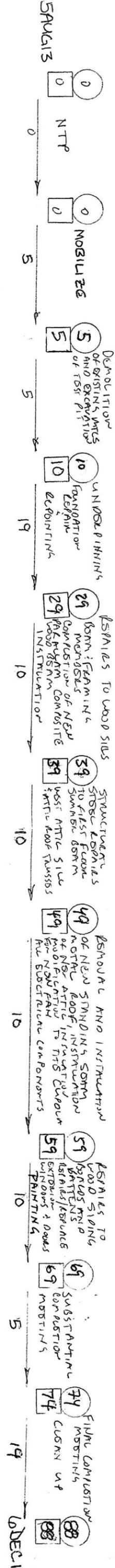


Mifflinburg Buggy Museum - Union County



Mifflinburg Buggy Museum

2013 Workday Calendar

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
				1	2	3	4	5	XXX	XXX	6	7	8	9	10	XXX	XXX	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	XXX
Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
XXX	XXX	21	22	23	24	XXX	XXX	25	26	27	28	29	XXX	XXX	30	31	32	33	34	XXX	XXX	35	36	37	38	39	XXX	XXX	40									
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
41	42	43	44	XXX	XXX	45	46	47	48	49	XXX	XXX	50	51	52	53	54	55	56	57	58	59	XXX	XXX	60	61	62	63										
Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
99	XXX	XXX	65	66	67	68	69	XXX	XXX	70	71	72	73	74	XXX	XXX	75	76	77	78	79	XXX	XXX	80	81	82	83	84										
Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
XXX	84	85	86	87	88																																	
Sun	Mon	Tue	Wed	Thu	Fri																																	

FOR INFORMATION ONLY  
NOT BINDING AS A WORK SCHEDULE

CRITICAL PATH NETWORK SCHEDULE  
ACTIVITY ON ARROW DIAGRAM

FOR CONSTRUCTION OF

**MIFFLINBURG BUGGY MUSEUM  
UNION COUNTY**

BASED ON A 5 DAY WORK WEEK  
AJ USCOWSKAS 19SEP12

REV 150P/13  
7/23/13  
ASU



**PREVAILING WAGES PROJECT RATES**

**Project Name:** ECMS 93501 - Mifflinburg Buggy Museum

**Awarding Agency:** PennDOT 3-0

**Contract Award Date:** 7/22/2013

**Serial Number:** 13-01948

**Project Classification:** Building

**Determination Date:** 3/28/2013

**Assigned Field Office:** Harrisburg

**Field Office Phone Number:** 717-787-4763

**Toll Free Phone Number:** 800-932-0665

**Union County**

<b>Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Asbestos & Insulation Workers	7/1/2011		\$34.28	\$15.32	\$49.60
Asbestos & Insulation Workers	7/1/2012		\$34.48	\$16.52	\$51.00
Boilermaker (Commercial, Institutional, and Minor Repair Work)	1/1/2010		\$23.59	\$15.15	\$38.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2011		\$24.22	\$16.02	\$40.24
Boilermaker (Commercial, Institutional, and Minor Repair Work)	5/1/2012		\$24.84	\$16.90	\$41.74
Boilermakers	1/1/2011		\$37.35	\$28.12	\$65.47
Boilermakers	1/1/2012		\$37.62	\$29.85	\$67.47
Boilermakers	1/1/2013		\$38.69	\$31.13	\$69.82
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/2/2011		\$30.05	\$14.45	\$44.50
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	4/29/2012		\$30.55	\$14.50	\$45.05
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	4/28/2013		\$31.04	\$14.71	\$45.75
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/4/2014		\$31.62	\$14.93	\$46.55
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/3/2015		\$32.24	\$15.16	\$47.40
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2016		\$32.90	\$15.40	\$48.30
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2008		\$23.81	\$10.52	\$34.33

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2009		\$24.81	\$11.27	\$36.08
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2010		\$25.71	\$12.02	\$37.73
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2011		\$26.86	\$12.52	\$39.38
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2012		\$26.88	\$13.25	\$40.13
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2013		\$27.18	\$13.80	\$40.98
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2014		\$27.57	\$14.37	\$41.94
Cement Finishers	6/1/2008		\$25.88	\$7.75	\$33.63
Cement Finishers	6/1/2009		\$27.83	\$7.75	\$35.58
Cement Finishers	6/1/2010		\$29.00	\$8.53	\$37.53
Cement Finishers	6/1/2011		\$30.10	\$8.53	\$38.63
Cement Finishers	6/1/2012		\$30.38	\$9.25	\$39.63
Cement Finishers	6/1/2013		\$32.10	\$8.53	\$40.63
Dockbuilder, Pile Drivers	1/1/2010		\$29.95	\$12.25	\$42.20
Dockbuilder, Pile Drivers	1/1/2011		\$30.35	\$13.10	\$43.45
Dockbuilder, Pile Drivers	1/1/2012		\$30.85	\$13.70	\$44.55
Dockbuilder, Pile Drivers	1/1/2013		\$31.45	\$14.20	\$45.65
Drywall Finisher	5/1/2009		\$23.31	\$12.57	\$35.88
Drywall Finisher	5/1/2010		\$23.86	\$13.27	\$37.13
Drywall Finisher	5/1/2011		\$24.61	\$14.52	\$39.13
Drywall Finisher	5/1/2012		\$25.11	\$15.07	\$40.18
Drywall Finisher	5/1/2013		\$25.11	\$16.22	\$41.33
Drywall Finisher	5/1/2014		\$25.11	\$17.52	\$42.63
Electric Lineman	3/1/2006		\$35.15	\$14.64	\$49.79
Electricians	9/1/2009		\$27.35	\$17.14	\$44.49
Electricians	9/1/2010		\$27.85	\$18.65	\$46.50
Electricians	9/1/2011		\$28.35	\$20.19	\$48.54

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Electricians	9/1/2012		\$28.60	\$20.93	\$49.53
Electricians	9/1/2013		\$29.10	\$21.70	\$50.80
Electricians	9/1/2014		\$29.60	\$22.72	\$52.32
Elevator Constructor	1/1/2009		\$37.33	\$21.20	\$58.53
Elevator Constructor	1/1/2010		\$38.84	\$22.82	\$61.66
Elevator Constructor	1/1/2011		\$40.33	\$24.44	\$64.77
Elevator Constructor	1/1/2012		\$41.84	\$26.06	\$67.90
Elevator Tender (Use Elevator Apprentice or Constructor)	1/1/2008		\$0.00	\$0.00	\$0.00
Glazier	5/1/2009		\$24.53	\$11.72	\$36.25
Glazier	5/1/2010		\$22.73	\$14.55	\$37.28
Glazier	1/1/2012		\$23.53	\$14.25	\$37.78
Glazier	5/1/2012		\$23.53	\$15.50	\$39.03
Glazier	5/1/2013		\$23.53	\$17.00	\$40.53
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2009		\$27.07	\$21.85	\$48.92
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2010		\$27.77	\$23.09	\$50.86
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2011		\$29.02	\$24.09	\$53.11
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2012		\$29.52	\$25.11	\$54.63
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2013		\$31.05	\$25.11	\$56.16
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2014		\$32.58	\$25.11	\$57.69
Laborers (Class 01 - See notes)	5/1/2009		\$18.77	\$8.28	\$27.05
Laborers (Class 01 - See notes)	5/1/2010		\$19.67	\$8.68	\$28.35
Laborers (Class 01 - See notes)	5/1/2011		\$19.67	\$9.18	\$28.85
Laborers (Class 01 - See notes)	5/1/2012		\$19.67	\$9.98	\$29.65
Laborers (Class 01 - See notes)	5/1/2013		\$19.67	\$10.78	\$30.45
Laborers (Class 02 - See notes)	5/1/2009		\$20.77	\$8.28	\$29.05
Laborers (Class 02 - See notes)	5/1/2010		\$21.67	\$8.68	\$30.35
Laborers (Class 02 - See notes)	5/1/2011		\$21.67	\$9.18	\$30.85
Laborers (Class 02 - See notes)	5/1/2012		\$21.67	\$9.98	\$31.65
Laborers (Class 02 - See notes)	5/1/2013		\$21.67	\$10.78	\$32.45
Laborers (Class 03 - See notes)	5/1/2009		\$22.36	\$8.28	\$30.64

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 03 - See notes)	5/1/2010		\$23.26	\$8.68	\$31.94
Laborers (Class 03 - See notes)	5/1/2011		\$22.76	\$9.18	\$31.94
Laborers (Class 03 - See notes)	5/1/2012		\$22.76	\$10.06	\$32.82
Laborers (Class 03 - See notes)	5/1/2013		\$22.76	\$10.86	\$33.62
Laborers (Class 04 - See notes)	5/1/2009		\$23.86	\$8.28	\$32.14
Laborers (Class 04 - See notes)	5/1/2010		\$24.76	\$8.68	\$33.44
Laborers (Class 04 - See notes)	5/1/2011		\$24.26	\$9.18	\$33.44
Laborers (Class 04 - See notes)	5/1/2012		\$24.26	\$10.06	\$34.32
Laborers (Class 04 - See notes)	5/1/2013		\$24.26	\$10.86	\$35.12
Laborers (Class 05 - See notes)	5/3/2009		\$24.46	\$8.31	\$32.77
Laborers (Class 05 - See notes)	5/1/2010		\$25.26	\$8.68	\$33.94
Laborers (Class 05 - See notes)	5/1/2011		\$24.76	\$9.18	\$33.94
Laborers (Class 05 - See notes)	5/1/2012		\$24.76	\$10.06	\$34.82
Laborers (Class 05 - See notes)	5/1/2013		\$24.76	\$10.86	\$35.62
Laborers (Class 06 - See notes)	5/1/2011		\$21.67	\$9.18	\$30.85
Laborers (Class 06 - See notes)	5/1/2012		\$21.67	\$9.98	\$31.65
Laborers (Class 06 - See notes)	5/1/2013		\$21.67	\$10.78	\$32.45
Millwright	5/1/2009		\$27.41	\$13.47	\$40.88
Millwright	5/1/2010		\$28.91	\$13.99	\$42.90
Millwright	5/1/2011		\$30.27	\$14.63	\$44.90
Millwright	5/1/2012		\$31.14	\$15.26	\$46.40
Millwright	5/1/2013		\$32.16	\$15.74	\$47.90
Millwright	5/1/2014		\$33.17	\$16.23	\$49.40
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2009		\$29.42	\$16.89	\$46.31
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2010		\$30.76	\$17.85	\$48.61
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2011		\$32.06	\$18.85	\$50.91
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2012		\$32.06	\$20.25	\$52.31
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2013		\$32.06	\$21.65	\$53.71
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2014		\$32.70	\$22.41	\$55.11
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2009		\$31.67	\$17.55	\$49.22

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2010		\$33.01	\$18.51	\$51.52
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2011		\$34.31	\$19.51	\$53.82
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2012		\$34.31	\$20.91	\$55.22
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2013		\$34.31	\$22.31	\$56.62
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2014		\$34.95	\$23.07	\$58.02
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2009		\$29.13	\$16.81	\$45.94
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2010		\$30.47	\$17.77	\$48.24
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2011		\$31.77	\$18.77	\$50.54
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2012		\$31.77	\$20.17	\$51.94
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2013		\$31.77	\$21.57	\$53.34
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2014		\$32.41	\$22.33	\$54.74
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2009		\$31.38	\$17.48	\$48.86
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2010		\$32.72	\$18.44	\$51.16
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2011		\$34.02	\$19.44	\$53.46
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2012		\$34.02	\$20.84	\$54.86
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2013		\$34.02	\$22.24	\$56.26
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2014		\$34.66	\$23.00	\$57.66
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2009		\$26.22	\$15.94	\$42.16
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2010		\$27.55	\$16.91	\$44.46
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2011		\$28.85	\$17.91	\$46.76
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2012		\$28.85	\$19.31	\$48.16
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2013		\$28.85	\$20.71	\$49.56
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2014		\$29.49	\$21.47	\$50.96
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2009		\$25.08	\$15.61	\$40.69
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2010		\$26.42	\$16.57	\$42.99
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2011		\$27.72	\$17.57	\$45.29

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2012		\$27.72	\$18.97	\$46.69
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2013		\$27.72	\$20.37	\$48.09
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2014		\$28.35	\$21.14	\$49.49
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2009		\$24.64	\$15.47	\$40.11
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2010		\$25.97	\$16.44	\$42.41
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2011		\$27.27	\$17.44	\$44.71
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2012		\$27.27	\$18.84	\$46.11
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2013		\$27.27	\$20.24	\$47.51
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2014		\$27.90	\$21.01	\$48.91
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2009		\$23.76	\$15.21	\$38.97
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2010		\$25.09	\$16.18	\$41.27
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2011		\$26.39	\$17.18	\$43.57
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2012		\$26.39	\$18.58	\$44.97
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2013		\$26.39	\$19.98	\$46.37
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2014		\$27.02	\$20.75	\$47.77
Operators (Building/Heavy, Class 07/A - See Notes)	5/1/2009		\$35.30	\$19.38	\$54.68
Operators (Building/Heavy, Class 07/A - See Notes)	5/1/2010		\$36.91	\$20.43	\$57.34
Operators (Building/Heavy, Class 07/A - See Notes)	5/1/2011		\$38.47	\$21.53	\$60.00
Operators (Building/Heavy, Class 07/A - See Notes)	5/1/2012		\$38.47	\$23.16	\$61.63
Operators (Building/Heavy, Class 07/A - See Notes)	5/1/2013		\$38.47	\$24.79	\$63.26
Operators (Building/Heavy, Class 07/A - See Notes)	5/1/2014		\$39.24	\$25.69	\$64.93
Operators (Building/Heavy, Class 07/B - See Notes)	5/1/2009		\$34.96	\$19.27	\$54.23
Operators (Building/Heavy, Class 07/B - See Notes)	5/1/2010		\$36.56	\$20.33	\$56.89
Operators (Building/Heavy, Class 07/B - See Notes)	5/1/2011		\$38.12	\$21.43	\$59.55
Operators (Building/Heavy, Class 07/B - See Notes)	5/1/2012		\$38.12	\$23.06	\$61.18
Operators (Building/Heavy, Class 07/B - See Notes)	5/1/2013		\$38.12	\$24.69	\$62.81

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building/Heavy, Class 07/B - See Notes)	5/1/2014		\$38.89	\$25.59	\$64.48
Painters Class 1 (see notes)	5/1/2009		\$22.75	\$12.32	\$35.07
Painters Class 1 (see notes)	5/1/2010		\$23.30	\$13.27	\$36.57
Painters Class 1 (see notes)	5/1/2011		\$24.05	\$14.52	\$38.57
Painters Class 1 (see notes)	5/1/2012		\$24.55	\$15.07	\$39.62
Painters Class 1 (see notes)	5/1/2013		\$24.55	\$16.22	\$40.77
Painters Class 1 (see notes)	5/1/2014		\$24.55	\$17.52	\$42.07
Painters Class 2 (see notes)	5/1/2009		\$24.65	\$12.32	\$36.97
Painters Class 2 (see notes)	5/1/2010		\$25.20	\$13.27	\$38.47
Painters Class 2 (see notes)	5/1/2011		\$25.95	\$14.52	\$40.47
Painters Class 2 (see notes)	5/1/2012		\$26.55	\$15.07	\$41.62
Painters Class 2 (see notes)	5/1/2013		\$26.55	\$16.22	\$42.77
Painters Class 2 (see notes)	5/1/2014		\$26.55	\$17.52	\$44.07
Painters Class 3 (see notes)	5/1/2009		\$25.60	\$12.32	\$37.92
Painters Class 3 (see notes)	5/1/2010		\$29.60	\$13.27	\$42.87
Painters Class 3 (see notes)	5/1/2011		\$30.35	\$14.52	\$44.87
Painters Class 3 (see notes)	5/1/2012		\$30.85	\$15.07	\$45.92
Painters Class 3 (see notes)	5/1/2013		\$30.85	\$16.22	\$47.07
Painters Class 3 (see notes)	5/1/2014		\$30.85	\$17.52	\$48.37
Pile Driver Divers (Building, Heavy, Highway)	1/1/2010		\$44.39	\$12.25	\$56.64
Pile Driver Divers (Building, Heavy, Highway)	1/1/2011		\$45.53	\$13.00	\$58.53
Pile Driver Divers (Building, Heavy, Highway)	1/1/2012		\$46.28	\$13.60	\$59.88
Pile Driver Divers (Building, Heavy, Highway)	1/1/2013		\$47.18	\$14.10	\$61.28
Plasterers	6/1/2008		\$25.96	\$7.75	\$33.71
Plasterers	6/1/2009		\$27.91	\$7.75	\$35.66
Plasterers	6/1/2010		\$29.86	\$7.75	\$37.61
Plasterers	6/1/2011		\$30.96	\$7.75	\$38.71
Plasterers	6/1/2012		\$31.24	\$8.47	\$39.71
Plasterers	6/1/2013		\$32.96	\$7.75	\$40.71
Plumbers and Steamfitters	5/1/2009		\$30.27	\$18.16	\$48.43

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Plumbers and Steamfitters	5/1/2010		\$31.07	\$19.36	\$50.43
Plumbers and Steamfitters	5/1/2011		\$31.92	\$20.56	\$52.48
Plumbers and Steamfitters	5/1/2012		\$32.67	\$20.81	\$53.48
Plumbers and Steamfitters	5/1/2013		\$33.22	\$21.56	\$54.78
Roofers (Composition)	5/1/2009		\$30.00	\$23.10	\$53.10
Roofers (Composition)	5/1/2010		\$30.75	\$24.95	\$55.70
Roofers (Composition)	5/1/2011		\$30.75	\$25.95	\$56.70
Roofers (Composition)	5/1/2012		\$31.05	\$26.95	\$58.00
Roofers (Shingle, Slate, Tile)	5/1/2011		\$23.75	\$15.62	\$39.37
Roofers (Shingle, Slate, Tile)	5/1/2012		\$24.00	\$16.37	\$40.37
Sheet Metal Workers	5/1/2010		\$28.68	\$18.33	\$47.01
Sheet Metal Workers	5/1/2011		\$28.93	\$18.78	\$47.71
Sheet Metal Workers	5/1/2012		\$29.42	\$19.29	\$48.71
Sheet Metal Workers	11/1/2012		\$29.80	\$19.31	\$49.11
Sprinklerfitters	1/1/2010		\$33.85	\$17.60	\$51.45
Sprinklerfitters	1/1/2011		\$33.35	\$18.45	\$51.80
Sprinklerfitters	4/1/2011		\$34.18	\$18.45	\$52.63
Sprinklerfitters	1/1/2012		\$34.18	\$18.60	\$52.78
Sprinklerfitters	4/1/2012		\$35.21	\$18.65	\$53.86
Sprinklerfitters	1/1/2013		\$35.21	\$18.80	\$54.01
Terrazzo Finisher	5/1/2009		\$26.54	\$14.37	\$40.91
Terrazzo Finisher	5/1/2010		\$27.89	\$14.42	\$42.31
Terrazzo Finisher	5/1/2011		\$28.14	\$14.42	\$42.56
Terrazzo Finisher	5/1/2012		\$28.57	\$14.49	\$43.06
Terrazzo Finisher	5/1/2013		\$29.07	\$14.64	\$43.71
Terrazzo Finisher	5/1/2014		\$29.66	\$14.80	\$44.46
Terrazzo Setter	5/1/2012		\$27.16	\$17.37	\$44.53
Terrazzo Setter	5/1/2013		\$27.60	\$17.58	\$45.18
Terrazzo Setter	5/1/2014		\$28.13	\$17.80	\$45.93
Tile & Marble Finisher	5/1/2011		\$23.18	\$12.52	\$35.70
Tile & Marble Finisher	5/1/2012		\$24.18	\$12.57	\$36.75

## PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Tile & Marble Finisher	5/1/2013		\$24.63	\$12.72	\$37.35
Tile & Marble Finisher	5/1/2014		\$25.17	\$12.88	\$38.05
Tile & Marble Finisher	5/1/2015		\$25.81	\$13.04	\$38.85
Tile & Marble Finisher	5/1/2016		\$26.54	\$13.21	\$39.75
Tile & Marble Layer	5/1/2011		\$25.90	\$13.81	\$39.71
Tile & Marble Layer	5/1/2012		\$26.90	\$13.99	\$40.89
Tile & Marble Layer	5/1/2013		\$27.29	\$14.20	\$41.49
Tile & Marble Layer	5/1/2014		\$27.78	\$14.41	\$42.19
Tile & Marble Layer	5/1/2015		\$28.36	\$14.63	\$42.99
Tile & Marble Layer	5/1/2016		\$29.03	\$14.86	\$43.89
Truckdriver class 1(see notes)	5/1/2010		\$29.58	\$0.00	\$29.58
Truckdriver class 1(see notes)	5/1/2011		\$30.73	\$0.00	\$30.73
Truckdriver class 1(see notes)	5/1/2012		\$30.98	\$0.00	\$30.98
Truckdriver class 2 (see notes)	5/1/2010		\$29.65	\$0.00	\$29.65
Truckdriver class 2 (see notes)	5/1/2011		\$30.80	\$0.00	\$30.80
Truckdriver class 2 (see notes)	5/1/2012		\$31.05	\$0.00	\$31.05
Truckdriver class 3 (see notes)	5/1/2010		\$30.14	\$0.00	\$30.14
Truckdriver class 3 (see notes)	5/1/2011		\$31.29	\$0.00	\$31.29
Truckdriver class 3 (see notes)	5/1/2012		\$31.54	\$0.00	\$31.54

## PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenters	5/1/2009		\$25.30	\$9.86	\$35.16
Carpenters	5/1/2010		\$25.98	\$10.83	\$36.81
Carpenters	5/1/2011		\$27.03	\$11.43	\$38.46
Carpenters	5/1/2012		\$27.18	\$12.38	\$39.56
Carpenters	5/1/2013		\$27.92	\$12.84	\$40.76
Carpenters	5/1/2014		\$28.72	\$13.24	\$41.96
Laborers (Class 01 - See notes)	5/1/2009		\$16.22	\$11.03	\$27.25
Laborers (Class 01 - See notes)	5/1/2010		\$16.77	\$11.88	\$28.65
Laborers (Class 01 - See notes)	5/1/2011		\$17.32	\$12.78	\$30.10
Laborers (Class 01 - See notes)	5/1/2012		\$17.71	\$13.39	\$31.10
Laborers (Class 01 - See notes)	5/1/2013		\$18.16	\$14.04	\$32.20
Laborers (Class 01 - See notes)	5/1/2014		\$18.66	\$14.69	\$33.35
Laborers (Class 01 - See notes)	5/1/2015		\$19.21	\$15.34	\$34.55
Laborers (Class 02 - See notes)	5/1/2009		\$22.84	\$11.03	\$33.87
Laborers (Class 02 - See notes)	5/1/2010		\$23.39	\$11.88	\$35.27
Laborers (Class 02 - See notes)	5/1/2011		\$23.94	\$12.78	\$36.72
Laborers (Class 02 - See notes)	5/1/2012		\$24.33	\$13.39	\$37.72
Laborers (Class 02 - See notes)	5/1/2013		\$24.78	\$14.04	\$38.82
Laborers (Class 02 - See notes)	5/1/2014		\$25.28	\$14.69	\$39.97
Laborers (Class 02 - See notes)	5/1/2015		\$25.83	\$15.34	\$41.17
Laborers (Class 03 - See notes)	5/1/2009		\$19.83	\$11.03	\$30.86
Laborers (Class 03 - See notes)	5/1/2010		\$20.38	\$11.88	\$32.26
Laborers (Class 03 - See notes)	5/1/2011		\$20.93	\$12.78	\$33.71
Laborers (Class 03 - See notes)	5/1/2012		\$21.32	\$13.39	\$34.71
Laborers (Class 03 - See notes)	5/1/2013		\$21.77	\$14.04	\$35.81
Laborers (Class 03 - See notes)	5/1/2014		\$22.27	\$14.69	\$36.96
Laborers (Class 03 - See notes)	5/1/2015		\$22.82	\$15.34	\$38.16
Laborers (Class 04 - See notes)	5/1/2009		\$20.18	\$11.03	\$31.21
Laborers (Class 04 - See notes)	5/1/2010		\$20.73	\$11.88	\$32.61
Laborers (Class 04 - See notes)	5/1/2011		\$21.28	\$12.78	\$34.06
Laborers (Class 04 - See notes)	5/1/2012		\$21.67	\$13.39	\$35.06

## PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 04 - See notes)	5/1/2013		\$22.12	\$14.04	\$36.16
Laborers (Class 04 - See notes)	5/1/2014		\$22.62	\$14.69	\$37.31
Laborers (Class 04 - See notes)	5/1/2015		\$23.17	\$15.34	\$38.51
Laborers (Class 05 - See notes)	5/1/2009		\$20.85	\$11.03	\$31.88
Laborers (Class 05 - See notes)	5/1/2010		\$21.40	\$11.88	\$33.28
Laborers (Class 05 - See notes)	5/1/2011		\$21.95	\$12.78	\$34.73
Laborers (Class 05 - See notes)	5/1/2012		\$22.34	\$13.39	\$35.73
Laborers (Class 05 - See notes)	5/1/2013		\$22.79	\$14.04	\$36.83
Laborers (Class 05 - See notes)	5/1/2014		\$23.29	\$14.69	\$37.98
Laborers (Class 05 - See notes)	5/1/2015		\$23.84	\$15.34	\$39.18
Laborers (Class 06 - See notes)	5/1/2009		\$20.27	\$11.03	\$31.30
Laborers (Class 06 - See notes)	5/1/2010		\$20.82	\$11.88	\$32.70
Laborers (Class 06 - See notes)	5/1/2011		\$21.37	\$12.78	\$34.15
Laborers (Class 06 - See notes)	5/1/2012		\$21.76	\$13.39	\$35.15
Laborers (Class 06 - See notes)	5/1/2013		\$22.21	\$14.04	\$36.25
Laborers (Class 06 - See notes)	5/1/2014		\$22.71	\$14.69	\$37.40
Laborers (Class 06 - See notes)	5/1/2015		\$23.26	\$15.34	\$38.60
Laborers (Class 07 - See notes)	5/1/2009		\$20.56	\$11.03	\$31.59
Laborers (Class 07 - See notes)	5/1/2010		\$21.11	\$11.88	\$32.99
Laborers (Class 07 - See notes)	5/1/2011		\$21.66	\$12.78	\$34.44
Laborers (Class 07 - See notes)	5/1/2012		\$22.05	\$13.39	\$35.44
Laborers (Class 07 - See notes)	5/1/2013		\$22.50	\$14.04	\$36.54
Laborers (Class 07 - See notes)	5/1/2014		\$23.00	\$14.69	\$37.69
Laborers (Class 07 - See notes)	5/1/2015		\$23.55	\$15.34	\$38.89
Laborers (Class 08 - See notes)	5/1/2009		\$21.04	\$11.03	\$32.07
Laborers (Class 08 - See notes)	5/1/2010		\$21.59	\$11.88	\$33.47
Laborers (Class 08 - See notes)	5/1/2011		\$22.14	\$12.78	\$34.92
Laborers (Class 08 - See notes)	5/1/2012		\$22.53	\$13.39	\$35.92
Laborers (Class 08 - See notes)	5/1/2013		\$22.98	\$14.04	\$37.02
Laborers (Class 08 - See notes)	5/1/2014		\$23.48	\$14.69	\$38.17
Laborers (Class 08 - See notes)	5/1/2015		\$24.03	\$15.34	\$39.37

## PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Highway, Class 01 - See Notes)	5/1/2009		\$27.45	\$16.30	\$43.75
Operators (Highway, Class 01 - See Notes)	5/1/2010		\$28.79	\$17.26	\$46.05
Operators (Highway, Class 01 - See Notes)	5/1/2011		\$30.09	\$18.26	\$48.35
Operators (Highway, Class 01 - See Notes)	5/1/2012		\$30.09	\$19.51	\$49.60
Operators (Highway, Class 01 - See Notes)	5/1/2013		\$30.09	\$20.76	\$50.85
Operators (Highway, Class 01 - See Notes)	5/1/2014		\$30.38	\$21.72	\$52.10
Operators (Highway, Class 01a - See Notes)	5/1/2008		\$28.23	\$16.15	\$44.38
Operators (Highway, Class 01a - See Notes)	5/1/2009		\$29.70	\$16.98	\$46.68
Operators (Highway, Class 01a - See Notes)	5/1/2010		\$31.04	\$17.94	\$48.98
Operators (Highway, Class 01a - See Notes)	5/1/2011		\$32.34	\$18.94	\$51.28
Operators (Highway, Class 01a - See Notes)	5/1/2012		\$32.34	\$20.19	\$52.53
Operators (Highway, Class 01a - See Notes)	5/1/2013		\$32.34	\$21.44	\$53.78
Operators (Highway, Class 01a - See Notes)	5/1/2014		\$32.63	\$22.40	\$55.03
Operators (Highway, Class 02 - See Notes)	5/1/2009		\$26.27	\$15.96	\$42.23
Operators (Highway, Class 02 - See Notes)	5/1/2010		\$27.61	\$16.92	\$44.53
Operators (Highway, Class 02 - See Notes)	5/1/2011		\$28.91	\$17.92	\$46.83
Operators (Highway, Class 02 - See Notes)	5/1/2012		\$28.91	\$19.17	\$48.08
Operators (Highway, Class 02 - See Notes)	5/1/2013		\$28.91	\$20.42	\$49.33
Operators (Highway, Class 02 - See Notes)	5/1/2014		\$29.21	\$21.37	\$50.58
Operators (Highway, Class 03 - See Notes)	5/1/2009		\$25.58	\$15.75	\$41.33
Operators (Highway, Class 03 - See Notes)	5/1/2010		\$26.91	\$16.72	\$43.63
Operators (Highway, Class 03 - See Notes)	5/1/2011		\$28.21	\$17.72	\$45.93
Operators (Highway, Class 03 - See Notes)	5/1/2012		\$28.21	\$18.97	\$47.18
Operators (Highway, Class 03 - See Notes)	5/1/2013		\$28.21	\$20.22	\$48.43
Operators (Highway, Class 03 - See Notes)	5/1/2014		\$28.50	\$21.18	\$49.68
Operators (Highway, Class 04 - See Notes)	5/1/2009		\$25.13	\$15.62	\$40.75

## PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Highway, Class 04 - See Notes)	5/1/2010		\$26.46	\$16.59	\$43.05
Operators (Highway, Class 04 - See Notes)	5/1/2011		\$27.76	\$17.59	\$45.35
Operators (Highway, Class 04 - See Notes)	5/1/2012		\$27.75	\$18.85	\$46.60
Operators (Highway, Class 04 - See Notes)	5/1/2013		\$27.75	\$20.10	\$47.85
Operators (Highway, Class 04 - See Notes)	5/1/2014		\$28.05	\$21.05	\$49.10
Operators (Highway, Class 05 - See Notes)	5/1/2009		\$24.62	\$15.47	\$40.09
Operators (Highway, Class 05 - See Notes)	5/1/2010		\$25.95	\$16.44	\$42.39
Operators (Highway, Class 05 - See Notes)	5/1/2011		\$27.25	\$17.44	\$44.69
Operators (Highway, Class 05 - See Notes)	5/1/2012		\$27.25	\$18.69	\$45.94
Operators (Highway, Class 05 - See Notes)	5/1/2013		\$27.25	\$19.94	\$47.19
Operators (Highway, Class 05 - See Notes)	5/1/2014		\$27.54	\$20.90	\$48.44
Operators (Highway, Class 06 - See Notes)	5/1/2009		\$27.69	\$16.36	\$44.05
Operators (Highway, Class 06 - See Notes)	5/1/2010		\$29.03	\$17.32	\$46.35
Operators (Highway, Class 06 - See Notes)	5/1/2011		\$30.33	\$18.32	\$48.65
Operators (Highway, Class 06 - See Notes)	5/1/2012		\$30.33	\$19.57	\$49.90
Operators (Highway, Class 06 - See Notes)	5/1/2013		\$30.33	\$20.82	\$51.15
Operators (Highway, Class 06 - See Notes)	5/1/2014		\$30.62	\$21.78	\$52.40
Operators (Highway, Class 06/A - See Notes)	5/1/2009		\$29.94	\$17.02	\$46.96
Operators (Highway, Class 06/A - See Notes)	5/1/2010		\$31.28	\$17.98	\$49.26
Operators (Highway, Class 06/A - See Notes)	5/1/2011		\$32.58	\$18.98	\$51.56
Operators (Highway, Class 06/A - See Notes)	5/1/2012		\$32.59	\$20.23	\$52.82
Operators (Highway, Class 06/A - See Notes)	5/1/2013		\$32.58	\$21.48	\$54.06
Operators (Highway, Class 06/A - See Notes)	5/1/2014		\$32.87	\$22.44	\$55.31
Operators (Highway, Class 07/A - See Notes)	5/1/2009		\$32.94	\$18.67	\$51.61
Operators (Highway, Class 07/A - See Notes)	5/1/2010		\$34.55	\$19.72	\$54.27
Operators (Highway, Class 07/A - See Notes)	5/1/2011		\$36.10	\$20.83	\$56.93

## PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Highway, Class 07/A - See Notes)	5/1/2012		\$36.10	\$22.28	\$58.38
Operators (Highway, Class 07/A - See Notes)	5/1/2013		\$36.10	\$23.73	\$59.83
Operators (Highway, Class 07/A - See Notes)	5/1/2014		\$36.45	\$24.88	\$61.33
Operators (Highway, Class 07/B - See Notes)	5/1/2009		\$31.53	\$18.25	\$49.78
Operators (Highway, Class 07/B - See Notes)	5/1/2010		\$33.13	\$19.31	\$52.44
Operators (Highway, Class 07/B - See Notes)	5/1/2011		\$34.69	\$20.41	\$55.10
Operators (Highway, Class 07/B - See Notes)	5/1/2012		\$34.69	\$21.86	\$56.55
Operators (Highway, Class 07/B - See Notes)	5/1/2013		\$34.69	\$23.31	\$58.00
Operators (Highway, Class 07/B - See Notes)	5/1/2014		\$35.04	\$24.46	\$59.50
Piledrivers	5/1/2009		\$25.30	\$9.86	\$35.16
Piledrivers	5/1/2010		\$25.98	\$10.83	\$36.81
Piledrivers	5/1/2011		\$27.03	\$11.43	\$38.46
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2010		\$30.27	\$26.09	\$56.36
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2012		\$34.87	\$26.86	\$61.73
Truckdriver class 1(see notes)	5/1/2010		\$29.58	\$0.00	\$29.58
Truckdriver class 1(see notes)	5/1/2011		\$30.73	\$0.00	\$30.73
Truckdriver class 1(see notes)	5/1/2012		\$30.98	\$0.00	\$30.98
Truckdriver class 2 (see notes)	5/1/2010		\$29.65	\$0.00	\$29.65
Truckdriver class 2 (see notes)	5/1/2011		\$30.80	\$0.00	\$30.80
Truckdriver class 2 (see notes)	5/1/2012		\$31.05	\$0.00	\$31.05
Truckdriver class 3 (see notes)	5/1/2010		\$30.14	\$0.00	\$30.14
Truckdriver class 3 (see notes)	5/1/2011		\$31.29	\$0.00	\$31.29
Truckdriver class 3 (see notes)	5/1/2012		\$31.54	\$0.00	\$31.54

**Notes:**

If you can not find a classification under Heavy/Highway please refer to the Building classifications.

For further information on construction types review the ["Notes as Referenced in Predeterminations"](#) on the Labor and Industry Website. Go to [www.dli.state.pa.us](http://www.dli.state.pa.us), scroll down to the picture labeled "Labor Law Compliance" and click the picture. Then scroll down on the left menu and click on the "Prevailing Wage" link.

## **Definitions for 29 County Building Construction Laborers'**

Adams, Berks, Bradford, Carbon, Columbia, Cumberland, Dauphin, Juniata, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Monroe, Montour, Northampton, Northumberland, Perry, Pike, Schuylkill, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, Wyoming & York

### **CLASS 1**

#### **COMMON LABORER**

Cleaning, Scrubbing, Washing & Polishing of floors, furniture & windows, Stripping, Dismantling, Oiling & Moving of concrete forms. Loading, Unloading & Carrying of reinforced Steel. Handling & Distribution of lumber & all other building materials. Unloading, Carrying, Distributing & laying of pre-cast concrete slabs & planks in accordance with decisions of record. Wrecking, Moving & Demolishing underpinning & shoring of all structures. Signal Person & Flag Person. Landscaping & Nursery work. Toolroom Person. Operators of salamanders, smudge pots, propane & kerosene burners & all other heating methods. Cleaning of precipitators. All fire watch. Operating of busters, jackhammers, drills & all other pneumatic & electric hand tools. Wagon Drills, air & hydraulic, on or off tracks. Power Buggies, Concrete Mixers, Pumps & Vibrators. Walk Along compacting equipment, Vibrating & tamping. Gunniting machines (including the nozzle) Operation of steam jennies. Sandblasting (filling the pot, cleaning up of sand, use of the nozzle) Pumps 2' or under. Conveyors. Vacuum Cleaners, all types (ride or walk-along). Concrete Saws & Cutting Equipment. Burning & Welding Torches. Dynamite Blasters & Blaster assistants. Swing Scaffold, Sling & Bosun Chairs. Laying on nonmetallic (clay, ironstone, terra cotta, vitrified Concrete & plastic) Pipe & the making of joints for the same. Walk-Along Lifts & similar machines. Pouring & placing of all Concrete & related Materials. These tasks will be performed in accordance with established custom and usage in the building industry.

### **CLASS 2**

#### **ASBESTOS REMOVAL**

Asbestos Removal. Hazardous & Toxic Waste Removal. Lead & Lead-based paint removal. All work in connection with handling, control, removal, abatement, encapsulation or disposal of asbestos &/or toxic waste &/or lead of lead-based paint removal with be assigned to the members of the Laborers' International Union of North America not to be limited to the erection, moving, servicing & dismantling of all tools & equipment normally used in the handling, control. Removal or encapsulation of hazardous material. This agreement covers work tasks associated with any & all safety requirements & final cleanup & disposal of such hazardous material.

### **CLASS 3**

#### **MASON TENDERS**

#### Mason & Plaster Tenders

Mason Tenders. Mixing of mortar. Plaster & mortar pumps. Plaster tenders. Caisson work, blast furnaces. Coke ovens & all related work. Erection & dismantling of all scaffolding, including Tubular Frame, Manual & powered climbing scaffold. Swing scaffolds, slings, bosum chairs, & all associated safety protection including barricades, nets & ropes, scaffold weather enclosures; shoring; mortar buggies; concrete pumps; walk-behind forklifts; electric welders, torches, cut-off saws & pneumatic hand-tools; transits, levels & Lasers; tempering mortar; stocking scaffolds with masonry materials levels & lasers; tempering mortar; flashing anchors & ties; rebar, grout; natural stone, insulation & mastic, flashing, anchors & ties, rebar, grout; Mobile lifting platform scaffolding powered by any power, mode or method; clean-up of all masonry debris. The conveying of all such materials by any mode or method, unloading, erecting, moving, adjustment & dismantling of all scaffolds erected by Signatory Employers for any purpose or use by his own employees or other & the starting, stopping, fueling, oiling, cleaning, operating & maintenance of all devices under the direction of the employer.

#### **CLASS 4**

#### FORKLIFT LABORER

Operation of rough terrain forklifts & skid-steering loaders.

## **Definitions for 29 County Heavy, Highway Construction Laborers'**

Adams, Berks, Bradford, Carbon, Columbia, Cumberland, Dauphin, Juniata, Lackawanna,  
Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Monroe, Montour, Northampton,  
Northumberland, Perry, Pike, Schuylkill, Snyder, Sullivan, Susquehanna, Tioga, Union,  
Wayne, Wyoming, & York

### **Laborers' Class I**

Flagperson

### **Laborers' Class II**

Hazardous/Toxic/Asbestos Waste Handler, Lead Paint handler

### **Laborers' Class III**

Asphalt Tamper, Concrete Pitman & Puddler, Highway Guide Rail, Right of Way and Property  
Fence, Highway Slab Reinforcement Placer Laborer (Landscape, Planters, Seeders,  
Arborists), Magazine Tender, Rail Trackman & Signalmen, Laser Beam Men for Pipe Laying &  
Paving Machines, Pneumatic & Electric Tool Operators, Jack Hammers, Paving Breakers,  
Concrete Saws, Whacker Vibrator, Sheet Hammers, Chainsaws, Pipelayers, Asphalt Rake,  
Lute or Screed Men, Highway Concrete Block Layers, Walk Behind Rollers, Walk Behind  
Trencher

### **Laborers' Class IV**

Caisson open Air Below 8', Cofferdam open Air Below 8' where excavating for Circular  
Caisson and Cofferdam 8' Below Natural elevation of Grade Adjacent to Starting Point, Form  
Setters Road, Certified Concrete Technician, Concrete Rubber, Wagon Drill, Diamond Point  
Drill, Guinite Nozzle Operator, Blaster

### **Laborers' Class V**

Foreman, Form Setter, Road Foreman, Reinforced Steel Placer, Bonding Aligning and  
Securing, Burning and Welding in conjunction with Rebar, Concrete Surfacers

### **Laborers' Class VI**

Outside Laborers in conjunction with Tunnels and Rock Shafts

### **Laborers' Class VII**

Chuck Tenders, Muckers, Nippers, Miners Helpers, Inside Laborers

**Laborers' Class VIII**

Miners, Drillers, Blasters, Pneumatic Shield Operators, Lining, Spotting and Timber Workers,  
Rebar Steel Placer, Bonding Aligning and Securing, Welders and Concrete Surfacers

## Definition for 29 County Heavy Equipment Operators

Tioga, Bradford, Lycoming, Sullivan, Union, Montour, Columbia, Snyder, Northumberland, Juniata, Perry, Dauphin, Cumberland, Lebanon, York, Lancaster, Adams, Schuylkill, Berks, Lehigh, Northampton, Carbon, Susquehanna, Wayne, Wyoming, Lackawanna, Pike, Luzerne, & Monroe

### Operators Class 1

Machines Doing Hook Work	Cableways
Any Machine Handling Machinery	Drag Lines
Cable Spinning Machines	Derricks
Helicopters	High Rail/Burro Crane
All Types of Cranes *	Rail Loader (Winch Boom Type)

#### ***Machines Similar to above including remote control equipment***

\* On all machines with booms, jibs, masts and leads 100 feet from ground up, fifty (\$0.50) cents per hour additional will be paid for each increment of 25 feet over 100 feet. On cranes with booms (including jibs, masts and leads, etc.), 200 feet and over, two (2) operators shall be required, no oilers will be required, with seventy-five (\$0.75) cents in increments of 25 feet.

### Operators Class 1a

Machines Doing Hook Work	High Rail/Burro Crane 15 Ton and Over (Factory Rating)
Machines Handling Machinery	Rail Loader, Winch Boom Type, 15 Ton and Over (Factory Rating)
All Types of Cranes 15 Ton and Over (Factory Rating)	Equipment in this wage group that does not require an oiler

### Operators Class 2

Keystones	
All Types of Shovels	Drills, Self-Contained Rotary Drills
All Types of Backhoes	Concrete Pumps
Trench Shovels	Fork Lifts (20 Feet & Over)
Trenching Machines	Grease Truck
Hoists With Two Towers	Scrapers & Tournapulls
All Pavers (Blacktop & Concrete)	Side Boom
All Types of Overhead Cranes	Spreaders
Building Hoists (Double Drum)	Bobcat Type (All Attachments)

Concrete Breaking Machines	Bulldozers & Tractors
Gradalls	Vermeer Saw
All Autograde & Concrete Finishing Machines	Boring Machines Including Directional Boring Machines
Mucking Machines in Tunnel	Tree Spade
All Front-End Loaders	Hydro Ax
Bundle Puller Extractors (Tubular)	Chipper with Boom
Tandem Scrapers	Production Switch Tamper
Pippin Type Backhoes	Ballast Regulators
Rollers (High Grade Finishing)	Tie Replacer
Boat Captains	Rail/Road Loader
Mechanic-Welder	Power Jack Liner
Batch Plant Operators (Concrete)	
Motor Patrols	

***Machines Similar to above including remote control equipment***

**Operators Class 2a**

Crawler Backhoes Over One Cubic Yard	Equipment 15 Ton and Over
Crawler Gradalls Over One Cubic Yard	Concrete Pumps 92 feet of Boom Length (150 yd. pour or less)
Hydraulic Backhoes Over One Cubic Yard	Equipment in this wage group that does not require an oiler

**Operators Class 3**

Conveyors	Fork Lift Trucks (Under 20 Feet Lift)
Building Hoists (Single Drum)	Second Class Driller
High Or Low Pressure Boilers	Self Contained Rotary Drills
Well Drillers	Fine Grade Machines
Asphalt Plant Engineers	Stump Grinder
Ditch Witch Type Trenchers	Tireman (For Power Equipment)
Core Drill Operator	

***Machines Similar to above including remote control equipment***

**Operators Class 4**

Welding Machines	Concrete Breaking Machines (Guillotine Type)
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Well Points	Rollers
Compressors	Seaman Pulverizing Mixer
Pumps	Power Broom
Heaters	Miscellaneous Equipment Operator
Farm Tractors	Seeding Spreader
Form Line Graders	
Road Finishing Machines	

***Machines Similar to above including remote control equipment***

**Operators Class 5**

Fireman

***Machines Similar to above including remote control equipment***

**Operators Class 6**

Oilers & Deck Hands (Personnel Boats)	Core Drill Helper 2 <sup>nd</sup> Class
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***Machines Similar to above including remote control equipment***

**Operators Class 7 (A) (Toxic/Hazardous Waste Removal)**

Machines Doing Hook Work	Drag Lines
Any Machine Handling Machinery	Derricks
Cable Spinning Machines	High Rail/Burro Crane
Helicopters	Rail Loader (Winch Boom Type)
All Types of Cranes	
Cableways	

***Machines Similar to above including remote control equipment***

**Operators Class 7 (B) (Toxic/Hazardous Waste Removal)**

Keystones	Bundle Puller Extractors (Tubular Type)>
All Types of Shovels	Scrapers & Tournapulls
All Types of Backhoes	Spreaders
Trench Shovels	Tree Spade
Trenching Machines	Bulldozers & Tractors
Hoists With Two Towers	Side Boom
All Pavers (Blacktop Concrete)	Rollers (High Grade Finishing)

All Types of Overhead Cranes	Vermeer Saw
Building Hoists (Double Drum)	Mechanic - Welders
Gradalls	Chipper With Boom
Mucking Machines in Tunnel	Motor Patrols
All Front-End Loaders	Concrete Breaking Machines
Tandem Scrapers	Concrete Pumps
Boring Machines Including Directional Boring Machines	Grease Trucks
Pippin Type Backhoes	Bobcat Type (All Attachments)
Hydro Ax	Production Switch Tamper
Boat Captains	Ballast Regulators
All Autograde & Concrete Finishing Machines (Excluding Trowel Machines)	Tie Replacer
Batch Plant Operators (Concrete)	Rail/Road Loader
Drills, Self-Contained Rotary Drills	Power Jack Liner
Fork Lifts (20 Feet & Over)	

***Machines Similar to above including remote control equipment***

## **Definitions for 29 County Highway Construction Operators**

Tioga, Bradford, Lycoming, Sullivan, Union, Montour, Columbia, Snyder, Northumberland,  
Juniata, Perry, Dauphin, Cumberland, Lebanon, York, Lancaster, Adams, Schuylkill, Berks,  
Lehigh, Northampton, Carbon, Susquehanna, Wayne, Wyoming, Lackawanna, Pike, Luzerne,  
& Monroe

### **Operators Class 1**

All Types of Cranes *	Bulldozers & Tractors
All Type of Backhoes	Log Skidder
Drag Line	Motor Patrols
Keystones	Chipper With Boom
All Types of Shovels	Mechanic Welders
Derricks	Hydro Ax
Trench Shovels	Side Boom
Trenching Machines	Tree Spade
All Pavers (Blacktop & Concrete)	Bob Cat Type (With Attachments)
Gradalls	Boring Machines Including Directional Boring Machines
All Front End Loaders	All Autograde & Concrete Finishing Machines (Excluding Trowel Machines)
Tandem Scrapers	Concrete Breaking Machines
Pippin Type Backhoes	High Rail/Burro Crane
Boat Captains	Rail Loader (Winch Boom Type)
Batch Plant With Mixer	Production Switch Tamper
Drill Self-Contained (Drillmaster Type)	Ballast Regulators
Milling Machine	Tie Replacer
Vermeer Saw	Rail/Road Loader
Conveyor Loader (Euclid Type)	Power Jack Liner
	Concrete Pumps

\* On all machines with booms, jibs, masts and leads 100 feet and over, twenty-five (\$0.25) cents per hour additional will be paid for each increment of 25 feet over 100 feet. On machines with booms (including jibs, masts and leads, etc.), 200 feet and over, two operating engineers shall be required.

***Machines Similar to above Including remote control equipment***

### **Operators Class 1a**

Crawler Backhoes Over One Cubic Yard (Factory Rating)	Cherry Picker Type Machinery and Equipment 15 Tone and Over
Hydraulic Backhoes Over One Cubic Yard (Factory Rating)	Single Person Operation Truck Cranes 15 Ton and Over (Factory Rating)
All Types of Cranes 15 Ton and Over (Factory Rating)	Equipment in this wage group that does not require an oiler

***Machines Similar to above including remote control equipment***

**Operators Class 2**

Spreaders	Stump Grinder
Asphalt Plant Engineers	Grease Truck
Rollers (High Grade Finishing)	Fork Lifts (20 Feet & Over)

***Machines Similar to above including remote control equipment***

**Operators Class 3**

Welding Machines	Rollers
Well Points	Miscellaneous Equipment Operator
Compressors	Seaman Pulverizing Mixer
Pumps	Tireman (For Power Equipment)
Heaters	Power Broom Conveyor Landers Other Than Euclid Type
Farm Tractors	Seeding Spreader
Form Line Graders	Conveyors
Ditch Witch Type Trencher	Driller Second Class
Road Finishing Machines	Fork Lifts (Under 20 Feet)
Concrete Breaking Machines (Guillotine Type)	

***Machines Similar to above including remote control equipment***

**Operators Class 4**

Fireman

***Machines Similar to above including remote control equipment***

**Operators Class 5**

Oilers & Deck Hands (Personnel Boats)

***Machines Similar to above including remote control equipment***

**Operators Class 6**

On All machines with Booms (Including Jibs, Masts Leads, Etc.) 100 Feet

***Machines Similar to above including remote control equipment***

**Operators Class 6a**

On all machines with Booms (Including Jibs, Masts Leads, Etc.) 100 Feet 15 Ton and Over  
(Factory Rating)

Equipment in this wage group that does not require an oiler

***Machines Similar to above including remote control equipment***

**Operators Class 7a (Toxic/Hazardous Waste Removal)**

Pile Drivers or Engineers - Working with Dock Builder & Pile Drivers	Chipper With Boom
All Types of Cranes	Boring Machines Including
All Types of Backhoes	Directional Boring Machine
Drag Line	Conveyor Loader (Euclid Type)
Keystones	Bulldozers & Tractors
All Types of Shovels	Hydro Ax
Derricks	Concrete pumps
Trench Shovels	Tree Spade
Trenching Machines	Motor Patrols
All Pavers (Blacktop & Concrete)	All Autograde & Concrete Machines (Excluding Trowel Machines)

Gradalls	Mechanic Welders
All Front End Loaders	Log Skidder
Tandem Scrapers	Concrete Breaking Machines
Pippin Type Backhoes	Side Boom
Boat Captains	Bob Cat Type (With Attachments)
Batch Plant With Mixer	Ballast Regulators
Drill Self-Contained (Drillmaster Type)	Tie Replacer
CMI Autograde	Rail/Road Loader
Vermeer Saw	Power Jack Liner
Scrapers & Tournapulls	

***Machines Similar to above including remote control equipment***

## **ASBESTOS REMOVAL -- ASBESTOS WORKER/LABORER**

### **AMENDED FOR 11/21/97**

The removal of asbestos containing materials should be handled as follows:

1. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breachings, etc.) will be recognized as work to be classified as Asbestos Worker.
2. On all mechanical systems (pipes, boilers, ducts, flues, breachings, etc.) that are going to be scrapped, the removal of all insulating material, whether they contain asbestos or not, will be classified as Laborers.
3. The removal of all asbestos containing materials from walls, ceilings, floors, columns and all other non-mechanical structures and surfaces, etc., will be held to the classification of Laborers (with the exception of roofing materials).
4. The term "removal" shall not include sealing, labeling and dropping of scrap material into appropriate containers. After the drop, the final disposal will be classified as Laborers.
5. The loading at the designated area of all materials that have been removed, bagged and tagged, as well as clean-up and all unloading, burying and other work required at the disposal site should be classified as Laborers.

## **Notes for Building, Heavy, Highway Truckdriver**

### **Truckdriver Class 1**

Single Axle

### **Truckdrivers Class 2**

Tandem  
Tri-Axle  
Semi-Trailer (Combination)

### **Truckdrivers Class 3**

Specialty Vehicles

## **Painters Notes for Building, Heavy, Highway Painters**

### **Cameron, Crawford, Forest, Potter & Warren Counties**

**Painters Class 1** - Industrial Rates (Heavy/Highway)

**Painters Class 2** - Commercial Rates (Building)

### **Allegheny, Fayette, Greene & Washington Counties**

**Painters Class 1** - Industrial Brush & Roll (Heavy/Highway)

**Painters Class 2** - Industrial Sandblast & Spray (Heavy/Highway)

**Painters Class 3** - Bridge, Hot Stack, & Transmission Towers (Heavy/Highway)

**Painters Class 4** - Painter Tender I (Heavy/Highway)

**Painters Class 5** - Painter Tender II (Heavy/Highway)

**Painters Class 6** - Commercial Painting & Paperhanging (Building)

### **Armstrong, Beaver, Bedford, Blair, Butler, Cambria, Centre, Clarion, Clearfield, Elk, Fulton, Huntingdon, Indiana, Jefferson, Juniata, Lawrence, Mercer, Mifflin, Somerset, Venango & Westmoreland Counties**

**Painters Class 1** - Industrial Brush & Roll (Heavy/Highway)

**Painters Class 2** - Industrial Sandblast & Spray (Heavy/Highway)

**Painters Class 3** - Bridge, Hot Stack, & Transmission Towers (Heavy/Highway)

**Painters Class 4** - Painter Tender I (Heavy/Highway)

**Painters Class 5** - Painter Tender II (Heavy/Highway)

**Painters Class 6** - Commercial Painting & Paperhanging (Building)

### **Bucks, Chester, Delaware, Montgomery & Philadelphia Counties**

**Painters Class 1** - Brush, Roller & Spray

**Painters Class 2** - Bridge

**Painters Class 3** - Wallcoverer

**Adams, Berks, Bradford, Carbon, Clinton, Columbia, Cumberland, Dauphin,  
Franklin, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Monroe,  
Montour, Northampton, Northumberland, Perry, Pike, Schuylkill, Snyder, Sullivan,  
Susquehanna, Tioga, Union, Wayne, Wyoming & York Counties**

**Painters Class 1 - Commercial\***

**Painters Class 2 - Industrial (includes Structural Steel, Industrial Spray & Sandblasting)\***

**Painters Class 3 - Bridge\***

\* \$1.00per hour above the rate for all classifications for work done in the following manner: Steel, Spray, Epoxy, HIPAC Coatings, Catalyzed Epoxy, Urethanes, Removers, Swing, Basket, and Sandblasting

**Clinton County**

**Painters Class 1 - Spray**

**Painters Class 2 - Brush & Roller**

DIVISION 9 – FINISHES  
SECTION 09900 – PAINTING

**SECTION 09900 - PAINTING**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Prepare, prime and paint all previously painted exterior wood surfaces.
  - 2. Prepare, prime and paint exterior surfaces of all new wood surfaces, including (but not limited to) siding boards, battens, window trim and door trim.
  - 3. Prepare, prime and paint exterior surfaces of new roofing metal, including exposed flashings, gutters and downspouts.
  - 4. Prepare, prime and paint entire thicknesses of existing and new door frames and window frames (interior and exterior), including sills and thresholds.
  - 5. Prepare, prime and paint both sides of all window sashes and door leaves (interior and exterior).
  - 6. Prepare, prime and paint new structural steel elements.
  - 7. Miscellaneous minor painting associated with other carpentry work

1.03 -- RELATED SECTIONS

- A. Section 06200, "Finish Carpentry," for coordination with installation with new wood siding boards.
- B. Section 07600, "Flashing and Sheet Metal," for coordination with installation, and cleaning and of roofing, guttering and downspout materials.
- C. Section 08100, "Door and Window Repair," for coordinating with door and window repairs.

DIVISION 9 – FINISHES  
SECTION 09900 – PAINTING

1.04 -- CODES AND STANDARDS

- A. All use and handling of paints, painting-related substances, and preservatives shall conform with all Federal, State, and Local laws and Ordinances.
- B. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- C. Comply with all Federal, State, and Local Codes
- D. Relevant Regulatory Statutes:
  - 1. The occupational exposure to lead is regulated in the Code of Federal Regulations, 29 CFR Part 1910.1025. The regulations for general respiratory protection are covered in 29 CFR Part 1910.132 through 134. As standard industrial hygiene practice, the construction industry incorporates these regulations when work impacts lead containing material. For materials that contain lead in a concentration of 1% or greater, the demolition or removal of such material shall be conducted under controlled conditions.
  - 2. The concentration of lead in paint has been evaluated by the United States Department of Housing and Urban Development. This federal department has established guidelines for testing paint for lead content and issued interim guidelines for hazard identification (publication September 1990).

1.05 -- PROTECTION

- A. Keep the space used for storage of equipment and materials in a clean and orderly condition. Keep all waste and paint rags in metal containers, tightly covered, and safely dispose of them at the end of each working day. Take precautions to avoid fire. Provide an approved type of fire extinguisher immediately outside each paint storage area.
  - 1. Do not store waste, paint rags and flammable cleaning products inside the building.
- B. Furnish and lay drop cloths in all areas where painter's work is being done, to protect adjacent work and materials from defacement. Remove all temporary protection and coverings from any part of the work or finish. Any damage resulting from neglect of these requirements will be repaired at the Contractor's expense to the complete satisfaction of the Owner and the Historical Architect.
- C. Maintain the work area in a neat and orderly condition, promptly removing empty

DIVISION 9 – FINISHES  
SECTION 09900 – PAINTING

containers, wrappings, waste, rubbish, and like matter from the site.

- D. Provide protection from exposure to lead for all individuals who work or travel in areas where work is being conducted, in a manner consistent with the Standards listed above.

## **PART 2 - PRODUCTS**

### 2.01 -- MATERIALS

- A. Paints are to be the finest quality exterior or interior grade oil or latex products (as appropriate) of the manufacturers listed below.
- B. All painting materials, except specified specialty items, are to be the products of one manufacturer for each, providing all materials necessary to produce a complete painting job.

### 2.02 -- MANUFACTURERS

- A. Conventional paints are to be one of the following:
  - 1. M. A. Bruder & Sons' "Seashore" acrylic, or highest-quality product for this application
  - 2. Benjamin Moore's "Regal Select" acrylic, or highest-quality product for this application
  - 3. Sherwin-Williams' "Duration" exterior acrylic, or highest-quality product for this application
- B. Roof paint is to be water-based acrylic coating system (primer and finish coating), and is to be one of the following:
  - 1. Follensbee Steel's "Rapidri"
  - 2. Calbar's "Tin-O-Lin"
  - 3. M.A. Bruder & Sons, "Rust-O-Lastic"
- C. Structural steel and miscellaneous steel components are to be one of the following:
  - 1. M.A. Bruder & Sons' highest-quality product for this application
  - 2. Benjamin Moore's highest-quality product for this application
  - 3. Sherwin-Williams' highest-quality product for this application

### 2.03 -- SUBMITTALS

DIVISION 9 – FINISHES  
SECTION 09900 – PAINTING

A. Samples:

1. Prepare a sample of the finish color for each type of paint on 8-1/2" x 11" 25 point pearl grey Presboard, and label with all pertinent information including brand name. Show all specified coats. Draw-downs will be accepted.
  - a. Colors throughout are to be as directed by the Owner or Historical Architect. If requested by Owner or Historical Architect, paint samples on designated surfaces.
  - b. The Owner or Historical Architect reserves the right to vary the specified degree of speculance based on the sample submissions.

B. Data:

1. Submit, in writing, the results of moisture meter testing of surfaces immediately in advance of painting start-up; indicate the location of each sample. Certify that the moisture meter has been calibrated.
2. Submit a written summary of all safety and health procedures to be utilized (including ventilation, work practices, and respiratory protection), before commencing the Work. The Contractor's summary is to be certified to be in full compliance with the specified standards and shall bear the signature and title of a responsible official of the firm.

C. Products at Project Completion:

1. At project completion, submit one gallon, unopened, of the paints used for this Work. Said gallons shall clearly contain the names and numbers of the paint, as well as the pigment/base proportions and the date mixed. Indicate also the locations where that paint was applied on the building.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

A. Preparation

1. Cooperate with all trades whose work comes in contact with work to be done under this section, providing such information or applications as may be required by other trades to assure proper project continuity.
2. Test surfaces for moisture with an approved moisture meter before beginning

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SECTION 09900 – PAINTING

application.

3. Starting work will imply that everything is ready and suitable to receive the finish. Contractor will be held responsible for any finish or any improperly prepared surface, and will make good any defective work at Contractor's own expense, to the satisfaction of the Owner and Historical Architect.
4. Remove all loose paint from adjacent flat surfaces by scraping and sanding. Sand edges of remaining paint. Using an environmentally safe detergent and water, wash all surfaces where paint has been removed.
  - a. It is not necessary to remove all built-up paint from surfaces -- nor is it necessary to have all previously painted surfaces be perfectly smooth. However, thoroughly sand all scraped edges and verify that they are absolutely sound and thoroughly feathered before spot priming or painting.
5. Concentrations of lead have not been determined; be responsible for testing the lead concentration in affected areas.
  - a. Areas where the concentration of lead exceeds 0.5% are in excess of HUD's action level. Take measures necessary to protect all individuals who may become exposed to the lead or airborne lead-laden dust. Follow Pennsylvania state environmental regulations in the disposal of lead paint products and materials.
6. Make sure that all surfaces to receive paint are clean and completely in conformance with paint manufacturer's instructions.
7. Observe curing condition requirements for new plaster work and plaster repair.

B. Cleaning

1. Clean all mildew from wood and wall surfaces to be painted, and dry thoroughly. Review with Historical Architect, prior to work, any areas which require treatment/application beyond basic surface cleaning with soap or bleach.
2. Test surfaces for moisture with an approved moisture meter before beginning application.
3. Do not clean when interior conditions are prohibitive; clean only when interior temperatures are a minimum of 45 degrees F and rising.

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SECTION 09900 – PAINTING

4. Thoroughly rinse and neutralize all cleaning products from the building surfaces.
5. IMPORTANT NOTE: Thoroughly clean all metal roofing components in strict accordance with manufacturer's recommendations: there is a protective shop coating on the metal that must be cleaned off before priming.

C. Application

1. Employ only experienced and competent mechanics. Assume all responsibility for the work, and repair all damage caused to the work and adjacent areas by whomsoever caused.
2. Use all material in accordance with the directions of the approved manufacturer, subject to review of the Historical Architect. Use of thinners at any time must have the approval of the Historical Architect.
3. Allow paints and finishes to dry at least 48 hours between coats. Sand lightly between coats with No.00 sandpaper and dust well before succeeding coat is applied. Allow additional drying time if conditions warrant, to assure that all coats are perfectly dry before applying succeeding coats.
4. Apply all paints with brushes and rollers only: do not use spray.

D. Mixing

1. Mix only in designated space at the site. Provide galvanized steel pans in which all mixing pails or barrels are to be kept. No mixing will be permitted outside the pans.

E. Finish

1. Finished surfaces are to be uniform in finish and color and free of brush marks, sagging, corduroy and other imperfections. Should any coat be judged unsatisfactory, sandpaper or otherwise clean off this coat and apply another. If undercoating is disturbed, complete refinishing will be required.
2. Edges of paint or finish adjoining other materials or colors shall be sharp and clean without overlapping. If workmanship is found defective, proper preparatory work is to be done and additional costs applied as necessary to give a finish in accordance with specified requirements. The additional costs will not be borne by the Owner or Historical Architect.

DIVISION 9 – FINISHES  
SECTION 09900 – PAINTING

3. Finish to match adjacent work all returns, edges, and recesses which will be exposed in the finished work and which will be seen from any angle.
- F. Paint colors:
1. All paint colors are to custom-mixed – the exact colors to be provided by the Historical Architect, based on the historic structure report.
  2. Exterior colors:
    - a. Wood siding and all trim: Custom Color #01
    - b. Trim and corner boards: Custom Color #02
    - c. Window sashes: Custom Color #03
    - d. Roof metal, gutters and downspouts: Custom Color #04
    - e. Structural steel and miscellaneous metal: Custom Color #05
  3. Interior colors: Not Applicable
- G. Painting Schedule:
1. New exterior woodwork:
    - a. Prime coat: oil-based exterior primer
    - b. First finish coat: oil-based or acrylic-based exterior paint
    - c. Second finish coat: same as first finish coat
  2. New interior woodwork: not applicable
  3. Previously-painted exterior woodwork:
    - a. Prime coat: oil-based exterior primer in areas requiring spot priming
    - b. First finish coat: oil-based or acrylic-based exterior paint
    - c. Second finish coat: same as first finish coat
  4. Previously-painted interior woodwork: not applicable
  5. New and existing roof metal, gutters and downspouts:
    - a. Prime coat: acrylic-based primer
    - b. First finish coat: acrylic-based finish paint.

DIVISION 9 – FINISHES  
SECTION 09900 – PAINTING

H. Environmental Conditions

1. Do no work in rainy, snowy, damp, or frosty weather, nor until surfaces are thoroughly dry. Work only when temperatures are 45 degrees F. and rising.
2. Apply material under adequate illumination and ventilation.

I. Product Handling

1. Deliver all products in manufacturer's original unbroken containers, package or wrappings, bearing the manufacturer's brand and name and a description of the contents.
2. Do not bring to the work or site any container bearing the label of any material that has not been approved by the Historical Architect.

3.02 -- CLEANUP

- A. Dispose of all empty containers and left over paints, solvents and cleaning solutions according to Pennsylvania state environmental regulations.
- B. Keep the Work Area clean and free of debris, dust, and trash at all times.
- C. Clean the Work Area thoroughly at the end of each week.

END OF SECTION 09900

DIVISION 8 – DOORS AND WINDOWS  
SECTION 08100 – DOOR AND WINDOW REPAIR

**SECTION 08100 -- DOOR AND WINDOW REPAIR**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Install new north basement door, as shown on the Drawings.
  - 2. Install new south first floor door, as shown on the Drawings.
  - 3. Repairs to the east first floor door, as shown on the Drawings.
  - 4. Repairs to the windows, as shown on the Drawings.

1.03 -- RELATED SECTIONS

- A. Section 06200, "Finish Carpentry," for coordination with finish woodwork
- B. Section 07600, "Flashing and Sheet Metal," for coordination with flashing installation above the doors and the windows, as shown on the Drawings.
- C. Section 09900, "Painting," for coordination with preparation, priming and painting of the doors and windows.

1.04 -- CODES AND STANDARDS

- A. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ) issue
- B. Follow all applicable Federal, State, and Local Building Codes.
- C. Comply with the "American Softwood Lumber Standard" PS 20 by the U.S. Department of Commerce and ALSC "National Grading Rule for Dimension Lumber".

DIVISION 8 – DOORS AND WINDOWS  
SECTION 08100 – DOOR AND WINDOW REPAIR

- D. All finish carpentry work to be performed in compliance with the standards of the current edition of Architectural Woodwork Quality Standards of the Architectural Woodwork Institute. Grade to be premium except as otherwise specified or shown on the drawings.
- E. All use and handling of preservatives, paints, and other flammable products to conform with all Federal, State, and Local laws and Ordinances.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Historical Architect and the Owner.
- B. Delivery and storage: keep materials dry during delivery and storage. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and provide air circulation within stacks.
  - 1. Do not damage or mar any door or window components or panels or hardware during periods of storage, work, or installation.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. New materials for door and window frame components and door sills, and for door leaves, stops and trim, and for window sash repairs:
  - 1. Clear Honduran Mahogany (no substitutions), of the highest grade, dressed and well-seasoned, moisture content not to exceed 12%, kiln-dried or at least six months old, cut to the dimensions shown on the drawings.
  - 2. Except where noted, existing hardware shall be reused
  - 3. Replacement glass – if any breakage occurs, replace in-kind (wavy glass to be replaced with recycled or new made by the old wavy production process wavy glass)
- B. Fillers, epoxies, consolidants, and dutchmen to be nonstaining and fully paintable.
- C. Note: it is acceptable to substitute paintable composite material in place of wood for trim above window heads and door heads where new flashing is to be installed.

2.02 -- MANUFACTURERS

DIVISION 8 – DOORS AND WINDOWS  
SECTION 08100 – DOOR AND WINDOW REPAIR

- A. Consolidants to be equal in quality to:
1. Abatron Incorporated's "LiquidWood" and "WoodEpox"  
5501 95th Avenue  
Kenosha, Wisconsin 53144  
Phone 800.445.1754 for the nearest supplier  
Website: [www.abatron.com](http://www.abatron.com)
  2. Gougeon Brothers Incorporated's "West System" epoxies and consolidants;  
100 Patterson Avenue, P.O. Box 908,  
Bay City, Michigan 48707-0908;  
Phone 1.989.684.7286 for the nearest distributor  
Website: [www.westsystem.com](http://www.westsystem.com)
  3. Preservation Resource Group Incorporated's "JP-146" epoxies and consolidants;  
P.O. Box 1768,  
Rockville, Maryland 20849-1768;  
Phone 1.800.774.7891 for the nearest supplier;  
Website: [www.prginc.com](http://www.prginc.com)
- B. Supplier for new "old-style" wavy glass - not applicable

2.03 -- SUBMITTALS

- A. Prior Experience Form for the proposed Carpentry Subcontractor for Doors & Windows – submit a fully completed copy of Section 01413d "Prior Experience Form: (Carpentry Subcontractor for Doors & Windows) to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Manufacturer's Literature:
1. Submit manufacturer's literature for epoxies and consolidants.
- C. Samples:
1. Submit a sample of new wood, minimum 6" x 12" x 1" for review by Historical Architect and Owner.

DIVISION 8 – DOORS AND WINDOWS  
SECTION 08100 – DOOR AND WINDOW REPAIR

- D. Shop drawing:
1. Submit a shop drawing of the new exterior doors for the north side and the south side, minimum  $\frac{3}{4}$ " = 1'-0" scale, showing:
    - a. Configuration and dimensions of existing door frames (including alterations to dimensions on south door), and
    - b. Configuration and dimensions of new door leaves, and
    - c. Placement and positioning of hardware (both new and reused).

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Inspection of existing door and window components for repair and reuse:
1. Carefully inspect each door and window component and report any discrepancies in their condition from what is noted in the Drawings.
  2. Notify the Historical Architect of any door or window components that are too deteriorated to reuse.
- B. Repair of existing door and window components:
1. The term "repair", as used on the drawings, is to mean (in descending order of priority):
    - to consolidate, fill, and/or add epoxy,
    - to add splices (or dutchmen) or piece replacement, or
    - to replace the affected member entirely,according to the judgment of the Contractor, in consultation with the Historical Architect and Owner. However, all repair activities are to be accomplished with the goal of preserving and reusing as much of the woodwork as possible. All dutchmen and filled areas are to conform to the existing profiles exactly.
  2. Provide temporary protection of openings with plywood or heavy plastic.
    - a. When affixing protection to openings, place nails and/or tape only in secondary locations – and not on the face of trim.

DIVISION 8 – DOORS AND WINDOWS  
SECTION 08100 – DOOR AND WINDOW REPAIR

3. Install temporary protection at the end of each day. Make certain all openings are secure and protected from weather and intruders.
4. Install splices wherever possible with scarf or bevel joints; avoid using butt joints. Make joints secure and tight. Use "crinkle-nails," wood dowels, or metal pins to align the pieces of wood; then, firmly attach the pieces of wood together using a non-water soluble glue or contact cement. Sand the joint thoroughly so that its finished appearance is not noticeable.
  - a. Replace sills, thresholds and door components as shown on Drawings.
4. Stile and rail thicknesses in door panels and window sashes may be adjusted and planed minor amounts (not to exceed 1/16" deviation) to accommodate slight dimensional irregularities.
5. All new glass – not applicable.
6. Replace glazing putty as noted on the Drawings.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris, sawdust, and trash at all times.
- B. Clean the Work Area thoroughly at the end of each week.

END OF SECTION 08100

DIVISION 6 – CARPENTRY  
SECTION 06100 – ROUGH CARPENTRY

**SECTION 06100 -- ROUGH CARPENTRY**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Repair and replacement of damaged and deteriorated sills (both at foundation level and at eave/gable level).
  - 2. Structural repair to first floor summer beam.
  - 3. Structural consolidation and repair of attic summer beam.
  - 4. Structural reinforcement to both attic trusses
  - 5. Framing adjustments to accommodate installation of new fan in cupola.
  - 6. Installation of new wood lath between existing lath at roof.

1.03 -- RELATED SECTIONS:

- A. Section 05120, "Structural Steel," for coordination with the installation of structural steel elements to reinforce wood framing members.
- B. Section 05500, "Miscellaneous Metals," for coordination with the installation of anchor bolts at the sills.
- C. Section 06200, "Finish Carpentry," for coordination with dismantlement and reinstallation of floor boards and siding boards, as well as the installation of new floor boards and siding boards.
- D. Section 07600, "Flashing and Sheet Metal," for coordination with termite shield installation.

1.04 -- CODES AND STANDARDS

DIVISION 6 – CARPENTRY  
SECTION 06100 – ROUGH CARPENTRY

- A. International Building Code, 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all applicable Federal, State, and Local Building Codes.
- C. Comply with the "American Softwood Lumber Standard" PS 20 by the U.S. Department of Commerce and ALSC "National Grading Rule for Dimension Lumber".
- D. All finish carpentry work to be performed in compliance with the standards of the current edition of *Architectural Woodwork Quality Standards* of the Architectural Woodwork Institute. Grade to be premium except as otherwise specified or shown on the drawings.
- E. All use and handling of preservatives are to conform with all Federal, State, and Local laws and Ordinances.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Historical Architect.
  - 1. Provide protection (minimum 8-mil sheet plastic, styrofoam padding and plywood sheeting) to all walls, ceiling and floor surfaces along the path of travel used during the removal of materials from the building and the delivery of new materials into the building. When securing plastic, use minimally-adhesive tape that does not mar the wall finishes or leave marks. Be responsible for repairing and repainting all surfaces damaged as a result of the demolition/delivery work or the installation/removal of the protection.
- B. Delivery and storage: keep materials dry during delivery and storage. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and provide air circulation within stacks.
- C. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas, and which meet moisture level contents.
- D. Store in a manner which will minimize warping and other damage prior to installation, using non-staining blocking at reasonable intervals to support the woodwork, and other means to keep from direct contact with the ground. Cover as required during storage to avoid damage to finishes, and in a manner that will minimize condensation.

DIVISION 6 – CARPENTRY  
SECTION 06100 – ROUGH CARPENTRY

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Provide dressed lumber, S4S, unless otherwise shown or specified. Provide seasoned lumber with 18% maximum moisture content at time of dressing (12% for wood to be painted or stained) and complying with dry size requirements of PS 20, unless otherwise specified. Species shall be No. 2 grade or better Southern Pine, White Pine, Western Red Cedar, Honduran Mahogany, Douglas Fir, Western Hemlock, Red Oak, White Oak, or other exterior-grade, locally-available species; minimum values shall be as follows:

1. Minimum allowable bending stress: 1,200 p.s.i., and
2. Minimum Modulus of Elasticity: 1,600,000

Do not use species not suited for exterior usage, such as Sugar Pine, Poplar or other softwoods.

- B. All lumber labeled on the drawings for pressure-treatment shall be impregnated, under pressure, with ammoniacal copper arsenite, in a manner consistent with Federal Specification TT-W-571; mark each piece of pressure-treated lumber with the American Wood Preservers Institute mark.
- C. Building paper, asphalt-impregnated, weight as shown on the Drawings.
- D. Fiberglass reinforcing rods: parallel running glass rovings (E-glass) total 65% and unsaturated polyester resin – total 35%.
  - Compressive strength: 24,000 psi
  - Tensile strength: 33,800 psi
  - Bending Strength: 33,800 psi
  - Shear strength: 580 psi
  - Modulus of Elasticity (E): 6,000,000
- E. Structural epoxies: two-part, solvent-free, fully reactive epoxy system, specially developed for timber impregnation:
  - Component A: resin
  - Component B: hardener
  - Compressive strength: 3,625 psi
  - Tensile strength: 1,160 psi
  - Bending strength: 1,160 psi
  - Shear strength: 580 psi
  - Modulus of Elasticity (E): 2,000,000
- F. Parallam wood beams: composite, engineered wood sections, with glued, parallel graining.

DIVISION 6 – CARPENTRY  
SECTION 06100 – ROUGH CARPENTRY

2.02 -- MANUFACTURERS:

- A. Consolidants (which are completely different from the structural epoxies listed above) to be equal in quality to:
1. Abatron Incorporated's "LiquidWood" and "WoodEpox"  
5501 95th Avenue  
Kenosha, Wisconsin 53144  
Phone 800.445.1754 for the nearest supplier  
Website: [www.abatron.com](http://www.abatron.com)
  2. Gougeon Brothers Incorporated's "West System" epoxies and consolidants;  
100 Patterson Avenue, P.O. Box 908,  
Bay City, Michigan 48707-0908;  
Phone 1.989.684.7286 for the nearest distributor  
Website: [www.westsystem.com](http://www.westsystem.com)
  3. Preservation Resource Group Incorporated's "JP-146" epoxies and consolidants;  
P.O. Box 1768,  
Rockville, Maryland 20849-1768;  
Phone 1.800.774.7891 for the nearest supplier;  
Website: [www.prginc.com](http://www.prginc.com)

2.03 – SUBMITTALS:

- A. Prior Experience Form for the proposed Carpentry Subcontractor for Heavy Timber – submit a fully completed copy of Section 01413a "Prior Experience Form: (Carpentry Subcontractor for Heavy Timber) to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Prior Experience Form for the proposed Carpentry Subcontractor for Epoxy Consolidation – submit a fully completed copy of Section 01413b "Prior Experience Form: (Carpentry Subcontractor for Epoxy Consolidation) to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

DIVISION 6 – CARPENTRY  
SECTION 06100 – ROUGH CARPENTRY

- C. Moisture testing for all new wood:
  - 1. Submit the results of moisture meter tests on Contractor's letterhead stationery indicating the levels of moisture in all new wood, and certifying that the required moisture levels have been achieved.
- D. Pressure Treatment Literature:
  - 1. Submit product data sheets on pressure treatment materials, indicating applicability of pressure treatment to this application.
- E. Product data:
  - 1. Submit manufacturer's product data sheets for consolidants and epoxies.
  - 2. Submit manufacturer's product data sheets for Parallam beam.
- F. Submit certification of competency for the proposed mechanic(s) from manufacturer of polyester rods and epoxy systems.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Installation, General:
  - 1. Coordinate removal of the dismantlement and reinstallation of wood siding boards and wood flooring with the framing repairs listed herein.
  - 2. Fit carpentry work to other work; scribe and cope for accurate fit. Correlate locations of nailers, blocking, sheathing, and similar supports to allow proper attachment of other work. Verify elevations, position and alignment of wood members for proper construction of related carpentry work.
  - 3. Use only sound, thoroughly seasoned materials of the longest practical lengths and sizes to minimize jointing. Use materials free from warp which cannot be easily corrected by anchoring and attachment. Sort out and discard warped material and material with other defects which would impair the quality of the work.
  - 4. Securely attach carpentry work to substrates by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.

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5. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.
  6. Attachment and Anchorage: Use common wire nails, except as otherwise shown or specified. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
  7. Check all existing conditions and measure all existing dimensions in the field in order to take into account irregularities and dimensional variations. Be responsible for proper fit of all work to existing conditions.
  8. Wherever possible, use scarf joints or bevel joints when butting splices or dutchmen into existing wood. Use "crinkle-nails," wood dowels, or metal pins to align the pieces of wood; then, firmly attach the pieces of wood together using a non-water soluble glue or contact cement. Sand the joint thoroughly so that its finished appearance is not noticeable.
    - a. The careful, minor loosening of adjacent materials to permit proper fastening is permitted. Resecure any loosened adjacent materials.
    - b. Use butt joints only when no other options are available.
- B. Use of epoxies and consolidants:
1. When using epoxies and consolidants, do not allow these materials to come in contact with finished surfaces.
  2. Take care to temporarily dam all cracks and places where epoxy and consolidant materials could possibly leak and stain finishes.
  3. Use damming materials that are non-staining and can be easily fit into cracks, crevices, holes and other sources of leakage. Carefully remove after epoxy and consolidant have achieved manufacturer's level of set strength.
- C. Repair/replacement of sills:
1. The Drawings indicate the extent of cutting and the extent of epoxy repair and consolidation to the sill.
  2. Carefully dismantle the adjacent floor boards to provide access for work on the sills. Stockpile the flooring as specified herein.
  3. Carefully trim the sill to the extent shown on the Drawings. Do not disturb

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SECTION 06100 – ROUGH CARPENTRY

the mortise and tenon joints for the floor joists. Profile the intact portion of the sill to match the dimension of the replacement lumber.

4. Contractor's option to install the epoxy consolidant before installing the replacement lumber or after it is secured in place.
  - a. Take care to perform consolidation and epoxy repair work in strict accordance with manufacturer's instructions, particularly regarding temperature.
5. Do not allow epoxy to come in contact with the mortise joints for the floor joists (they must be removable when the project is completed).
6. Install the polyester rods according to manufacturer's instructions at the spacing shown on the Drawings.
7. Install the termite shield as shown on the Drawings.
8. Install the anchor bolts as shown on the Drawings.

C. Repair to first floor summer beam:

1. The Drawings indicate the scope of repair to the first floor summer beam.
2. Prior to ordering the steel, create a template to precisely show potential irregularities and camber in the existing summer beam shape and profile.
3. Carefully expand the lap (notch) on the underside of each joist where additional clearance is required for the flitch installation – and only in those locations. Do not uniformly cut all joists.
4. Install and anchor the steel flitch as shown on the Drawings.
5. Paint all heads of lag bolts to match.

D. Repair to attic summer beam:

1. The Drawings indicate the scope of repair for the attic summer beam.
  - a. Note: this work to be undertaken only by an individual with demonstrated experience in structural wood reinforcement employing epoxy and fiberglass rods.
2. Carefully remove the floor boards in the vicinity of the attic summer beam, to provide access for the repairs.

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SECTION 06100 – ROUGH CARPENTRY

3. Prior to starting work, prepare a template for the Parallam beam showing joints and detailing the clearances around the existing metal truss rods and how the Parallam beam sections are to be bolted together, and including accommodation for slight amounts of deflection in the summer beam.
  - a. Do not attempt to remove slight amounts of deflection from the existing summer beam, except as directed by the Architect.
4. Temporarily fasten the Parallam beams in place on top of the existing summer beam and drill holes into the Parallam beams and existing summer beam as shown on the Drawings.
5. Once the holes are drilled, remove the Parallam beams and clear away all sawdust and accumulated debris from the drilled holes and the surrounding area (especially inside the summer beam).
6. Reset the Parallam beam sections in place and verify that the profile of the new Parallam beam aligns perfectly with the existing summer beam, and that there are no gaps where they abut (to prevent leaks of epoxy), and that the holes are in perfect alignment.
7. Fill the holes with a two-part expanding foam to seal all cracks and checks that may otherwise allow the epoxy to leak out.
  - a. Protect the top of the Parallam beams from the overflow of expanding foam.
8. After the foam has cured, redrill the holes to clean out the foam from the holes, leaving the foam that will have flowed into checks and cracks where the epoxy leaks might have occurred.
  - a. Use a tube attached to a compressed air source to blow the debris out of the drilled holes.
9. Cut fiber glass rods to length, and sand them with 100 grit paper to clean the surfaces.
10. Fill a hole partially with structural liquid epoxy; then carefully place the rod into the hole, while continuing to fill the hole with structural epoxy.
  - a. Do not trap air pockets below the epoxy.
11. Proceed in sequence, filling holes and installing epoxy one hole at a time.

E. Structural repair to attic trusses:

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1. The Drawings indicate the scope of structural repair to the attic trusses.
  2. Prior to starting work, prepare a template for the steel plates to verify clearances at locations where the plates are to be installed.
  3. Install steel plates and touch-up minor scratches in painted finishes.
- G. Installation of new infill roof lath:
1. Install new lath strips between existing lath such that no open space greater than the distance shown on the Drawings exists.
  2. Where required, add shims to new lath strips to make them the exact same thickness as the adjacent existing lath strips.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris, sawdust, and trash at all times.
- B. Clean the Work Area thoroughly at the end of each week.

END OF SECTION 06100

DIVISION 06 – CARPENTRY  
SECTION 06200 – FINISH CARPENTRY

**SECTION 06200 -- FINISH CARPENTRY**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
1. Careful dismantlement and reinstallation of existing floor boards in first floor (to expose sills on south side) and attic (to expose attic summer beam)
  2. Installation of new wood attic flooring to match existing in locations shown on Drawings.
  3. Careful dismantlement, reuse and reinstallation of existing vertical siding boards and battens in areas shown on the Drawings
  4. Furnish and install custom-cut, vertical wood siding boards and battens in areas shown on the Drawings
  5. Installation of new utility closet, including doors, in Basement.
  6. Installation of new ventilation opening and enclosure on first floor
  7. Installation of new ventilation opening in attic floor
  8. Repairs to cupola siding and battens to accommodate new attic fan
- B. Quality Assurance
1. Quality workmanship in the repair of wood siding and wood flooring is critical to the success of this project.

1.03 -- RELATED SECTIONS:

- A. Section 06100, "Rough Carpentry," for coordination with the repair and replacement of wood sills and framing elements.

DIVISION 06 – CARPENTRY  
SECTION 06200 – FINISH CARPENTRY

- B. Section 08100, “Door and Window Repair,” for coordination with repairs of the exterior doors and windows.
- C. Section 09900, “Painting,” for coordination with painting work.

1.04 -- CODES AND STANDARDS

- A. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all applicable Federal, State, and Local Building Codes.
- C. Comply with the "American Softwood Lumber Standard" PS 20 by the U.S. Department of Commerce and ALSC "National Grading Rule for Dimension Lumber".
- D. All finish carpentry work to be performed in compliance with the standards of the current edition of *Architectural Woodwork Quality Standards* of the Architectural Woodwork Institute. Grade to be premium except as otherwise specified or shown on the drawings.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Be mindful of the irreplaceable historic character of some of the adjacent finished surfaces, and carefully protect so as to eliminate damage potential. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and the Historical Architect.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Replacement floor boards and replacement siding boards:
  - 1. Recycled materials:
    - a. It is preferred that replacement floor boards and replacement siding boards be taken from recycled, “old-growth” lumber and remilled to the appropriate dimensions (width, thickness and length) and conditions (butt joint or tongue & groove, where appropriate)
    - b. Recycled, old-growth lumber may be any species (softwood or

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hardwood) provided it:

- contains extremely dense growth rings,
  - is free of any checks, knots, splits or other cross-sectional imperfections, and
  - is completely straight, true and untwisted
- c. If using recycled lumber for replacement attic floor boards, keep the old, worn and patinated finish intact to face down on the floor wherever possible (so as to have minimal visual impact on the first floor below).
- d. If using recycled lumber for replacement siding boards, keep the old, worn and patinated finishes intact to face inward. They will be visible from the interior of the building and the exterior surfaces will be painted.
- e. If using recycled lumber, place onto the hidden (back) side of every piece of lumber “INSTALLED 2013” with a black indelible marker.
2. New lumber (in the event recycled materials are not available):
- a. Dressed, seasoned lumber, clear, free of imperfections or twists, highest-grade, 12% maximum moisture content at time of dressing, or at least six months old, so as not to check, warp, crack or twist.
  - b. Species to be No. 2 grade or better Southern Pine, White Pine, Western Red Cedar, Honduran Mahogany, Douglas Fir, Western Hemlock, Red Oak, White Oak, or other exterior-grade, locally-available species.
  - c. Do not use species not suited for exterior usage, such as Sugar Pine, Poplar or other softwoods.
  - d. Minimum allowable bending stress: 1,200 p.s.i., and Minimum Modulus of Elasticity: 1,600,000
  - e. NOTE: where new lumber will be exposed to view, stain and make dirty its finish, so as not to have a new appearance.

B. Fasteners and Anchorages

1. Provide nails, screws and other anchoring devices of the proper type, size, material and finish for application indicated to provide secure attachment, concealed where possible.

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SECTION 06200 – FINISH CARPENTRY

- a. Screws may be used to fasten elements in place, provided they are not exposed to view in any way.
2. For concealed fastenings, use zinc-coated or hot-dipped galvanized nails and screws.

2.02 -- MANUFACTURERS:

- A. Consolidants to be equal in quality to:
  1. Abatron Incorporated's "LiquidWood" and "WoodEpox"  
5501 95th Avenue  
Kenosha, Wisconsin 53144  
Phone 800.445.1754 for the nearest supplier  
Website: [www.abatron.com](http://www.abatron.com)
  1. Gougeon Brothers Incorporated's "West System" epoxies and consolidants;  
100 Patterson Avenue, P.O. Box 908,  
Bay City, Michigan 48707-0908;  
Phone 1.989.684.7286 for the nearest distributor  
Website: [www.westsystem.com](http://www.westsystem.com)
  2. Preservation Resource Group Incorporated's "JP-146" epoxies and consolidants;  
P.O. Box 1768,  
Rockville, Maryland 20849-1768;  
Phone 1.800.774.7891 for the nearest supplier;  
Website: [www.prginc.com](http://www.prginc.com)

2.03 -- SUBMITTALS:

- A. Prior Experience Form for the proposed Carpentry Subcontractor for Siding Repair – submit a fully completed copy of Section 01413c "Prior Experience Form: (Carpentry Subcontractor for Siding Repair) to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Moisture testing for new wood:

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SECTION 06200 – FINISH CARPENTRY

1. Submit the results of moisture meter tests on Contractor's letterhead stationery indicating the levels of moisture in all new wood, and certifying that the required moisture levels have been achieved.
- C. Product Data:
1. Submit manufacturer's product data sheets for consolidants and epoxies.
- D. Lumber samples:
1. Submit samples of recycled and/or new lumber, minimum size:
    - a. 12" length for siding board – profile, thickness and taper to match existing siding
    - b. 12" length for floor board – width, thickness and tongue/groove to match existing floorboard

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Installation, General:
1. Use only sound, thoroughly seasoned materials of the longest practical lengths and sizes to minimize jointing. Use materials free from warp which cannot be easily corrected by anchoring and attachment. Sort out and discard warped material and material with other defects which would impair the quality of the work.
  2. Securely attach carpentry work to substrates by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.
  3. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.
  4. Attachment and Anchorage: use finishing nails for all finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
  5. Check all existing conditions and measure all existing dimensions in the field in order to take into account irregularities and dimensional variations. Be

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SECTION 06200 – FINISH CARPENTRY

responsible for proper fit of all work to existing conditions.

6. Permanently install (using a black permanent marker) the date "2013" on the hidden sides of new lumber where spliced or dutchmen-ed into place.
- B. Fit carpentry work to other work; scribe and cope for accurate fit. Correlate locations of nailers, blocking, sheathing, and similar supports to allow proper attachment of other work. Verify elevations, position and alignment of wood members for proper construction of related carpentry work.
  - C. Dismantlement of floor boards and siding boards:
    - a. Drawings show the approximate locations of flooring and siding boards to be dismantled.
    - b. Dismantle only those floor boards and those siding boards actually needed to gain access to the where work is to take place.
    - c. In addition, dismantle only those siding boards that are actually deteriorated.
  - D. Extract floor boards and siding boards without marring, denting or damaging the finishes.
    - a. Carefully cut blind nails from behind to ease in dismantlement.
    - b. Cut the tongue of the first floor board to aid in the extraction of the flooring. Use a hand-held, thin-blade saw designed for groove cutting (not a circular saw or a skil-saw), so as not to widen or alter the thickness of the joint.
  - E. Place dismantled floor boards and siding boards in dry, protected, and well-ventilated on-site storage. Store in a raised location, where the materials will not get wet or subjected to theft, accidental reuse elsewhere or discarding.
  - F. Do not discard any siding or floor boards until reviewed by Historical Architect and Owner (who will determine whether said boards are reusable).
  - G. Reinstallation of reusable floor boards and siding boards and installation of new floor boards and siding boards:
    - a. Upon completion of repairs to foundations, sills and floor framing, prepare a listing of reusable original siding boards and floor boards.
2. Furnish new siding boards and floor boards to make up the difference

DIVISION 06 – WOOD AND PLASTICS  
SECTION 06200 – FINISH CARPENTRY

between the amount needed and the amount of original materials available for reinstallation.

3. Consult with the Historical Architect and Owner to determine the best combination of mixing new and recycled materials on the floors and on the walls.
4. Securely fasten the new and recycled materials using blind nails of the same size and spacing as was originally used.

H. Use of epoxies and consolidants:

1. Do not allow epoxies and consolidants to come in contact with finished surfaces.
2. Temporarily dam all cracks and places where epoxy and consolidant materials could possibly leak and stain finishes.

F. Installation of new utility closet in basement:

1. Install framing and finish face boards and doors as shown on Drawings.
2. Coordinate construction of closet components with installation of new electrical components.
  - a. Provide for minor dimensional adjustments to accommodate the electrical installation.

G. General Adjustment, Cleaning, and Finishing

1. Repair damaged and defective woodwork wherever possible to eliminate defects functionally and visually: where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.
2. Clean woodwork on exposed and semi-exposed surfaces. Touch-up paint or stain finishes to restore damaged or soiled areas.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris, sawdust, and trash at all times.
- B. Clean the Work Area thoroughly at the end of each day's activity.

END OF SECTION 06200

DIVISION 5 – METALS  
SECTION 05120 – STRUCTURAL STEEL

**SECTION 05120 -- STRUCTURAL STEEL**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the Work of this section.

1.02 -- SCOPE

- A. Extent of structural steel work is shown on drawings, including notes and details to show size and location of members, and typical connections. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Installation of new steel elements, including:
    - Steel flitch beam at the first floor summer beam
    - Steel reinforcing plates at the attic trusses

1.03 -- RELATED SECTIONS:

- A. Section 05501, “Miscellaneous Metals” for coordination with other metal installations.
- B. Section 06100, “Rough Carpentry,” for coordination with the installation of the steel onto the first floor summer beam and the attic truss.

1.04 -- CODES AND STANDARDS

- A. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.
- C. American Institute of Steel Construction (AISC): “Specification for the Design, Fabrication, and Erection of Structural Steel of Buildings,” including “Commentary”
- D. AISC: “Code of Standard Practice for Steel Buildings and Bridges”

DIVISION 5 – METALS

SECTION 05120 – STRUCTURAL STEEL

- E. “Specification for Structural Joints Using ASTM A325 or A490 Bolts” approved by the Research Council on Structural Connections
- F. American Society for Testing Materials (ASTM): ASTM A 6 “General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use”
- G. American Welding Society (AWS): AWS D1.1 “Structural Welding Code - Steel”
- H. Qualifications for Welding Work:
  - 1. Provide certification that welders to be utilized in the Work have satisfactorily passed AWS qualification tests.
  - 2. If recertification of welders is required before or during the Work, be responsible for said recertifications.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and Historical Architect.
- B. Perform all work to protect building, equipment, and finishes.
- C. Erect boundaries, railings, and warning signs where required to provide full protection to public and workers, and be responsible for any injury to persons caused by reasons of insufficient protection.
- D. Store all delivered materials to permit easy access for inspection and identification. Keep all steel members off the ground using pallets, platforms, or other supports. Protect steel members and packaged materials from contact with moisture.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Rolled steel tubes, shapes, and bars: Standard A36 steel
- B. High strength threaded fasteners: ASTM A 325, heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers
- C. Electrodes for welding: comply with AWS Code, using electrodes suited to grade

DIVISION 5 – METALS  
SECTION 05120 – STRUCTURAL STEEL

of steel

D. Paint:

1. Metal Primer Paint: Fabricator's standard fast-curing lead free primer: or basic lead silicon chromate base iron oxide, linseed oil, alkyd paint, FS TT-P-645, Type II.
  - a. Primer selected must be compatible with existing finish coats of paint.
2. Finish Paint: as specified in Specification Section 09900, Part 2, Paragraph 2.02 (C)

E. Nonmetallic shrinkage-resistant grout: premixed, nonmetallic, noncorrosive, nonstaining product containing selected silica sands, portland cement, shrinkage compensating agents, plasticizing and water-reducing agents complying with CE-CRD-C621.

2.02 -- MANUFACTURERS - Not Applicable

2.03 -- SUBMITTALS

- A. Shop drawings: Submit shop drawings for fabrication and erection of structural steel assemblies. Show anchorage and accessory items. Submit shop drawings that show size of members, type, and location of shop and field connections: type, size, and extent of welds; relative locations of members to building framing. Use symbols adopted by the American Welding Society.
- B. Substitutions: Before ordering materials, submit and obtain approval for proposed substitutions for indicated structural shapes and details.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

A. Fabrication: General

1. Shop fabrication and Assembly:
  - a. Fabricate and assemble structural assemblies in the Shop to the greatest extent possible.
  - b. Fabricate items of structural steel in accordance with AISC

DIVISION 5 – METALS  
SECTION 05120 – STRUCTURAL STEEL

- specifications and as shown on the approved shop drawings.
- c. Provide finish surfaces of members exposed in the final structure free from markings, burrs, and other defects.
- 2. Fabricate work true to line and plane, with sharply defined profiles, accurately formed angles, and smooth surfaces.
  - 3. Connections: Weld or bolt shop connections, as indicated.
    - a. Minimum 3/16" fillet, unless otherwise noted
  - 4. Bolt field connections, except where welded connections or other connections are indicated.
    - a. Provide high strength threaded fasteners for bolted connections, all in accordance with the standards specified herein.
  - 5. Welded construction: Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work.
    - a. Assemble and weld built-up sections by methods that will produce true alignment of axes without warp.
  - 6. Do not flame cut holes or enlarge holes by burning.
    - a. Drill holes in bearing plates.
- B. Field Assembly: Carefully align work before joining it or anchoring it in place. Fit components accurately together to form tight flush joints.
  - C. Anchorage: Provide anchorage devices and fasteners necessary to anchor work in place, in accordance with design calculations and reviewed shop drawings.
  - D. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal items. Set work accurately in location, alignment and elevation, plumb, level, true, free of rack, measured from established lines and levels.
  - E. Field Welding: Comply with AWS Code for procedure of manual shielded metal-arc welding, appearance and quality of welds made, and methods used in correcting welding work. Comply with cutting and welding safety requirements of NFPA 241. Take all necessary precautions to avoid damaging finished surfaces.

DIVISION 5 – METALS  
SECTION 05120 – STRUCTURAL STEEL

1. IMPORTANT NOTE: No field welding inside the building whatsoever. All field welding is to be undertaken a minimum of twenty feet (20') away from the building.
- F. Erecting:
1. Provide temporary shoring and bracing of sufficient strength to bear imposed loads. Remove when permanent members are in place and final connections made.
  2. Provide temporary planking and working platforms as necessary to complete the work. Remove when complete.
  3. Setting bases and bearing plates: clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond. Clean bottom surface of base and bearing plates.
  4. Set loose and attached base plates and bearing plates on wedges and other adjusting devices.
  5. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base.
  6. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.
- G. Level and plumb individual members of structure within specified AISC tolerances.
- H. Splice members only where indicated and accepted on shop drawings.
- I. Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members that are not under stress, as acceptable to the Historical Architect. Finish gas-cut sections equal to a sheared appearance, when gas-cutting is permitted.
- J. Finishing: Where specified, grind surfaces smooth to provide blemish-free surface for accepting finish paint.
- K. Painting:
1. Shop prime one coat on all new steel, except for those surfaces requiring field welds.

DIVISION 5 – METALS  
SECTION 05120 – STRUCTURAL STEEL

2. Thoroughly clean and back-prime all field-welded surfaces, one coat.
3. Install one finish coat of paint on all new steel; feather into existing painted areas.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris and trash at all times.
- B. Clean the Work Area thoroughly at the end of each day.

END OF SECTION 05120

DIVISION 5 – METALS

**SECTION 05501 -- MISCELLANEOUS METALS**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Installation of metal anchor rods through the sills into the stone foundation in locations shown on the Drawings

1.03 -- RELATED SECTIONS

- A. Section 05120, "Structural Steel," for coordination with other metal installations
- B. Section 06100, "Rough Carpentry," for coordination with installation of sills

1.04 -- CODES AND STANDARDS

- A. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all applicable Federal, State, and Local Building Codes.
- C. AISC: "Code of Standard Practice"
- D. AISC: "Specification for Structural Joints Using ASTM A325 or A490 Bolts";
- E. ASTM A36 - Specification for Structural Steel

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and the Historical Architect.
- B. Perform all work to protect nearby materials, including: building elements, plantings, public utility equipment, and other items.

DIVISION 5 – METALS  
SECTION 05501 – MISCELLANEOUS METALS

- C. Erect boundaries, railings, and warning signs where required to provide full protection to the public and workers, and be responsible for any injury to persons caused by reasons of insufficient protection.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. All anchor rods to be cold-rolled or hot-rolled steel

2.02 -- MANUFACTURERS: Not Applicable

2.03 -- SUBMITTALS

- A. Shop drawings: Submit shop drawings for fabrication and erection of miscellaneous metal assemblies. Show anchorage and accessory items. Submit shop drawings that show size of members, type, and location of shop and field connections: type, size, and extent of welds (if appropriate); relative locations of members to building framing. Use symbols adopted by the American Welding Society.
- B. Substitutions: Before ordering materials, submit and obtain approval for proposed substitutions for indicated structural shapes and details.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Shop fabrication and Assembly:
  - 1. Fabricate items of structural steel in accordance with AISC specifications and as shown on the approved shop drawings.
  - 2. Provide finish surfaces of members exposed in the final structure free from markings, burrs, and other defects.
  - 3. Fabricate work true to line and plane, with sharply defined profiles, accurately formed angles, and smooth surfaces.
- B. Coordination: Coordinate installation of new steel anchor bolts for first floor framing within limitations of existing stone walls and scheduled to coordinate with repointing activities.

DIVISION 5 – METALS  
SECTION 05501 – MISCELLANEOUS METALS

- C. Field Assembly: Carefully align work before joining it or anchoring it in place. Fit components accurately together to form tight flush joints.
- D. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal items. Set work accurately in location, alignment and elevation, plumb, level, true, free of rack, measured from established lines and levels.
  - 1. All nailing to be of the size recommended by manufacturer and in accordance with spacing requirements of the manufacturer
- E. Finishing: Where specified, grind surfaces smooth to provide level surface for framing material.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris and trash at all times.
- B. Clean the Work Area thoroughly at the end of each day.

END OF SECTION 05501

DIVISION 4 – MASONRY  
SECTION 04100 – MORTAR

**SECTION 04100 -- MORTAR**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Mortar analysis of the east side interior foundation stone – however, not required on the west stone or the stone retaining wall (these areas date to the 1978 building restoration project)
  - 2. Preparation, installation and approval of mortar samples
  - 3. Preparation and installation of approved mortar into repaired areas of stone foundation walls.
- B. Quality Assurance
  - 1. Quality workmanship in the preparation of new mortar that matches existing existing mortar is critical to the success of this project.

1.03 -- RELATED SECTIONS

- A. Section 04500, “Masonry Construction,” for masonry work to be done.

1.04 -- CODES AND STANDARDS

- A. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.
- C. By reference, the standards set forth in Preservation Brief #2, "Repointing Mortar Joints in Historic Brick Buildings," by the National Park Service, shall become part of this specification (the standards are relevant to all masonry buildings, even those not constructed exclusively of brick).

DIVISION 4 – MASONRY  
SECTION 04100 – MORTAR

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and the Historical Architect.
- B. Store construction materials under cover in a dry place in a manner to prevent damage or intrusion of foreign matter. Store free of the ground and cover with straw and tarpaulins. Do not allow materials to get wet.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Mortar for Bedding and Repointing of Stone Foundation:
  - 1. Portland Cement: ASTM C150, Type I or Type II
  - 2. Lime: ASTM C207, Type S or Type SA
  - 3. Sand: ASTM C144 (mortar sand)
    - a. Contractor's option: use locally-obtained sand (from creeks, rivers or local quarries/sand pits) for mixing purposes for the mortar. Said sand is to be thoroughly screened to remove organic particles, oversize pebbles, and deleterious impurities that might affect the bondability of the mortar.
    - b. Irrespective of whether commercial or locally-acquired sand is used, the color, texture, and composition of the sand is to match the existing sand in the pointing of the existing masonry exactly.
  - 4. Water: Potable, and free of impurities.
  - 5. Coloring pigments: high purity, finely ground, chemically inert, unfading, limeproof mineral oxides.
  - 6. Admixtures for cold weather are not to be used.
- B. Laboratory analysis:
  - 1. Submit three (3) samples of typical existing pointing mortar to an approved laboratory, capable of analysis by the Jedrezjuska/Clover Method of Historic

DIVISION 4 – MASONRY  
SECTION 04100 – MORTAR

Mortar Analysis, and equal to that of the following firms:

- a. Keystone Preservation Group  
Attn.: Christopher Frey, President  
P.O. Box 831  
Doylestown, PA 18901  
(215) 348-4919  
[www.keystonepreservation.com](http://www.keystonepreservation.com)
  - b. Noble Preservation Services, Inc.,  
Attn. Timothy Noble, President  
10 Log House Road  
Zionsville, PA 18092  
(215) 679-5110  
[www.noblepreservation.com](http://www.noblepreservation.com)
  - c. Other firms possessing similar credentials, and approved in advance by the Historical Architect will also be considered.
2. Submit results of said mortar analysis to the Historical Architect for review.
  3. Based on the results of the mortar analysis, the Historical Architect may direct the Contractor to adjust the specified mortar mix slightly.

## 2.02 -- MANUFACTURERS

- A. Coloring Pigments: the use of coloring pigments is discouraged (in favor of matching mortar colors through the blending of sands, lime, and cement). However, if required, the following are presented for consideration:
  1. True Tone, by the Frank D. Davis Company  
12116 Conway Road  
Beltsville, Maryland 20705  
phone (800) 638-4444 for nearest distributor
  2. "A", "H", or "X" Series, by Solomon Grind-Chem Service, Inc.  
P.O. Box 8288  
Springfield, Illinois 62791  
phone (800) 624-0261 for nearest distributor
  3. Synthetic Iron Oxides, by Pfizer, Inc., Minerals & Pigments Division  
230 Brighton Road  
Clifton, New Jersey 07012  
phone (201) 470-7700 for nearest distributor

DIVISION 4 – MASONRY  
SECTION 04100 – MORTAR

2.03 -- SUBMITTALS

- A. Experience Form for the proposed Masonry Subcontractor – submit a fully completed copy of Section 01414 “Prior Experience Form - Masonry to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Sample Panels for Repointing of Stone Foundation Walls:
1. Prepare sample panels on two plywood boards of at least four (4) different mortar mixes for the pointing repairs for both the east interior stone foundation wall and the west exterior stone foundation wall, varying the chemistry (and keeping a record of each sample’s chemistry). Allow to cure for one week if outdoors (72 hours if indoors in a heated environment), and then present to Historical Architect and Owner for review and approval of color and texture, compared with existing mortar.
  2. Prepare a second sample panel. For the pointing samples, use approximately three existing stones from the Owner’s stockpile on site, set into an isolated, stand-alone sample panel. Allow each to cure for one week if outdoors (72 hours if indoors in a heated environment), and then present to Historical Architect and Owner for review and approval of final color, texture, and method of finishing, compared with existing mortar.
  3. Prepare a third sample panel of each mortar type onto the building, in a location chosen by the Owner. Allow to cure for one week and then present to the Owner and Historical Architect for review and approval of final color, texture and method of finishing on the building wall itself, compared to the existing finish.
    - a. If found acceptable, they will be considered the standard by which all new mortar work shall be judged for acceptability.
    - b. If found unacceptable, remove and reinstall using a modified mixture, and continue until acceptable to Owner and Historical Architect.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION - described in Section 04500

3.02 -- CLEAN-UP

DIVISION 4 – MASONRY  
SECTION 04100 – MORTAR

- A. Clean the site at the end of each day's activity.

END OF SECTION 04100

DIVISION 4 - MASONRY  
SECTION 04500 – MASONRY CONSTRUCTION

**SECTION 04500 -- MASONRY CONSTRUCTION**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section generally includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
1. Careful dismantlement and reconstruction of deteriorated and collapsed portions of the stone retaining wall in the northwest corner
  2. Repairs to the stone foundation wall in the northwest corner of the building
  3. Repointing the interior of the east stone foundation wall as part of the underpinning work
  4. Careful removal of select stones in the east foundation wall as part of the underpinning work
- B. Quality Assurance
1. Quality workmanship in the careful repair of existing stonework and installation of matching stonework is critical to the success of this project.

1.03 -- RELATED SECTIONS:

- A. Section 01001, "Additional Conditions," for general archaeological requirements for coordinating the excavation work associated with the retaining wall repair
- B. Section 03000, "Concrete," for coordination with the underpinning work.
- C. Section 04100, "Mortar," for mortar mixes.

1.04 -- CODES AND STANDARDS

- A. By reference, the standards set forth in Preservation Brief #2, "Repointing Mortar

DIVISION 4 - MASONRY  
SECTION 04500 – MASONRY CONSTRUCTION

Joints in Historic Brick Buildings," by the National Park Service, shall become part of this specification (the standards are relevant to all masonry buildings, even those not constructed exclusively of brick).

- B. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- C. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and Historical Architect.
  - 1. Clean off all pointing mortar which splashes, flows, or seeps onto other parts of the building immediately with a water hose to prevent staining.
- B. Clean the site at the end of each day's activity.
- C. Store restoration materials under cover in a dry place in a manner to prevent damage or intrusion of foreign matter. Store free of the ground and cover with straw and tarpaulins. Do not allow materials to get wet.
- D. Protect all adjacent shrubs, grass areas, trees and paved areas from any damage that may be caused by:
  - 1. Masonry installation activities
  - 2. The storage of masonry materials

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Pointing Mortar -- see Section 04100
- B. Stone for retaining wall repair:
  - 1. Carefully stockpile and reuse existing stones. Secure new matching stones as required from on the property (scattered on the hill behind the building).

DIVISION 4 - MASONRY  
SECTION 04500 – MASONRY CONSTRUCTION

2.02 -- MANUFACTURERS -- Not applicable

2.03 -- SUBMITTALS

- A. Experience Form for the proposed Masonry Subcontractor – submit a fully completed copy of Section 01414 “Prior Experience Form - Masonry to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Samples:
  - 1. Submit two (2) sample stones from the on-site source (from the hill), to verify that they match the existing in color, size, method of finish and general texture.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Coordinate this activity with all other work on-site. Show this activity sequence and duration on the Contractor’s schedule.
- B. Pointing and mortar mixing
  - 1. Mix all cementitious materials and sand in a mechanical batch mixer for a minimum of 5 minutes. Adjust the consistency of the pointing mortar to the satisfaction of the mason but add only as much water as is compatible with convenience in using the mortar. If mortar mix begins to stiffen from evaporation or from absorption of a part of the mixing water, retemper the mortar immediately by adding water and remixing the mortar. Use only accurate measuring devices. Shovel count will not be permitted.
  - 2. In cold weather, heat the water and sand sufficiently to maintain the temperature of the mortar, when used, to above 50 degrees F.
  - 3. No mortar work shall be done unless temperatures are at least 45 degrees F. and rising. Do no mortar work if subfreezing temperatures are expected within 48 hours. Do no mortar work if temperatures are expected to rise above 90 degrees F. within 24 hours.

DIVISION 4 - MASONRY  
SECTION 04500 – MASONRY CONSTRUCTION

4. Limit cementitious materials in mortar mix to Portland cement and lime; do not use masonry cement.
5. Do not use admixtures, anti-freezes, or retardants. Do not use calcium chloride in the mortar mix.
6. Pointing Mortar Mixes (for bidding purposes only – the actual mortar chemistry will be determined after receipt of the Mortar Analysis – specified in the Section 04100):

6 parts sand  
2 parts lime  
1 part white portland cement  
Pigments, as required to adjust the color to match local aggregates

Note: in order to obtain an accurate color match with existing mortar on the building, the mason may adjust the use of white portland cement by adding limited amounts of grey portland cement.

Note: the mason may need to vary the colors of sands in the mix to get the right color; brown sands and yellow sands might be necessary to get the proper color. These adjustments are allowed.

C. Placement of New Mortar

1. Use all mortar within 1-1/2 hours of its initial mixing at temperatures of 80 degrees F and above, and within 2-1/2 hours of its initial mixing at temperatures below 80 degrees F. Do not use mortar after it has begun to set.
2. Fill joints solid with the mortar using a narrow margin trowel to pack the mortar under as much pressure as possible. Lack of pressure or any voids will reduce the bond and shrinkage will cause cracks. Cut out cracked areas where mortar meets the stone and repack solid.
3. Immediately remove any excess mortar which comes in contact with the surface of the adjacent stone or other materials.
4. Keep new mortar wet for 48 hours after set. In dry weather, wet down surface twice a day for 7 days after set.

D. Coordination with underpinning work:

1. Coordinate all east side interior stone repointing and dismantlement work with the underpinning work.

DIVISION 4 - MASONRY  
SECTION 04500 – MASONRY CONSTRUCTION

- E. Repair to retaining wall in northwest corner:
1. Coordinate retaining wall work with adjacent grade lowering activity.
  2. Dismantle and stockpile stones for reuse. Add retrieved stones found on the hill to the collection.
  3. During dismantlement, establish the northernmost endpoint of the wall (by noting the locations of where the stones stop).
  4. Reinstall the stones in similar pattern.
    - a. Note: it is possible this was a drylaid wall with no bedding mortar.
    - b. Confirm the presence of bedding mortar with the Historical Architect before reinstallation.
    - c. For bidding purposes, assume the wall contains bedding mortar and pointing mortar, and that they are to be matched during reinstallation.

3.02 -- CLEAN-UP

- A. Clean the site at the end of each day's activity.

END OF SECTION 04500

DIVISION 3 – CONCRETE

**SECTION 03000 -- CONCRETE**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Installation of new concrete underpinning for east foundation wall, including new grout at joint between top of new concrete and bottom of existing stone
  - 2. Installation of new concrete slab at area of underpinning

1.03 -- RELATED SECTIONS:

- A. Section 02150, "Temporary Shoring," for coordination with any shoring that might be employed for the Work by the Contractor.
- B. Section 02221, "Excavating, Backfilling and Compacting," for coordination with underpinning work

1.04 -- CODES AND STANDARDS

- A. International Building Code, 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all applicable Federal, State, and Local Building Codes.
- C. All definitions, details, placement of reinforcement, and workmanship shall conform to the applicable specifications of the following standards, which are by reference made part of this specification:
  - 1. ACI-318, "Building Code Requirements for Reinforced Concrete."
  - 2. ACI-301, "Specifications for Structural Concrete for Buildings."
  - 3. ACI-315, "Manual of Standard Practice for Detailing Reinforced Concrete Structures."

DIVISION 3 – CONCRETE  
SECTION 03000 – CONCRETE

4. "The CRSI Manual of Standard Practice."

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the concrete work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and Historical Architect.
- B. During the curing period, protect the concrete from all damage caused by construction and weather conditions.
- C. Be responsible for removing and replacing, to match, any concrete that heaves, cracks, settles, or becomes non-functional.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Concrete, minimum 28 day compressive strength of 3,000 p.s.i.:
  1. Component products:
    - a. Portland Cement: ASTM C150, Type I
    - b. Aggregates: sand and crushed stone gravel, as required for normal floated finish
    - c. Water: Potable and free from impurities
    - d. Reinforcing Steel: ASTM A615-76a, Grade 60
    - e. Welded Wire Fabric: ASTM A185
    - f. Formwork: ACI 347
  2. Gravel Sub-base: crushed gravel, free of fines

2.02 -- MANUFACTURERS - Not Applicable

2.03 -- SUBMITTALS

- A. Submit a certification of the mix in advance to the Historical Architect. The submittal shall include 7-day and 28-day strengths, slump, % air entrainment, cement-sand-aggregate ratio, and aggregate sizes and distribution of aggregate sizes.
- B. Submit a delivery ticket for each load of concrete describing class, or type, of

DIVISION 3 – CONCRETE  
SECTION 03000 – CONCRETE

concrete being delivered, and the exact time it was mixed and delivered. Upon reaching the job site, each certified load of concrete shall have the exact time of dumping noted on the ticket and a check mark placed opposite the class of concrete delivered.

- C. Samples for slump testing or 28 day hardness testing (not required)

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

A. Preparation for Installation

1. Make sure the substrate materials are sound, solid, and tightly bonded.
2. Do not pour concrete until after the reinforcing steel and welded wire fabric have been inspected by the Historic Architect.
3. Install bituminous compressible strips (thickness to be ½" unless otherwise shown on Drawings) in locations shown on Drawings.

B. Concrete Mixture

1. Concrete is to have a minimum twenty-eight (28) day compressive strength of 3,000 psi and a maximum slump of 4-1/2 in. unless otherwise indicated on the drawings.
2. All concrete is to be certified in accordance with Section 2.03 (above), ready mixed, and mixed and transported in accordance with ASTM C94. No water or any other material is allowed to be added in transit or at the job site.
3. Trucks having auxiliary water tanks are to have the tanks completely filled or completely empty when arriving at the job site. The auxiliary tank gauge shall be properly functioning.

C. Placing Concrete

1. Use no additives for temperature. Do not pour if temperatures on site exceed 85 degrees F or fall below 45 degrees F. Make certain the concrete mixture is maintained at a minimum of 50 degrees F., per ACI-301 and ACI-605.
2. In hot weather, cover the poured concrete to prevent excessive

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SECTION 03000 – CONCRETE

evaporation.

3. The procedures for conveying, depositing, vibrating, etc., are to be in accordance with ACI-301. Thoroughly rake all concrete to eliminate air pockets.
4. Commence placement of concrete only after the forms and reinforcement have been inspected and approved by the Owner or Historical Architect.
5. All placement of concrete is to be done most diligently so as to prevent segregation of the materials and to avoid splashing of forms with concrete. Any partially hardened reinforcement higher than the placing level must be constantly removed before placement proceeds to such area. Concrete is to be placed with suitable equipment such that the free fall of the concrete does not exceed 4 ft.
6. Deposit concrete as close to its final position as possible and at such a rate of placement that it is at all times plastic and flows readily into a homogeneous mass without cold joints. To secure even and dense surfaces, free of honeycombing, sand streaks, etc., internal vibration is to be supplemented by skillful hand spading near exterior surfaces.
7. Do not allow concrete to overspill onto the adjacent surfaces. Clean adjacent areas immediately after installation.
8. Trowel and finish the concrete smooth to provide an even transition between surfaces.

D. Protection and Curing

1. Cure concrete by keeping it in a moist condition for a period of one (1) week, or three (3) days for high early strength concrete.

E. Formwork

1. Formwork is to be in accordance with ACI-347.
2. Coat the inside of the forms with a non-staining oil.
3. Remove forms in a manner to insure complete stability of the slabs and to the job personnel, forms are to remain in place for the minimum time specified herein, except when specifically authorized otherwise.

F. Concrete reinforcement

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1. Concrete reinforcement details not covered herein are to be done in accordance with ACI-318 and ACI-315.
2. Metal reinforcement, before placement, is to be free from loose mill, rust scale, dirt, and coatings, including ice, and anything else that destroys or reduces bond.
3. Where lapped splices are used, the lap is to be a minimum of thirty-six (36) bar diameters unless otherwise indicated on the drawings.
4. Notify the Historical Architect to inspect the reinforcement after it has been placed and at least one day before the pour.
5. Unless specifically stated in the drawings, install reinforcement - 10/10, 6" x 6" welded wire fabric.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris and trash at all times.
- B. Clean the Work Area thoroughly at the end of each week.
- C. Do not permit poured concrete to splash over onto the adjacent surfaces. Clean off any oversplash immediately after pouring.

END OF SECTION 03000

DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

**SECTION 02070 – SELECTIVE DEMOLITION**

**PART 1 - GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work.

B. Definitions:

1. Demolition - carefully remove an element and review with Owner or Historical Architect whether it should be salvaged or discarded. Dispose off-site if Owner or Historical Architect considers it not worth salvaging.
2. Dismantlement - carefully remove an element and set it in temporary, protected storage, on site, for possible salvage.
3. Salvage - an element to be reused: either in its original location, or else in a new location.

- C. Scope of selective demolition/dismantlement work is indicated on the drawings, and includes, but is not limited to, the following:

1. Demolition of existing siding boards, as shown on the Drawings,
2. Demolition of existing door pair on north elevation,
3. Demolition of existing door on south elevation,
4. Demolition of existing metal roof,
5. Demolition of the existing electrical subpanel,
6. Demolition of existing electrical wiring and lighting fixtures, as shown on the Drawings,
7. Demolition of other miscellaneous materials as required for the installation of new and replacement materials

DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

1.03 -- RELATED SECTIONS:

- A. Section 01001, “Additional Conditions,” for:
  - 1. Archaeological requirements related to demolition work
  - 2. Photography of conditions prior to and during demolition and dismantlement.
- B. Section 02150, “Temporary Shoring,” for coordination with temporary shoring during demolition and underpinning work.
- C. Section 02221, “Excavation, Backfilling and Compacting,” for excavation work associated with underpinning and grade adjustment on north elevation.
- D. Section 06100, “General Carpentry,” for supplemental sill and floor framing repairs.
- E. Section 06200, “Finish Carpentry,” for siding repairs and replacement.
- F. Section 07600, “Flashing and Sheet Metal,” for roof replacement.
- G. Section 08100, “Doors and Windows,” for door repair details.
- H. Section 16010, “Electrical,” for general electrical coordination.

1.04 -- CODES AND STANDARDS

- A. NFPA 241: all work shall be performed in accordance with NFPA 241, “Safeguarding Building Construction and Demolition Operations,” 2009 or most recent edition.
- B. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- C. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.
- D. Comply with relevant OSHA regulations governing the Work.
- E. EPA and Clean Air Regulations: comply with all applicable provisions of Federal EPA and local clean air regulations.

1.05 -- PROTECTION

- A. Occupancy: the Owner will be continuously occupying other areas of the site
- Restoration of the Repository Building  
at the Mifflinburg Buggy Museum
- John Bowie Associates, Historical Architects  
March 7, 2013
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DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

adjacent to areas of selective demolition (although no visitors will be permitted inside the building itself). Conduct selective demolition work in a manner that minimizes the need to disrupt the Owner's normal operations. Provide a minimum of 72 hours advance notice to the Owner of demolition activities which will severely impact Owner's normal operations.

- B. Condition: the Owner assumes no responsibility for actual condition of items to be demolished.
  - 1. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations may occur by Owner's removal/relocation and salvage operations in the Work Area prior to start of selective demolition work.
- C. Perform cutting and removals in a manner that does not cause damage to existing materials indicated to remain.
  - 1. Where the extent or limits of demolition work indicated on the Drawings is not fully detailed or described, requires clarification, or conflicts with other Drawings or this Section, notify the Owner and/or Historical Architect of the discrepancy or question. Do not proceed with removals until the exact scope or limits of the Work is defined in writing.
- D. Protections: Provide temporary protection as required to protect all persons having access to the site from injury due to selective demolition work.
  - 1. Provide protective measures as required to provide free and safe passage of all persons to and from occupied portions of the site.
  - 2. Provide shoring, bracing, or support to prevent movement, settlement, or collapse of material to be demolished, and adjacent material to remain.
  - 3. Protect from damage all existing finish work that is to remain in place and becomes exposed during demolition operations.
  - 4. Construct temporary dustproof partitions where required to separate areas where noisy or extensive dirt or dust producing operations are performed. Construct partitions so that no nails, screws or strong adhesive materials (i.e. duct tape) are used, and so that no finishes will be damaged, marred, cracked, destroyed, or otherwise affected adversely.
  - 5. Remove protections at completion of work.
- E. Promptly repair damages caused to adjacent facilities by demolition work at no cost to the Owner.

DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

- F. Utility Services: Maintain existing utilities which are to remain. Keep in service, and protect against damage during demolition operations.
- G. Environmental Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
- H. Asbestos: Should materials resembling asbestos be encountered during the work of the project, immediately notify the Owner and stop work in the area containing the suspected asbestos and in areas having potential for contamination by asbestos. Removal or encapsulation of asbestos in accordance with governing regulations will be accomplished under separate contract. Proceed with suspended work after removal or encapsulation has been completed.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS: Not applicable

2.02 -- MANUFACTURERS: Not applicable

2.03 -- SUBMITTALS

- A. Schedule: Submit as part of the Contractor's schedule, a narrative indicating proposed methods and sequence of operations for selective demolition work for review prior to commencement of work. Include details for dust and noise control protection

**PART 3 - EXECUTION**

3.01 REQUIRED PROTECTION:

- A. Provide suitable and adequate protection for all parts of the site, the building, and its contents where work under this contract is performed.
- B. All items not scheduled to be removed shall be completely protected by the Contractor.
- C. Conduct operations to prevent damage by falling debris or other cause to adjacent buildings, structures, facilities, walks, streets, and persons.
- D. Provide interior shoring, bracing, and support to prevent movement, settlement, or collapse of sections of the building indicated to remain and sections indicated to be

DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

removed.

- E. Environmental controls: Use temporary enclosures and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level, as determined by the Owner.
- F. Use extreme caution to protect the historic interior wood flooring, panel boards and plaster remnants (limited locations) while working on the sills and framing. Take care not to damage while exterior siding, sills and flooring are removed. Protect the historic interior finishes from rain and moisture damage, or from damage caused by vibration from nailing/screwing.
  - 1. Install plastic sheets, carefully placed and overlapped to avoid vibration or marring of finishes, on the exterior surfaces of the building, so as to prevent rain and moisture damage.
- G. Use extreme caution to protect the historic interior finishes when any support jacks or other means of support are set in place. Do not overtighten or overstress any temporary supports.
- H. Install temporary plywood panels into door openings during periods when they are being repaired. It is acceptable to use modern door leaves in the openings while the historic doors are being repaired/fabricated. However, secure said temporary modern doors soundly and safely, so as to prevent vandalism.
- I. Do not mechanically attach or adhere any protection materials against historic materials or finishes. Do not screw or nail, and do not use strong adhesive materials (such as duct tape). Use only pressure-fit and wedged attachments.

3.02 INSPECTION AND PREPARATION:

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions of building or surrounding property which could be misconstrued as damage resulting from selective demolition work.
- B. Provide all interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of portions of structure to be removed and portions to remain or be reused.
  - 1. Cease operations and notify the Owner and/or Historical Architect immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.

DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

3.03 REMOVALS:

- A. Perform selective removals work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with progress schedule and governing regulations.
- B. At all walls which abut existing construction to remain, neatly cut from both sides of construction in order to effect neat clean edges.
- C. Perform all removals and cutting carefully to avoid damage to adjacent elements scheduled to remain.
- D. Take all precautions and use whatever protective devices or materials that are required to assure that adjacent portions of the building to remain are not loaded beyond safe limits and are not broken or otherwise damaged.
- E. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and notify the Historical Architect. Pending receipt of directive from Historical Architect, arrange selective demolition schedule as necessary to continue overall job progress without delay.
- F. Leave wall surfaces clean and smooth for subsequent finishing (if any)/painting/staining. Replace damaged wall surfaces, or repair as acceptable to Historical Architect.
- G. Keep the premises cleaned up by removing accumulations of waste materials, rubbish, and debris from day to day and dispose of the same to the satisfaction of the Historical Architect and all authorities having jurisdiction. Adequately dampen all such waste materials, rubbish, and debris to reduce dust as much as possible.

3.04 SALVAGE MATERIALS

- A. Salvage Items: Where items are required as salvage for Owner or reuse in the Work, carefully remove, clean, turn over to Owner and obtain receipt, or store for reuse in the Work.

3.05 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
  - 1. Provide a manifest of acceptance of demolished products into an approved disposal facility.
  - 2. Burning of removed materials is not permitted on project site.

DIVISION 2 –DEMOLITION AND SITE WORK  
SECTION 02070 – SELECTIVE DEMOLITION

3.06 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02070

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02150 – TEMPORARY SHORING

**SECTION 02150 – TEMPORARY SHORING**

**PART 1 - GENERAL**

1.01 GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section generally includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Installation (and subsequent removal) of any shoring associated with the Contractor's design for the underpinning effort,
  - 2. Installation (and subsequent removal) of shoring to support the flooring and framing systems while the sills, summer beams and roof trusses are being repaired.

1.03 -- RELATED SECTIONS:

- A. Section 02070, "Selective Demolition," for coordination of dismantlement and demolition work with shoring requirements.
- B. Section 06100, "General Carpentry," for coordination with installation of new framing members and sills.

1.04 -- CODES AND STANDARDS

- A. NFPA 241: all work shall be performed in accordance with NFPA 241, "Safeguarding Building Construction and Demolition Operations," 2009 or most recent edition.
- B. International Building Code (IBC), 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- C. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.
- D. Comply with relevant OSHA regulations governing the Work.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02150 – TEMPORARY SHORING

1.05 -- PROTECTION

- A. Provide protection to existing structural elements, finishes and materials so as not to be damaged by the installation of the shoring.
- B. Damages: Promptly repair any damage caused to adjacent facilities, landscaping or paved areas by the installation or removal of temporary shoring at no cost to the Owner.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS:

- A. Temporary shoring materials and connectors shall be selected by the Contractor, subject to the requirements noted in Part 3 (below).

2.02 -- MANUFACTURERS: Not applicable

2.03 -- SUBMITTALS

- A. Submit a shop drawing showing Contractor's anticipated shoring technique(s), labeling sizes and spacing of shoring elements, as well as methods of temporary fastening (if any).
  - 1. List the sequence of work events on shop drawing, to demonstrate how activities are coordinated.
  - 2. Seal shop drawing by the Contractor's Pennsylvania-licensed professional engineer.

**PART 3 - EXECUTION**

3.01 – TEMPORARY SHORING

- A. The Contractor has the sole and exclusive responsibility for the choice and design of materials, sizes, arrangements and connections to provide adequate means of safely supporting superimposed loads or transmitting those loads onto existing structural elements in a manner which will avoid overstress in these elements.
- B. Shoring will consist of substantial timbers or steel members free of splits, holes, notches, warpage or other defects. Sizes are to be adequate to support the imposed loading.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02150 – TEMPORARY SHORING

- C. Perform shoring in such a manner as to prevent any settlement or vertical or horizontal deformation of the existing structure.
  - 1. Before commencing with the Work, the Contractor will thoroughly investigate the existing structure to verify its present condition.
- D. The Contractor will be fully responsible for the existing structure during all shoring operations, and while the shoring is in place.
- E. Carry all loads down in a safe manner such that existing members are not overstressed.

3.02 -- CLEAN-UP AND DISMANTLEMENT

- A. Plan removal of shoring carefully so as to transfer loads uniformly and without impact to new and existing structural elements.
- B. Upon completion of work requiring shoring, remove tools, equipment and demolished materials from the site. Remove protection and leave interior areas broom clean.

END OF SECTION 02150

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02221 – EXCAVATING, BACKFILLING, AND COMPACTING

**SECTION 02221 -- EXCAVATING, BACKFILLING, AND COMPACTING**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Lowering the grade adjacent to the retaining wall in the northwest corner of the building, as shown on the drawings
  - 2. Installation of test pit alongside the east exterior wall to verify the depth of the existing foundation wall
  - 3. Installation of an access pit (if considered appropriate by the Contractor) adjacent to the underpinning area

1.03 -- RELATED SECTIONS:

- A. Section 01001, “Additional Conditions,” for general archaeological requirements
- B. Section 02950, “Trees, Shrubs, Ground Cover,” for coordinating reseeding the altered exterior grade areas
- C. Section 03000, “Concrete,” for coordinating the access pit excavation work with the underpinning work

1.04 -- CODES AND STANDARDS

- A. International Building Code (IBC), 2009 or most recent issue, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ).
- B. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.
  - 1. Comply fully with PA Act 187 (Underground Utility Line Protection Act) for all work in the vicinity of all underground utilities, whether publicly or privately owned.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02221 – EXCAVATING, BACKFILLING, AND COMPACTING

- C. Comply with relevant OSHA regulations governing subsurface work.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Owner and the Historical Architect.
- B. Provide sheeting, shoring, area protection, barricades, warning lights, and other materials necessary to ensure safe conditions for workmen and the public.
- C. It is possible the site may contain underground archaeological resources.
  - 1. Notify the Owner and Historical Architect at least 48 hours (2 business days) in advance of any digging.
  - 2. Allow the Owner's archaeological representative to be present during all subsurface activities.
  - 3. During work, the Contractor must be diligent and watchful for possible abnormalities in the soil, including changes in the strata or the presence of small objects, including manmade objects and sharp splintered rock flakes.
  - 4. If the Contractor encounters any of the features or objects described above during excavation, stop work in that area and notify the Owner, and, if warranted by the Owner, allow the Owner's archaeological representative adequate time to conduct tests.
  - 5. The Owner is permitted to stop excavation work in any affected areas for a period of up to five (5) working days to perform mitigative archaeology at no additional cost to the contract amount. All timetables affected by the activities of the Owner's archaeological representative will be adjusted accordingly.
  - 6. Allow adequate room on site for the Owner's archaeological representative to conduct mitigative archaeological investigations.
- D. Locate and protect all utilities, irrespective of whether they are public or private in ownership. Verify locations before proceeding with the Work. Follow all relevant laws and ordinances relating to notification of utility companies prior to digging.
  - 1. Be fully responsible for all injuries (including death) to people and damage to

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02221 – EXCAVATING, BACKFILLING, AND COMPACTING

property and all other miscellaneous damages, including reasonable attorneys' fees, resulting from digging into, hitting, or disturbing any and all utilities.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Topsoil: set aside existing topsoil during excavation and cover it during Work. Reuse it during backfilling operations so that it covers the surface.
- B. Base soil: set aside existing base soil during excavation and cover it during Work; keep it separated from topsoil. Reuse it during backfilling at the base of excavated areas.

2.02 – MANUFACTURERS (Not applicable)

2.03 -- SUBMITTALS

- A. In advance of any excavation work, submit, as part of the Contractor's schedule, a narrative which shows the coordination of the work around the building and in the area shown for underpinning.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Provide sheeting, shoring, area protection, barricades, warning lights, and other materials necessary to ensure safe conditions for workmen and the public.
- B. Perform **ALL** excavation work inside the building and alongside the building foundation walls with hand tools by hand-digging.

Note: if the Contractor chooses to employ an alternative form of underpinning than the sequence shown on the Drawings, and if the Contractor wishes to excavate alongside the east exterior wall to gain access, it is acceptable to utilize machinery to perform the digging work except for any digging within the distance away from the building as indicated on the Drawings, which shall be performed using hand shovels.

- D. Do not proceed with excavation until all underground utilities have been located and marked.
- E. It is unlikely that large subsurface objects will be encountered. However, where it

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02221 – EXCAVATING, BACKFILLING, AND COMPACTING

becomes necessary to excavate beyond the limits of normal excavation lines to remove boulders, bedrock, or other interfering objects, proceed with the removal of said boulders and interfering objects and backfill the voids remaining after their removal.

- F. Set contours as generally shown on the drawings. Small variations are permitted to accommodate field conditions; however:
  - 1. Inside the building re-establish the grade to permit concrete floor slab installation
  - 2. Along the exterior perimeter of the building, the grade must slope away from the building and pitch at the slope shown on the Drawings.
  
- G. Excavation alongside the building foundation at the test pit:
  - 1. Separate the topsoil from the base soil and place into separate piles (so they can be reinstalled with the topsoil at the surface).
  - 2. Place topsoil and base soil onto plastic sheets for ease of cleanup at completion.
  - 3. Notify the Owner immediately upon discovering unusual objects or conditions in the soil that might necessitate archaeological investigation.
  - 4. When backfilling, place soil in maximum 6” lifts, taking care to compact thoroughly, but not to such a level that undue lateral pressures are placed on the foundation.
  - 5. Pitch backfilled material to permit positive drainage away from the building.
  - 6. At project completion, but prior to seeding, add additional topsoil in locations where settlement has occurred.
  
- H. Be responsible for repairing, at no additional cost to the Owner, any damage incurred to the site, or building, or landscaping and vegetation, during the course of excavation/backfilling, to the satisfaction of the Historical Architect.

END OF SECTION 02221

DIVISION 2 – DEMOLITION AND SITE WORK

**SECTION 02950 - TREES, SHRUBS, GROUND COVER**

**PART 1 - GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section generally includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Prepare and install grass seed in excavated, backfilled, re-graded and damaged areas, as shown on Drawings, and in other areas damaged by construction activities, including:
    - a. Soil preparation and fertilization
    - b. Seeding regraded areas
    - c. Mulching

1.03 -- RELATED SECTIONS:

- A. Section 02221: "Excavation, Backfilling, Compacting," for coordination with the excavation work and establishment of grades

1.04 -- CODES AND STANDARDS

- A. International Building Code, 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all appropriate Federal, State, and Municipal Codes and Laws in the execution of this work.

1.05 -- PROTECTION

- A. Protect existing utilities, paving, and other facilities from damage caused by seeding operations.
- B. Restrict traffic from seeded areas until grass is established. Erect signs and barriers as required.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02950 – TREES, SHRUBS, GROUND COVER

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

A. Temporary cover seed: fresh, clean, certified grass seed mixes:

<u>Proportion</u>	<u>Name</u>	<u>Min. % Germin.</u>	<u>Min. % Pure Sd.</u>	<u>Max. % Weed Sd.</u>
50%	Winter Ryegrass	85%	90%	0.50%
50%	Annual Ryegrass	85%	90%	0.50%

NOTE: other, more locally indigenous seed mixes and proportions may be permitted at the discretion of the Owner and/or Historical Architect.

B. Permanent cover seed: fresh, clean, certified grass seed mixes:

<u>Proportion</u>	<u>Name</u>	<u>Min. % Germin.</u>	<u>Min. % Pure Sd.</u>	<u>Max. % Weed Sd.</u>
60%	Kentucky bluegrass	85%	90%	0.50%
30%	Pennlawn Fescue	85%	90%	0.50%
10%	Pennfine Perennial Ryegrass	85%	90%	0.50%

NOTE: other, more locally indigenous seed mixes and proportions may be permitted at the discretion of the Owner and/or Historical Architect.

C. Fertilizer:

1. Granular, non-burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.
  - a. TYPE A: Starter fertilizer containing 20% nitrogen, 26% phosphoric acid, and 6% potash by weight, or similar approved composition.
  - b. TYPE B: Top dressing fertilizer containing 31% nitrogen, 3% phosphoric acid, and 10% potash by weight, or similar approved composition.

D. Ground limestone: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve.

E. Straw mulch: Clean oat or wheat straw well seasoned before bailing, free from mature seed-bearing stalks or roots of prohibited or noxious weeds.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02950 – TREES, SHRUBS, GROUND COVER

1. Do not use salt hay.
- F. Water: Free of substance harmful to seed growth. Furnish hoses or other methods of transportation.

2.02 -- MANUFACTURERS: Not applicable

2.03 -- SUBMITTALS

- A. Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentages of purity, germination, and weed seed for each grass species.
- B. Upon acceptance of seeded area, submit written maintenance instructions recommending procedures for maintenance of seeded areas.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Delivery, storage and handling
  1. Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.
- B. Inspection
  1. Examine finish surfaces, grades, topsoil quality, and other factors affecting growth.
- C. Project conditions
  1. Work notification: Notify the Owner at least 7 working days prior to start of seeding operations.
  2. Perform seeding work only after planting and other work affecting ground surface has been completed.
  3. The Owner will provide hose and lawn watering equipment as required.
- D. Preparation
  1. Limit preparation to areas which will be immediately seeded.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02950 – TREES, SHRUBS, GROUND COVER

2. Loosen topsoil of lawn areas to minimum depth of 4". Remove stones over 1" in any dimension and sticks, roots, rubbish, and extraneous matter.
3. Grade areas to a smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.
4. Apply limestone, to adjust pH of topsoil to not less than 6.0 nor more than 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil. Test soil pH to determine proper level of alkalinity.
5. Restore prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to seeding.
6. Apply Type A fertilizer at a rate recommended by the manufacturer.

E. Seeding:

1. Seed immediately after preparation of bed. Spring seeding between April 1 and June 1 and fall seeding between August 15 and October 15 or at such other times as may be acceptable to the Owner.
2. Seed indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.
3. Perform seeding operations for renovated lawn areas when the soil is dry and when winds do not exceed 5 miles per hour velocity.
4. Apply seed to renovated areas with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in 2 directions, at right angle to each other.
5. Sow grass seed at the following rates:
  - a. Temporary seed: 10.0 lbs. per 1,000 sq. ft.
  - b. Permanent seed: 4.0 to 6.0 lbs. per 1,000 sq. ft.
6. After seeding, rake or drag surface of soil lightly to incorporate seed into top 1/8" of soil. Roll with light lawn roller.

F. Mulching:

1. Place erosion control fabric (i.e. Curlex wood fiber in 4' width rolls) over disturbed/seeded area and stake.

DIVISION 2 – DEMOLITION AND SITE WORK  
SECTION 02950 – TREES, SHRUBS, GROUND COVER

- G. Provide straw bale checking in ditches or problem swales at intervals required to adequately slow water velocity and impede soil loss.
- H. Maintenance
  - 1. Owner will water seeded areas after acceptance of the initial installation.
  - 2. Repair, rework, and re-seed all areas that have washed out, are eroded, or do not catch.
  - 3. Apply Type B fertilizer to seeded areas approximately 21 days after seeding at a rate recommended by manufacturer.

3.02 -- CLEAN-UP

- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from seeding operations.

END OF SECTION 02950

**SECTION 01001--ADDITIONAL CONDITIONS**

**PART 1 - GENERAL**

- 1.01 The General Scope of the work is the Restoration of the Repository Building at the Mifflinburg Buggy Museum, as shown on the Drawings and as defined in Section 01010 of these Specifications.
- 1.02 Applicable provisions of these Additional Conditions, plus the Supplemental Conditions, the General Conditions, and the other contract documents govern this Specification as a whole. The work under this contract includes the furnishing of all labor, materials, equipment, appliances, cartage, and performing all operations necessary to complete this project in its entirety in accordance with the drawings and specifications.
- 1.03 Labor, material and equipment not specified or shown, but properly inferable from the Contract Documents is to be performed and supplied in conformity with the standards established herein.
- 1.04 Owner Contact:
- A. Bronwen A. Sanders, Executive Director  
Mifflinburg Buggy Museum  
598 Green Street  
Mifflinburg, Union County, Pennsylvania 17844  
Phone: (570) 966-1355  
Fax: (570) 966-9231
- 1.05 Historical Architect Contact:
- A. John R. Bowie, A.I.A., Historical Architect  
John Bowie Associates  
101 East Possum Hollow Road  
Wallingford, Pennsylvania 19086  
Phone: (610) 565-1268  
Fax: (610) 565-4367
- B. Throughout the documents of this Project Manual, the term "Architect" and "Historical Architect" are used interchangeably and both refer to John Bowie Associates, Historical Architects.
- 1.06 In addition to the indemnification stated in the General Conditions, the Contractor protects, defends, indemnifies, and holds completely harmless John Bowie Associates, its principals, officers, employees, and agents from and against any and all liens, claims, demands, suits, and judgments, and their associated legal and court costs, and interest of any kind or character incurred by the Contractor in defense of same arising in favor of taxes, claims,

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01001 – ADDITIONAL CONDITIONS

liens, debts, personal injuries (including people associated with the Contractor), death or damage to property (including property of the Contractor) and without limitation by enumeration all other claims or demands of every character occurring and caused in whole or in part by any negligent act or omission of the Contractor, or anyone for whose acts the Contractor may be liable.

**PART 2 - WORK IN AND AROUND SENSITIVE, OCCUPIED BUILDINGS**

2.01 The Repository Building at the Mifflinburg Buggy Museum is recognized as a highly visible, significant historic building. The Buggy Museum site is one of the most culturally and historically significant landmarks in Pennsylvania and it gains part of its cultural importance from the integrity of its architectural components, materials and surfaces, and from the character of its spaces throughout the Building and on the Site. The Contractor is expected to exercise a special degree of care and skill and must be sensitive to the problems associated with culturally and historically significant buildings. The Contractor is entrusted with an irreplaceable historic resource whose value is highly regarded by the citizens of the region, the county, and the state. In addition, the building is also an intact architectural gem, even though its many finished surfaces are deteriorated and damaged. The Contractor is to ensure that their operations and the conduct of their employees and subcontractors are appropriate to the type of work done in a museum environment, as well as an office environment.

- A. No loud radios or music shall be permitted during working hours.
- B. Contractor's employees and subcontractors are to conduct themselves in a respectable, decent manner, and refrain from any profanity.
- C. Contractor's employees and subcontractors are to be fully attired throughout the work day, and maintain a proper appearance, with no suggestive or profane writing on articles of clothing.
- D. No alcohol, drugs, or smoking at any time on the property. Smoke only in the parking area for Contractor's vehicles.
- E. No firearms or weapons at any time on the property.

The Owner reserves the right to immediately and permanently bar from the Site any person or persons who, in the judgment of the Owner, violate any of these provisions. The Contractor is responsible to replace said individual(s) at Contractor's own expense without change in the Contract Schedule.

2.02 The *Secretary of the Interior's Standards for Historic Preservation Projects* shall by reference be made a part of this Contract.

2.03 No existing material shall be disposed without the approval of the Owner or the Historical

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01001 – ADDITIONAL CONDITIONS

Architect. All new materials are to be stored in a safe place, as approved by the Owner or the Historical Architect.

- 2.04 Archaeological Investigation: although the area where foundation work is scheduled to take place has been heavily disturbed over the years (especially during the initial restoration project of the late-1970's), it is still possible that archaeological resources will be uncovered during the excavation portions of the project (the foundation repairs and the grade adjustment). Notify the Owner and Historical Architect at least 48 hours (2 business days) in advance of any digging, so that the Owner and/or the Owner's archaeological representative may be present during digging activities.
- A. The Owner reserves the right to stop excavation work in affected areas for a period of up to five (5) working days to perform mitigative archaeological investigation, at no additional cost to the Project.
  - B. Provide the Owner's archaeological representative adequate room on site to conduct mitigative archaeological investigations.
  - C. If the Owner stops work to conduct mitigative archaeological investigation, the Project Timetable will be adjusted by the number of days work is stopped; however, the Contract Price shall not be adjusted.

**PART 3 - CONTRACTOR USE OF PREMISES/ACCESS/WORKING HOURS**

- 3.01 Coordinate access to the site, delivery and storage of materials, parking and working hours directly with the Owner.
- 3.02 The work week for all parts of this Contract shall be Mondays through Fridays, between the hours of 7:00 a.m. through 5:00 p.m., local prevailing time. No work shall be done before hours, after hours, or on Saturdays, Sundays, or Holidays, except with the prior written approval of the Owner.
- 3.03 The interior, exterior and the site immediately surrounding the Repository Building shall be considered the Work Area. Take care to protect Museum members, volunteers, visitors and the public while working in the vicinity of these areas.

**PART 4 - WORKER AND COMMUNITY RIGHT TO KNOW**

- 4.01 Make available to employees, subcontractors, suppliers (as appropriate), and community residents written information regarding hazardous substances introduced into the workplace and the general environment. Inform workers of said written information. Supply the Owner with a list of all hazardous substances to be used in the course of the contract. Erect and maintain physical barriers, signs, or other devices as required by Federal, State, or Local laws and ordinances, and/or as directed by the Historical Architect or the Owner.

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SECTION 01001 – ADDITIONAL CONDITIONS

**PART 5 - PROTECTION OF THE ENVIRONMENT**

- 5.01 Provide for the prevention, control and abatement of land, water and air pollution, which shall include but not be limited to:
- A. No refuse may be burned.
  - B. Remove all refuse from site of work for disposal in accordance with rules and regulations of authority having jurisdiction over the disposal area.
  - C. Provide for filtration of all contaminated water discharging directly to the ground.
  - D. Dispose of all lead-based painted materials, if any are found, in accordance with the regulations of OSHA, the United States Environmental Protection Agency, and the Commonwealth of Pennsylvania.
  - E. In the event materials that resemble asbestos or asbestos-containing materials are discovered, stop work in that area and notify the Owner.
    - 1. Abatement of any asbestos-containing materials is not part of this Contract. If any are discovered during the Work, it will be treated separately.

**PART 6 - PROJECT SIGNS**

- 6.01 Fabricate and install a project sign in the location shown on the Drawings. This sign is to be used to announce the project to the public.
- A. The project sign is to be professionally prepared, and shall be minimum 4' x 6' in size, on a sheet of 3/4" plywood (exterior, or better grade), supported on 4" x 4" (minimum) wood legs, and shall contain a background color, with a contrasting color for lettering (both colors shall be selected by the Owner).
  - B. The sign is to contain the name of the project, plus the names and addresses of the Owner, Historical Architect and Contractor. In addition, it will contain the names of the organizations that contributed funding and support to the Project. Said names shall be provided by the Owner to the Contractor.
  - C. Prepare a shop drawing, that shows the layout, wording and spelling of the project sign for approval by the Owner before fabrication.
  - D. Remove at project completion, and restore the ground to its previous condition.
- 6.02 Post a second sign in the location shown on the Drawings. This sign is to be used to post

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prevailing wage information, worker right-to-know information, and other important information related to the project.

- A. This second project sign is to be minimum 4' x 6' in size, on a sheet of ¾" plywood (exterior, or better grade), supported on 4" x 4" (minimum) wood legs, and contain a clear acrylic front and cover for the top and sides (to prevent rain and snow from damaging the posted announcements). In addition, the acrylic is to either be hinged or fastened to the plywood in such a way that periodic new announcements can be installed with ease and without inconvenience.
- B. Prepare a shop drawing, that shows the layout and construction of the second sign for approval by the Owner before fabrication.

6.03 Post no other signs (including advertisement signs for contractors, subcontractors and suppliers), unless approved by the Owner.

**PART 7 - PERMITS, LICENSES AND CERTIFICATES**

- 7.01 Secure all required approvals, permits, licenses or certificates. Provide one copy of each to the Owner.
  - A. The Historical Architect and Owner will be responsible for obtaining approvals to conduct the project from the Pennsylvania State Historic Preservation Office (PASHPO), if such approval is required.
  - B. Contractor is responsible to secure any building permits that might be required from the municipality (Borough of Mifflinburg).
  - C. Be responsible for paying for all trade licenses and certifications required by the municipality to perform work.

**PART 8 - COORDINATION AND SCHEDULING**

8.01 Coordinate scheduling, submittals and work of the drawings and specifications for efficient and orderly sequence of installation of all construction materials.

**PART 9 - FIELD ENGINEERING**

- 9.01 Verify all dimensions and conditions in the field.
  - A. No additional compensation will be provided for inaccuracies in the dimensions or conditions shown on the drawings.
- 9.02 Verify all existing conditions, dimensions, clearances, and other considerations which may

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01001 – ADDITIONAL CONDITIONS

affect the proper execution of the work. Notify the Historical Architect of any deviations in actual conditions and dimensions from those shown on the drawings. Be responsible for the correct fit and proper connection of all work with respect to actual conditions.

- 9.03 Drawings are diagrammatic in nature and require field verification for actual field conditions and dimensional discrepancies found after contract start-up are not to be justification to a claim for additional costs.
- 9.04 Locate and protect ALL utilities in the project area irrespective of whether said utilities be public utilities or the utilities of the Site. Verify locations of all utilities before proceeding with the Work. Contact the State Utility Notification System and the Municipality at least three working days prior to commencing any excavation work.

**PART 10 - CUTTING AND PATCHING - See Section 00801**

**PART 11 - CONFERENCES**

- 11.01 The Historical Architect will schedule an Initial Job Conference at project start-up; all people associated with the work shall attend.
- 11.02 The Historical Architect will schedule progress meetings during the course of the work as required with all necessary people.
- 11.03 The Historical Architect will schedule a Substantial Completion Job Conference when the work is roughly 97% complete, and ready for a finalization punch list to be developed.
- 11.04 The Historical Architect will schedule a Final Completion Job Conference when the work is complete.

**PART 12 - SUBMITTAL PROCEDURES**

- 12.01 Submit the items listed in each of the technical sections before beginning any work.
  - A. Typically, submittals are listed in para. 2.03 of each technical section.
- 12.02 Provide three copies of all shop drawings, data sheets, certifications, and other materials. Submit only one sample.

**PART 13 - SUBSTITUTIONS**

- 13.01 At the Initial Job Conference, submit to the Historical Architect a complete Listing of Anticipated Substitutions:
  - A. The Historical Architect and Owner will judge the equivalency of any proposed

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substitutions.

- B. Any proposed substitutions will be listed in writing, with appropriate samples, manufacturers' literature, and technical performance data attached. The burden of proof that a proposed substitution is indeed acceptable will be on the Contractor.
- C. Acceptance of a substitution will not be grounds for relief from the responsibility for compliance with all the requirements of the Contract Documents. If changes in other parts of the work, including work being done by other contractors for the Owner, are required because of a substitution, be responsible for any such changes, including the cost of any additional design services borne by the Historical Architect and/or other consultants to the Owner.
- D. Verify in writing, that any proposed substitution meets or exceeds the requirements of the Specification. Submit supporting reference information and certifications as appropriate.

**PART 14 - CONSTRUCTION PHOTOGRAPHS:**

14.01 Take photographs during the course of the work to document the following:

- A. The existing conditions before work begins.
- B. Items uncovered or exposed, particularly if they are unusual or of potential historical significance.
- C. The progress of the work.
- D. Mechanics performing the work.
- E. Items as they are being closed up.
- F. The completed project.

14.02 Photographs should be taken with a digital camera, containing auto-focus and a flash to highlight low-light and interior conditions.

- A. All images shall be JPG format.
- B. All images will contain a visible date stamp.
- C. All other metadata (i.e. type of camera, GPS location, image number, caption, etc...) will be encoded into each image, and not visible.

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- 14.03 Take at least six (6) photographs per day – or an average of thirty (30) photographs per week. It is acceptable to take more than the minimum required number of photographs.
- 14.04 Each week, print the photographs taken onto premium-quality, 8.5” x 11” photo paper.
- A. Place four (4) images on each page.
  - B. Place each image’s reference number beneath said image.
  - C. Prepare a photo caption sheet that keys each image by reference number and provides a brief description of the view – including the names of individuals within the view and the date of the photograph.
  - D. Submit the photo pages and photo caption sheet to the Owner each week. DO NOT fall behind on this task.
- 14.05 At project completion, submit to the Owner a compact disc (CD) or other suitable, mutually convenient means of electronic conveyance, all photographs plus a digital copy (in Microsoft Word format) of all compiled photo caption lists.
- A. All submitted photographs will become the property of the Owner, who reserves the right to use any or all photographs in publications, promotional literature, and other documents. The Owner will provide credit to the Contractor when photographs are used for any publicly-circulated materials.

**PART 15 - CONSTRUCTION DRAWINGS**

- 15.01 Maintain one clean xerox set or blue-line set of construction drawings and specifications on site at all times during the project. Changes made and conditions found that are different than those shown are to be marked and dated in red ink. These will become the project “as-built” documents.
- 15.02 Submit a clean set of the “as-built” documents, free of dirt, stains, smudges or other imperfections to the Owner at project completion.
- A. See Part 24 (below) for final submittal requirements of “as-built” documents.

**PART 16 - QUALITY ASSURANCE/CONTROL OF INSTALLATION**

- 16.01 Monitor quality of products, services, site conditions, and workmanship, to produce work of specified quality.
- 16.02 Comply fully with manufacturers' instructions. If manufacturers' instructions do not agree with drawings and specifications, ask direction from the Historical Architect before

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01001 – ADDITIONAL CONDITIONS

proceeding.

- 16.03 Comply with specified standards as a minimum quality for the work except when tolerances, codes, or specifications require higher standards or more quality workmanship.
- 16.04 Meet specified standards, current as of project start date. Should specified standard conflict with drawings and specifications, ask direction from the Historical Architect before proceeding.
- 16.05 Use only craftsmen who are highly skilled in their respective trade. Execute all work with the highest quality to meet or exceed the description and/or standard as specified for the work. The Owner retains the right to remove from the project any employee of the Contractor or subcontractor that does not show conformance to the standard of the work.

**PART 17 - TEMPORARY SANITARY FACILITIES**

- 17.01 Provide temporary sanitary facilities for use by the Contractor's employees, the Owner, the Historical Architect and other people associated with the project. Take care to keep the sanitary facilities clean and maintained at all times.

**PART 18 - TEMPORARY SERVICES DURING CONSTRUCTION**

- 18.01 It is acceptable to use the Owner's water service (located at the Visitor Center) for all construction-related activities.
- 18.02 It is acceptable to use the Owner's existing electric service at the Repository subpanel. Take care to conserve electricity. Leave nothing plugged into electrical receptacles overnight.
  - A. Provide for temporary electrical service during the changeover from the existing service to the new service.
  - B. Once the changeover is completed, it is be acceptable to use the Owner's new service. Take care to conserve electricity. Leave nothing plugged into electrical receptacles overnight.
- 18.03 Bring all necessary telephones to the Site for the duration of the project. Use of Contractor's cell phones is acceptable.
- 18.04 Provide a trailer (in the location shown on the drawings) for storing materials and equipment. Do not store materials or equipment in the Repository Building.
- 18.05 Parking of personal vehicles is permitted only in locations shown on the Drawings.
- 18.06 Periodic job meetings will be held in the Visitor Center.

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SECTION 01001 – ADDITIONAL CONDITIONS

- A. It is not necessary to provide the Owner with any temporary office facilities or temporary office equipment.
- B. Provide temporary electric heat for times when periodic job meetings take place in the Repository (if necessary). Do not use portable heaters that employ open flames or combustion-processes at any time in the project in the building.

**PART 19 - PROTECTION**

19.01 Erect barriers, barricades, signs, orange plastic construction fencing and other protective devices to prevent unauthorized entry to construction areas and to protect existing facilities, historic building materials, historic trees and plants, the Owner, visiting public and adjacent properties from damage or injury.

- A. Provide protection for visitors and staff/volunteers who may be entering/exiting the site during the course of the day and at times when the site is closed. Erect such barricades and covered walkways as are necessary to fully protect people using the building.
- B. Be solely responsible for the safety of all persons in the Work Area.
- C. Coordinate protection requirements with the Owner before driving any equipment or vehicles onto the site. This is a park environment; disturb as little of the site as possible.

19.02 Repair, at no additional cost to the Owner, any areas of existing buildings, contents, landscaping, paving or other site features damaged during the work to the satisfaction of the Historical Architect and the Owner. If damage occurs to these finishes as a result of the work, hire a Conservator, from a list supplied by the Owner, to perform an assessment of the damage and recommend conservation measures required, at no expense to the Owner. Upon acceptance by the Owner of the Conservator's Assessment Report, arrange for and have the Conservator perform those conservation measures on the damaged objects and/or finishes at no additional cost to the Owner.

19.03 Use caution when working directly adjacent to and on existing structures. (Provide all necessary shoring, bracing and temporary support to ensure that all existing walls, roofs, floors, and miscellaneous features remain structurally sound and are neither damaged nor moved during the work. Provide a plan for this work for acceptance by the Owner and Historic Architect prior to proceeding.)

19.04 Provide a UL listed fire extinguisher at all areas of work during the work, suitable for all types of fires.

**PART 20 - PROGRESS CLEANING**

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SECTION 01001 – ADDITIONAL CONDITIONS

- 20.01 Keep site clean and orderly, free of waste materials, construction-related debris, and rubbish. Provide thorough cleaning of the site daily. Remove all nails and sharp objects from the ground daily.
- 20.02 Use of chutes and dumpsters shall be permitted only after receiving written permission from the Owner, and said dumpsters are to be placed only in locations approved by the Owner. Haul away all trash, construction debris, and other unrequired materials as they accumulate. Do not permit them to clutter the site, create a fire hazard, or safety threat.

**PART 21 - PRODUCTS AND MATERIALS**

- 21.01 Do not use materials removed from site, except as specifically identified or allowed by the drawings and specifications, or as directed by the Owner. Store any materials designated by the Owner for salvage by the Owner at a protected location on site or off-site, as designated by the Owner.
- 21.02 Do not dispose of existing material without the approval of the Owner. All new materials are to be stored in a safe place, as approved by the Owner.
- 21.03 Use only those products that meet specified standards or description.
- 21.04 In all cases where a device or part of the products or equipment is herein referred, it is to apply to as many such items as are required to complete the installation.

**PART 22 - TRANSPORTATION, HANDLING, STORAGE AND PROTECTION**

- 22.01 Transport, handle, store and protect products in accordance with manufacturer's instructions.
- 22.02 Deliver products to the site in unbroken rolls, bundles, sealed containers or bags, fully identified with the manufacturer's name, brand, type and grade.

**PART 23 - CONTRACT INVOICING PROCEDURE**

- 23.01 Proper partial invoices will be processed for payment only for completed work, based on an inspection and acceptance of the work by the Owner and/or the Historical Architect.
- 23.02 Indicate on invoices, the Contractor's name and address, Federal ID or Social Security number, date of invoice, description of work performed, date that work was completed, amount of the invoice and the Contract Number.

**PART 24 - PROJECT CLOSE-OUT**

- 24.01 Submit the following at Final Inspection:

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01001 – ADDITIONAL CONDITIONS

- A. All construction photographic materials
- B. As-Built drawings and specifications, two sets of full-size xeroxes, marked in red, and signed by the Contractor with a written certification stipulating that the conditions found and the work performed by the Contractor are correctly shown on the drawings.
- C. Final Invoice, indicating the Contractor's name and address, Federal I.D. or Social Security number, date of invoice, description of work performed, date that work was completed, amount of the invoice and the contract number.
- D. A signed Warranty and Guaranty Statement that stipulates that all work performed under this contract showing signs of defect or substandard workmanship within one year will be repaired in kind at no additional cost to the Owner within 3 months of notice.
  - 1. Certain portions of the Work may have longer time periods for the warranty and guaranty. Stipulate those items individually in the Statement.
- E. A certification signed by all employees, subcontractors, suppliers, and all other people associated with the work that indicates that all debts, notes, and obligations relating to the work are completely satisfied and paid in full and that there are no outstanding liens.

24.02 Final Cleaning:

- A. Perform a final cleaning prior to the Final Inspection.
- B. Clean debris from the site, and any areas affected by the work.
- C. Remove all work-related waste, surplus and demolished materials, rubbish, and construction facilities from the site.
- D. Thoroughly broom sweep all areas affected by the work.
- E. Clean special items, such as glass, hardware, mortar stains, and other items affected by the work.

24.03 Spare Parts and Maintenance Materials: - see individual specification sections.

24.04 Testing/Operation of Equipment: - see individual specification sections.

END OF SECTION 01001

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01010 – SUMMARY OF THE WORK

**SECTION 01010--SUMMARY OF THE WORK**

The Summary of the Work on the Repository Building at Mifflinburg Buggy Museum includes, but is not limited to, the following:

Item No. 9608-0001

Division 01: Mobilization:

- 1.1 Permits
- 1.2 Bonds
- 1.3 Dumping and disposal of demolished materials
- 1.4 Preparation of submittals
- 1.5 Project sign
- 1.6 As-built drawing preparation
- 1.7 Photographic documentation

Item No. 8000-0002

Division 02: Demolition and Site Work:

- 2.1 Demolition of existing materials as shown on the Drawings
- 2.2 Excavation of test pit to determine depth of foundation on east side
- 2.3 Restoration of original grade in NW corner
- 2.4 Install seed in areas of excavation

Item No. 8000-0003

Division 03: Concrete:

- 3.1 Underpinning the southeast corner of the stone foundation wall

Item No. 8000-0004

Division 04: Masonry:

- 4.1 Repair of portions of the stone foundation wall in NW corner, as shown on the Drawings
- 4.2 Repointing the east interior stone foundation wall adjacent to the area for underpinning

Item No. 8000-0005

Division 05: Metals:

- 5.1 Installation of termite shield on south foundation wall
- 5.2 Installation of structural steel repairs to the first floor summer beam, the west attic sill and the attic roof trusses
- 5.2 Installation of metal anchor rods in wood sills at the foundation

Item No. 8000-0006

Division 06: Carpentry:

- 6.1 Repair of vertical wood siding boards and battens
- 6.2 Repair of wood sills, beams and framing members, including the installation of new parallam composite wood beam at attic summer beam

DIVISION 01 – GENERAL CONDITIONS  
SECTION 01010 – SUMMARY OF THE WORK

- 6.3 Installation of ventilation openings at first floor and second floor levels
- 6.4 Installation of utility cabinet
- 6.5 Modifications to the cupola to accommodate installation of new fan
- 6.6 Installation of new wood shingle lath in attic
- 6.7 Installation of replacement flooring in portions of attic
- 6.8 Miscellaneous minor carpentry repairs

Item No. 8000-0008

Division 07: Thermal and Moisture Protection:

- 7.1 Removal of existing metal roof and installation of new standing seam metal roof
- 7.2 Repairs to existing guttering system
- 7.3 Installation of new attic insulation

Item No. 8000-0008

Division 08: Doors and Windows:

- 8.1 Replace north basement door and repair north basement door frame
- 8.2 Replace south first floor door and repair south first floor door frame
- 8.3 Repair east first floor door and frame
- 8.4 Miscellaneous window repairs

Item No. 8000-0009

Division 09: Finishes:

- 9.1 Prime and paint the new metal roof
- 9.2 Scrape, prime and paint the exterior of the building, including doors and windows
- 9.3 Miscellaneous painting (making new finishes dirty, painting structural steel, etc.)

Item No. 8000-0016

Division 16: Electrical:

- 16.1 Removal of existing electrical subpanel
- 16.2 Installation of new electrical subpanel
- 16.3 Installation of new wiring, receptacles, security lighting and convenience lighting
- 16.4 Installation of new museum track lighting
- 16.5 Installation of new attic lighting
- 16.6 Restoration of historic knob & tube wiring and low-voltage lighting
- 16.7 Installation of new attic fan
- 16.8 Repairs to existing lightning protection system
- 16.9 Minor upgrades to the existing fire/security detection system

END OF SECTION 01010

DIVISION 01 – GENERAL REQUIREMENTS

**SECTION 01413a – PRIOR EXPERIENCE FORM:**  
**(Carpentry Subcontractor for Heavy Timber)**

**NOTE:** A copy of this form must be completed by the trade listed herein and submitted to the PADOT Assistant Construction Engineer, Attn: Kenneth D. Klingerman, P.E., via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

Name, address and phone number of proposed Carpentry Subcontractor for Heavy Timber:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This project contains the following scope of work items within the heavy timber trade:

- Repair and/or partial replacement of approximately 70 L.F. of damaged, historic, heavy timber wood sills at the foundation and attic levels
- Duplication of approximately ten (10) heavy timber lap joints, scarfed splice joints and mortise-and-tenon joints

The proposed Carpentry Subcontractor for Heavy Timber shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

Projects containing the repair and/or replacement of at least 70 L.F. of heavy timber wood elements:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 01413a – PRIOR EXPERIENCE FORM – Carpentry (heavy timber)

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the duplication of at least ten (10) heavy timber lap joints, scarfed splice joints and mortise-and-tenon joints:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 01413a

DIVISION 01 – GENERAL REQUIREMENTS

**SECTION 01413b – PRIOR EXPERIENCE FORM:**  
**(Carpentry Subcontractor for Epoxy Consolidation)**

**NOTE:** A copy of this form must be completed by the trade listed herein and submitted to the PADOT Assistant Construction Engineer, Attn: Kenneth D. Klingerman, P.E., via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

Name, address and phone number of proposed Carpentry Subcontractor for Epoxy Consolidation:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This project contains the following scope of work items within the epoxy consolidation trade:

- Consolidation of approximately 10 L.F. of damaged, historic, wood sills at the foundation and attic levels
- Structural consolidation of approximately 40 L.F. of historic, attic summer beam

The proposed Carpentry Subcontractor for Epoxy Consolidation shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

Projects containing the consolidation of at least 10 L.F. of wood elements:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 01413b – PRIOR EXPERIENCE FORM – Carpentry (epoxy consolidation)

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the structural consolidation of at least 40 L.F. of wood beam(s):

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 01413b

DIVISION 01 – GENERAL REQUIREMENTS

**SECTION 01413c – PRIOR EXPERIENCE FORM:**  
**(Carpentry Subcontractor for Siding Repair)**

**NOTE:** A copy of this form must be completed by the trade listed herein and submitted to the PADOT Assistant Construction Engineer, Attn: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

Name, address and phone number of proposed Carpentry Subcontractor for Siding Repair:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This project contains the following scope of work items within the siding repair trade:

- Procurement of approximately 1,000 s.f. of recycled, butt-edged wood siding with at least one face unpainted
- Installation of approximately 1,000 s.f. of recycled butt-edged wood siding

The proposed Carpentry Subcontractor for Siding Repair shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

Projects containing the procurement of at least 1,000 s.f. of recycled wood siding boards:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 01413c – PRIOR EXPERIENCE FORM – Carpentry (siding repair)

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the installation of at least 1,000 s.f. of recycled wood siding boards:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 01413c

DIVISION 01 – GENERAL REQUIREMENTS

**SECTION 01413d – PRIOR EXPERIENCE FORM:**  
**(Carpentry Subcontractor for Doors & Windows)**

**NOTE:** A copy of this form must be completed by the trade listed herein and submitted to the PADOT Assistant Construction Engineer, Attn: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

Name, address and phone number of proposed Carpentry Subcontractor for Doors & Windows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This project contains the following scope of work items within the door and window trade:

- Repair and/or partial replacement of two (2) pairs of custom wood barn doors and one (1) person-door
- Repair of two (2) wood attic windows

The proposed Carpentry Subcontractor for Doors & Windows shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

Projects containing the repair and/or partial replacement of at least two (2) pairs of barn doors and (1) person-door:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 01413d – PRIOR EXPERIENCE FORM – Carpentry (doors & windows)

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the repair of at least two (2) wood windows:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 01413d

DIVISION 01 – GENERAL REQUIREMENTS

**SECTION 01414 – PRIOR EXPERIENCE FORM: (Masonry)**

**NOTE:** A copy of this form must be completed by the trade listed herein and submitted to the PADOT Assistant Construction Engineer, Attn: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

Name, address and phone number of proposed Masonry Subcontractor:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This project contains the following scope of work items within the masonry trade:

- Preparation of six (6) mortar samples using mixes developed from the Jedrezjuska/Cliver Method of Mortar Analysis
- Repair and repointing of approximately nine (9) l.f. of historic stone on the east wall

The proposed Masonry Subcontractor shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

**Projects containing the preparation of at least six (6) mortar samples using mixes developed from the Jedrezjuska/Cliver Method of Mortar Analysis:**

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 01414 – PRIOR EXPERIENCE FORM – Masonry

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the repair and repointing of at least nine (9) l.f. of stone wall:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 01414

DIVISION 01 – GENERAL REQUIREMENTS

**SECTION 01415 – PRIOR EXPERIENCE FORM – Historic Electrical**

**NOTE:** A copy of this form must be completed by the trade listed herein and submitted to the PADOT Assistant Construction Engineer, Attn: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.

Name, address and phone number of proposed Historic Electrical Subcontractor:

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This project contains the following scope of work items within the historic electrical trade:

- Repair of knob & tube wiring and lighting elements

The proposed Historic Electrical Subcontractor shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

Projects containing the repair of knob & tube wiring and lighting elements:

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

DIVISION 01 – GENERAL REQUIREMENTS  
SECTION 01415 – PRIOR EXPERIENCE FORM – Historic Electrical

\_\_\_\_\_  
Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 01415

DIVISION 0 -- BIDDING REQUIREMENTS

**SECTION 00100 -- ADVERTISEMENT FOR BIDS**

The Mifflinburg Buggy Museum (hereinafter called the Owner) invites bids from firms for the RESTORATION OF THE REPOSITORY BUILDING at the MIFFLINBURG BUGGY MUSEUM, 598 Green Street, Mifflinburg, Union County, Pennsylvania. The architect for the project is John Bowie Associates, Historical Architects, 101 East Possum Hollow Road, Wallingford, PA 19086; telephone (610) 565-1268.

The general scope of the project consists of: 1) replacement of the standing seam metal roof, 2) carpentry repairs to framing members, 3) carpentry repairs to doors, 4) electrical and lighting upgrades, 5) painting the new roof and 6) painting the entire exterior of the building. This work is placed entirely into a single Base Bid; there are no Alternates.

The project is being bid through the Pennsylvania Department of Transportation (PA DOT), Engineering & Construction Management System (ECMS), which will be responsible for the distribution of all documents and communication relating to the project, and which will be responsible for managing the bid process and award of the construction contract.

Bidders may also review a paper copy of the bid documents at the offices of the Owner. Paper copy bid document sets may also be purchased by prospective bidders at the offices of the Historical Architect. Each paper copy set of bid documents costs \$100.00 (nonrefundable); make checks payable to John Bowie Associates, Historical Architects. Electronic copies of the bid documents may be provided to prospective bidders via e-mail at no charge.

There will be a **MANDATORY** Pre-Bid Meeting on Tuesday, April 23, 2013, at 10:00 a.m., at the Mifflinburg Buggy Museum, 598 Green Street, Mifflinburg, Pennsylvania 17844.

The project is subject to the requirements of the Pennsylvania Department of Labor & Industry's Prevailing Minimum Wage Rates.

Bid Bond requirements are outlined in the ECMS.

Submit bids electronically through ECMS, using Expedite Version 5.7a, no later than Thursday, May 23, 2013, at 11:00 a.m., local prevailing time.

The results of the bid will be displayed on ECMS on the date of the bid opening.

END OF SECTION 00100

DIVISION 00 – BIDDING REQUIREMENTS

**SECTION 00200 -- INSTRUCTIONS TO BIDDERS**

The Mifflinburg Buggy Museum (hereinafter called the Owner) invites bids from firms for the RESTORATION OF THE REPOSITORY BUILDING at the MIFFLINBURG BUGGY MUSEUM, 598 Green Street, Mifflinburg, Union County, Pennsylvania, designed by John Bowie Associates, Historical Architects, as shown on the Drawings and described in the Specifications, in accordance with the General Conditions, Supplemental Conditions, Addenda (if any), General Requirements, and other Contract Documents referred to herein, subject to the following terms and conditions:

1. The date and time of the Pre-Bid Meeting will be Tuesday, April 23, 2013 at 10:00 a.m., on site at the Mifflinburg Buggy Museum, 598 Green Street, Mifflinburg, Pennsylvania.
  - A. The purpose of the Pre-Bid Meeting is to identify and discuss certain aspects of the Project which can and will affect the Bidder's ability to submit an informed Bid.
  - B. The Bidder's attendance at the Pre-Bid Meeting is **MANDATORY**. If unable to attend the Meeting in person, the Bidder must send a duly authorized personal representative.
  - C. Failure of the Bidder or Bidder's authorized personal representative to attend the Prebid Meeting and to register with the Owner on or before the Prebid Meeting start time shall be cause for rejection of the Bid.
  - D. The Owner shall treat late arrivals as not in attendance.
  - E. The Owner shall return, unopened, bids received from anyone: 1) who does not attend the Prebid Meeting, and/or 2) who appears at the Prebid Meeting but fails to meet all of the aforementioned requirements concerning attendance.
  - F. In an attempt to comply with the requirements of the Americans with Disabilities Act of 1990 to the greatest extent possible, the Owner will commence the Pre-Bid Meeting at the Visitor Center in order for Bidders to become familiar with the conditions of the Project. The Visitor Center is accessible; however, the Repository Building itself is only partially accessible. Any person having special needs or requiring special assistance is requested to contact the Owner (see Item #6 below for Owner contact information) by close-of-business, Monday, April 22, 2013, in order that special needs might be accommodated and/or assistance provided.
2. Bidders may review a paper-copy set of the bid documents at the offices of the Owner (the Mifflinburg Buggy Museum). Each paper-copy set of bid documents costs \$100.00 (nonrefundable) and is available through the Historical Architect; make checks payable to

DIVISION 00 – BIDDING REQUIREMENTS

“John Bowie Associates.” Partial sets of documents will not be made available.

- A. Electronic copies of the bid documents are available free of charge to prospective bidders via e-mail.
3. This project shall consist of a single Base Bid, with no Alternates.
  4. Bidders shall complete and submit the required bid documents relating to the project through PA DOT’s Engineering & Construction Management System (ECMS).
  5. Funding for this project is from public sources, and it subject to the requirements of the Pennsylvania Department of Labor & Industry’s Prevailing Minimum Wage Rates.
  6. Bidders may return to the site as often as necessary during the bid period; however, please contact the Owner’s Project Manager (Ms. Bronwen Sanders at 570.966.1355) at least one business day in advance to advise her of being on site.
  7. Bidders must submit bid questions through ECMS any time up to 11:00 A.M., local prevailing time, on May 23, 2013. After that date, the Historical Architect will not take any questions.
  8. Interpretations and Supplemental Instructions (if any) will be issued by the PA DOT Project Manager through the ECMS.
  9. Procedures for bidders who wish to withdraw their proposals after receipt by the Owner but before the Bid Opening are stipulated in the ECMS.
  10. Submit bids electronically through ECMS, using Expedite Version 5.7a, no later than Thursday, May 23, 2013, at 11:00 a.m. local prevailing time. Bids received after that time will not be opened.
    - A. Bids will be opened electronically and bid results displayed on ECMS on the date of the bid opening.
    - B. The Owner reserves the right to reject any or all bids should adequate funds not be available to award the project.
  11. It is expected that work shall commence on the project in May 2013, depending on the weather.

END OF SECTION 00200

DIVISION 00 – BIDDING REQUIREMENTS

**SECTION 00410a – PRIOR EXPERIENCE FORM:**  
**(General Contractor)**

**NOTE:** The low bidder (General Contractor) must complete this form and submit to the PENNDOT Contract Awards Office via fax, (717) 705-1504, so that it is received by 3:00 P.M. prevailing local time within 7 calendar days after the bid opening. The bid will not be considered unless all questions contained in this section are completed. Failure to submit the form by 3:00 P.M. prevailing local time within 7 calendar days after the bid opening or failure to complete all questions on the form will result in the rejection of the bid.

Name, address and phone number of proposed General Contractor:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The Restoration of the Repository Building at the Mifflinburg Buggy Museum project contains the following within its scope of work:

- Repair and partial replacement of heavy timber wood elements
- Repair and repointing of historic masonry walls
- Repair and replacement of historic doors and windows

The proposed General Contractor shall submit the names, addresses and phone numbers of at least three (3) projects completed within the past five (5) years that demonstrate prior experience in each of the work items listed above.

Projects containing repair and partial replacement of heavy timber wood elements (either by the proposed General Contractor or their direct management of a subcontractor):

Project 1:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00410a – PRIOR EXPERIENCE FORM (General Contractor)

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the repair and repointing of historic masonry walls (either by the proposed General Contractor or their direct management of a subcontractor):

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Projects containing the repair and partial replacement of historic doors and windows (either by the proposed General Contractor or their direct management of a subcontractor):

Project 1:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Project 2:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00410a – PRIOR EXPERIENCE FORM (General Contractor)

Phone Number: \_\_\_\_\_

Project 3:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

END OF SECTION 00410a

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00801 – SUPPLEMENTAL CONDITIONS

**SECTION 00801 – SUPPLEMENTAL CONDITIONS**

**I. Instruments of Service**

a. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Historical Architect and the Historical Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

b. The Historical Architect and the Historical Architect's consultants are deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers will not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Historical Architect's or Historical Architect's consultants' reserved rights.

c. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Historical Architect and the Historical Architect's consultants.

**II. Supervision and Construction Procedures**

a. The Contractor is responsible for cutting, fitting or patching required to complete the Work or to make parts fit together properly.

b. The Contractor must obtain prior acceptance by the Historical Architect for any extensive cutting, which might involve more than the amount necessary to directly access the element being repaired or replaced.

c. The Contractor is to take every precaution to prevent damage to the existing structure for the duration of the Work. Should any damage occur, the Contractor shall repair it to the satisfaction of the Historical Architect and Owner at no additional cost.

d. The Contractor will not disturb any existing structure, piping, apparatuses, or other construction except as indicated by the Contract.

e. The Contractor is to remove existing construction where indicated on the drawings and also as required to install and connect the Work to the adjacent construction. The Contractor shall cut and alter existing materials only as required to perform the Work, and shall limit cutting to the smallest amount necessary.

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00801 – SUPPLEMENTAL CONDITIONS

**f.** The Contractor will patch existing construction and finishes damaged or left incomplete due to alterations and removals. Patching, except where specifically noted, is to be limited to those areas which have been cut or altered.

**g.** The Contractor is to fit Work tight to adjacent materials, and maintain weather-tightness and integrity of walls, openings, roof connections, roofs, and other areas affected by the Work; completely seal voids. The Contractor will refinish surfaces to match adjacent finishes.

**III. Insurance**

**a.** Property Damage Liability Insurance shall provide X, C & U coverage

**IV. Indemnification**

**a.** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Historical Architect, Historical Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in Section (IV)(a).

**b.** In claims against any person or entity indemnified under Section (IV)(a) by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section (IV)(b) shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

End of Section

DIVISION 0 -- BIDDING REQUIREMENTS

**SECTION 00850 -- LIST OF DRAWINGS**

The following 22" x 34" drawings, dated the same as this Project Manual, are hereby made a part of the contract:

<b><u>Drawing Number:</u></b>	<b><u>Drawing Title:</u></b>
1 of 4	Construction Plan Main Title Sheet
2 of 4	General Notes and Tabulation Sheet
3 of 4	Tabulation Sheet
4 of 4	Summary Sheet
CS	Cover Sheet and Site Plan
A-01	Basement Floor Plan
A-02	First Floor Plan
A-03	Attic Floor Plan
A-04	North and East Elevations
A-05	South and West Elevations
A-06	Building Sections
A-07	Building Sections
A-08	Underpinning Details
A-09	Sill Repair and Replacement
A-10	Utility Cabinet Details
A-11	Exterior Door Replacement and Repair
A-12	Exterior Door Replacement and Repair
A-13	Exterior Door Replacement and Repair
A-14	Roof Details
A-15	Structural Details
A-16	Structural Details
A-17	Structural Details

END OF SECTION 00850

DIVISION 00 – BIDDING REQUIREMENTS

**SECTION 00999 – REFERENCE PHOTOGRAPHS**

**NOTE:** This section of the specification is provided to illustrate a sampling of the conditions and requirements of the Project. It is placed herein for the benefit of, and easy reference by, the Project’s Bidders.

These photographs are provided for informational purposes only. Bidders shall be responsible for identifying all conditions and quantities of the Work of the Project through direct field observation and physical verification. Bidders shall be responsible for fulfilling all other bidding requirements of the Project.

The conditions shown in these photographs may not reflect the Scope of the Work in its entirety.

The photographs provided herein shall not constitute any portion of the photographic documentation requirements stipulated elsewhere in this specification.

. . . . .



Photo 1: north and east elevations as seen from Quarry Road

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 2: north elevation, as seen from the intersection of Quarry Road and Sixth Street



Photo 3: west elevation, as seen from Quarry Road

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 4: south and west elevations



Photo 5: south and east elevations

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 6: exterior door – east elevation



Photo 7: detail of south elevation exterior door threshold and adjacent deteriorated siding boards and battens

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS

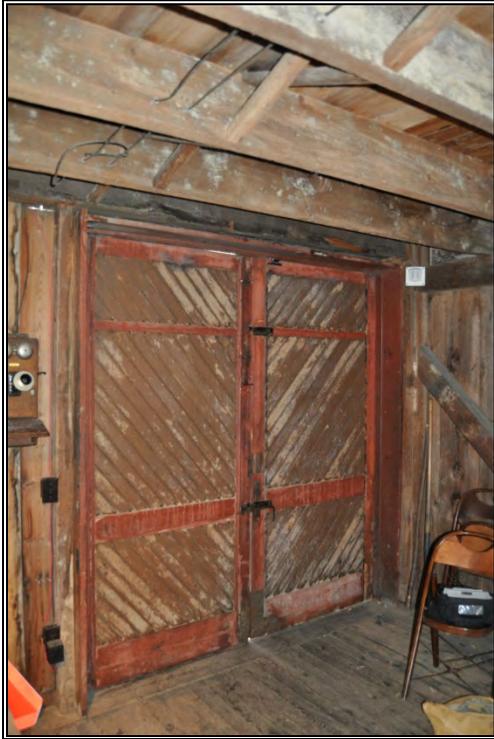


Photo 8: interior view of east elevation doors



Photo 9: interior view of south elevation door



Photo 10: interior view, looking southeast, of south and east elevation doors

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 11: exterior door – north elevation



Photo 12: exterior door – north elevation; since this photo was taken, the owner installed the remaining portion of brick pavers



Photo 13: interior view of north elevation doors

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 14: interior view of northwest basement corner



Photo 15: detail of deteriorated sill, post, and foundation, northwest basement corner



Photo 16: detail, west foundation wall, of deteriorated sill to be replaced

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 17: detail, section of east foundation wall to be underpinned



Photo 18: detail, east foundation wall, where new utility closet is to be installed

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 19: detail of deteriorated siding boards and battens and partially collapsed dry-laid stone retaining wall on north elevation



Photo 20: detail of deteriorated siding boards and battens on south elevation

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS

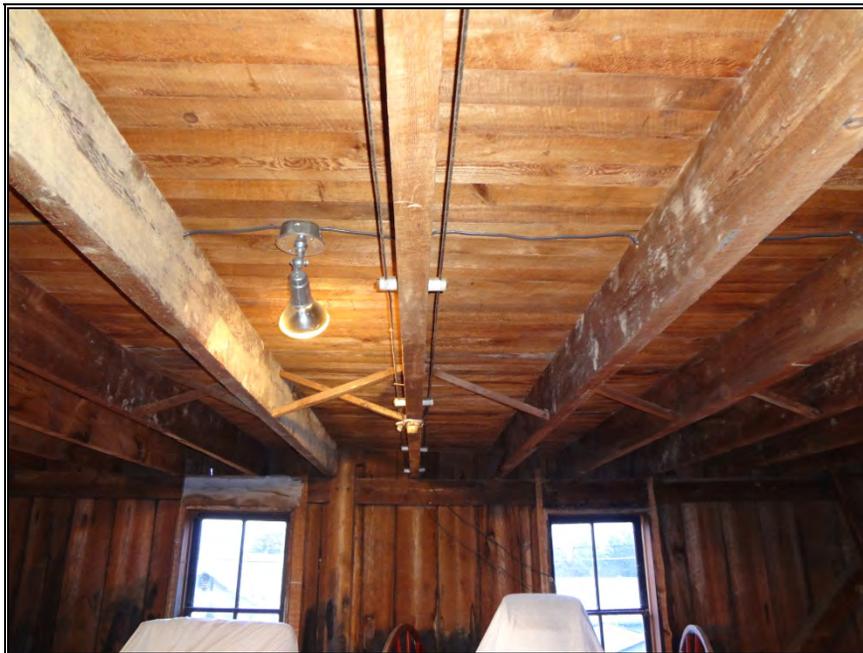


Photo 21: interior view, first floor, of existing light fixtures and wiring to be removed



Photo 22: detail of existing opening to basement on the first floor

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 23: general view, first floor looking northwest



Photo 24: general view, first floor looking northeast

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 25: general view, attic looking southwest



Photo 27: detail of existing wood post, plate and bottom truss chord member configuration in attic

DIVISION 00 – BIDDING REQUIREMENTS  
SECTION 00999 – REFERENCE PHOTOGRAPHS



Photo 28: detail of deteriorated wood plate; west elevation wall in attic



Photo 29: detail south elevation wall of attic cupola where whole building fan is to be installed

END OF SECTION 00999

# PROJECT MANUAL

## RESTORATION OF THE REPOSITORY BUILDING FOR THE MIFFLINBURG BUGGY MUSEUM

Quarry Road at Sixth Street  
Mifflinburg, Union County, Pennsylvania 17848



For the  
**MIFFLINBURG BUGGY MUSEUM**  
598 Green Street  
Mifflinburg, Pennsylvania 17848  
(570) 966-1355  
*Bronwen A. Sanders, Executive Director*

With funding from the  
Pennsylvania Department of Transportation (PaDOT)  
*Transportation Enhancement Act (TEA) Program*

By

**JOHN BOWIE ASSOCIATES, Historical Architects**  
101 East Possum Hollow Road  
Wallingford, Pennsylvania 19086  
(610) 565-1268

March 7, 2013

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## DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

(See reverse for public burden disclosure.)

<b>1. Type of Federal Action:</b> <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	<b>2. Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<b>3. Report Type:</b> <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change <b>For Material Change Only:</b> year _____ quarter _____ date of last report _ _
<b>4. Name and Address of Reporting Entity:</b> <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, <i>if known</i> :  Congressional District, <i>if known</i> : 4c	<b>5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:</b>  Congressional District, <i>if known</i> :	
<b>6. Federal Department/Agency:</b>	<b>7. Federal Program Name/Description:</b>  CFDA Number, <i>if applicable</i> : _____	
<b>8. Federal Action Number, if known:</b>	<b>9. Award Amount, if known:</b> \$	
<b>10. a. Name and Address of Lobbying Registrant</b> <i>(if individual, last name, first name, MI):</i>	<b>b. Individuals Performing Services</b> <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i>	
<b>11.</b> Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____	
<b>Federal Use Only:</b>		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

## INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.  
  
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

**APPENDIX C  
DESIGNATED SPECIAL PROVISION 8 (DSP8)  
F. A. R. – REQUIRED CONTRACT PROVISIONS  
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**I. GENERAL—**

- (a) These contract provisions shall apply to all work performed on the contract by the Contractor's own organization and with the assistance of workers under the Contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or subcontract.
- (b) Except as otherwise provided for in each section, the Contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
- (c) A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
- (d) A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:
  - Section I, (b);
  - Section IV, (a), (b), (c), (d), and (g);
  - Section V, (a) and (b)1 through (b)7.
- (e) Disputes arising out of the labor standards provisions of Section IV (except (e)) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved according to the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the DOL, or the Contractor's employees or their representatives.
- (f) Selection of Labor: During the performance of this contract, the Contractor shall not:
  - 1. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
  - 2. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

**II. NONDISCRIMINATION—**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- (a) **Equal Employment Opportunity (EEO).** EEO requirements not to discriminate and to take affirmative action to ensure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the Contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the Contractor agrees to comply with the following minimum specific requirement activities of EEO:
  - 1. The Contractor will work with the Department and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

2. The Contractor will accept as his/her operating policy the following statement:

"It is the policy of this Company to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age, or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

- (b) **EEO Officer.** The Contractor will designate and make known to the Department's contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
- (c) **Dissemination of Policy.** All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
  1. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every 6 months, at which time the Contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
  2. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the Contractor's EEO obligations within 30 days following their reporting for duty with the Contractor.
  3. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the Contractor's procedures for locating and hiring minority group employees.
  4. Notices and posters setting forth the Contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
  5. The Contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
- (d) **Recruitment.** When advertising for employees, the Contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
  1. The Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the Contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the Contractor for employment consideration.
  2. In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he/she is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
  3. The Contractor will encourage his/her present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

- (e) **Personnel Actions.** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age, or disability. The following procedures shall be followed:
1. The Contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
  2. The Contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
  3. The Contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
  4. The Contractor will promptly investigate all complaints of alleged discrimination made to the Contractor in connection with his/her obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Contractor will inform every complainant of all of his/her avenues of appeal.
- (f) **Training and Promotion.**
1. The Contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
  2. Consistent with the Contractor's work force requirements and as permissible under Federal and State regulations, the Contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25% of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.
  3. The Contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
  4. The Contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
- (g) **Unions.** If the Contractor relies in whole or in part upon unions as a source of employees, the Contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the Contractor either directly or through a Contractor's association acting as agent will include the procedures set forth below:
1. The Contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
  2. The Contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age, or disability.

3. The Contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Contractor, the Contractor shall so certify to the Department and shall set forth what efforts have been made to obtain such information.
  4. In the event the union is unable to provide the Contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such Contractor shall immediately notify the Department.
- (h) Selection of Subcontractors, Procurement of Materials and Leasing of Equipment.** The Contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.
1. The Contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
  2. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts that the Contractor enters into pursuant to this contract. The Contractor will use his/her best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from Department personnel.
  3. The Contractor will use his/her best efforts to ensure subcontractor compliance with their EEO obligations.
- (i) Records and Reports.** The Contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Department and the FHWA.
1. The records kept by the Contractor shall document the following:
    - 1.a The number of minority and non-minority group members and women employed in each work classification on the project;
    - 1.b The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
    - 1.c The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
    - 1.d The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
  2. The Contractor will submit an annual report to the Department each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the Contractor will be required to collect and report training data.

**III. NONSEGREGATED FACILITIES—**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- (a) By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- (b) As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g., disabled parking).
- (c) The Contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

**IV. PAYMENT OF PREDETERMINED MINIMUM WAGE—**

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

**(a) General.**

1. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination"), which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under (b) of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, (c)2, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in (d) and (e) of this Section IV.

2. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
3. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

**(b) Classification.**

1. The Department's contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
2. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
  - the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
  - the additional classification is utilized in the area by the construction industry;
  - the proposed wage rate, including any BONA FIDE fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
  - with respect to helpers, when such a classification prevails in the area in which the work is performed.
3. If the Contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
4. In the event the Contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
5. The wage rate (including fringe benefits where appropriate) determined pursuant to (b)3 or (b)4 of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

**(c) Payment of Fringe Benefits.**

1. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

2. If the Contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**(d) Apprentices, Trainees (Programs of the U.S. DOL), and Helpers.**

**1. Apprentices.**

**1.a** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

**1.b** The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed.

**1.c** Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits according to the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid according to that determination.

**1.d** In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

**2. Trainees.**

**2.a** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

- 2.b** The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.
- 2.c** Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits according to the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
- 2.d** In the event the Employment and Training Administration withdraws approval of a training program, the Contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

### **3. Helpers.**

- 3.a** Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV, (b). Any worker listed on a payroll at a helper wage rate, who is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

### **(e) Apprentices and Trainees (Programs of the U.S. DOT).**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of (d) of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

### **(f) Withholding.**

The Department shall, upon its own action or upon written request of an authorized representative of the DOL, withhold, or cause to be withheld, from the Contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Department's contracting officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**(g) Overtime Requirements.**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in (d) and (e) above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**(h) Violation.**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in (g) above, the Contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in (g), in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in (g).

**(i) Withholding for Unpaid Wages and Liquidated Damages.**

The Department shall, upon its own action or upon written request of any authorized representative of the DOL, withhold, or cause to be withheld, from any monies payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in (h) above.

**V. STATEMENTS AND PAYROLLS—**

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

**(a) Compliance with Copeland Regulations (29 CFR 3).**

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor, which are herein incorporated by reference.

**(b) Payrolls and Payroll Records.**

1. Payrolls and basic records relating thereto shall be maintained by the Contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
2. The payroll records shall contain the name, social security number, and address of each such employee; his/her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for BONA FIDE fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, (a). Whenever the Secretary of Labor, pursuant to Section IV, (c)2, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the

Davis Bacon Act, the Contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

3. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the Department's Representative a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, (d) and (e), and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under (b)2 of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.
4. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
  - that the payroll for the payroll period contains the information required to be maintained under (b)2 of this Section V and that such information is correct and complete;
  - that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
  - that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
5. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by (b)4 of this Section V.
6. The falsification of any of the above certifications may subject the Contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.
7. The Contractor or subcontractor shall make the records required under (b)2 of this Section V available for inspection, copying, or transcription by authorized representatives of the Department, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Department, the FHWA, the DOL, or all may, after written notice to the Contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR—**

- (a) On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the Contractor shall:
1. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
  2. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
  3. Furnish, upon the completion of the contract, to the Department's Representative on Form FHWA-47 together with the data required in (a)2 relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
- (b) At the prime contractor's option, either a single report covering all contract work or separate reports for the Contractor and for each subcontract shall be submitted.

**VII. SUBLETTING OR ASSIGNING THE CONTRACT—**

- (a) The Contractor shall perform with its own organization contract work amounting to not less than 30% (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the Contractor's own organization (23 CFR 635).
1. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.
  2. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
  3. The contract amount upon which the requirements set forth in (a) of Section VII is computed includes the cost of material and manufactured products, which are to be purchased or produced by the Contractor under the contract provisions.
  4. The Contractor shall furnish:
    - a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work according to the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and
    - such other of its own organizational resources (supervision, management, and engineering services) as the Department's contracting officer determines is necessary to ensure the performance of the contract.

5. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the Department's contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the Department has ensured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

### VIII. SAFETY: ACCIDENT PREVENTION—

- (a) In the performance of this contract the Contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The Contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the Department's contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
- (b) It is a condition of this contract, and shall be made a condition of each subcontract, which the Contractor enters into pursuant to this contract, that the Contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, according to Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
- (c) Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

### IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS—

In order to ensure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

#### NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

- *"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or*
- *Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or*

- *Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;*
- *Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."*

## **X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT—**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

- (a) That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
- (b) That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
- (c) That the firm shall promptly notify the Department of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
- (d) That the firm agrees to include or cause to be included the requirements of (a) through (d) of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

## **XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION—**

### **(a) Instructions for Certification - Primary Covered Transactions.**

(Applicable to all Federal-aid contracts—49 CFR 29.)

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
2. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the Department's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the Department determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Department may terminate this transaction for cause of default.

4. The prospective primary participant shall provide immediate written notice to the Department to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the Department to which this proposal is submitted for assistance in obtaining a copy of those regulations.
6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the Department entering into this transaction.
7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the Department entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under (a)6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the Department may terminate this transaction for cause or default.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Primary Covered Transactions**

- (a) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

2. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in (a)2 of this certification; and
  4. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (b) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**(b) Instructions for Certification - Lower Tier Covered Transactions.**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions of \$25,000 or more—49 CFR 29)

1. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Department with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the Department with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under (b)5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the Department with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions:**

- (a) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (b) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING—**

(Applicable to all Federal-aid construction contracts and to all related subcontracts that exceed \$100,000—49 CFR 20)

- (a) The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his/her knowledge and belief, that:
  1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
  2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," according to its instructions.

- (b) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
  
- (c) The prospective participant also agrees by submitting his/her bid or proposal that he/she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A—EMPLOYMENT PREFERENCE FOR APPALACHIAN CONTRACTS**

(Applicable to Appalachian contracts only.)

- (a) During the performance of this contract, the Contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:
1. To the extent that qualified persons regularly residing in the area are not available.
  2. For the reasonable needs of the Contractor to employ supervisory or specially experienced personnel necessary to ensure an efficient execution of the contract work.
  3. For the obligation of the Contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (a)3 shall not exceed 20% of the total number of employees employed by the Contractor on the contract work, except as provided in subparagraph (d) below.
- (b) The Contractor shall place a job order with the State Employment Service indicating
- the classifications of the laborers, mechanics and other employees required to perform the contract work,
  - the number of employees required in each classification,
  - the date on which he/she estimates such employees will be required, and
  - any other pertinent information required by the State Employment Service to complete the job order form.
- The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the Contractor in the original job order is substantially modified, he/she shall promptly notify the State Employment Service.
- (c) The Contractor shall give full consideration to all qualified job applicants referred to him/her by the State Employment Service. The Contractor is not required to grant employment to any job applicants who, in his/her opinion, are not qualified to perform the classification of work required.
- (d) If, within 1 week following the placing of a job order by the Contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the Contractor, or less than the number requested, the State Employment Service will forward a certificate to the Contractor indicating the unavailability of applicants. Such certificate shall be made a part of the Contractor's permanent project records. Upon receipt of this certificate, the Contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (a)3 above.
- (e) The Contractor shall include the provisions of Sections (a) through (d) of this Attachment A in every subcontract for work, which is, or reasonably may be, done as on-site work.



COMMONWEALTH OF PENNSYLVANIA

**PUBLIC WORKS EMPLOYMENT VERIFICATION FORM**

Date \_\_\_\_\_

Business or Organization Name (Employer) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Contractor

Contracting Public Body \_\_\_\_\_

Contract/Project No \_\_\_\_\_

Project Description \_\_\_\_\_

Project Location \_\_\_\_\_

As a contractor/subcontractor for the above referenced public works contract, I hereby affirm that as of the above date, our company is in compliance with the Public Works Employment Verification Act ('the Act') through utilization of the federal E-Verify Program (EVP) operated by the United States Department of Homeland Security. To the best of my/our knowledge, all employees hired post January 1, 2013 are authorized to work in the United States.

It is also agreed to that all public works contractors/subcontractors will utilize the federal EVP to verify the employment eligibility of each new hire within five (5) business days of the employee start date throughout the duration of the public works contract. Documentation confirming the use of the federal EVP upon each new hire shall be maintained in the event of an investigation or audit.

I, \_\_\_\_\_, authorized representative of the company above, attest that the information contained in this verification form is true and correct and understand that the submission of false or misleading information in connection with the above verification shall be subject to sanctions provided by law.

\_\_\_\_\_  
Authorized Representative Signature

DIVISION 16 – ELECTRICAL  
SECTION 16400 – ELECTRICAL

**SECTION 16400 - ELECTRICAL**

**PART 1 - GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 shall govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
1. Installation of new electrical service from the historic meter box into the building
  2. Installation of new electrical subpanel
  3. Installation of new wiring throughout the building, as shown on the Drawings, and as subject to review (for placement) by the Owner
  4. Installation of new, 110 VAC, convenience light in basement utility cabinet
  5. Installation of new receptacles throughout building
  6. Installation of new security lighting and the relamping of the historic exterior light
  7. Installation of new, 110 VAC, museum track lighting
  8. Installation of new, 110 VAC, attic lighting
  9. Installation of new whole-building ventilation fan in the attic
- B. Note: the scope of this work also includes the inspection and certification of all completed work by an independent electrical inspection agency, as recognized and approved by the Borough of Mifflinburg and the Owner, and paid for by the Contractor.

1.03 -- RELATED SECTIONS:

- A. Section 02070, "Selective Demolition," for coordination with demolition and removal of existing electrical components.

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- B. Section 06200, “Finish Carpentry,” for coordination with installation of the utility closet in the basement and the whole-building fan in the attic.
- C. Section 16410, “Historic Electric Lighting Repairs,” for coordination with knob & tube electrical repairs

1.04 -- CODES AND STANDARDS

- A. International Building Code, 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all applicable Federal, State, and Local Building Codes
- C. National Electrical Code, most recent issue
- D. Local Inspection Agencies
- E. Electric Utility Company providing service
- F. American National Standards Institute (ANSI)
- G. National Electric Manufacturers Association (NEMA)
- H. National Electrical Contractors Association (NECA)
- I. National Fire Protection Association (NFPA)
- J. Occupational Safety and Health Administration (OSHA)
- K. Life Safety Code (NFPA 101)
- L. Where applicable, all equipment is to be listed and labeled by Underwriter's Laboratories, Inc. (UL).

1.05 -- PROTECTION

- A. Protect all finished surfaces, work of other trades and adjacent surfaces against damage. Repair any damage to the satisfaction of the Owner and Historical Architect.
- B. Clean up site thoroughly at the end of each day; remove all debris and trash (particularly nails and sharp metal objects).

- 1. During the course of work, do not allow debris and pieces of rubbish and

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electrical materials to remain strewn about the site overnight.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS:

A. Subpanel:

1. Enclosure: NEMA PB 1, Type 1, rated for the environmental conditions, with hinged front cover, manufacturer's standard enamel finish over corrosion-resistant treatment or primer coat, and containing directory card with transparent protective cover inside panelboard door.
2. Phase and ground buses: hard-drawn copper, 98 percent conductivity
  - a. Equipment ground bus: adequate for feeder and branch-circuit equipment ground conductors, bonded to box
3. Conductor connectors: suitable for use with conductor materials
  - a. Main and neutral lugs: compression type
  - b. Ground lugs and bus configured terminators: compression type
4. Protective devices:
  - a. Molded-case circuit breaker features and accessories: compression style, suitable for number, size, trip ratings and conductor materials
  - b. Future devices: mounting brackets, filler plates and necessary appurtenances for future installation.

B. Wiring:

1. Single conductor building wire and cable are to be type THHN or XHHW for interior use and type XHHW-2 for underground or wet installations.
2. Minimum size conductor for single conductor main wiring is to be #10 AWG and single conductor branch wiring is to be #12 AWG. All conductors are to be soft drawn copper, color coded and have 98% conductivity. Insulated grounding conductors are to be green.
3. Type NM, UF or AC cables in two or three conductor configurations maximum #10 AWG with full size ground may be provided for interior use in accordance with NEC requirements.

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4. Grounding conductors are to be bare copper or green insulated conductors in the sizes as specified, shown on the drawings or as required by NEC.
5. NOTE: Prior to installation, paint all conductors and wires brown or tan so as to blend in with the historic character of the building's framing.

C. Outlet, Switch, and Junction Boxes

1. Concealed junction boxes are to be one piece pressed steel with U.L. label, not less than 4" square, or octagonal, 1-1/2" deep minimum, zinc-coated and provided with the proper size knockouts for the cables to be provided. Boxes in finished plaster surfaces are to be provided with suitable approved plaster covers or rings.
  - a. Provide blank covers for all junction boxes.
2. Provide an appropriate cover for any devices installed in a box.
3. Switch boxes are to be pressed steel 3" X 2" X 2-1/2" deep minimum with the proper cable clamps or knockouts for each type of installation.
4. NOTE: all outlet, switch and junction boxes are to either be brown or painted brown, so as to blend in with the historic character of the building's framing.

D. Receptacles:

1. Duplex receptacles are to be standard grade grounding type NEMA-5-20R configuration with provisions for back or side wiring and rated 20 amperes, 120 volts.
  - a. Color of receptacle faces are to be brown unless other available colors are selected by the Owner
2. Ground fault receptacles are to be standard grade feed through, duplex type, vertical configuration rated 20 amperes, 120 volts.

E. Conduits - size and type as shown on the drawings

2.02 – MANUFACTURERS

A. Subpanel:

1. Acceptable manufacturers:
  - a. Eaton Corporation: Cutler-Hammer Products

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- b. General Electric Company; Electrical Distribution & Protection Division
  - c. Siemens Electric
  - d. Square D, Schneider Electric
- B. Convenience light for utility closet: standard industrial metal fixture with glass enclosure and wire metal protective cover, including 60-watt incandescent light bulb: install with pressure switch to activate lamp when closet door is opened.
- C. Line voltage museum lighting system: black tracks, brackets, accessories and lighting fixtures equal to:
1. Nuvo Lighting TH235 single-light MR-16, max. 50W, 12 VDC round-track head fixtures with black finish, UL-listed (available through [www.lightingdirect.com](http://www.lightingdirect.com))
  2. WAC Lighting JHT-809-BK single-light MR-16, max. 50W, 12 VDC round-track head fixtures with black finish, UL-listed (available through [www.lightingdirect.com](http://www.lightingdirect.com))
  3. Cal Lighting HT-258A-BK single-light MR-16, max. 50W, 12 VDC round-track head fixtures with black finish, UL-listed (available through [www.lightingdirect.com](http://www.lightingdirect.com))
- D. Attic lighting fixtures equal to:
1. 16” diameter aluminum vintage “barn” style pendant lamp, color: forest green, with compact fluorescent bulb, and no glass cover, UL listed (available through [www.lightingdirect.com](http://www.lightingdirect.com) )
  2. 18” diameter aluminum vintage “barn” style pendant lamp, color: forest green, with compact fluorescent bulb, and no glass cover, UL listed (available through [www.lightingdirect.com](http://www.lightingdirect.com) )
  3. 20” diameter aluminum vintage “barn” style pendant lamp, color: forest green, with compact fluorescent bulb, and no glass cover, UL listed (available through [www.lightingdirect.com](http://www.lightingdirect.com) )
- E. Whole-building fan equal to:
1. Broan Model 35316, 1600 cfm, 120 VAC fan with Model 433 automatic shutter and internal thermostat
  2. Ventamatic Model CX2500, 1650 cfm, 120 VAC fan with Model CX2121 automatic gable shutter and internal thermostat

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3. Dayton Model 10W194, 1650 cfm , 120 VAC fan with Model 3HH R1 gravity shutter and internal thermostat

2.03 -- SUBMITTALS

- A. Prior Experience Form for the proposed Electrical Subcontractor – submit a fully completed copy of Section 01415 “Prior Experience Form: (Historic Electrical) to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Submit product data sheets for the following:
  1. Subpanel
- C. Inspection:
  1. Submit the installation to inspection and certification by an independent electrical inspection agency of the choice of the Owner, to be hired by the Contractor as part of this contract. Said inspection agency’s certification is to state that this installation is properly installed in accordance with relevant electrical codes and trade practices.
    - a. Said inspection agency may also provide simultaneous inspection services for electrical work listed in Section 16410 of this document.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Location of Materials Lines and Grades
  1. Lay out Work in accordance with the building and site grades, and be responsible for their accuracy.
    - a. Consult with Owner on exact locations of all wiring before any installation.
  2. Locate all outlets, wiring devices and other materials to result in proper operation of the systems and to avoid any conflict with the Work of other trades. Obtain required location information 7 calendar days in advance of

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installation time to allow uninterrupted progress of the Work. Drawings are not to be scaled for exact locations. Coordinate the Work with other trades to secure a neat arrangement of wiring, lighting, piping, and other materials, and to overcome local interferences.

3. Where physical interferences cannot be resolved readily, consult the Owner and Historical Architect

B. Product Handling and Storage

1. Deliver, unload and store materials and equipment in allocated locations at the site and protect all items from damage. Provide covers for all stored equipment to exclude dust and moisture. Deliver materials and equipment for the Work to the proper point of installation without damage.
2. Deliver materials to project site in manufacturer's original unopened containers with manufacturer's name and product identification clearly marked thereon.

C. Installation

1. General: install all equipment in accordance with the best engineering practice and in accordance with manufacturer's instructions and recommendations.
2. Installation of Panelboard:
  - a. Install panelboard and accessories according to NEMA PA 1.1.
  - b. Mount top of panelboard trim at 74" above finish floor, unless otherwise directed.
  - c. Mount plumb and rigid without distortion.
  - d. Install overcurrent protective devices and controllers.
  - e. Infill filler plates in unused spaces.
  - f. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.
  - g. Create a typewritten or computer-generated directory to indicate installed circuit loads after balancing. Handwritten directories are unacceptable.

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h. Vacuum all dirt and debris prior to final inspection.

D. Testing

1. Test all wiring to assure that it is free from shorts and grounds: test each item of equipment and each device for continuity of the wiring and for proper operation. All items not properly connected and/or not operating correctly are to be repaired or replaced to the satisfaction of the Owner and Historical Architect at no additional cost.
2. Complete all connections at panels, fixtures and other devices and/or equipment, before start of testing, and have all wiring continuous from service equipment to utilization outlets.

E. Wiring

1. Provide conductors of the proper type, size and rating for each new feeder and branch wiring circuit shown on the drawings and/or specified.
2. Provide the proper grounding conductors to all equipment, devices and systems included in the Electrical Work. As a minimum, the grounding systems are to be in accordance with the NEC. Grounding system is to operate continuously at ground potential and provide a low impedance path for possible ground fault currents.
3. Provide for each type of outlet indicated and specified, an outlet box of the proper type and size, suited for the use shown and the location where installed.
4. Provide a wiring device at each outlet box shown on the drawings. Devices are to have the rating, and be of the proper type and configuration for the electric service connected to the device.
5. Provide the proper size, type and color cover plate for each wiring device installed.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris, trash, metal fragments and clippings at all times.
- B. Clean the Work Area thoroughly at the end of each day's activity.

END OF SECTION 16400

DIVISION 16 – ELECTRICAL  
SECTION 16410 – HISTORIC ELECTRIC LIGHTING REPAIRS

**SECTION 16410 – HISTORIC ELECTRIC LIGHTING REPAIRS**

**PART 1 - GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Convert the existing nonfunctional, historic, single-phase, 110 VAC, two-wire system into an operational 12 VAC (or 24 VAC – Contractor’s option) two-wire system to operate lights in historically correct locations.

NOTE: the Contractor shall be permitted to convert the system to 12 VDC (or 24 VDC) at no additional cost to the Contract, provided all light bulbs have the same base and profile as the existing.

1.03 -- RELATED SECTIONS:

- A. Section 16400, “Electrical,” for coordination with transformer installation.

1.04 -- CODES AND STANDARDS

- A. International Building Code, 2009 or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ)
- B. Follow all applicable Federal, State, and Local Building Codes
- C. National Electrical Code, most recent issue

1.05 -- PROTECTION

- A. Protect all finished surfaces, work of other trades and adjacent surfaces against damage. Repair any damage to the satisfaction of the Owner and Historical Architect.
  - 1. Take care to protect all historical wiring and lighting components during all aspects of the work.

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SECTION 16410 – HISTORIC ELECTRIC LIGHTING REPAIRS

- B. Clean up site thoroughly at the end of each day; remove all debris and trash (particularly nails and sharp metal objects).
  - 1. During the course of work, do not allow debris and pieces of rubbish and electrical materials to remain strewn about the site overnight.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS:

- A. Reuse all salvageable system components.
  - 1. Do not discard any unsalvageable components without Owner's permission.
- B. Provide all new or reused (from off-site location) components to supplement the salvaged components to make the system operational.
  - 1. New or reused components to be consistent in design, color, manufacturing type, and style as existing salvaged components.
- C. Provide a UL-listed transformer capable of properly operating the system and converting the power source from 110 VAC to 12 (or 24) VAC.
  - 1. It is to be acceptable to create two or three separate circuits, each with a separate transformer, to adequately energize the lighting system.
- D. Light bulbs may be clear or frosted, but shall be standard base, 50 Watts per bulb minimum, and capable of properly operating on low voltage alternating current (or direct current, if opted by the Contractor).

2.02 – MANUFACTURERS: not applicable

2.03 -- SUBMITTALS

- A. Experience Form for the proposed Historic Electrical Subcontractor – submit a fully completed copy of Section 01415 “Prior Experience Form – Historic Electrical to the PADOT Assistant Construction Engineer, Attn.: Kenneth D. Klingerman, P.E. via fax (570) 368-4362, at least ten (10) calendar days before start-up of subcontractor work. Said subcontractor approval will not be considered unless all questions are completed. Said subcontractor cannot begin work until subcontractor approval is granted through ECMS.
- B. Shop Drawing:

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1. Submit a line drawing showing the location of all wiring, knobs, tubes, insulators, switches, fuse brackets, lamp sockets, and other devices on the system.
  - a. Differentiate between existing components and new (or reused from off-site) components
- C. Submit product data for the following:
  1. Transformer(s).
  2. Light bulbs
  3. Cloth-covered wiring
- D. Samples:
  1. Submit one sample of each type of component necessary to supplement the installation.
- E. Calculations:
  1. Submit a sheet of calculations showing the quantity of switches, light bulbs, and other current-drawing materials necessary for determining the size(s) of transformers.
- F. Inspection:
  1. Submit the installation to inspection and certification by an independent electrical inspection agency of the Owner's choice, to be hired by the Contractor as part of this contract. Said inspection agency's certification is to state that this installation is properly installed in accordance with relevant electrical codes and trade practices.
    - a. Said inspection agency may also provide simultaneous inspection services for the electrical work listed in Section 16400 of this document.

**PART 3 - EXECUTION**

**3.01 -- INSTALLATION**

- A. Replace all existing wiring in the system with new single conductor, single-strand wiring, with braided nylon cover, sized to carry the loads of the system. Each conductor is to be black, and should contain no identifying letters. If needed, paint

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SECTION 16410 – HISTORIC ELECTRIC LIGHTING REPAIRS

the new wiring with flat black paint.

1. Main runs to be 12 gauge minimum thickness.
  2. Drops to bulbs and receptacles (if appropriate) to be 14 gauge minimum thickness.
- B. Reuse all salvageable insulators, knobs, and tubes to provide (in the opinion of the electrical inspection agency) a safe and proper anchorage. Install new supplemental insulators, knobs and tubes as required:
1. To replace unsalvageable components,
  2. To augment the amount of components, when mandated by the electrical inspection agency.
- C. Reuse all switches, fuse brackets, lamp sockets, and other apparatuses necessary to conduct and control electrical power distribution in the building. Install new supplemental switches, fuse brackets, lamp sockets, and other apparatuses to provide (in the opinion of the electrical inspection agency) safe and proper conductance. Install new switches, fuse brackets, lamp sockets and other apparatuses as required:
1. To replace unsalvageable components
  2. To augment the amount of components, when mandated by the electrical inspection agency.
- D. Reuse Owner's old-style push-button switch and switch plate to energize the system.
- E. Install new lamps in all fixtures.
1. Provide, as part of this contract, three (3) spare lamps to the Owner.
- F. Install the transformer(s) in the utility cabinet in the basement, and extend the wiring to it from the first floor.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris, trash, metal fragments and clippings at all times.
- B. Clean the Work Area thoroughly at the end of each day's activity.

END OF SECTION 16410

DIVISION 16 – ELECTRICAL  
SECTION 16670 – LIGHTNING PROTECTION

**SECTION 16670 – LIGHTNING PROTECTION**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Relocation, reinstallation and repair of existing lightning protection system

1.03 -- RELATED SECTIONS:

- A. Section 07600, "Flashing and Sheet Metal," for coordination with the new roof installation.
- B. Section 09900, "Painting," for coordination with painting the conductors.

1.04 -- CODES AND STANDARDS

- ~~A. All new components to display the Underwriters' Laboratories (U.L.) label.~~
- ~~B. The installation is to be in accordance with UL96A, "Installation Requirements for Lightning Protection Systems."~~
- ~~C. Materials and installation of lightning protection system are to be in complete accordance with National Fire Protection Association (NFPA), Standards 780 and 78.~~
- D. The International Building Code, 2009 or most recent edition as adopted by the Authority Having Jurisdiction (AHJ), and such additional codes/ordinances as adopted by the AHJ
- E. Follow all applicable Federal, State, and Local Building Codes.

1.05 -- PROTECTION

DIVISION 16 – ELECTRICAL  
SECTION 16670 – LIGHTNING PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Historical Architect and the Owner.
- B. During the course of the installation work, protect all existing and new roofing materials. Be responsible for maintaining watertightness of all roofs and the integrity of all materials that constitute the roofing system. Repair any areas damaged during the Work to the satisfaction of the Historical Architect and the Owner.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. The existing lightning protection system contains conductors, some (but not all) conductor supports, grounding devices, and ground terminations.
  - 1. The Work includes providing and installing additional conductor supports and air terminals
  - 2. The Work also includes inspecting the existing components (including the connections to the grounding rods) to verify the system will provide proper levels of lightning protection when complete.
- B. All components of the lightning protection system are to be galvanically nonreactive and not stain or damage the finish of the existing building elements.

2.02 – MANUFACTURERS: Not applicable

2.03 -- SUBMITTALS

- A. Provide samples of the following:
  - 1. Conductor supports
  - 2. Air terminals
- B. Submit a shop drawing showing the sequence of installation and the exact locations where lightning protection materials will be placed.
  - 1. Indicate on the drawing how air terminals, conductors, and other devices are to be anchored.

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SECTION 16670 – LIGHTNING PROTECTION

- C. At project completion, submit a written statement certifying that the lightning protection system meets the standards referenced above.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Coordinate the dismantlement and reinstallation of conductor supports onto the new roofing metal and wood siding.
- B. Examine the grounding connectors and make connections as needed.
- C. Make connections as required to the new subpanel, if appropriate.
- D. Prepare, prime and paint all previously painted components of the system. Paint new components to provide consistency in appearance.
- E. Provide a written guaranty for a period of one year after final completion of the project.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris and trash at all times.
- B. Clean the Work Area thoroughly at the end of each week.

END OF SECTION 16670

DIVISION 16 – ELECTRICAL  
SECTION 16721 – FIRE/SECURITY DETECTION SYSTEMS

**SECTION 16721 -- FIRE/SECURITY DETECTION SYSTEMS**

**PART 1 -- GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
1. Installation of new fire/security initiation and notification devices (and associated wiring) into the existing detection system of the building.
    - a. All conduit, boxes, and wiring not specifically shown on the drawings, but which may be inferred as being necessary are to be considered as part of this work.
  2. Relocation of the existing fire alarm control panel (FACP) from its current location in the attic to the new utility cabinet in the basement.
    - a. As part of this work, extend the existing telephone service from the attic down to the utility cabinet as well.
  3. Installation of additional backup batteries, if required, to support the new system components.

*IMPORTANT NOTE #1:* the approximate locations for the devices are shown on the Drawings. However, coordinate the exact locations and the placement of wiring with the Owner prior to any installation.

*IMPORTANT NOTE #2:* the existing fire/security detection system is currently maintained and monitored for the Owner by A-1 Lock & Key Security Systems, 1712 West Market Street, Lewisburg, PA 17837, phone (570) 524-5625, email [a1lock@524lock.com](mailto:a1lock@524lock.com). Said company is familiar with the existing system (having worked with the Owner for the past several years). The Contractor may employ any fire/security subcontracting firm he/she chooses; however, said firm will need to coordinate carefully with the Owner's firm during installation work, so as not to compromise the coverage of the other systems throughout the rest of the campus.

DIVISION 16 – ELECTRICAL  
SECTION 16721 – FIRE/SECURITY DETECTION SYSTEMS

1.03 -- RELATED SECTIONS: Not Applicable

1.04 -- CODES AND STANDARDS

- A. All new components to display the Underwriters' Laboratories (U.L.) label for commercial applications.
  - 1. All fire initiation and notification devices are to be U.L. approved for commercial applications and rated to perform with the system recommended
- B. Materials and installation of fire/smoke detection system are to be in complete accordance with the "National Fire Alarm Code," by the National Fire Protection Association (NFPA), 2009 issue or most recent issue.
- C. The International Building Code, 2009 or most recent edition as adopted by the Authority Having Jurisdiction (AHJ), and such additional codes/ordinances as adopted by the AHJ
- D. Follow all applicable Federal, State, and Local Building Codes.
- E. All work to be performed under the on-site direction of a NICET (National Institute for Certification in Engineering Technologies) Level III certified (minimum) fire alarm technician.

1.05 -- PROTECTION

- A. Protect from damage all adjacent materials, surfaces, and finishes before, during, and after the Work. Restore all damaged materials, surfaces, and finishes to their previous level of appearance and operation to the satisfaction of the Historical Architect and the Owner.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. The new fire/security detection system components are to be fully compatible with the existing system, and include:
  - 1. Small, discreet alphanumeric touchpads, mounted as shown on the Drawings, programmed so that a predetermined, changeable, 4 digit number can be entered to shunt up to a maximum of 8 partitions on the security portion of

DIVISION 16 – ELECTRICAL  
SECTION 16721 – FIRE/SECURITY DETECTION SYSTEMS

the system while maintaining the fire protection. The touchpads are to be programmed so that the same 4 digit number will rearm the security system.

2. Smoke detectors – containing built-in rate-of-rise detection
3. Combination alarm horn/strobe light (designed to be consistent with ADA requirements for detectability by persons with visual and hearing impairments), minimum candela requirements as dictated by NFPA Standards
4. All wiring is to be brown – do not use red wiring.

2.02 – MANUFACTURERS:

- A. Manufacturers of components are to be consistent with the existing system components.

2.03 -- SUBMITTALS

- A. Submit manufacturer's product literature; said literature is to clearly indicate that all the requirements of this specification are met or exceeded and that the Contractor has reviewed the material and approved it for installation as part of the Work.
- B. Submit a shop drawing (or wiring diagram) showing the individual point assignments and how the system will be partitioned.

IMPORTANT: Consult closely with Owner about how to partition the system's points. Owner has specific needs to be met by the system's partitioning configuration.

- D. Submit copies of technicians' up-to-date NICET certification prior to start-up of work.
- E. Submit (for review and approval by the AHJ) the following documentation:
  1. Voltage drop calculations for notification devices
  2. Battery size calculations
  3. Floor plan drawing showing the precise location of initiation and notification devices

**PART 3 - EXECUTION**

DIVISION 16 – ELECTRICAL  
SECTION 16721 – FIRE/SECURITY DETECTION SYSTEMS

3.01 -- INSTALLATION

A. Alarm System:

1. Locate all devices as shown on the drawings.
2. Confirm all wiring runs with the Owner before installation.
3. Set up the system so that each individual point has its own address (both a number and a name - said names to be provided by the Owner during installation).
4. Carefully relocate the fire alarm control panel as shown in the Drawings.
5. Clean, adjust, and check for operational adequacy all alarm and detection system heads and components. Make any repairs necessary to correct minor operational imperfections.
6. Perform a complete systems operational test in accordance with NFPA's "National Fire Alarm Code," Sections 1.7.1 through 1.7.2.2., to verify that all components are fully functional:
  - a. Test all devices
  - b. Submit a hard-copy system printout of all devices tested and certify that they are 100% operational, and that they have passed all test criteria established by the manufacturer and NFPA.
  - c. Provide back-up battery calculations for Remote Monitoring conditions.

3.02 -- CLEAN-UP

- A. Keep the Work Area clean and free of debris and trash at all times.
- B. Clean the Work Area thoroughly at the end of each week.

END OF SECTION 16721

DIVISION 7 - THERMAL AND MOISTURE PROTECTION  
SECTION 07600 - FLASHING AND SHEET METAL

**SECTION 07600 -- FLASHING AND SHEET METAL**

**PART 1 - GENERAL**

1.01 -- GENERAL

- A. All applicable provisions of the contract requirements and Division 1 govern the work of this section.

1.02 -- SCOPE

- A. This section includes the following, as well as those work items not specifically listed herein that are reasonably necessary to accomplish the scope of work:
  - 1. Installation of new metal standing seam roof
  - 2. Installation of new leaders and underground drain lines onto existing downspouts
  - 3. Adjustment of pitch of existing gutters
  - 4. Relocation of existing downspout, as shown on the Drawings
  - 5. Installation of new flashings over all doors
  - 6. Installation of new flashings over windows noted on the Drawings
  - 7. Installation of new termite shield in locations shown on the Drawings

1.03 -- RELATED SECTIONS:

- A. Section 02070, "Selective Demolition," to coordinate the removal of the existing roof with the new roof installation.
- B. Section 06100, "Rough Carpentry," to coordinate installation of the infill sheathing (lath) boards, and installation of termite shields at foundation.
- C. Section 08100, "Door and Window Repair," to coordinate installation of flashings above doors and windows.
- D. Section 09900, "Painting," to coordinate paint color of new roof and downspouts and existing gutters.

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1.04 -- CODES AND STANDARDS

- A. Reference standards: Comply with recommended details for highest grade construction of the following:
1. *Architectural Sheet Metal* by SMACNA (referred to as SMACNA Manual).
  2. *Copper and Common Sense*, by Revere Copper Corporation.
  3. *Sheet Copper Applications*, by the Copper Development Association.
  4. Federal Specification QQ-A-250d, Aluminum and Aluminum Alloy, Plate and Sheet.
  5. ASTM B209, Specification for Aluminum Alloy, Sheet and Plate
  6. ASTM B221, Specification for Aluminum Extrusions
- B. International Building Code (IBC), 2009, or most recent edition, and such codes/ordinances as adopted by the Authority Having Jurisdiction (AHJ).
- C. Follow all applicable Federal, State, and Local Building Codes

1.05 -- PROTECTION

- A. Protect all finished surfaces, work of other trades and adjacent surfaces against damage. Repair any damage to the satisfaction of the Historical Architect.
- B. Clean up site thoroughly at the end of each day; remove all debris and trash (particularly nails and sharp metal objects).
1. During the course of work, do not allow debris and pieces of rubbish and building materials to remain strewn about the site overnight.

**PART 2 - PRODUCTS**

2.01 -- MATERIALS

- A. Roofing metal: zinc- tin alloy-coated ~~copper stainless-steel~~ Sheet: ASTM ~~B370 A 240/A 240M, Type 304, dead-soft, fully-annealed stainless-steel sheet~~, coated on both sides with a zinc-tin alloy (50 percent zinc, 50 percent tin), **as manufactured by Revere Copper Products, Inc. "Freedom Grey".** ~~with factory-applied gray preweathering—Follensbee TCS-II.~~

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1. Thickness: **16 ounce** ~~0.015-inch minimum~~ uncoated thickness, with ~~0.787~~ **0.50-mil** coating thickness applied to each side.
- B. Termitite shield materials: same as roofing metal
  1. Thickness: **20 ounce uncoated thickness, same coating thickness applied to each side** ~~same as roofing material~~
- C. Flashings: same as roofing material
  1. Thickness: **same thickness as termitite shield** ~~0.018-inch minimum uncoated thickness, with a 0.787 mil coating thickness applied to each side.~~
- D. Self-adhering, high-temperature sheet: minimum 30 to 40 mils thickness, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
  1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F.
  2. Low-temperature flexibility: ASTM D-1970, passes after testing at minus 20 deg. F.
- E. Slip sheet: Building paper, 3-lb/100 sq.ft. minimum, rosin-sized.
- F. Miscellaneous joint sealers: One-part, moisture-cured, polyurethane sealant meeting the requirements of ASTM C920, Type S, Grade NS, Glass 25, Use NT, M, A, and O, color matching finish of metal sealed.
- G. Miscellaneous roofing materials:
  1. Fasteners: **Copper** ~~Series 300 stainless steel~~
  2. Solder: ASTM B32, 100% tin
  3. Sealant tape: pressure-sensitive, 100% solids, grey polyisobutylene compound sealant tape with release-paper backing, permanently elastic, nonsag, nontoxic, nonstaining tape, 1/2" wide and 1/8" thick.
  4. Sheet metal accessories: provide components required for complete sheet metal roofing assembly, including trim, copings, clips, cleats, flashings, closures, etc.
    - a. Trim, copings, clips and cleats: same material as roof metal – minimum **20 ounce 0.015"** thickness.

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2.02 -- MANUFACTURERS

- A. Self-adhering, high-temperature sheet (also called "Ice & Water Shield"):
  - 1. Carlisle Coatings & Waterproofing, Inc.; "CCW WIP 300 HT"
  - 2. Grace Construction Products (a unit of W.R. Grace & Co.); "Ultra"
  - 3. Henry Company; "Blueskin PE200-HT"
  - 4. Metal-Fab Manufacturing, L.L.C.; "MetShield"
  - 5. Owens Corning; "WeatherLock Metal High-Temperature Underlayment"
- B. Joint Sealers - provide one of the following:
  - 1. Dymonic as made by Tremco, Cleveland, OH.
  - 2. Sikaflex 1a as made by Sika Corp., Lyndhurst, NJ.
  - 3. Sololastic NP1 as made by Sonneborn-Rexnord, Maspeth, NY.
  - 4. Dynatrol I as made by Pecora, Inc., Harleysville, PA.

2.03 -- SUBMITTALS

- A. Shop drawing:
  - 1. Submit a shop drawing showing the layout of the roofing panels relative to the cupola.
- B. Manufacturer's data sheets:
  - 1. Submit manufacturer's data sheets and color charts for joint sealers.

**PART 3 - EXECUTION**

3.01 -- INSTALLATION

- A. Existing roof removal:
  - 1. Dismantle and store existing lightning protection equipment in accordance with that specification.

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2. Dismantle existing gutter system to the extent required by the Work and place in protected storage.
  3. Demolish existing roofing metal, taking care to remove all clips, nails, sharp objects and other materials that could potentially damage or mar the appearance of the new roof metal.
- B. Installation of new infill roof sheathing:
1. Install new infill roof sheathing in accordance with that specification.
- C. Roof metal installation:
1. Lay out the position of the pans in accordance with the Drawings.
  2. Install the Ice & Water Shield in accordance with the Drawings.
  3. Install slip sheet in accordance with the manufacturer's instructions.
  4. Install roofing metal in complete accordance with referenced standards.
  5. Reinstall existing gutter system components and lightning protection system components.
  6. Clean and prepare roof metal for painting.
- D. Repairs to gutters and downspouts:
1. Repitch existing gutters to provide positive downward drainage toward downspouts. Check the pitch by conducting a hose test in the presence of the Owner and the Historical Architect.
    - a. Use a rag to plug each leader opening and fill the gutter with water to a level whereby water sits in the entire length of gutter.
    - b. Pull the rag out, and observe the drainage. If any water lays in the bed of the gutter to a depth of 1/16" or greater longer than three (3) minutes, repitch said section and repeat the hose test.
    - c. Continue to repitch and check with the hose test until no damming or ponding is observed.
  2. Relocate downspout as shown on the Drawings.
  3. Attach to new underground leaders, as shown on Drawings.

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- E. Installation of termite shield:
1. Install termite shield metal in accordance with the Drawings.
  2. It is acceptable to fashion the termite shield out of two pieces of metal; however, both pieces are to be interlocked together to provide continuity to coverage.
  3. Trim and turn down (or lap) exposed edges of metal to prevent injury to persons working alongside the sill.
  4. Stain and make the exposed termite shield metal dirty, that it is not noticeable.

3.02 -- CLEAN-UP

- A. Protect all sheet metal work during construction to ensure that work will be without damage or deterioration at time of Substantial Completion.
- B. Keep the Work Area clean and free of debris, trash, metal fragments and clippings at all times.
- C. Clean the Work Area thoroughly at the end of each day's activity.
- D. Upon completion of the Work, rake the entire site area and then sweep with a metal detector to pick up all pieces of metal, nails, and miscellaneous debris.

END OF SECTION 07600