OFFICE OF PROCUREMENT
CONSTRUCTION MATERIALS TESTING AND SPECIAL INSPECTION SERVICES
CTHERINE AND ISIAH LEGGETT MATHC AND SCIENCE BUILDING
TAKOMA PARK/SILVER SPRING CAMPUS
RFP NO.: E621-002
RFP CLOSING DATE AND TIME: OCTOBER 19, 2020 @ 2:00 PM

ADDENDUM #1

Issued: October 12, 2020

THIS ADDENDUM IS BEING ISSUED TO PROVIDE ANSWERS TO THE FOLLOWING QUESTIONS.

The Following items Offer clarifications that do not change the RFP requirements.

Item 1-1 Question: For letter E number 1 in spec section Required Submissions, can you clarify what you mean by outlining standard administrative processes? Are you asking how we prepare sample test reports and daily activity reports?

Answer: Yes, submission of sample reports is encouraged to demonstrate technical competency.

Item 1-2 Question: Minority Participation Form 004539, can we provide all services in house without the use of subconsultants. Do we need still need try and meet the minimum 15% participation?

Answer: Work can be performed entirely by in-house staff and facilities without the use of subconsultants. The minority participation of 15% is a College goal, not a requirement.

Item 1-3 Question: For the Attachments to Technical Proposal Section 004243A (RFP page 002413-2): b) **Offeror's Relevant Project Experience**, items 1) - Major Projects list, and 2) – Relevant Project References – "Is it required that the projects listed (b.1) and the projects provided as reference examples (b.2) be completed in the last three years, or may they be ongoing?"

Answer: Completed projects are preferred, but ongoing projects are acceptable as long as they provide references.

Please note the following items offer clarifications that do change the RFP requirements.

Item 1-4 Question: On Page 004243-B-5, Item 3a.1 is Special Inspections for the Concrete Waterproofing. Please confirm which Specification Section these inspections are in reference to (e.g., below-grade waterproofing, roofing, etc.).

Answer: Specification Section 033000 Cast-in-Place Concrete and Section 071416 Cold Fluid Applied Waterproofing.

MONTGOMERY COLLEGE

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Item 1-5 Question: On Page 004243-B-5, Item 3b.12 is Construction Material Testing for Concrete Sealers requiring 20 tests. The Concrete Sealers table on Page 014000-13 requires testing for total solids content of the concrete sealers (one test per 55-gallon drum or one test per 5,000 SF) and one infrared spectra analysis of the sealer. Please confirm that the twenty required tests will be as follows: 1 test is for the infrared spectra analysis and 19 tests are for epoxy sampling for solids content. Or please clarify the intent for the required 20 tests.

Answer: Confirmed. The requirement pricing purposes are to be one (1) infrared spectra analysis test and nineteen (19) samples and tests for total solids content. **The Price Proposal Form has been revised and re-issued in its entirety. Please use the revised Price Proposal Form for Price Proposal submission. Failure to do so may deem an Offeror nonresponsive.**

Item 1-6 Question: Part 6 on Pages 17-18 of the RFP, Letter D noted 3 volumes of drawings for GMP 4, however, the cover page of Volume 2 notes only 2 volumes. Can you please clarify the number of volumes of GMP 4 drawings?

Answer: There are only two volumes of GMP 4 drawings.

Item 1-7 To **add** "Moisture Vapor Emission Control" testing requirements per Specification Section 090561.13 to the Price Proposal Form 004243-B and to 014000 Statement of Special Inspections. **See attached re-issued Price Proposal Form and Statement of Special Inspections.**

Index of Attachments to Addendum No. 1

Specification sections or portions reissued in entirety:
004243-B Price Proposal Form (revised on 10/12/2020)
014000 Statement of Special Inspections

Drawings reissued in entirety:
None

Sketches:
None

Items issued for informational purposes:
None

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Patrick Johnson, MBA
Director of Procurement

Please **sign** below to acknowledge receipt of this Addendum and return with the **Technical Proposal submission,** to the following email address, on or prior to the submittal deadline date and time: vendor.proposals@montgomerycollege.edu.

. Failure to return this Acknowledgement of Addendum may deem a proposal nonresponsive.

_____	_____
Company Name	Authorized Signature
_____	_____
Date	Printed/Typed Signature

PRICE PROPOSAL FORM (Revised on 10/12/2020)

To: Montgomery College

Re: **RFP No.: E621-002 Part B**
Construction Materials Testing and Special Inspection Services
Catherine and Isiah Leggett Math and Science Building
Takoma Park/Silver Spring Campus

Attn.: Procurement Office
Montgomery College
9221 Corporate Boulevard
Rockville, Maryland 20850

From: _____
(Provide Your Company's Name)

PART 1 - All proposals must be submitted electronically. Contractor must submit Price Proposal Form (Part B) and all Attachments in one PDF file, together with the Technical Proposal Form (Part A) and all Attachments in a separate PDF file. Both attachments shall be sent together, in a single email to: vendor.proposals@montgomerycollege.edu, prior to the RFP closing date and time, as outlined in RFP. The subject line of the email must include "Proposal Response to RFP No. E621-002 Construction Materials Testing and Special Inspection Services. Electronic proposal submittal is based on Eastern Standard Time (EST). Any proposal received at the above email address, after the EST submittal deadline, will be automatically rejected.Any proposal submission sent to the other email address other than the above specified will NOT be accepted.

In addition to the electronic submission, one original hard copy of Technical Proposal and Price Proposal shall be submitted and delivered to Montgomery College Central Receiving Office, Attn.: Office of Procurement, 7602 Standish Place, Derwood, Maryland 20855. Hard copy proposal must be received by the College **no later than five (5) business days** after the RFP due date and prior to contract award. See detailed submittal requirements in Section 002113 and Section 002413.

PART 2 - Please read the questions, note what is requested, then provide appropriate responses. Failure to answer any of the applicable questions contained in this section will make the proposal non-responsive and be grounds for rejection of the entire proposal. **Conditional proposals will not be accepted**. In order to be considered for the award, Contractor must bid all items and fill out all the following blanks. Failure to do so may deem a Contractor non-responsive.

PART 3 - Offeror acknowledges receipt of the following addenda:

Number_____Date_____

Number_____Date_____

Number_____Date_____

Number_____Date_____

Number_____Date_____

PART 4 - BASE PRICE: (State amounts in both words and numbers)

The proposed total contract amount, as detailed on the Base Price Breakdown Forms, including all scope of work outlined in the RFP document and referenced documents**,** whether specifically identified on the Base Price Breakdowns or not, to complete the Construction Materials Testing and Special Inspection Services for the Catherine and Isiah Leggett Math and Science Building at the Takoma Park/Silver Spring Campus, in accordance with this Request for Proposal documents, and construction documents (GMP 3 and GMP 4) and all addenda, Montgomery County special inspection requirements, and having examined both the Place of the Work and all matters referred to in the Request for Proposal, is:

A. Base Price (In Numbers):

1. GEOTECHNICAL (SOILS) AND FOUNDATIONS

   a. Special Inspections Subtotal: $_____

   b. Construction Materials Testing Subtotal: $_____

2. SUPERSTRUCTURE

   a. Special Inspections Subtotal: $_____

   b. Construction Materials Testing Subtotal: $_____

3. OWNER REQUIRED INSPECTIONS AND TESTING

   a. Special Inspections Subtotal: $_____

   b. Construction Materials Testing Subtotal: $_____

4. TOTAL COSTS

   Construction Materials Testing and Special Inspections

   (Sum of Line Items 1a+1b+2a+2b+3a+3b): $_____
   (Base Price Total)

Base Price Total:

(In Words): _____Dollars

(In Numbers): **$**_____

B. Base Price Breakdown

Offerors must complete following **Base Price Breakdown Forms** showing the unit prices and rates necessary to provide a complete testing and inspection program. **Travel and per diem expenses shall be included in the unit rates and hourly costs and will not be considered as reimbursable expenses for this project.** Additional testing and inspections that are outside the original scope will be paid on a units cost basis. Any work to be performed by sub-consultants shall also be included in the following forms. **All blanks must be filled out. Failure to do so may deem a proposal non-responsive.**

1. GEOTECHNICAL (SOILS) AND FOUNDATIONS					
Item	Task	Quantity	Unit	Unit Rate ($)	**Amount ($)**
1a. Special Inspections					
1	Inspection of Excavating, Backfilling and Compaction Work	144	HOURS		
2	Verification of Soil Bearing Capacity	40	HOURS		
3	Inspection of Formwork	120	HOURS		
4	Inspection of Foundations - Spread Footings and Mats	144	HOURS		
5	Inspection of Slab-on-Grade	40	HOURS		
6	Inspection of Retaining Walls	120	HOURS		
7	Inspection of Sheeting & Shoring	48	HOURS		
8	Inspection of Site Walls	120	HOURS		
9	Inspection of Concrete Paving	120	HOURS		
10	Inspection of Concrete Curing Techniques	80	HOURS		
11	Inspection of Concrete Placement and Testing	120	HOURS		
12	Inspection of Aggregate Piers	80	HOURS		
13	Inspection of Asphalt Paving	80	HOURS		
14	Project Manager Site Visits, Consulting	96	HOURS		
				Subtotal 1a =	
1b. Construction Material Testing					
15	Optimum Moisture-Density Curve	20	TESTS		
16	Field Density Test	N/A	TESTS	Included in on-site inspection	
17	Concrete Cylinders - Spread Footings and Concrete Pads (4" x 8")	120	CYLINDERS		
18	Concrete Cylinders – SOG (4" x 8")	350	CYLINDERS		
19	Concrete Cylinders - Site Walls (4" x 8")	250	CYLINDERS		
20	Slump	N/A	TESTS	Included in on-site inspection	
21	Air Content	N/A	TESTS	Included in on-site inspection	
22	Concrete temperature	N/A	TESTS	Included in on-site inspection	
23	Unit Weight	N/A	TESTS	Included in on-site inspection	
24	Water Content	60	TESTS		
25	Drying Shrinkage Test (3"x3"x11.25" steel molds)	60	PRISM		
26	Asphalt Pavement Density	40	TESTS		
27	Asphalt Pavement Stability	N/A	TESTS	Included in on-site inspection	
28	Asphalt Pavement Bituma Content	N/A	TESTS	Included in on-site inspection	
29	Asphalt Pavement Aggregates	N/A	TESTS	Included in on-site inspection	
30	Daily Vehicle Usage	120	DAYS		
31	PM, Report Writing, Administrative	N/A	HOURS	Include in unit rates	
				Subtotal 1b =	

2. SUPERSTRUCTURE					
Item	Task	Quantity	Unit	Unit Rate ($)	Amount ($)
2a. Special Inspections					
1	Inspection of Concrete Construction - Rebar	240	HOURS		
2	Inspection of Concrete Placement and Testing	280	HOURS		
3	Inspection of Cast-in Hardware for Concrete	40	HOURS		
4	Inspection of Post-Installed Anchors in Concrete	40	HOURS		
5	Inspection of Formwork	120	HOURS		
6	Inspection of Concrete Curing Techniques	120	HOURS		
7	Inspection of Concrete Unit Masonry	160	HOURS		
8	Inspection of Fabricator Plant(s)	32	HOURS		
9	Structural Steel - General Inspection	240	HOURS		
10	Structural Steel - Material Verification & Inspections of Bolts	240	HOURS		
11	Structural Steel - Material Verification & Inspections of Welds	240	HOURS		
12	Cold-Formed Steel Deck – Inspection of Placement & Attachment	60	HOURS		
13	Open-Web Steel Joists & Joist Girders – Inspection of connections and bridging	60	HOURS		
14	Project Manager Site Visits, Consulting	192	HOURS		
				Subtotal 2a =	
2b. Construction Material Testing					
15	Concrete Cylinders –Concrete on Metal Deck, Walls, Columns, and Slabs (4” x 8”)	1092	CYLINDERS		
16	Slump		TESTS	Included with on-site inspections	
17	Air Content		TESTS	Included with on-site inspections	
18	Concrete Temperature		TESTS	Included with on-site inspections	
19	Unit Weight		TESTS	Included with on-site inspections	
20	Water Content	90	TESTS		
21	Drying Shrinkage Test (3”x3”x11.25” steel molds)	90	PRISM		
22	Liquid Penetrant Weld Testing	20	TESTS		
23	Magnetic Particle Weld Testing	50	TESTS		
24	Ultrasonic Weld Testing	50	TESTS		
25	Welded Shear Connectors Testing	10	TESTS		
26	Radiographic Weld Testing	10	TESTS		
27	Mortar Test (2” x 2” cubes)	80	CUBE		
28	Grout Test (3” x 6”)	80	PRISM		
29	Daily Vehicle Usage	280	DAYS		
30	PM, Report Writing, Administrative	N/A	HOURS	Included in unit rates	
				Subtotal 2b =	

3. OWNER - REQUIRED INSPECTIONS AND TESTING					
Item	Task	Quantity	Unit	Unit Rate ($)	Amount ($)
3a. Special Inspections					
1	Concrete Waterproofing	60	HOURS		
2	Precast Architectural Concrete	40	HOURS		
3	Brick Masonry	360	HOURS		
4	Concrete Unit Masonry	240	HOURS		
5	Cold Formed Metal Framing (CFMF)	200	HOURS		
6	Sprayed Cellulose Insulation	20	HOURS		
7	Modified Bituminous Sheet Air Barriers	120	HOURS		
8	Applied Fireproofing	80	HOURS		
9	Penetration Firestopping	40	HOURS		
10	Joint Firestopping	40	HOURS		
11	Project Manager Site Visits, Consulting	128	HOURS		
				Subtotal 3a =	
3b. Construction Material Testing					
12	Concrete Sealers Infrared Spectra Analysis	1	TEST		
13	Concrete Sealers Total Solids Content	19	TESTS		
14	Precast Architectural Concrete Field Welds	10	TESTS		
15	Brick Mortar (2" x 2" cubes)	90	CUBE		
16	Concrete Unit Masonry	10	PRISM		
17	CMU Mortar (2" x 2" cubes)	90	CUBE		
18	CMU Grout (3" x 6")	90	PRISM		
19	CFMF Welds	20	TESTS		
20	Sprayed Cellulose Pull Off Adhesion Testing ASTM D 4541	6	TESTS		
21	Air Barrier Mock-up Adhesion Testing	5	TESTS		
22	Air barrier Assembly Adhesion Testing	20	TESTS		
23	Applied Fireproofing Bond Strength Testing	20	TESTS		
24	Applied Fireproofing Density Testing	20	TESTS		
25	Penetration Firestopping	N/A	TESTS	Included with on-site inspections	
26	Joint Firestopping	N/A	TESTS	Included with on-site inspections	
27	Paint Dry Film Thickness Testing	40	TESTS		
28	Moisture Vapor Emission Control (MVEC) +Anhydrous Calcium Chloride Test	20	TESTS		
29	MVEC internal Relative Humidity Test	20	TESTS		
30	MVEC Tensile Bond Strength Test	3	TESTS		
31	Daily Vehicle Usage	120	DAYS		
32	PM, Report Writing, Administrative	N/A	HOURS	Included in unit rates	
				Subtotal 3b =	
				Base Price Total (Sum 1a+1b+2a+2b+3a+3b) =	

PART 4 - SPECIAL PRICING REQUIREMENTS: (State amounts in both words and numbers)

A. **ALLOWANCES – NOT USED**

B. **ALTERNATES – NOT USED**

C. **UNIT PRICES – NOT USED**

PART 5 - The undersigned acknowledges the right of the College in its sole discretion to accept any Proposal or to reject any or all Proposals.

PART 7 – The undersigned agrees that if he/she is selected as the Contractor he/she will, within five (5) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the College, execute a Contract in accordance with the terms of this Solicitation and Contract Documents**.**

PART 8 – Upon contract award, the undersigned agrees to hold prices firm for the duration of the overall contract term.

PART 9 - The undersigned further certifies under the penalties of perjury that this proposal is in every respect bona-fide, fair and made without collusion or fraud with another person, joint venture, corporation, partnership or other business or legal entity**.**

PART 10 - SIGNATURES:

_____ _____
(Date) **(Company Name)**

_____
(Address)

_____
(Telephone Number)

_____
(Facsimile Number)

By: _____
SEAL IF A CORPORATION **Authorized Agent & Title (Print)**

_____
(Signature)

_____
(F.E.I.N.)

_____
(Company Contact E-mail Address)

BE SURE YOU SIGN YOUR PROPOSAL

STATEMENT OF SPECIAL INSPECTIONS (Revised on 10/12/2020)

Construction Materials Testing and Special Inspection Services
Catherine and Isiah Leggett Math and Science Building
Takoma Park/Silver Spring Campus

PART 1 - Project Description

Location:	Catherine and Isiah Leggett Math and Science Building Takoma Park/Silver Spring Campus 7600 Takoma Avenue, Takoma Park, MD
Occupancy Classifications:	B, A-3, and S-2
Construction:	Type II-B, fully sprinklered
Foundations:	Shallow spread footings on native soils
Superstructure:	Structural steel frame
Durability:	50 year design life
Seismic:	Seismic Design Category B. Special Inspections for seismic resistance are not required since the structure is not in Seismic Design Category C, D, E or F (IBC sections 1704.5.1 and 1705.11).
Wind:	Wind design will be governed by a Basic Wind Speed of 115 mph and Exposure B. Special Inspections for wind resistance are not required since Vasd is less than 110 miles per hour (IBC sections 1704.5.2 and 1705.10).

PART 2 - Required Tests and Special Inspections

The following tests and special inspections are to be provided by personnel qualified to perform such work, per the minimum requirements of the *2016 International Building Code and the Construction Documents.*

1. Steel Construction (IBC 1705.2.1)
    a. Welding (IBC 1705.2.1)
    b. Details (IBC 1705.2.1)
2. Masonry Construction (IBC 1705.4)
    a. Empirically Designed Masonry (IBC 1705.4.1)
    b. Vertical Masonry Foundation Elements (IBC 1705.4.2)
3. Soil (IBC 1705.4)
4. Concrete Construction (IBC 1705.3)

A. REQUIRED VERIFICATION AND INSPECTION OF STEEL FABRICATORS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
Verify fabrication/quality control procedures	—	X	—	1704.2.5
a. Structural Steel Fabricators: Special inspection for structural steel shall be in accordance with the quality assurance inspection requirements of AISC 360.	X	X	AISC 360	1705.2.1
b. Structural Steel Fabricators: Special inspection for structural steel shall be in accordance with the City of Rockville Complex Structures Requirements	X	X	City of Rockville Complex Structures Requirements	---

B. REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

STRUCTURAL STEEL - NONDESTRUCTIVE TESTING OF WELDED JOINTS			
Nondestructive testing of welded joints shall conform to AISC 360, Section N5 and shall be performed by the Special Inspector (quality assurance inspector) in accordance with AWS D1.1.			
TABLE N5.4-1 Inspection Tasks Prior to Welding			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Welding procedure specifications (WPSs) available.	X		AISC 360, Chapter N
Manufacturer certifications for welding consumables available.	X		AISC 360, Chapter N
Material identification (type/grade)		X	AISC 360, Chapter N
Welder identifications system		X	AISC 360, Chapter N
Fit-up of groove welds (including joint geometry) • Joint preparation • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location) • Backing type and fit (if applicable)		X	AISC 360, Chapter N
Configuration and finish of access holes		X	AISC 360, Chapter N
Fit-up of fillet welds • Dimensions (alignment, gaps and root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)		X	AISC 360, Chapter N
Check welding equipment		X	AISC 360, Chapter N

STRUCTURAL STEEL - NONDESTRUCTIVE TESTING OF WELDED JOINTS			
Nondestructive testing of welded joints shall conform to AISC 360, Section N5 and shall be performed by the Special Inspector (quality assurance inspector) in accordance with AWS D1.1.			
TABLE N5.4-2 Inspection Tasks During Welding			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Use of qualified welders		X	AISC 360, Chapter N
Control and handling of welding consumables • Packaging • Exposure control		X	AISC 360, Chapter N
No welding over cracked tack welds		X	AISC 360, Chapter N
Environmental conditions • Wind speed within limits • Precipitation and temperature		X	AISC 360, Chapter N
WPS followed • Settings on welding equipment • Travel speed • Selected welding materials • Shielding gas type / flow rate • Preheat applied • Interpass temperature maintained (min/max) • Proper position (F, V, H, OH)		X	AISC 360, Chapter N
Welding Techniques • Interpass and final cleaning • Each pass within profile limitations • Each pass meets quality requirements		X	AISC 360, Chapter N

STRUCTURAL STEEL - INSPECTION OF HIGH STRENGTH BOLTING			
TABLE N5.6-1 Inspection Tasks Prior to Bolting			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Manufacturer's certifications available for fastener materials	X		AISC 360, Chapter N
Fasteners marked in accordance with ASTM requirements		X	AISC 360, Chapter N
Proper fasteners selected for the joint detail (grade, type, bolt length, if threads are to be excluded from shear plane).		X	AISC 360, Chapter N
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements		X	AISC 360, Chapter N
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and method used		X	AISC 360, Chapter N
Proper storage provided for bolts, nuts, washers, and other fastener components		X	AISC 360, Chapter N

STRUCTURAL STEEL - INSPECTION OF HIGH STRENGTH BOLTING			
TABLE N5.6-2 **Inspection Tasks During Bolting**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required		X	AISC 360, Chapter N
Joint brought to the snug-tight condition prior to the pretensioning operation		X	AISC 360, Chapter N
Fastener component not turned by the wrench prevented from rotating		X	AISC 360, Chapter N
Fasteners are pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges		X	AISC 360, Chapter N

STRUCTURAL STEEL - INSPECTION OF HIGH STRENGTH BOLTING			
TABLE N5.6-3 **Inspection Tasks After Bolting**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Document acceptance or rejection of bolted connections.		X	AISC 360, Chapter N

COLD-FORMED STEEL DECK - PLACEMENT			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.1 **Inspection or Execution Tasks Prior to Deck Placement**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Verify compliance of materials (deck and all deck Accessories with construction documents, including profiles, material properties, and base metal thickness		X	SDI QA/QC-2001, Appendix 1
Document acceptance or rejections of installation of Deck and deck accessories.		X	SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK - PLACEMENT			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.2 **Inspection or Execution Tasks After Deck Placement**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Verify compliance of deck and all deck accessories installation with construction documents		X	SDI QA/QC-2001, Appendix 1
Verify deck materials are represented by the mill certifications that comply with the construction documents		X	SDI QA/QC-2001, Appendix 1
Document acceptance or rejection of installation of deck and deck accessories		X	SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK - PLACEMENT			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.3 **Inspection or Execution Tasks Prior to Welding**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Welding procedure specifications (WPS) available	X		SDI QA/QC-2001, Appendix 1
Manufacturer certifications for welding consumables available	X		SDI QA/QC-2001, Appendix 1
Material identification (type/grade)	X		SDI QA/QC-2001, Appendix 1
Check welding equipment	X		SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK - WELDED			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.4 **Inspection or Execution Tasks During Welding**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Use of qualified welders	X		SDI QA/QC-2001, Appendix 1
Control and handling of welding consumables	X		SDI QA/QC-2001, Appendix 1
Environmental conditions (wind speed, moisture, temperature)	X		SDI QA/QC-2001, Appendix 1
WPS followed	X		SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK - WELDED			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.5 **Inspection or Execution Tasks After Welding**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Verify size and location of welds, including support, side lap, and perimeter welds		X	SDI QA/QC-2001, Appendix 1
Welds meet visual acceptance criteria		X	SDI QA/QC-2001, Appendix 1
Verify repair activities		X	SDI QA/QC-2001, Appendix 1
Document acceptance or rejection of welds		X	SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK - WELDED			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.6 **Inspection or Execution Tasks Prior to Mechanical Fastening**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Manufacturer installation instructions available for mechanical fasteners	X		SDI QA/QC-2001, Appendix 1
Proper tools available for fastener installation	X		SDI QA/QC-2001, Appendix 1
Proper storage for mechanical fasteners	X		SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK – MECHANICALLY FASTENED			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.7 **Inspection or Execution Tasks During Mechanical Fastening**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Fasteners are positioned as required	X		SDI QA/QC-2001, Appendix 1
Fasteners are installed in accordance with manufacturer's instructions	X		SDI QA/QC-2001, Appendix 1

COLD-FORMED STEEL DECK – MECHANICALLY FASTENED			
Reference: IBC Section 1705.2.2. Inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC-2011 Standard for Quality Control and Quality Assurance for Installation of Steel Deck			
TABLE 1.8 **Inspection or Execution Tasks After Mechanical Fastening**			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Check spacing, type, and installation of support fasteners	X		SDI QA/QC-2001, Appendix 1
Check spacing, type, and installation of side lap fasteners	X		SDI QA/QC-2001, Appendix 1
Check spacing, type, and installation of perimeter fasteners	X		SDI QA/QC-2001, Appendix 1
Verify repair activities	X		SDI QA/QC-2001, Appendix 1
Document acceptance or rejection of mechanical fasteners	X		SDI QA/QC-2001, Appendix 1

OPEN-WEB STEEL JOISTS AND JOIST GIRDERS			
Reference: IBC Section 1705.2.3			
Required Special Inspections of Open Web Steel Joists and Joist Girders			
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**
Installation of open-web steel joists and joist girders:			
a. End connections – welded or bolted	X		IBC Section 1705.2.3
b. Bridging – horizontal and diagonal • Standard bridging • Bridging that differs from the Steel Joist Institute SJI specifications listed in IBC Section 2207.1		X	IBC Section 1705.2.3

C. REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

CONCRETE				
Reference: IBC Section 1705.3				
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**	**REFERENCED STANDARD**	**IBC REFERENCE**
Inspection of reinforcing steel and verify placement.		X	ACI 318: 3.5, 7.1-7.7	1910.4
Inspection of reinforcing steel welding in accordance with Table 1705.2.2, Item 2B. • Verify weldability of reinforcing bars other than ASTM A706 • Inspect single-pass fillet welds, maximum 5/16; • Inspect all other welds	X		AWS D1.4; ACI 318: 3.5.2	—
Inspect anchors cast in concrete	X		ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
Inspect anchors post-installed in hardened concrete members. • Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. Installation shall be performed by an ACI or CRSI certified adhesive anchor installer. • Mechanical anchors and adhesive anchors not defined above.	X		ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
Verifying use of required design mix.	—	X	ACI 318: Ch. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete	X	—	ASTM C 172; ASTM C 31; ACI 318: 5.6, 5.8	1910.10
Inspection of concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
Inspection for maintenance of specified curing temperature and techniques.	—	X	ACI 318: 5.11-5.13	1910.9
Verification on in-situ concrete strength and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 6.2	—
Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 6.1.1	—

D. REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

MASONRY				
	Reference: IBC Section 1705.4			
	CONTINUOUS	**PERIODIC**	**ACI 530/ASCE 5/TMS 402**	**ACI 530.1/ASCE 6/TMS 602**
Verify compliance with the approved submittals	—	X	—	Art. 1.5
As masonry construction begins, verify that the following are in compliance:				
a. Proportions of site-prepared mortar.	—	X	—	Art. 2.1, 2.6A
b. Construction of mortar joints.		X	—	Art. 3.3B
c. Grade and size of anchorages.		X	—	Art. 2.4B, 2.4H
d. Location of reinforcement, connectors, and anchorages.		X	—	Art. 3.4, 3.6A
e. Properties of thin-bed mortar for AAC masonry.	X	X	—	Art. 2.1C
Prior to grouting, verify that the following are in compliance:				
a. Grout space	—	X	—	Art. 3.2D, 3.2F
b. Grade, type, and size of reinforcement, anchor bolts, and anchorages		X	Sec. 1.16	Art. 2.4, 3.4
c. Placement of reinforcement, connectors and anchorages.		X	Sec. 1.16	Art. 3.2E, 3.4, 3.6A
d. Construction of mortar joints.		X	—	Art. 3.3B
Verify during construction:				
a. Size and location of structural elements.	—	X	—	Art. 3.3F
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other	—	X	Sec. 1.16, 4.3, 1.17.1	—
c. Welding of reinforcement	X	—	Sec. 2.1.7.7.2, 3.3.3.4 c, 8.3.3.4 b	—
d. Preparation, construction and protection of masonry during cold weather (temperature below 40 °F) or hot weather (temperature above 90°F).	—	X	—	Art. 1.8C, 1.8D

e. Placement of grout is in compliance	X	—	—	Art. 3.5. 3.6C
f. Placement of AAC masonry units and construction of thin-bed mortar joints	X	X	—	Art. 3.3B.8
Observe preparation of any grout specimens, mortar specimens and/or prisms	—	X	—	Art. 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4

E. REQUIRED VERIFICATION AND INSPECTION OF SOILS AND FOUNDATIONS

SOILS AND FOUNDATIONS		
Reference: IBC Section 1705.6		
VERIFICATION AND INSPECTION	**CONTINUOUS**	**PERIODIC**
Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X
Verify excavations are extended to proper depth and have reached proper material.	—	X
Perform classification and testing of compacted fill materials.	—	X
Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill.	X	—
Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	—	X
Rammed Aggregate Pier Modulus Test	--	1 per project
Review Rammed Aggregate Pier Installation	--	X
City of Rockville Complex Structures Requirements	X	X

F. Additional Testing and Inspection Requirements Per Specifications

The following testing and inspection requirements are to be provided per the project specifications. The following tests and inspections are to be in conjunction with the requirements of the *2012 International Building Code.* Any omitted portion will be assumed to be covered by the requirements of the building code, and shall be provided in any case. Refer to the specifications for additional information and requirements.

SOILS AND FOUNDATIONS		
Reference: Section 312000		
Geotechnical Testing Agency qualifications per ASTM E 329 and ASTM D 3740 for testing indicated.		
Test Description	**Reference Standard**	**Frequency**
Material test reports	ASTM D 2487, ASTM D 698	For each on-site and borrow soil material proposed for fill and backfill.
Determine prior to placement of fill that site has been prepared in compliance with requirements.	_	Periodically
Determine that fill material classification and maximum lift thickness comply with requirements.	_	Periodically
Determine, during placement and compaction that in-place density of compacted fill complies with requirements.	_	Periodically
Compaction of soils in place	ASTM D1556, ASTM D2167, ASTM D2922	Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2,000 sq. ft. or less of paved area or building slab but in no case fewer than three tests.
		Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length, but no fewer than two tests.
		Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length, but no fewer than two tests.
Review Rammed Aggregate Pier Installation	316330	Periodically
Inspection of compaction work	--	Daily

CONCRETE PAVING		
Reference Section 321313		
Testing Agency qualifications per ASTM C 1077 and ASTM E 329 for testing indicated.		
Test Description	**Reference Standard**	**Frequency**
Testing and inspecting of composite samples shall be performed according to the following requirements:	ASTM C 172 / C 172M	Obtain at least one composite sample for each 100 cu. yd. or 5,000 sq. ft. or fraction thereof of each concrete mixture placed each day. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
Concrete Slump	ASTM C 143/C 143M	1 test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
Concrete Air Content	ASTM C 231/C 231M, pressure method	1 test for each composite sample, but not less than 1 test for each day's pour of each concrete mixture.
Concrete Temperature	ASTM C 1064/C 1064M	1 test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and 1 test for each composite sample
Compression Test Specimens	ASTM C 31/C 31M	Cast and laboratory cure one set of three standard cylinder specimens for each composite sample
Compressive-Strength Tests	ASTM C 39/C 39M	One specimen at 7 days and two specimens at 28 days.

CAST IN PLACE CONCRETE		
Reference: Sections 033000, 033001		
Test Description	**Reference Standard**	**Frequency**
Sampling Fresh Concrete	ASTM C 172, except modified for slump to comply with ASTM C 94	
Concrete Slump	ASTM C143	1 test at point of discharge for each truck; additional tests when concrete consistency seems to have changed.
Concrete Air Content	ASTM C173 (or ASTM C231 & ASTM C138)	Once per truck of air-entrained concrete.
Concrete Temperature	ASTM C1064	Test hourly when air temperature is 40oF and below, and when 80oF and above; and each time a set of compression test specimens made.
Compression Test Specimen	ASTM C 31	1 set of 5 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required
Compressive Strength Tests	ASTM C 39/C 39 M	1 set for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for reach additional 50 cu. yd. or fraction thereof; 1 composite sample for reach 100 cu. yd. or fraction thereof of each concrete mixture each day; test one set of laboratory-cured and one set of field-cured specimens at 7 days and one set of each at 28 days; one set of specimens shall be retained in reserve for later testing if required.
Water Cement Ratio Test	AASHTO TP 23 / SHRP 2027	Same as compressive strength tests noted above.
Floor Preparation to Receive Resilient Flooring	ASTM F 710	For any concrete that receives resilient flooring.
Concrete drying shrinkage	ASTM C157	1 per 200 CY of slab-on- grade or supported slab
Inspection of concrete placement	_	Continuous
Inspection of concrete curing techniques	_	Continuous (in lieu of "periodic" per *2012 IBC*)
Pre-pour inspection of reinforcing steel	_	Continuous (in lieu of "periodic" per *2012 IBC*)

WATERPROOFING – CONCRETE SEALERS		
Reference Section 033513, -14000		
Test Description	**Reference Standard**	**Frequency**
Sampling and testing of total solids content of concrete sealer	NCHRP 244	At least one sample per 55 gallon drum or one sample for every 5000 SF of sealed surface
Testing of concrete sealer with infrared spectra analysis	NCHRP 244	Once per project

FABRICATED HARDWARE FOR CAST-IN PLACE OR PRECAST CONCRETE		
Reference Section 034500		
Test Description	**Reference Standard**	**Frequency**
Review and verify welding procedures	---	Once, at start of fabrication
Visually inspect welds on 25% of pieces fabricated	ASTM E 165 or ASTM E 709 and ASTM E 1444	Once at mid-schedule, once prior to shipping and installation

MASONRY		
Reference: Section 042200		
Special Inspections according to Level B in TMS 402 / ACI 530 / ASCE 5		
Test Description	**Reference Standard**	**Frequency**
Sample and test mortar (property specification)	ASTM C780	For each mix provided, once for each 5000 SF of masonry and once each day.
Sample and test grout (compressive strength)	ASTM C1019	For each mix provided - once for each 5000 SF of grouted masonry
Concrete Masonry Unit (compressive strength)	ASTM C140	For each type of unit provided
Inspection of mortar preparation and handling	_	Continuous
Inspection of protection of masonry materials	_	Continuous
Inspection of cold weather / hot weather procedures	_	Periodic
Inspection of conformity with project specifications	_	Continuous
Inspection of cores prior to grouting	_	Continuous
Inspection of reinforcement position and spacing	_	Periodic
Inspection of grout vibration	_	Continuous

STRUCTURAL STEEL (FRAMING, JOISTS, DECKING)		
Reference Sections 051200, 053100		
Shop Inspection and Field Inspection		
Test Description	**Reference Standard**	**Frequency**
Weld inspection	_	Visually inspect all welds. Measure 25% of all welds, selected randomly.
Bolt Connections	_	Visually inspect all bolted connections. 25% of all bolts, selected randomly, shall be checked with calibrated torque wrench.
Magnetic particle testing	ASTM E 1444	Test 15% of all fillet welds at random. Test 1'-0" at each end of automatic fillet welds.
Ultrasonic testing	ASTM E 114 and AWS Chapter 6, Section C.	Test 100% of all full-penetration welds. Test 100% of all partial penetration column splice welds.
Ultrasonic testing – Moment connections	_	Test for lamination in column flanges.

Welded shear connectors	AWS D1.1	Test 10% of welded shear connectors.
Inspect installation of bearing type and slip critical bolted joints	_	Continuous
Shop painting	SSPC-Vis 1 and SSPC-PA 2	Visually evaluate surface preparation by comparison with pictorial standards Measure dry film thickness of each coat. Visual inspection of dried film.
Steel Decking	ASTM E 165 ASTM A 709 ASTM E 94 & E 1032	Inspection and testing of welding to ensure the work is within the specified quality requirements

COLD FORMED METAL FRAMING		
Reference Section 055000		
Test Description	**Reference Standard**	**Frequency**
Weld inspection	-	All field and shop welds.

GLAZED DECORATIVE METAL RAILINGS		
Reference Section 057300		
Test Description	**Reference Standard**	**Frequency**
Completed railing assemblies	ASTM E 894 ASTM E 935	Randomly for each different railing design and conditions

MODIFIED BITUMINOUS SHEET AIR BARRIERS		
Reference Section 072726		
Test Description	**Reference Standard**	**Frequency**
Adhesion Testing	ASTM D4541	Preconstruction testing (mockup)
Inspections	_	Air barrier materials, accessories, and installation are subject to inspection for compliance with requirements. Refer to specifications for additional information.

APPLIED FIREPROOFING		
Reference Section 078100		
Test Description	**Reference Standard**	**Frequency**
Preconstruction Adhesion and Compatibility Testing	ASTM E 736 (bond strength), ASTM E 605 (density)	Preconstruction testing of bond strength, density, and compatibility with primers and coatings.
Construction Testing	IBC, Subsection 1705.13	Per IBC. Perform the tests and inspections of completed Work in successive stages. Do not proceed with application of fireproofing for the next area until test results for previously completed applications of fireproofing show compliance with requirements

INTUMESCENT FIREPROOFING		
Reference Section 078123		
Test Description	**Reference Standard**	**Frequency**
Mastic and Intumescent Fire-resistant Coatings	IBC, Subsection 1704.15	Per IBC

FIRESTOPPING		
Reference Section 078413, 078443		
Test Description	**Reference Standard**	**Frequency**
Penetration Firestopping	ASTM E814 UL 1479	Per IBC
Joint Firestopping	ASTM E 2393	Per IBC

ASPHALT PAVING		
Reference Section 014100 and 321216, more restrictive of these sections apply		
Test Description	**Reference Standard**	**Frequency**
Asphalt Pavement Density	ASTM D979, ASTM D2950, ASTM D1559	1 test per 50 square yards, minimum 1 per day
Asphalt Pavement Stability, Flow, VMA, etc.	ASTM D979 ASTM D1559	1 sample per day, per mix
Asphalt Pavement Bituma Content	ASTM D979, ASTM D4125	1 sample per day, per mix
Aggregates	Maryland DOT	---

MOISTURE VAPOR EMISSION CONTROL		
Reference Section 090561.13		
Test Description	**Reference Standard**	**Frequency**
Anhydrous Calcium Chloride Test	ASTM F 1869	Three tests for the first 1,000 square feet, 1 test per 1,000 additional square feet
Internal Relative Humidity Test	ASTM F 2170	Three tests for the first 1,000 square feet, 1 test per 1,000 additional square feet
Tensile-Bond-Strength Testing	ASTM D 7234	One test per 100 square feet of mock-up area

PART 3 - Additional Testing and Inspection Requirements

3.1 The following testing and inspection requirements are to be provided.

3.1. The following inspections are required:
   a. Sheeting and Shoring
   b. Reinforcement for Existing Footings
   c. Cantilevered Retaining Walls.

3.2. A Pre-Construction Meeting is required with Montgomery County DPS building inspector when construction work is started.

3.3. Special Inspection requirements:

a. Sheeting and Shoring

All sheeting and shoring shall be designed by a structural engineer licensed in the State of Maryland. Designs shall be submitted to the Structural Engineer of Record (SER) for review and comment. The registered professional in responsible charge shall develop a comprehensive inspection list based on the specific needs of the project design, subject to approval by the SER. The inspection procedure shall be submitted prior to commencement of construction at meeting.

1. Pile/Soldier Beam Installation
    a. Inspect all types of sheeting and shoring installation.
    b. Inspect the drilling and backfilling.
    c. Inspect the pile size and location as well as plumbness.
2. Lagging
    a. Inspect lagging for size, location, and condition.
3. Tieback Installation
    a. Inspect tieback installation to verify size, anchor length, number of strands, elevation, and angle of installation.
    b. Inspect grouting of tiebacks and take samples as needed.
    c. Inspect the length of bonded zone.
4. Rock Bolts
    a. Inspect location, size, and bonded length.
5. Tieback Testing
    a. Ensure that all hydraulic jacks are used to perform anchor tensioning have current calibration and that the gauge is calibrated to appropriate increments.
    b. Periodically inspect the contractor's proof test or performance test tieback.
    c. Periodically verify that the lockoff loads are consistent with approved plans and specifications.
    d. Review all contractors' data with regard to installation and testing of the tieback anchors.

b. Underpinning

All underpinning shall be designed by a structural engineer licensed in the State of Maryland. Designs shall be submitted to the SER for review and approval prior to submitting for underpinning permit. The registered professional in responsible charge shall develop a comprehensive inspection list based on the specific needs of the project design, subject to approval by the SER. The inspection procedure shall be submitted to the Construction Manager at Risk and the College prior to the commencement of construction.

c. Soils and Foundation System Inspection and Testing Services

1. Soils (Also see SSI)
    a. Inspect proof-rolling and delineate unsuitable materials within areas proposed for support of structural fill, ground slabs and pavement areas.
    b. Conduct laboratory tests on samples of proposed fill materials.
    c. Inspect placement of engineered fill and backfill materials.
    d. Conduct field density tests on placed compacted fill.
    e. State that fill placement was performed in accordance with approved construction documents.
    f. At least one soil technician shall be present full-time during compaction of structural

fill material.

g. At least one soil technician shall be present full-time during the application of soil strengthening methods such as Dynamic Compaction, Rammed Aggregate Piers etc.

2. Foundations – Footings and mat foundation (Also see SSI)
   a. Conduct foundation excavation inspection and testing to determine adequate bearing.
   b. Conduct inspection and testing to determine adequate reinforcement.
   c. State that in his/her professional opinion the footings are bearing on subgrades capable of supporting the design loads.
   d. Conduct inspection of basement and retaining walls for conformance to the approved construction documents.

3. Records and Certification

   Upon completion of the geotechnical engineering services provide a certified document stating that to the best of his/her knowledge and in his/her opinion the construction of soils and foundations has been completed in accordance with the requirements of the project plans and specifications.