront frames, model YES 60 TU (2”x6”) should be used for frame elevations A1, A2, A3 and A4, shown on drawing A602. The remaining storefront frames shall be as specified using the 2”x4 ½” mullions.

**ITEM NO. 22: Drawing S0.0: Structural Notes, Timber:**

Timber members exposed to weathering shall be preservative treated and/or sealed as required. Sealers for glue laminated or tongue-and-groove members shall be as recommended by the manufacturer. Provide sealer product data for review.

**ITEM NO. 23: Inquiry:** Will the owner be paying for the building permit?

*Response:* The building permit has been paid for and been issued.

**ITEM NO. 24:** *Inquiry:* Will an owner/architect office and toilet be required?

*Response:* Yes, these items are required. Refer to the construction document specification, section 01 50 00, Temporary Facilities and Controls.

**ITEM NO. 25:** *Inquiry:* Who owns the field testing of glass and aluminum frames, what testing is required?

*Response:* Specification 08 41 13, Quality Assurance 1.5, paragraph B to be **DELETED**. No field testing required.

**ITEM NO. 26:** *Inquiry:* Sheet A601 the door schedule doors 102, 103, 104, 105, 114A, 114B, and 117 show to be wood frames. Details H1 and J1 show hollow metal frames with wood trims. Can you please clarify if these are to be wood frames or hollow metal frames with wood trims?

*Response:* Provide hollow metal frames with wood trim as detailed.

**ITEM NO. 27:** *Inquiry:* 08- spec calls for high performance paint finish as well as clear anodized finish, please consider that there is a pricing difference that will offset numbers for the aluminum fenestration on this project.

Please confirm whether paint or anodized finish is intended on storefront.

*Response:* Specification 08 41 13, paragraph 2.3, A, 4. Finish: Shall be revised to read 'Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker', to match paragraph 2.8, A., ALUMINUM FINISHES.

**ITEM NO. 28:** *Inquiry:* Please clarify: Section 28 13 00 – Access Control and Sheet E4.1 reference a requirement for Genetec software, components, and Genetec certified installers. Sheet E4.1 also states that the access control equipment is not being installed at this time. Does this eliminate the requirement for a Genetec certified installer?

*Response:* Yes, since the equipment is not being installed at this time, a Genetec certified installer is not required.

BY AUTHORITY OF:



Karen R. Luther, CPPO  
Director of Purchasing

**ABBREVIATIONS**

ACT	ACOUSTICAL CEILING TILE	IN	INCH
A/C	AIR CONDITIONING	INSUL.	INSULATION
ADJ	ADJUSTABLE	INT.	INTERIOR
AFF	ABOVE FINISHED FLOOR	JAN.	JANITOR
		JT	JOINT
A.B.E.	ABOVE BENCHMARK ELEVATION	L	LENGTH
		LAV.	LAVATORY
A.H.U.	AIR HANDLING UNIT	L.H.	LEFT HAND
ALUM	ALUMINUM	MACH.	MACHINE
APPROX	APPROXIMATE	MAT'L	MATERIAL
ARCH	ARCHITECTURAL	MAX.	MAXIMUM
@	AT	M.E.	MATCH EXISTING
		MECH.	MECHANICAL
B.C.	BASE CABINET	MEP	MECHANICAL/ELECTRICAL/PLUMBING
BD.	BOARD		
BITUM.	BITUMINOUS		
BLDG.	BUILDING	MIN.	MINIMUM
BLK.	BLOCK	MISC.	MISCELLANEOUS
BLKD.	BULKHEAD	M.O.	MASONRY OPENING
BLKG.	BLOCKING	MTD	MOUNTED
		MTL	METAL
C	CENTER LINE		
C.B.	CHALK BOARD		
CL.	CLOSET	NO. OR #	NUMBER
CLG.	CEILING	NOM.	NOMINAL
CMU	CONCRETE MASONRY UNIT	N.I.C.	NOT IN CONTRACT
COL	COLUMN	NSF	NET SQUARE FEET
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CONT.	CONTINUOUS		
C.J.	CONTROL JOINT	O.C.	ON CENTER
CPT.	CARPET	OPNG.	OPENING
C.T.	CERAMIC TILE		
D.	DEEP	P-LAM	PLASTIC LAMINATE
DEMO	DEMOLITION	PLYWD	PLYWOOD
D.F.	DRINKING FOUNTAIN	P.T.	PORCELAIN TILE
		PTD.	PAINTED
DIM.	DIMENSION		
DN.	DOWN	REF.	REFRIDGERATOR
DTL	DETAIL	REQ'D	REQUIRED
DIA	DIAMETER	R.H.	RIGHT HAND
DS	DOWN SPOUT	RM	ROOM
DWG.	DRAWING		
E.J.	EXPANSION JOINT	SF	SQUARE FEET
EL.	ELEVATOR	S.G.T.	STRUCTURAL GLAZED TILE
ELEC.	ELECTRICAL	SHT.	SHEET
ELEV.	ELEVATION	SIM.	SIMILAR
ETC	ETCETERA	S.O.G.	SLAB ON GRADE
E.T.R.	EXISTING TO REMAIN	SNT.	SEALANT
EQUIP.	EQUIPMENT	SPEC.	SPECIFICATION
EXIST.	EXISTING	STD.	STANDARD
EXT	EXTERIOR	STL.	STEEL
		S.S.	STAINLESS STEEL
F.E.C.	FIRE EXTINGUISHER CABINET	STOR.	STORAGE
		STRUCT.	STRUCTURE
F.D.	FLOOR DRAIN	SQ.	SQUARE
F.F.E.	FINISH FLOOR ELEVATION	SUSP.	SUSPENDED
		T & G	TONGUE & GROOVE
FIN	FINISH	TEMP	TEMPORARY
FL. OR	FLOOR	TH.	THICK
FLR.		T.O.S.	TOP OF SLAB
FOM	FACE OF MASONRY	T.O.J.	TOP OF JOIST
FT	FOOT, FEET	TLT.	TOILET
F.V.W.A.	FIELD VERIFY WITH ARCHITECT	TYP.	TYPICAL
		U.N.O.	UNLESS NOTED OTHERWISE
GA	GAUGE		
GALV	GALVANIZED		
GYP. BD.	GYSUM BOARD	V.C.T.	VINYL COMPOSITION TILE
GSF	GROSS SQUARE FEET		
GWB	GYSUM WALL BOARD	VERT.	VERTICAL
		V.I.F.	VERIFY IN FIELD
GT	GLAZING TYPE	V.I.F.W.A.	VERIFY IN FIELD WITH ARCHITECT
H OR HT	HEIGHT		
HC	HANDICAPPED	W/	WITH
H.M.	HOLLOW METAL	W.	WIDTH
HORIZ.	HORIZONTAL	W.B.	WALL BOARD
HR	HOUR	W.C.	WATER CLOSET
HVAC	HEATING/VENTILATION, AIR CONDITIONING	WD.	WOOD
		W/O	WITHOUT
		WRB	WATER RESISTANT BARRIER

# NEW CONSTRUCTION FOR HANCOCK FREE LIBRARY

## A BRANCH OF WASHINGTON COUNTY FREE LIBRARY

220 PARK ROAD  
HANCOCK, MARYLAND

BID DOCUMENTS  
4/17/2017

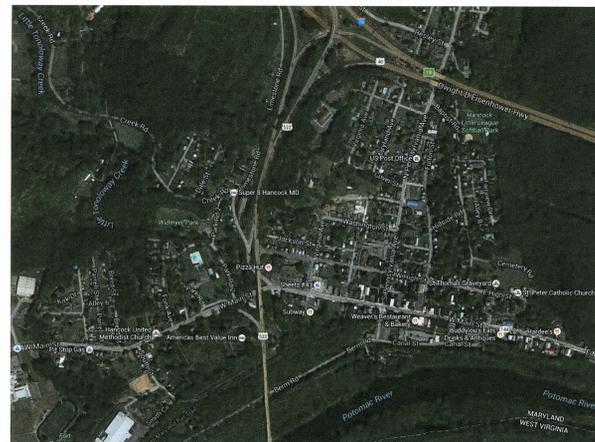
**ARCHITECT**  
MURPHY & DITTENHAFFER ARCHITECTS  
805 N. CHARLES STREET  
BALTIMORE, MARYLAND 21201  
TEL. 410.625.4823

**CIVIL ENGINEER**  
TRIAD ENGINEERING, INC.  
1075 D SHERMAN AVENUE  
HAGERSTOWN, MARYLAND 21740  
TEL. 301.797.6400

**STRUCTURAL ENGINEER**  
MATONAK SNYDER & ASSOCIATES  
931-B SWEENEY DRIVE  
HAGERSTOWN, MARYLAND 21740  
TEL. 301.790.0111

**MEP ENGINEER**  
L.S. GRIM CONSULTING ENGINEERS  
19922 JEFFERSON BOULEVARD  
HAGERSTOWN, MARYLAND 21742  
TEL. 301.797.1702

**VICINITY MAP**



**LOCATION MAP**



**SHEET LIST**

GENERAL		STRUCTURAL	
CS-1	COVER SHEET	S0.0	STRUCTURAL NOTES
CS-2	CODE SUMMARY & EGRESS PLAN	S1.0	FOUNDATION PLAN & DETAILS
		S1.1	WALL FRAMING PLAN & DETAILS
		S1.2	ROOF FRAMING PLAN & DETAILS
CIVIL	COVER SHEET	S3.0	BUILDING SECTIONS
C1.0	NOTES & LEGENDS	S3.1	SECTIONS & FRAMING DETAILS
C1.1	EXISTING CONDITIONS PLAN		
C2.0	SOIL BORING LOGS		
C2.1	SITE PLAN		
C3.0	SITE PLAN DETAILS & NOTES		
C3.1	SOIL EROSION & SEDIMENT CONTROL PLAN & GRADING PLAN	M0.0	MECHANICAL COVER SHEET
C4.0		M0.1	MECHANICAL DETAIL SHEET
		M1.1	MECHANICAL PLAN
C4.1	SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS	M1.2	MECHANICAL ROOM PART PLAN
C5.0	STORMWATER MANAGEMENT - MICRO BIORETENTION PLAN	M2.0	MECHANICAL SCHEDULE SHEET
C5.1	STORMWATER MANAGEMENT NOTES & DETAILS		
C6.0	UTILITY PLAN & PROFILE		
C6.1	UTILITY PLAN		
ARCHITECTURAL		MECHANICAL	
A101	FIRST FLOOR PLAN		
A102	REFLECTED CEILING PLAN		
A103	ROOF PLAN		
A201	BUILDING ELEVATIONS		
A301	BUILDING SECTIONS		
A302	NOT USED		
A303	WALL SECTIONS		
A304	WALL SECTIONS		
A305	WALL SECTIONS		
A401	ENLARGED PLANS/INTERIOR ELEVATIONS		
A402	ENLARGED PLANS/INTERIOR ELEVATIONS		
A501	DETAILS		
A502	DETAILS		
A503	DETAILS		
A504	DETAILS		
A601	ROOF FINISH & DOOR SCHEDULES		
A602	GLAZING ELEVATIONS		
A603	GLAZING ELEVATIONS & DETAILS		
A801	FURNITURE PLAN (REFERENCE ONLY)		
A802	FLOOR FINISH PLAN		
		PLUMBING	
		P0.0	PLUMBING COVER/SCHEDULE SHEET
		P0.1	PLUMBING STANDARD DETAILS
		P1.1	PLUMBING SANITARY PLAN
		P1.2	PLUMBING WATER PLAN
		ELECTRICAL	
		E0.0	ELECTRICAL COVER SHEET
		E0.1	ELECTRICAL STANDARD DETAILS
		E1.1	ELECTRICAL POWER PLAN
		E1.2	MECH. ROOM POWER PART PLAN
		E1.3	ELECTRICAL LIGHTING PLAN
		E2.1	FIRE PROTECTION PLAN
		E3.1	ELECTRICAL SITE LIGHTING PLAN
		E4.1	SECURITY & DATA PLAN
		E5.0	ELECTRICAL POWER RISER & SCHEDULES

**SYMBOLS**



**ARCHITECTS STAMP**

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NUMBER  
6607

EXPIRATION DATE  
06-13-2017

NEW CONSTRUCTION OF  
**HANCOCK FREE LIBRARY**  
220 PARK ROAD HANCOCK, MARYLAND

*Murphy & Dittenhafer*  
**A R C H I T E C T S**  
805 North Charles Street, Baltimore, Maryland 21201  
410-625-4823 voice • 410-625-4874 fax

Mark	Date	Description
1	5/20/2016	SCHEMATIC DESIGN SUBMISSION
2	8/04/2016	30% DESIGN DEVELOPMENT SUBMISSION
3	11/18/2016	60% CONSTRUCTION DOCUMENTS
4	03/03/2017	FOR BUILDING PERMIT SUBMISSION
5	03/03/2017	100% CONSTRUCTION DOCUMENTS
6	04/17/2017	BID DOCUMENTS



PROJECT NO: 14125  
DRAWN BY: DLR  
CHECKED BY: TRG

COVER SHEET

SHEET  
**CS-1**

CODE COMPLIANCE SUMMARY – HANCOCK LIBRARY, HANCOCK, WASHINGTON COUNTY, MARYLAND

APPLICABLE CODES:

CODE OF MARYLAND	(COMAR 05.02.07)
MARYLAND ACCESSIBILITY CODE	
2015 INTERNATIONAL BUILDING CODE	(2015 IBC)
2009 ACCESSIBLE & USEABLE BUILDINGS & FACILITIES (ICC A117.1 – 09)	
2015 INTERNATIONAL ENERGY CONSERVATION CODE (2015 IECC)	
2015 INTERNATIONAL PLUMBING CODE (2015 IPC)	
2015 INTERNATIONAL MECHANICAL CODE (2015 IMC)	
2014 NATIONAL ELECTRIC CODE (2014 NEC)	
2012 INTERNATIONAL CODE COUNCIL (2012 ICC A117.1)	
2012 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 1 & 101)	
2010 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 13 & 72)	

PROJECT INFORMATION:

SCOPE: NEW BRANCH LIBRARY WITH BUILDING CONSISTING OF GLUE-LAMINATED WOOD POSTS/FRAMES AND PRE-ENGINEERED WOOD TRUSSES, WOOD STUD EXTERIOR WALLS WITH SHEATHING, ADHERED STONE MASONRY VENEER AND COMPOSITE SIDING. INTERIOR NON-BEARING WOOD FRAMED STUD PARTITIONS WITH GYPSUM BOARD FINISH.

FLOOR AREA: 8,134 GSF A-3 ASSEMBLY

- THE BUILDING IS A SINGLE-STORY WOOD-FRAMED STRUCTURE OF TYPE VB COMBUSTIBLE - UNPROTECTED CONSTRUCTION
- NO SPRINKLER SYSTEM (NOT REQ'D PER IBC 903.2.1)

- OCCUPANCY CLASSIFICATION**
  - USE GROUP: A-3 ASSEMBLY-LIBRARY (IBC 303.4/ NFPA 6.1.2, CHPT 12)
- HEIGHT & AREA LIMITATIONS FOR TYPE VB CONSTRUCTION**
  - A-3 = 1 STORY – 40 FEET MAX. HEIGHT / 6,000 SF PER FLOOR (IBC TABLES 504.3, 504.4, 506.2/ NFPA TABLE 12.1.6)
  - AREA MODIFICATION: 6,000 SF X 75% = 10,500 SF MAX. ALLOWED FOR FRONTAGE INCREASE (IBC 506.3)
- CONSTRUCTION CLASSIFICATION**
  - VB COMBUSTIBLE UNPROTECTED (IBC 602.5/ NFPA 220)
- FIRE RESISTANCE REQUIREMENTS**
  - IBC TABLES 601, 602 & 1020.1/ NFPS 220) FIRE RATING REQUIRED AND PROVIDED
    - FLOOR CONSTRUCTION- 0 HOURS
    - ROOF CONSTRUCTION- 0 HOURS
    - STRUCTURAL FRAME- 0 HOURS
    - EXTERIOR LOAD BEARING- 0 HOURS
    - INTERIOR LOAD BEARING- 0 HOURS
    - NONBEARING WALLS- 0 HOURS
    - CORRIDORS (>30 OCCUP) 1 HOUR
  - EXTERIOR WALL SEPARATION DISTANCE
    - IBC TABLE 602
    - GREATER THAN 30 FEET PROVIDED: 0 HOURS
- OCCUPANCY SEPARATION - IBC TABLES 508.4 & 509**
  - NO SEPARATION REQUIREMENTS
  - NO INCIDENTAL USES
- OCCUPANCY LOAD (IBC TABLE 1004.1.2/ NFPA 7.3.1.2) REF. CODE EGRESS PLAN FOR CALCULATED OCCUPANT LOADS**
  - READING AREAS 50 NSF/PERSON
  - STACK AREAS 100 GSF/ PERSON
  - COMMUNITY ROOM 7 NSF/ PERSON
  - STAFF AREA/CIRCULATION 100 GSF/ PERSON
  - MECHANICAL/STORAGE 300 GSF/ PERSON
  - BUSINESS 100 GSF/PERSON
- EGRESS CAPACITY**
  - OTHER EGRESS COMPONENTS: 0.2" PER OCCUPANT
  - MINIMUM CORRIDOR WIDTH = 44" (IBC TABLES 1005.3.2, 1020.2/ NFPA TABLE 12.2.3.2)
  - SEE BUILDING CODE FLOOR PLAN FOR OCCUPANT LOAD AND EGRESS DOOR CAPACITY.
- EXIT AND EXIT ACCESS DOORWAYS**
  - TWO EXITS WILL BE PROVIDED FROM ANY SPACE WITH AN OCCUPANT LOAD GREATER THAN 49 (IBC TABLE 1006.3.2(2))
  - TRAVEL DISTANCE BETWEEN EXITS - IBC 1007.1.1
    - PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE-HALF DISTANCE OF THE MAXIMUM OVERALL DIAGONAL OF BUILDING DIMENSION.
- TRAVEL DISTANCE**
  - LENGTH OF EXIT TRAVEL (IBC TABLE 1017.2/ NFPA 12.2.6.2)
    - 200 FEET
  - DEAD END CORRIDORS (IBC 1020.4/ NFPA 12.2.5.1.3)
    - 20 FEET MAX.
  - COMMON PATH OF EGRESS (IBC TABLE 1006.3.2(2))/ NFPA 12.2.5.1.2)
    - 75 FEET MAX.
- ACCESSIBILITY**
  - AT LEAST 60% OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE. (IBC 1105.1)
  - ACCESSIBLE FAMILY OR ASSISTED-USE UNISEX TOILET REQUIRED WHERE AN AGGREGATE OF SIX OR MORE MALE AND FEMALE WATERCLOSETS IS REQUIRED FOR ASSEMBLY OCCUPANCY. (IBC 1109.2.1)
  - SIGNAGE: SIGNAGE SHALL BE PROVIDED AT ACCESSIBLE PARKING SPACES, ACCESSIBLE PASSENGER LOADING ZONES, ACCESSIBLE ENTRANCE AND NON-ACCESSIBLE ENTRANCE, EXIT DOORS, TOILET ROOMS (IBC 1111.1).
- PORTABLE FIRE EXTINGUISHERS - (IBC TABLE 906.3(1)/NFPA 10**
  - MIN. SIZE 2A:10 B-C REQUIRED PER 6,000 SF OF FLOOR (MAX. 11,250 SF PER FLOOR AREA) AND NO MORE THAN 75' IN ANY DIRECTION TO REACH THE NEAREST FIRE EXTINGUISHER, ARE REQUIRED AND PROVIDED

- FIRE ALARM AND DETECTION SYSTEM**
  - ASSEMBLY: A MANUAL FIRE ALARM SYSTEM IS NOT REQUIRED WITH OCCUPANT LOAD LESS THAN 300. (IBC 907.2.1)

13. INTERIOR WALL/CEILING FINISH REQUIREMENTS – IBC TABLE 803.11

INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY			
GROUP	EXIT ENCLOSURE	CORRIDORS	ROOMS/ENCLOSED SPACES
A-3	A	A	C

REFERENCE IBC TABLE FOOTNOTES FOR CLASS RATING EXCEPTIONS.

- PLUMBING FIXTURE COUNT:**
  - MIN NUMBERS OF FIXTURES BASED ON 2015 INTERNATIONAL PLUMBING CODE (IPC TABLE 403.1)

GROUP	WATER CLOSETS		LAVATORIES		DRINKING FOUNTAINS	SERVICE SINK
	MALE	FEMALE	MALE	FEMALE		
A-3	1 PER 125	1 PER 65	1 PER 200		1 PER 500	1 SERVICE SINK

229 TOTAL OCCUPANT LOAD

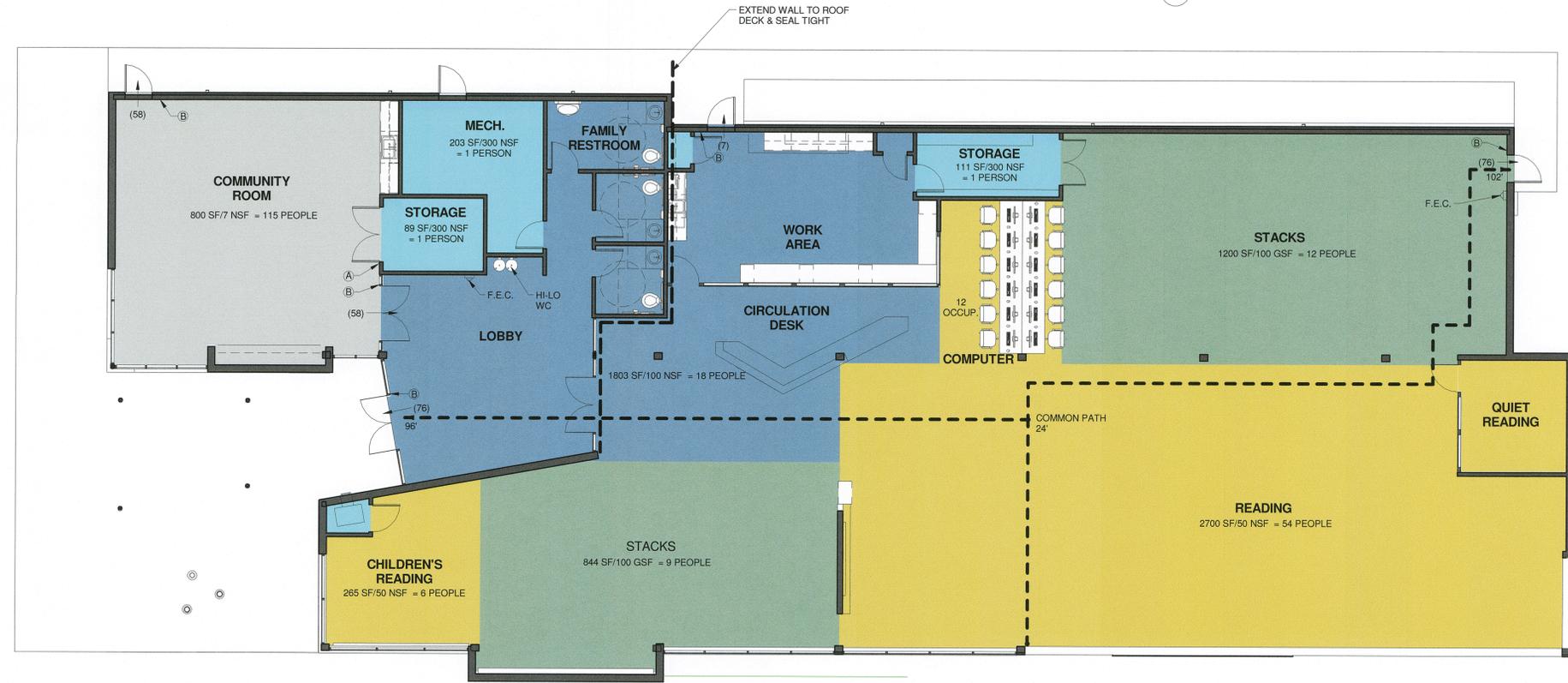
- 1 MEN'S WATERCLOSET REQUIRED – 1 WATERCLOSET PROVIDED
- 2 WOMEN'S WATERCLOSETS REQUIRED – 1 WATERCLOSET + 1 UNISEX WATERCLOSET PROVIDED
- 2 LAVATORIES COMBINED REQUIRED – 3 LAVATORIES PROVIDED
- 1 DRINKING FOUNTAIN REQUIRED – 1 HI-LO DRINKING FOUNTAIN PROVIDED
- 1 SERVICE SINK REQUIRED – 1 SERVICE SINK PROVIDED

CLASSIFICATION LEGEND

- ACCESSORY STORAGE AREAS
- ASSEMBLY CONCENTRATED (CHAIRS ONLY - NOT FIXED)
- BUSINESS AREAS
- LIBRARY READING ROOMS
- LIBRARY STACK AREAS

CODE LEGEND

- REMOTE PATH OF TRAVEL TO EXIT
- (#) OCCUPANT EGRESS LOAD
- (A) POSTED OCCUPANCY SIGN
- F.E.C. FIRE EXTINGUISHER CABINET
- (B) ADA EXIT SIGN



1 BUILDING CODE PLAN - GROUND FLOOR  
1/8" = 1'-0"

NEW CONSTRUCTION OF  
**HANCOCK FREE LIBRARY**  
220 PARK ROAD HANCOCK, MARYLAND

*Murphy & Dittenhafer*  
ARCHITECTS  
228 West Main Street, York, Pennsylvania 17401  
717-848-8887 voice 717-848-3448 fax  
600 North Charles Street, Baltimore, Maryland 21201  
410-625-4623 voice 410-625-4614 fax

Mark	Date	Description
1	5/6/2016	SCHEMATIC DESIGN SUBMISSION
2	8/9/2016	30% DESIGN DEVELOPMENT SUBMISSION
3	11/18/2016	60% CONSTRUCTION DOCUMENTS
4	03/01/2017	FOR BUILDING PERMIT SUBMISSION
5	03/04/2017	100% CONSTRUCTION DOCUMENTS
6	04/17/2017	800 DOCUMENTS



PROJECT NO: 14125  
DRAWN BY: DLR  
CHECKED BY: TRG

CODE SUMMARY & EGRESS PLAN

SHEET  
**CS-2**



**Professional Certification**  
 I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland. License Number: 14401 Expiration Date: 4/21/2017

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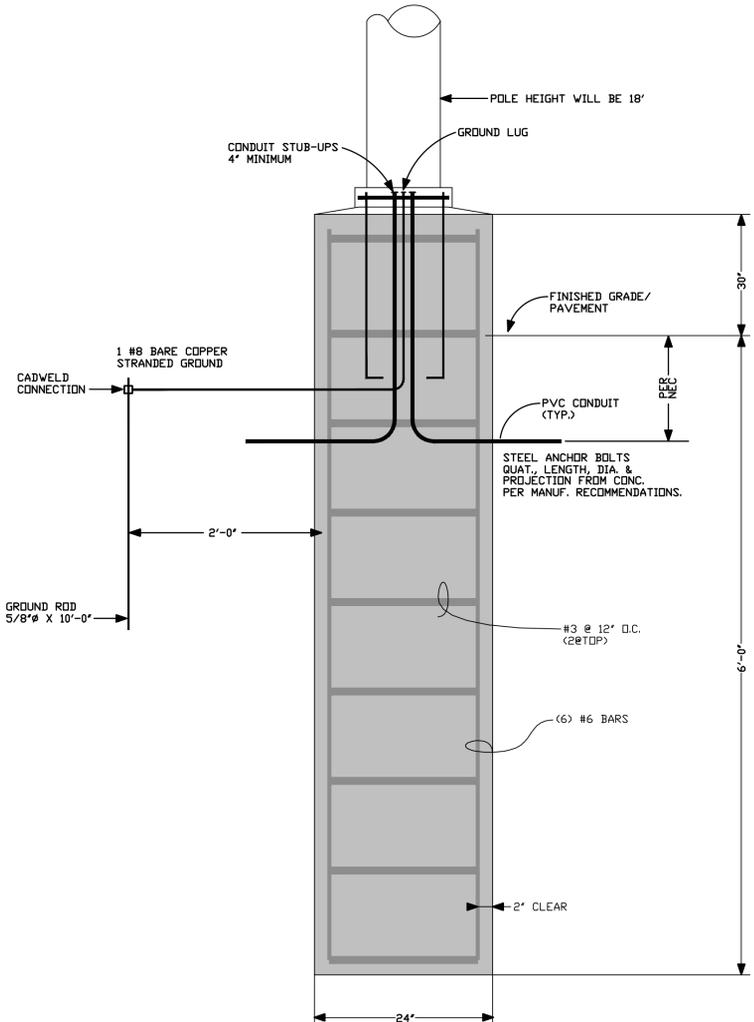
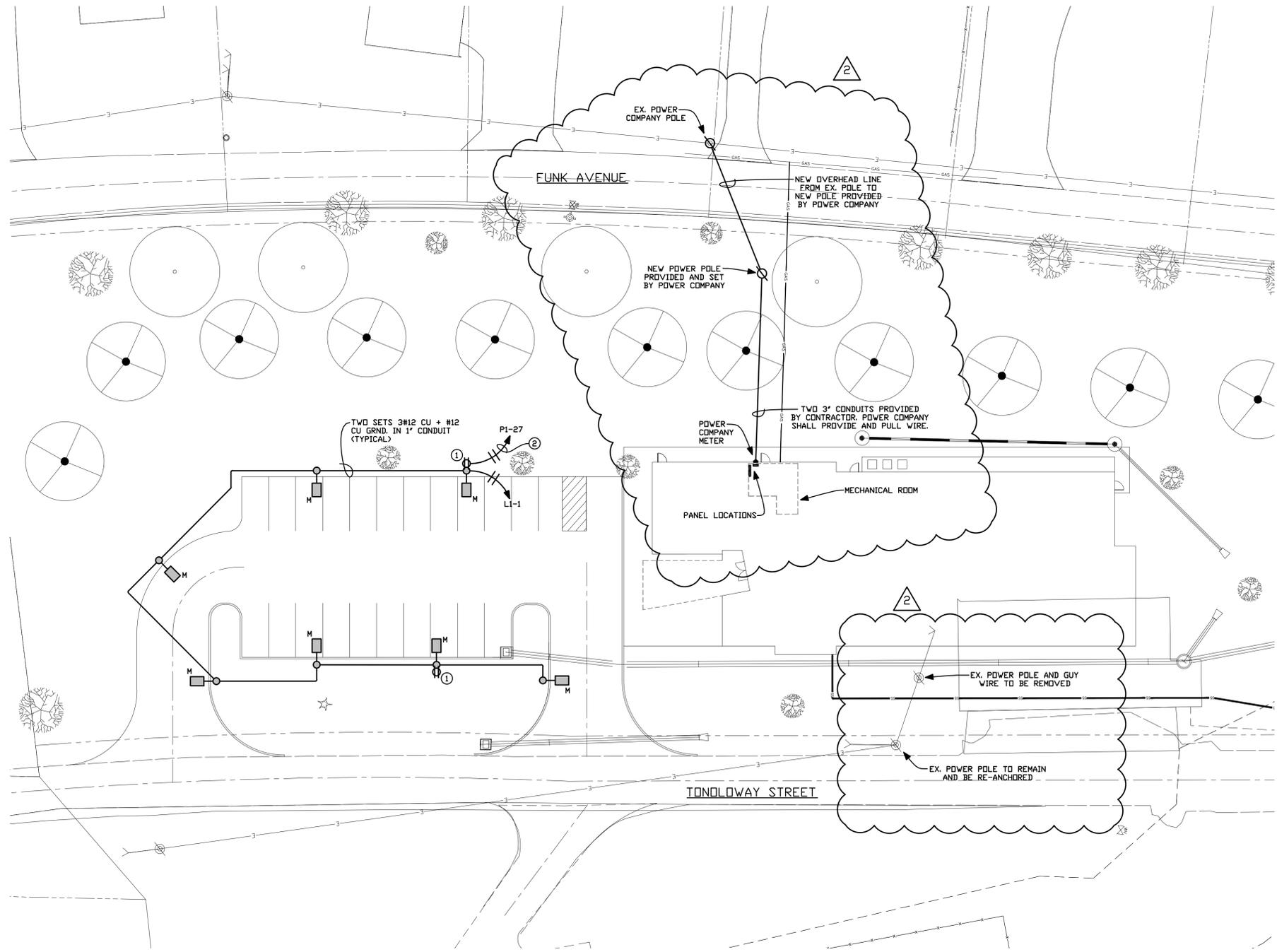
L.S. GRIM, INC. PRACTICES AS A CORPORATION IN MARYLAND, PENNSYLVANIA, WEST VIRGINIA, AND DISTRICT OF COLUMBIA. LESLIE S. GRIM, P.E. PRACTICES AS AN INDIVIDUAL IN NEW YORK, VIRGINIA, AND NEW JERSEY.

**LESLIE SCOTT GRIM, P.E.**

MD PROF. ENGINEER NO. 14401  
 VA PROF. ENGINEER NO. 023240  
 WV PROF. ENGINEER NO. 12764  
 DC PROF. ENGINEER NO. PE01001  
 PA PROF. ENGINEER NO. PE032636E  
 NJ PROF. ENGINEER NO. J94477  
 NY PROF. ENGINEER NO. 075444  
 GA PROF. ENGINEER NO. PE032582  
 NC PROF. ENGINEER NO. 033364  
 HI PROF. ENGINEER NO. PE03943

**ISSUED:**  
 4-17-2017 BID DOCUMENTS  
 4-18-2017 ADDENDUM #1  
 5-22-2017 ADDENDUM #2

**DRAWN BY: TMH**



**SITE LIGHT POLE BASE**  
 NO SCALE

**ELECTRICAL SITE LIGHTING PLAN**  
 SCALE: 1"=20'-0"

**DRAWING KEYED NOTES:**

- ① CONTRACTOR SHALL SUPPLY LOCKING POWER OUTLETS ON PARKING LOT LIGHT POLES.
- ② SITE LIGHTING WILL BE CONTROLLED BY PHOTOCELL ON AND TIME CLOCK OFF.

**L.S. GRIM, INC.**  
 Consulting Engineers  
 MAIN OFFICE: 1000 W. WASHINGTON BLVD., HAGERSTOWN, MD 21742-4307  
 PHONE: (410) 397-7700 FAX: (410) 397-7701  
 PHONE TOLL FREE: 1-888-777-GRIM (4746)  
 D.C. METRO OFFICE: 2275 RESEARCH BLVD., SUITE 500, ROCKVILLE, MD 20850



**HANCOCK LIBRARY**  
 220 PARK ROAD  
**HANCOCK, MARYLAND**  
**ELEC. POWER RISER AND SCHEDS.**

**Professional Certification**  
 I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland.  
 License Number: 14401  
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**LESLIE SCOTT GRIM, P.E.**

MD PROF. ENGINEER NO. 14401  
 VA PROF. ENGINEER NO. 023240  
 WV PROF. ENGINEER NO. 12764  
 DC PROF. ENGINEER NO. PE010201  
 PA PROF. ENGINEER NO. PE032636E  
 NJ PROF. ENGINEER NO. 39447  
 NY PROF. ENGINEER NO. 075444  
 GA PROF. ENGINEER NO. PE032582  
 NC PROF. ENGINEER NO. 033364  
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**ISSUED:**  
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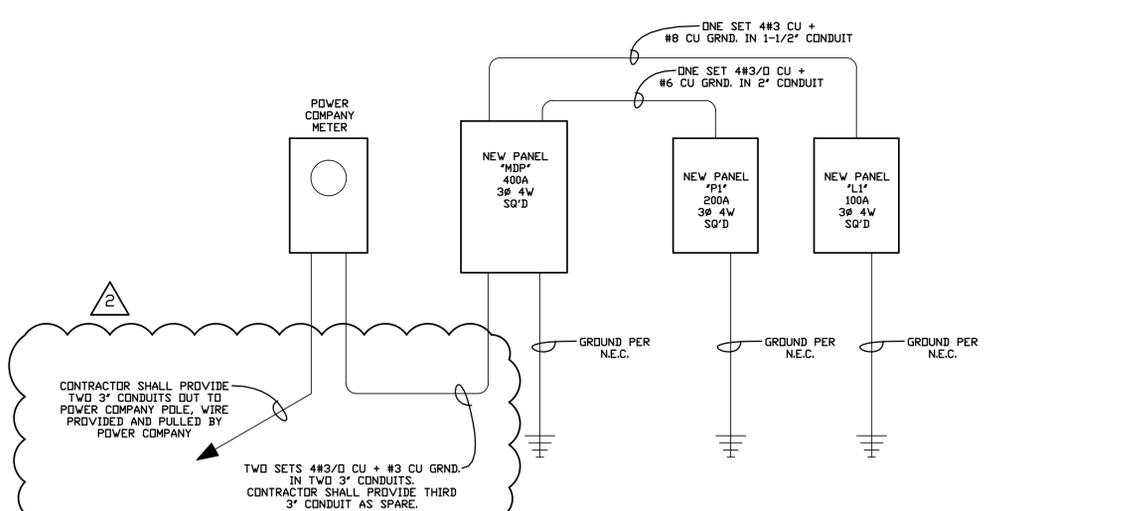
**DRAWN BY: TMH**

**E-5.0**  
 OF 9 SHEETS  
 DATE: OCT. 12, 2016

PANEL: MDP													
LOCATION: MECH. ROOM													
SERVICE: POWER													
208Y/120V 3PH 4W 400A MAIN DEVICE 42 SPACE SQ'D													
WIRE	CIRCUIT	DESCRIPTION	TRIP	KVA A	KVA B	KVA C	KVA A	KVA B	KVA C	TRIP	DESCRIPTION	CIRCUIT	WIRE
	1			12.75			3.02	3.02			PANEL 'P1'	2	
	3				12.75				3.02		PANEL 'L1'	4	#3 CU
	5					12.75			3.02			6	
	7			7.76			2.10	2.10			AHU-1	8	
	9	CU-1	80		7.76			2.10	2.10		35 HACR	10	#10 CU
	11											12	
	13											14	
	15											16	
	17											18	
	19											20	
	21											22	
	23											24	
TOTAL KVA PER PHASE:				20.51	20.51	20.51	5.12	5.12	5.12	TOTAL CONNECTED LOAD:			76.91

PANEL: P1													
LOCATION: MECH. ROOM													
SERVICE: POWER													
208Y/120V 3PH 4W 200A MAIN DEVICE 42 SPACE SQ'D													
WIRE	CIRCUIT	DESCRIPTION	TRIP	KVA A	KVA B	KVA C	KVA A	KVA B	KVA C	TRIP	DESCRIPTION	CIRCUIT	WIRE
#12 CU	1	MECHANICAL ROOM REC.	20	0.72			0.36	0.72		20	COMM. RM COUNTER REC.	2	#12 CU
#12 CU	3	COMM. RM. COUNTER REC.	20		0.36				0.72	20	COMMUNITY ROOM REC.	4	#12 CU
#12 CU	5	COMMUNITY ROOM REC.	20			0.72		1.26		20	COMM. RM./STOR./LOBBY REC.	6	#12 CU
#12 CU	7	WATER FOUNTAIN	20	0.45			0.54			20	RESTROOM REC.	8	#12 CU
#12 CU	9	CIRCULATION DESK REC.	20		1.08			0.90		20	CHILDRENS READING REC.	10	#12 CU
#12 CU	11	YOUNG ADULT REC.	20			0.90			1.26	20	READING REC.	12	#12 CU
#12 CU	13	READING TV REC.	20	0.36			0.90	0.90		20	READING REC.	14	#12 CU
#12 CU	15	QUIET READING REC.	20		0.72			0.90		20	STACKS REC.	16	#12 CU
#12 CU	17	COMPUTER POWER STRIP	20			1.08			1.08	20	COMPUTER POWER STRIP	18	#12 CU
#12 CU	19	WIFI REC.	20	0.18			0.54			20	STORAGE REC.	20	#12 CU
#12 CU	21	I.T. QUAD REC.	20		0.36			0.90		20	WORK AREA REC.	22	#12 CU
#12 CU	23	WORK AREA U/C REFRIGERATOR	20			0.50			0.36	20	WORK AREA COUNTER REC.	24	#12 CU
#12 CU	25	WORK AREA REC.	20	0.72			0.18			20	HVAC REC.	26	#12 CU
#12 CU	27	PARKING LOT REC.	20		0.36			0.45		20	AUTO DOOR OPEN (OPTIONAL)	28	#12 CU
#12 CU	29	COMM. RM. U/C REFRIGERATOR	20			0.50				20		30	
#8 CU	31		50	3.30								32	
	33				3.30							34	
#12 CU	35		20			1.41		2.25				36	
	37			1.41			2.25			30	HOT WATER HEATER	38	#10 CU
#12 CU	39	GAS BOILER	20		1.50			2.25				40	
#12 CU	41	AHU-2	25			2.04			1.44	20	AHU-3	42	#12 CU
TOTAL KVA PER PHASE:				7.14	7.68	7.15	4.77	6.12	5.40	TOTAL CONNECTED LOAD:			38.26

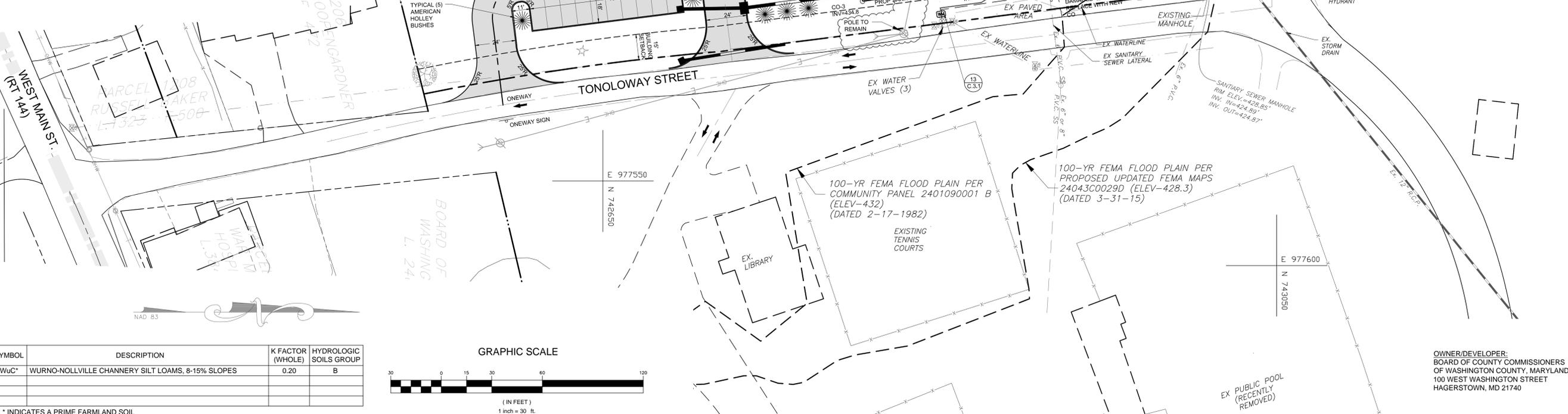
PANEL: L1													
LOCATION: MECH. ROOM													
SERVICE: LTS													
208Y/120V 3PH 4W 100A MAIN DEVICE 42 SPACE SQ'D													
WIRE	CIRCUIT	DESCRIPTION	TRIP	KVA A	KVA B	KVA C	KVA A	KVA B	KVA C	TRIP	DESCRIPTION	CIRCUIT	WIRE
#12 CU	1	PARKING LOT LTS.	20	0.20			0.31	1.15		20	FRONT ENTRY LTS.	2	#12 CU
#12 CU	3	WALL PACK LTS.	20		0.19					20	COMMUNITY ROOM LTS.	4	#12 CU
#12 CU	5	MECH./RESTROOM/STOR. LTS.	20			0.25			0.30	20	EMERGENCY LTS.	6	#12 CU
#12 CU	7	LOBBY LTS.	20	0.40			1.00			20	CHILDRENS READING LTS.	8	#12 CU
#12 CU	9	READING LTS.	20		1.85			1.70		20	STACKS/COMPUTER LTS.	10	#12 CU
#12 CU	11	CIRCULATION/YOUNG ADULT LTS.	20			1.40			0.32	20	WORK AREA/STORAGE LTS.	12	#12 CU
	13											14	
	15											16	
	17											18	
	19											20	
	21											22	
	23											24	
	25											26	
	27											28	
	29											30	
	31											32	
	33											34	
	35											36	
	37											38	
	39											40	
	41											42	
TOTAL KVA PER PHASE:				0.60	2.04	1.65	1.31	2.85	0.62	TOTAL CONNECTED LOAD:			9.07



**ELECTRICAL POWER RISER**  
 NOT TO SCALE

COMMERCIAL LIGHT FIXTURE SCHEDULE							
MARK	DESCRIPTION	VOLTAGE	NO. OF LAMPS	WATTAGE	LAMP TYPE	MANUFACTURERS AND MODEL NUMBERS	
A4	LED RADIAL LENS STRIP LIGHT	120	INCLUDED	43	LED	ALERA LIGHTING	LCVR-L-4-35ML-65-CM96-EDU-MWELL10
A8	LED RADIAL LENS STRIP LIGHT	120	INCLUDED	86	LED	ALERA LIGHTING	LCVR-L-8-35ML-65-CM96-EDU-MW
A16	LED RADIAL LENS STRIP LIGHT	120	INCLUDED	172	LED	ALERA LIGHTING	LCVR-L-16-35ML-65-CM96-EDU-MW
A24	LED RADIAL LENS STRIP LIGHT	120	INCLUDED	258	LED	ALERA LIGHTING	LCVR-L-24-35ML-65-CM96-EDU-MW
A28	LED RADIAL LENS STRIP LIGHT	120	INCLUDED	301	LED	ALERA LIGHTING	LCVR-L-28-35ML-65-CM96-EDU-MW
B	LED LENSED STRIPLIGHT	120	INCLUDED	48	LED	COLUMBIA LIGHTING	LCL4-35ML-EU-ELL14
C	2X4 LED LAY IN LIGHT FIXTURE	120	INCLUDED	40	LED	COLUMBIA LIGHTING	LCA24-35ML-LUTHU
D	4" LED RECESSED SQUARE DOWNLIGHT	120	INCLUDED	14	LED	PRESCOLITE	LF45QLED5G4120HDM-45QLED5G435KWT
E	LED LAY IN STRIP LIGHT	120	INCLUDED	31	LED	COLUMBIA LIGHTING	CWW4-35VWSG-2WW-LUTHU NIGHT LIGHTS ADD ELL14
F	OUTSIDE LED DOWNLIGHT	120	INCLUDED	33	LED	KURT VERSEN	L134 20 35 D EX YK BL
G	OUTSIDE LED WALL WASHER	120	INCLUDED	74	LED	KIM LIGHTING	4348P70/32L3KUV-BL
H	LED DECORATIVE PENDANT	120	INCLUDED	57	LED	LUMETTA	P5542 WHITE-F2 CHROME-D168 KIWI/D61 MT WHITE-LED 3/18.9W XICATO UNV-120V-BDL
J	BATHROOM LED WALL/SLOT LIGHT	120	INCLUDED	112	LED	LITECONTROL	60L-DW-7-03+04-C1-30K-D095-NDM-1C-120
K	LED STEM ADJUSTABLE WALL WASHER	120	INCLUDED	32	LED	AS SELECTED BY ARCHITECT - APPROVED BY OWNER	
L	LED WALLPACK	120	INCLUDED	21	LED	KIM LIGHTING	LLF10P35-20L3KUV-BL
M	LED PARKING LOT FIXTURE	120	INCLUDED	25	LED	REBELLE	4020-25L-30-120-RD-BM
M	4" DIAMETER STEEL POLE					REBELLE	3015-18-DR-GFI-8CS-BM
N	LED FLAG POLE UPLIGHT	120	INCLUDED	6	LED	BETACALCO	81 0104 WITH HOUSING 81 0901
P4	SUSPENDED LED DIAMOND FIXTURE	120	INCLUDED	48	LED	ARCHITECTURAL LIGHTING WORKS	NV3.5D 4 HI 0/10V/1% LENS WH 120 COMBO EMB/1
P12	SUSPENDED LED DIAMOND FIXTURE	120	INCLUDED	145	LED	ARCHITECTURAL LIGHTING WORKS	NV3.5D 12 HI 0/10V/1% LENS WH 120 COMBO
P16	SUSPENDED LED DIAMOND FIXTURE	120	INCLUDED	194	LED	ARCHITECTURAL LIGHTING WORKS	NV3.5D 16 HI 0/10V/1% LENS WH 120 COMBO
REL	RECESSED EM. LIGHT	6V	2	5.4	INC	DUAL-LITE	EZ-2R
EX	AC/DC EXIT WITH UNIV. MOUNT	120	1	INCLUDED	LED	DUAL-LITE	LXURWE
COMBO	AC/DC EXIT/COMBO WITH EM. LIGHTING	120	1	INCLUDED	LED	DUAL-LITE	HXCURWRC12
EM	EM. LIGHTING UNIT AC/DC	6V	2	5.4	INC	DUAL-LITE	CVSN
REM	REMOTE EMERGENCY LIGHTING HEAD	6V	1	12	INC	DUAL-LITE	OMSSW0612

- GENERAL NOTES**
- TAX MAP 0501, PARCEL 0475 and 0477.
  - ELECTION DISTRICT 05.
  - TOTAL SITE AREA (PER DEEDS) = 10.3 ACRES ±.
  - DEED REFERENCE: BEING ALL OF LANDS CONVEYED TO THE BURGESS AND COMMISSIONERS OF HANCOCK AND RECORDED AMONG THE LAND RECORDS OF WASHINGTON COUNTY AT LIBER 184 FOLIO 90891, BEING FURTHER DESCRIBED AS PART OF WIDMYER MEMORIAL PARK.
  - THE EXISTING PROPERTY LINES SHOWN HEREON ARE DERIVED FROM DEEDS AND OR PLATS OF RECORD BEING OVERLAID ONTO EXISTING FIELD MONUMENTATION, BASED ON SURVEYS PERFORMED BY WASHINGTON COUNTY ENGINEERING DEPARTMENT SURVEYOR, BRYAN EDWARD HALE, P.L.S.
  - A NEW PLAT WILL BE RECORDED FOR THIS SITE WITH A TOTAL LOT AREA OF 1.886 ACRES ±.
  - TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL PHOTOGRAMMETRY PROVIDED BY OTHERS, SUPPLEMENTED WITH FIELD RUN SURVEYS BY TRIAD ENGINEERING, INC. IN APRIL OF 2016.
  - HORIZONTAL DATUM IS N.A.D. 83(2007) AND VERTICAL DATUM IS N.A.V.D. 88.
  - SITE IS ZONED "SR" - SUBURBAN RESIDENTIAL DISTRICT.
  - USAGE - EXISTING USAGE OF THE SITE IS A VACANT AREA OF TREES AND GRASS IN A PARK SETTING. THERE WAS AN EXISTING BUILDING THAT WAS USED BY THE TOWN WATER DEPARTMENT BUT WAS REMOVED RECENTLY. THE PROPOSED USAGE OF THE SITE IS A PUBLIC LIBRARY WHICH IS A PRINCIPLE PERMITTED USAGE IN THIS DISTRICT.
  - DIMENSIONAL RESTRICTIONS PER ARTICLE 4, SECTION 407, OF THE HANCOCK ZONING ORDINANCE:
    - LOT AREA: 15,000 SF.
    - FRONT YARD DEPTH: 15 FEET
    - REAR YARD DEPTH: 20 FEET.
    - MINIMUM WIDTH OF SIDE YARDS: 8 FEET.
    - MINIMUM LOT WIDTH: 75 FEET
    - MAXIMUM HEIGHT: 3 STORIES
    - MAXIMUM LOT COVERAGE: 50%
  - HOURS OF OPERATIONS: 8 HOURS/DAY, 9 A.M. - 5 P.M.
  - TOWN OF HANCOCK DOES NOT HAVE PARKING REQUIREMENTS FOR A LIBRARY SO THE PARKING REQUIREMENTS PER SECTION 22-12(b) OF THE WASHINGTON COUNTY ZONING ORDINANCE WILL BE UTILIZED.  
FOR LIBRARY: 1 SPACE PER 400 SF OF FLOOR SPACE REQUIRED.  
REQUIRED - 8583 SF / 400 SF = 21.46 SPACES = 22 SPACES  
ADA REQUIRES PR LOTS OF 1-25 SPACES - 1 ADA VAN ACCESSIBLE SPACE
  - PARKING PROVIDED: 22 TOTAL SPACES (21 SPACES & 1 ADA VAN ACCESSIBLE) & 1 LOADING/UNLOADING SPACE
  - SITE IS SERVED BY EXISTING SEWAGE SYSTEM AND WATER SYSTEM OWNED BY THE TOWN OF HANCOCK
  - NEW SIGNS PROPOSED FOR THIS PROJECT WILL CONFORM TO THE MARYLAND SHA MUTCD'S STANDARDS.
  - TRASH AND RECYCLABLES ARE COLLECTED AT THE EXISTING DUMPSTER LOCATION SHOWN AT MAINTENANCE BUILDING REMOVED FROM SITE BY A LICENSED COMMERCIAL HAULER AND TAKEN TO AN APPROVED DISPOSAL FACILITY.
  - FREIGHT DELIVERIES: ESTIMATED 2 TO 3 SMALL DELIVERY TRUCKS PER WEEK (U.P.S., ETC.) PLUS THE MONTHLY MOBILE LIBRARY STOP. A 12' WIDE LOADING AND UNLOADING ZONE HAS BEEN SHOWN.
  - NO NEW SITE LIGHTING IS PROPOSED FOR THIS PROJECT.
  - PROPOSED BUILDING AREA = 8583 S.F.
  - PROPOSED HEIGHT OF BUILDING IS 21' ±.
  - THERE ARE NO WETLANDS ON THE SITE PER MAPPING BY THE U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, "HAGERSTOWN, MD-PA" QUADRANGLE DATED 3/80.
  - THERE ARE NO HABITATS OF THREATENED OR ENDANGERED SPECIES IDENTIFIED BY THE U.S. FISH AND WILDLIFE SERVICE PER 50 CFR 17.
  - THERE ARE NO INTERMITTENT STREAM SYMBOLS ASSOCIATED WITH THIS PROPERTY AS SHOWN ON SHEET NUMBER 25 OF 56 OF THE SOIL SURVEY OF WASHINGTON COUNTY, MARYLAND.
  - THERE ARE NO AREAS OF STEEP SLOPES (AS DEFINED BY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT PER ARTICLE 28.631 OF THE WASHINGTON COUNTY ZONING ORDINANCE) ON THE LANDS SHOWN HEREON.
  - THIS SITE IS NOT WITHIN THE LIMITS OF THE APALACHIAN TRAIL CORRIDOR OR THE WATERSHEDS OF THE EDGEWOOD-SMITHSBURG RESERVOIR OR THE UPPER BEAVER CREEK DRAINAGE BASIN.
  - THIS PROJECT IS AFFECTED BY THE 100 YEAR FLOOD PLAIN AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) PANEL NO. 240109 0001 B, WITH A REVISED DATE OF FEBRUARY 17, 1982. THIS MAP SHOWS A 100-YR FLOODPLAIN ELEVATION OF 432. HOWEVER, THE PROPOSED FEMA COMMUNITY PANEL NUMBER 24043C0029D, DATED MARCH 31, 2015, ALONG WITH FLOODWAY DATA TABLE 7, LITTLE TONOLOWAY CREEK SHOWS A REVISED 100-YR FLOODPLAIN ELEVATION OF 428.3. BOTH FLOOD PLANS HAVE BEEN SHOWN ON THIS PLAN.
  - THIS PROJECT IS EXEMPT FROM THE WASHINGTON COUNTY FOREST CONSERVATION ORDINANCE REQUIREMENTS PURSUANT TO SECTION 3.2.A.
  - ON - SITE IMPERVIOUS AREA:  
PRE-CONSTRUCTION:  
BUILDINGS 2,737 S.F. OR 0.063AC.  
PARKING, DRIVE AREAS, ETC. 1,651 S.F. OR 0.038 AC.  
TOTAL 4,388 S.F. OR 0.101 AC. 1.886 AC. = 5.4% OF SITE  
POST CONSTRUCTION:  
BUILDINGS 8,583 S.F. OR 0.197 AC.  
CONCRETE AREAS 2,184 S.F. OR 0.050 AC.  
PARKING, DRIVE AREAS, ETC. 10,558 S.F. OR 0.242 AC.  
TOTAL 21,325 S.F. OR 0.489 AC. 1.886 AC. = 25.9% OF SITE
  - THERE WILL BE NO OUTSIDE STORAGE OF MATERIALS.
  - EACH ADDRESS IS BASED ON THE ENTRANCE LOCATION AS SHOWN ON THE PLAN. IF THE DRIVEWAY IS CONSTRUCTED AT A DIFFERENT LOCATION, THE ADDRESS FOR THIS LOT IS VOID, AND THE OWNER/DEVELOPER OF THE LOT MUST REPLY TO THE WASHINGTON COUNTY DEPARTMENT OF PLANNING AND ZONING FOR A NEW ADDRESS ASSIGNMENT.
  - LANDSCAPING FOR THIS SITE IS BEING ADDRESSED VIA PLANTING OF NEW TREES AND THROUGH PLANTINGS IN THE BIORETENTION AREA.



SYMBOL	DESCRIPTION	K FACTOR (WHOLE)	HYDROLOGIC SOILS GROUP
Wu*	WURNO-NOLLVILLE CHANNERY SILT LOAMS, 8-15% SLOPES	0.20	B

\* INDICATES A PRIME FARMLAND SOIL

**ZONING EVALUATION:**  
 SITE IS ZONED SR - SUBURBAN RESIDENTIAL.  
 A. LAND USE INTENSITY: MODERATE, NO CHANGE IN LAND USE INTENSITY WITH THIS PROJECT.  
 B. SITE AREA: EXISTING SITE AREA = 10.6 ACRES  
 PROPOSED SITE AREA = 1.886 ACRES  
 C. BUILDING AREA: EXISTING BUILDING AREA = 2737 S.F.  
 PROPOSED BUILDING AREA = 8583 S.F.  
 D. PARKING: EXISTING PARKING = 0 SPACES  
 PROPOSED PARKING = 22 SPACES (22 SPACES & 1 ADA)  
 REQUIRED PARKING = 1 SPACE PER 400 SF OF GROSS FLOOR AREA.  
 8060 SF / 400 SF = 21.57 SPACES = 22 SPACES  
 ADA - FOR 1-25 SPACES = 1 ADA SPACE  
 HOURS OF OPERATION: 8 HOURS/DAY  
 HOURS OF VISITATION: 9:00 AM. TO 5:00 PM.  
 ADDITIONAL HOURS FOR SPECIAL FUNCTIONS  
 TRAFFIC VOLUME: EXISTING/PROPOSED LAND USE = THE EXISTING LIBRARY (APPROX 2,800 SF)  
 IS LOCATED ON TOWN PROPERTY ADJACENT TO THIS SITE

**TRIAD ENGINEERING, INC.**  
 1075-D SHERMAN AVENUE  
 HAGERSTOWN, MD 21740  
 PH: 301.797.6400 FAX: 301.797.2424  
 OFFICE LOCATIONS  
 MARYLAND • PENNSYLVANIA • VIRGINIA • WEST VIRGINIA

REV #	DATE	DESCRIPTION
05/24/17	05/08/17	ADDENDUM #2
04/17/17		BID DOCUMENTS

CADD FILE: 03-14-0239-SP-3-0  
 DRAWN BY: EHI  
 CHECKED BY: BUS  
 DATE: 09-27-16  
 SCALE: 1"=30'



**SITE PLAN**  
 NEW HANCOCK LIBRARY  
 TONOLOWAY STREET  
 HANCOCK, MD. 21750  
 WATERSHED CODE: 02140501-POTOMAC RIVER WASH CO  
 GRID: 0010  
 PARCEL: 1204  
 ELEC. DIST.: 05  
 ZONING: SR  
 TAX MAP: 0501

**TRIAD ENGINEERING, INC.**  
 www.triadeng.com  
**SHEET NUMBER:**  
**C.3.0**  
 JOB NO.: 03-14-0239

OWNER/DEVELOPER:  
 BOARD OF COUNTY COMMISSIONERS  
 OF WASHINGTON COUNTY, MARYLAND  
 100 WEST WASHINGTON STREET  
 HAGERSTOWN, MD 21740

## SECTION 07 54 19 – ADHERED (PVC) ROOFING

### PART 1 - GENERAL CONDITIONS

#### 1.01 DESCRIPTION

##### A. Scope

To install an adhered roofing system including membrane, insulation, flashings and other components.

##### B. Related Work

The work includes but is not limited to:

1. Wood Blocking
2. Insulation
3. Roof Membrane
4. Fasteners
5. Adhesive for Flashings
6. Roof Membrane Flashings
7. Edge Metal
8. Sealants

##### C. Upon successful completion of work the following warranties may be obtained:

1. Roofing Membrane Manufacturer's Warranty
2. Roofing Contractor's Warranty

#### 1.02 QUALITY ASSURANCE

A. This roofing system shall be applied only by a Roofing Contractor authorized by the roofing membrane manufacturer prior to bid.

##### B. Manufacturer Qualifications:

1. There shall have been no formulation changes in the primary roofing membrane for 10 years prior to the beginning of this project
2. The roofing membrane manufacturer is defined as a company which makes the primary roofing membrane and flashing membrane in its own factories from ruder, rawer states of material. No "Private Label" material, in which one company's name goes on a product manufactured by others, is acceptable for this project.

C. Applicator shall have no less than 5 years experience with heat welded roofing systems.

D. During construction and upon completion of the installation in strict accordance with the contract specifications and the roofing membrane manufacturer's requirements, inspections shall be made by a Technical Representative of the roofing membrane manufacturer to review the installed roof system.

E. There shall be no deviation made from the Project Specification or the approved shop drawings without prior written approval by the Owner, the Owner's Representative and the roofing membrane manufacturer.

### 1.03 SUBMITTALS

Prior to starting construction, the Applicator shall submit to the Architect the following documents for written approval:

- A. Samples of each primary component to be used in the roof system and the manufacturer's current literature for each component.
- B. Sample copy of manufacturer's warranty.
- C. Sample copy of Applicator's warranty.
- D. Dimensioned shop drawings which shall include:
  - 1. Outline of roof with roof size and elevations shown.
  - 2. Details of flashing methods for penetrations.
  - 3. Technical acceptance from the roofing membrane manufacturer for the specified warranty.
- E. Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the Specification.
- F. Material Safety Data Sheets (MSDS)

### 1.04 CODE REQUIREMENTS

- A. The roofing system shall meet all local codes.
- B. Wind design:
  - 1. Design shall conform to ANSI/SPRI WD-1, current version.
  - 2. Design shall resist a minimum of 90 pounds of uplift pressure based on roofing system manufacturer's third party test data.
- C. The edge metal (gravel stop and coping) shall be UL Classified by Underwriters Laboratories, Inc.® or other 3<sup>rd</sup> party verification of compliance with the ANSI/SPRI ES-1 Wind Design Standard.

### 1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All products delivered to the job site shall be in the original unopened containers or wrappings bearing all seals and approvals.
- B. Handle all materials to prevent damage. Place all materials on pallets and fully protect from moisture.
- C. Membrane rolls shall be stored lying down on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions that may affect the ease of membrane weldability.
- D. As a general rule all adhesives shall be stored at temperatures between 40° F (5° C) and 80° F (27° C). Read instructions contained on adhesive canister for specific storage instructions.
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/supplier.
- F. All materials which are determined to be damaged by the Owner's Representative or the roofing membrane manufacturer are to be removed from the job site and replaced at no cost to the Owner.

1.06 JOB CONDITIONS

- A. Only as much of the new roofing as can be made weathertight each day, including all flashing and detail work, shall be installed. All seams shall be heat welded before leaving the job site that day.
- B. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.
- C. All surfaces to receive new insulation, membrane or flashings shall be dry. Should surface moisture occur, the Applicator shall provide the necessary equipment to dry the surface prior to application.
- D. All new and temporary construction, including equipment and accessories, shall be secured in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.
- E. Uninterrupted water stops shall be installed at the end of each day's work and shall be completely removed before proceeding with the next day's work. Water stops shall not emit dangerous or unsafe fumes and shall not remain in contact with the finished roof as the installation progresses. Contaminated membrane shall be replaced at no cost to the Owner.
- F. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, the Applicator shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. A substantial protection layer consisting of plywood over insulation board shall be provided for all new roof areas that receive rooftop traffic during construction.
- G. Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- H. The Applicator shall follow all safety regulations as required by OSHA and any other applicable authority having jurisdiction.
- I. All new roofing waste material (i.e., scrap roof membrane, empty cans of adhesive) shall be immediately removed from the site by the Applicator and properly transported to a legal dumping area authorized to receive such material.
- J. The Applicator shall take precautions that storage and/or application of materials and/or equipment does not overload the roof deck or building structure.
- K. Flammable adhesives and deck primers shall not be stored and not be used in the vicinity of open flames, sparks and excessive heat.
- L. The Applicator shall verify that all roof drain lines are functioning correctly (not clogged or blocked) before starting work. Applicator shall report any such blockages in writing (letter copy to roofing membrane manufacturer) to the Owner's Representative for corrective action prior to the installation of the roof system.
- M. Applicator shall immediately stop work if any unusual or concealed condition is discovered and shall immediately notify Owner of such condition verbally and in writing for correction.
- N. Site cleanup, including both interior and exterior building areas that have been affected by construction, shall be completed to the Owner's satisfaction.
- O. The Applicator shall conduct fastener pullout tests in accordance with the latest version of the SPRI/ANSI Fastener Pullout Standard to help verify condition of the deck/substrate and to confirm expected pullout values.

- P. Precautions shall be taken when using adhesives at or near rooftop vents or air intakes. Adhesive odors could enter the building. Coordinate the operation of vents and air intakes in such a manner as to avoid the intake of adhesive odor while ventilating the building. Keep lids on unused cans at all times.
- Q. Protective wear shall be worn when using solvents or adhesives or as required by job conditions.
- R. Roofing membranes are slippery when wet or covered with snow, frost, or ice. Working on surfaces under these conditions is hazardous. Appropriate safety measures must be implemented prior to working on such surfaces. Always follow OSHA and other relevant fall protection standards when working on roofs.

#### 1.07 WARRANTIES

- A. Manufacturer's Twenty-Year System Warranty: Upon successful completion of the work to roofing membrane manufacturer's satisfaction and receipt of final payment, the Twenty-Year System Warranty shall be issued.
- B. Applicator/Roofing Contractor Five-Year Warranty

The Applicator shall supply the Owner with a separate Five-Year workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with the Contract Documents, the Applicator shall repair that defect at no cost to the Owner. The Applicator's warranty obligation shall run directly to the Owner.

### PART 2 - PRODUCTS

#### 2.01 GENERAL

- A. The components of the roof system are to be products manufactured or supplied by the roofing membrane manufacturer as part of their warranted roofing system.
- B. Components to be used that are other than those supplied or manufactured by the roofing membrane manufacturer must be submitted for review and acceptance the manufacturer for use with their warranted system.

#### 2.02 MEMBRANE

- A. Representative Product: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
  - 1. Sarnafil Corporation (Sika); basis of design  
Tel : 800.451.2504 Web: [www.usa.sarnafil.sika.com](http://www.usa.sarnafil.sika.com)
  - 2. Versico Roofing Company, PO Box 1289, Carlisle, PA 17013  
Tel : 800.992.7663 Fax: 717.960.4036 Web: [www.versico.com](http://www.versico.com)
  - 3. Duro-Last Roofing, Inc.  
525 Morley Drive, Saginaw, MI 48601  
Tel: 866-735-8824
  - 4. FiberTite Seaman Corporation  
1000 Venture Blvd, Wooster, OH 44691 Tel: (800) 927-8578
- B. The roofing membrane shall be 60 mil (1.5 mm), thermoplastic membrane with fiberglass reinforcement. Minimum membrane thickness shall be 60 mils.
- C. Membrane shall conform to ASTM D4434 (latest version), "Standard for Polyvinyl Chloride Sheet Roofing". Classification: Type II, Grade I. Reinforcement shall be non-woven fiberglass mat.

D. Color of Membrane

1. Reflective gray, initial reflectivity of 0.78, initial emissivity 0.89, solar reflective index (SRI) of >90.

E. Required Roofing Membrane Physical Properties <sup>(1)</sup>

<u>Parameters</u>	<u>ASTM Test Method</u>	<u>Physical Properties</u>
Reinforcing Material	-	Fiberglass mat
Overall Thickness, min., inches (mm)	D638	0.080 inches]
Tensile Strength, min., psi (MPa)	D638	1600 (11.1)
Elongation at Break, min. (machine x tranverse)	D638	270% / 250%
Seam strength <sup>(2)</sup> , min. (% of tensile strength)	D638	80
Retention of Properties After Heat Aging	D3045	-
Tensile Strength, min., (% of original)	D638	95
Elongation, min., (% of original)	D638	90
Tearing Resistance, min., lbf (N)	D1004	14 (63.0)
Low Temperature Bend, -40° F (-40° C)	D2136	Pass
Accelerated Weathering Test (Xenon Arc)	D2565	Pass
Cracking (7x magnification)	-	None
Discoloration (by observation)	-	Negligible
Crazing (7 x magnification)	-	None
Linear Dimensional Change	D1204	0.02%
Weight Change After Immersion in Water	D570	2.5%
Static Puncture Resistance, 33 lbf (15 kg)	D5602	Pass
Dynamic Puncture Resistance, 7.3 ft-lbf (10 J)	D5635	Pass

2.03 FLASHING MATERIALS

A. Wall/Curb Flashing

1. Fiberglass reinforced, 60 mil Membrane

B. Perimeter Edge Flashing

1. PVC-coated heat weldable sheet metal.

2.04 INSULATION/OVERLAYMENT/ SUBSTRATE BOARD

- A. Isocyanurate to be provided in multiple layers: 2.5 inches (R=14.4) and 3.0 inches (R=17.4). R30 Min

2.05 ATTACHMENT COMPONENTS

1. Contact Adhesive: A solvent-based reactivating-type adhesive used to attach the membrane to the substrate, either horizontally or vertically.
2. Mechanical fasteners: #14 screws to attach Insulation to Ply Wood Substrate

2.06 SEALANTS

- A. Premium grade, high-performance, moisture-cured, one-component polyurethane-based, non-sag elastomeric sealant for termination details.
- B. Depending on substrates, the following sealants are options for temporary overnight tie-ins:

1. Type III hot asphalt conforming to ASTM D312 (latest version).
2. PVC manufacture's standard adhesive.

#### 2.07 MISCELLANEOUS FASTENERS AND ANCHORS

- A. All fasteners, anchors, nails, straps, bars, etc. shall be post-galvanized steel, aluminum or stainless steel. Mixing metal types and methods of contact shall be assembled in such a manner as to avoid galvanic corrosion. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins. All miscellaneous wood fasteners and anchors used for flashings shall have a minimum embedment of 1 inch (25 mm) and shall be approved for such use by the fastener manufacturer.

#### 2.08 RELATED MATERIALS

A. Wood Nailer

Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on Project Drawings. Thickness of nailers must match the insulation thickness to achieve a smooth transition. Wood nailers shall be treated for fire and rot resistance and be #2 quality or better lumber. Creosote or asphalt-treated wood is not acceptable. Wood nailers shall conform to Factory Mutual Loss Prevention Data Sheet 1-49. All wood shall have a maximum moisture content of 19% by weight on a dry-weight basis. Nailers shall be secured with stainless steel fasteners. No treated wood shall come into direct contact with steel.

B. Plywood

When bonding directly to plywood, a minimum 1/2 inch (12 mm) CDX (C side out), smooth-surfaced exterior grade plywood with exterior grade glue shall be used. Rough-surfaced plywood or high fastener heads will require the use manufacturer's felt behind the flashing membrane. Plywood shall have a maximum moisture content of 19% by weight on a dry weight basis.

### PART 2 - EXECUTION

#### 3.01 PRE-CONSTRUCTION CONFERENCE

- A. The Applicator, Owner's Representative/Designer and Manufacturer(s) shall attend a pre-construction conference.
- B. The meeting shall discuss all aspects of the project including but not limited to:
1. Safety
  2. Set up
  3. Construction schedule
  4. Contract conditions
  5. Coordination of the work

#### 3.02 SUBSTRATE CONDITION

- A. Applicator shall be responsible for acceptance or provision of proper substrate to receive new roofing materials.
- B. Applicator shall verify that the work done under related sections meets the following conditions:
1. Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.
  2. All surfaces are smooth and free of dirt, debris and incompatible materials.

3. All roof surfaces shall be free of water, ice and snow.

### 3.03 SUBSTRATE PREPARATION

- A. The roof deck construction must be structurally sound to provide support for the new roof system. The Applicator shall load materials on the rooftop in such a manner as to eliminate risk of deck overload due to concentrated weight.
- B. The Owner's Representative shall ensure that the roof deck is secured to the structural framing according to local building code and in such a manner as to resist all anticipated wind loads in that location.
- C. Remove existing roofing materials including but not limited to roofing membrane, insulation, fasteners, edge metal.

### 3.04 SUBSTRATE INSPECTION

- A. A dry, clean and smooth substrate shall be prepared to receive the adhered roof system.
- B. The Applicator shall inspect the substrate for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect the quality of work.
- C. The substrate shall be clean, smooth, dry, free of flaws, sharp edges, loose and foreign material, oil and grease. Roofing shall not start until all defects have been corrected.
- D. All roof surfaces shall be free of water, ice and snow.
- E. PVC membrane shall be applied over compatible and accepted substrates only.

### 3.05 WOOD NAILER INSTALLATION

- A. Install continuous wood nailers at the perimeter of the entire roof and around roof projections and penetrations.
- B. Nailers shall be anchored to resist a minimum force of 300 pounds per lineal foot (4,500 Newtons/lineal meter) in any direction. Individual nailer lengths shall not be less than 3 feet (0.9 meter) long. Nailer fastener spacing shall be at 12 inches (0.3 m) on center or 16 inches (0.4 m) on center if necessary to match the structural framing. Fasteners shall be staggered 1/3 the nailer width and installed within 6 inches (0.15 m) of each end. Two fasteners shall be installed at ends of nailer lengths. Nailer attachment shall also meet the requirements of the current Factory Mutual Loss Prevention Data Sheet 1-49.
- C. Thickness shall be as required to match substrate and/or insulation height to allow a smooth transition.

### 3.06 INSULATION INSTALLATION

- A. General Criteria:
  1. Insulation shall be installed according to insulation manufacturer's instructions.
  2. Insulation shall be neatly cut to fit around penetrations and projections.
  3. Install tapered insulation in accordance with insulation manufacturer's shop drawings.
  4. Do not install more insulation board than can be covered with roofing membrane by the end of the day or the onset of inclement weather.
  5. Use at least 2 layers of insulation when the total insulation thickness exceeds 2-1/2 inches (64 mm). Stagger joints at least 12 inches (0.3 m) between layers.
- B. Install according to manufacturer's published instructions.

### 3.07 INSTALLATION OF MEMBRANE

The surface of the insulation or substrate shall be inspected prior to installation of the PVC roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.

- A. Contact Adhesive: Install according to manufacturer's published instructions.

### 3.08 HOT-AIR WELDING OF SEAM OVERLAPS

A. General

1. All seams shall be hot-air welded. Seam overlaps should be 3 inches (75 mm) wide when automatic machine-welding and 4 inches (100 mm) wide when hand-welding, except for certain details.
2. All membrane to be welded shall be clean and dry.

B. Hand-Welding

Hand-welded seams shall be completed in two stages. Hot-air welding equipment shall be allowed to warm up for at least one minute prior to welding.

1. The back edge of the seam shall be welded with a narrow but continuous weld to prevent loss of hot air during the final welding.
2. The nozzle shall be inserted into the seam at a 45 degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow," the hand roller is positioned perpendicular to the nozzle and rolled lightly. For straight seams, the 1-1/2 inch (40 mm) wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch (20 mm) wide nozzle shall be used.

C. Quality Control of Welded Seams

1. The Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the Applicator. One inch (25 mm) wide cross-section samples of welded seams shall be taken at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

### 3.09 MEMBRANE FLASHINGS

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Roofing Manufacture. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Applicator's expense. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces. Use caution to ensure adhesive fumes are not drawn into the building.

- D. Install 1 inch wide aluminum alloy bar with approved fasteners into the structural deck at the base of parapets, walls and curbs. Aluminum alloy bar is required at the base of all tapered edge strips and at transitions, peaks, and valleys.

- E. All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the PVC membrane.
- F. All flashing membranes shall be mechanically fastened along the counter-flashed top edge with aluminum alloy bar at 6-8 inches (0.15-0.20 m) on center.

### 3.10 TEMPORARY CUT-OFF

All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100% watertight seal. The stagger of the insulation joints shall be made even by installing partial panels of insulation. The new membrane shall be carried into the waterstop. The waterstop shall be sealed to the deck and/or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant as described in Section 2.10. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and properly disposed of off site. None of these materials shall be used in the new work.

If inclement weather occurs while a temporary waterstop is in place, the Applicator shall provide the labor necessary to monitor the situation to maintain a watertight condition.

If any water is allowed to enter under the newly-completed roofing, the affected area shall be removed and replaced at the Applicator's expense.

### 3.11 COMPLETION

Prior to demobilization from the site, the work shall be reviewed by the Owner's Representative and the Applicator. All defects noted and non-compliances with the Specifications or the recommendations of the roofing membrane manufacturer shall be itemized in a punch list. These items must be corrected immediately by the Applicator to the satisfaction of the Owner's Representative and the manufacturer prior to demobilization.

All Warranties referenced in this Specification shall have been submitted and have been accepted at time of contract award.

END OF SECTION 07 54 19