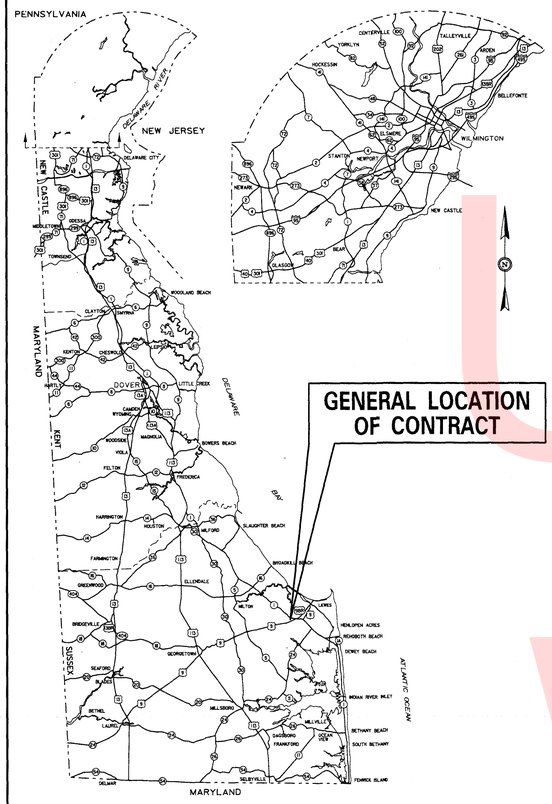


PREPARED BY
THE CONSULTING FIRM OF

WRA

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

SEAL

SEAL

RECOMMENDED _____ DATE _____

RECOMMENDED _____ DATE _____

RECOMMENDED

SQUAD MANAGER, CONSTRUCTION _____ DATE _____

GROUP ENGINEER, CONSTRUCTION _____ DATE _____

ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS (CONSTRUCTION) _____ DATE _____

THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

DESIGN DESIGNATION - SHADY ROAD			
FUNCTIONAL CLASS: LOCAL		D.H.V. PROJECTED: -	YEAR: -
TYPE OF CONSTRUCTION: -		DESIGN SPEED: 40 M.P.H.	
A.A.D.T. CURRENT: 3,779	YEAR: 2012	TRUCKS: -	
A.A.D.T. PROJECTED: 4,762	YEAR: 2020	DIRECTION OF DISTRIBUTION: -	

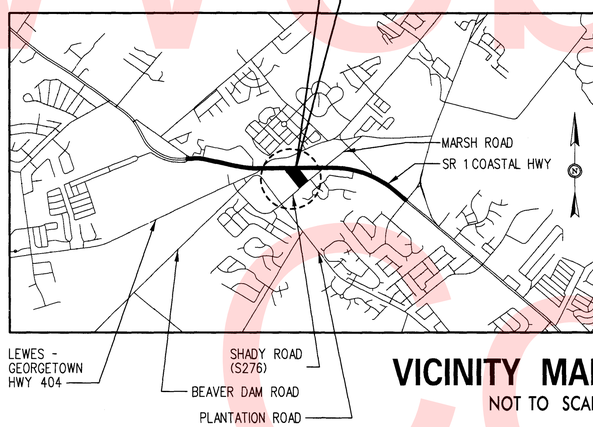
NOTE: CONTRACTOR SHALL BE RESPONSIBLE TO OBTAINING ALL REQUIRED PERMITS FOR THIS PROJECT.

CONSTRUCTION PLANS FOR:

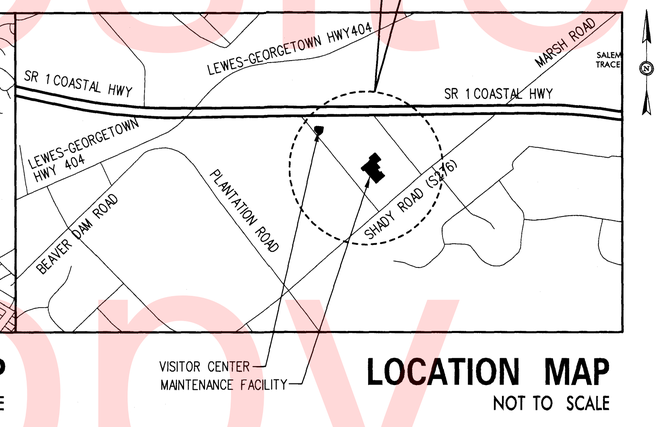
DELAWARE TRANSIT CORPORATION
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT NUMBER: T201753109.02
FEDERAL AID PROJECT NUMBER: 5311-2016(02)

COUNTY: SUSSEX



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
-	-	-	
-	-	-	

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
-	-
-	-
-	-

RECOMMENDED
STORMWATER ENGINEER
DATE _____ SEAL

RECOMMENDED
SQUAD MANAGER, TRANSPORTATION SOLUTIONS (PROJECT DEVELOPMENT OR BRIDGE DESIGN)
DATE _____ SEAL

RECOMMENDED
BRIDGE DESIGN ENGINEER
DATE _____ SEAL

RECOMMENDED
GROUP ENGINEER, PROJECT DEVELOPMENT
DATE _____ SEAL

RECOMMENDED
ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS
DATE _____ SEAL

RECOMMENDED AS TO PROCESS
CHIEF ENGINEER
DATE 3/2/18
SEAL

LAST REVISED: 8/7/2008
N:\90181-019\CADD\PHASE II SHEET FILES\CP01-90181004G-001.DGN

Unofficial Website Copy

DRAWING INDEX

No	CADD FILES	DRAWING No	DRAWING NAMES
		GENERAL	
1	CP01-90181004G-001	G-001	COVER SHEET
2	CP01-90181004G-002	G-002	DRAWING INDEX
3	CP01-90181004G-003	G-003	CODE ANALYSIS
4	CP01-90181019G-004	G-004	CODE ANALYSIS - VISITOR CENTER
		CIVIL	
5	CP01-90181004C-101	C-101	EXISTING CONDITION / DEMOLITION PLAN
6	CP01-90181004C-102	C-102	SITE PLAN
7	CP01-90181004C-103	C-103	GRADING PLAN
8	CP01-90181004C-104	C-104	STORM DRAIN PLAN
9	CP01-90181004C-105	C-105	WATER AND SEWER PLAN
10	CP01-90181004C-106	C-106	STAKEOUT & LAYOUT PLAN
11	CP01-90181004C-107	C-107	SIGNING AND STRIPING PLAN
12	CP01-90181004C-108	C-108	WATER & SEWER PROFILES
13	CP01-90181004C-301	C-301	ENLARGED GRADING PLAN
14	CP01-90181004C-401	C-401	SITE DETAILS
15	CP01-90181004C-402	C-402	WATER & SEWER DETAILS
		C-403	NOT USED
16	CP01-90181004C-404	C-404	PAVEMENT DETAILS
17	CP01-90181004C-405	C-405	STAKEOUT DATA
18	CS01_LEWES	CS-01	EROSION AND SEDIMENT CONTROL PLAN
		STRUCTURAL	
19	CP01-90181004-S001	S-001	GENERAL STRUCTURAL NOTES, LOADS AND CODES
20	CP01-90181004-S002	S-002	STRUCTURAL TYPICAL DETAILS
21	CP01-90181004-S003	S-003	STRUCTURAL TYPICAL DETAILS
22	CP01-90181004-S004	S-004	STRUCTURAL TYPICAL DETAILS
23	CP01-90181004-S005	S-005	STRUCTURAL TYPICAL DETAILS
24	CP01-90181004-S006	S-006	STRUCTURAL TYPICAL DETAILS
25	CP01-90181004-S101	S-101	FOUNDATION PLAN - NORTH BUILDING
26	CP01-90181004-S102	S-102	FOUNDATION PLAN - SOUTH BUILDING
27	CP01-90181004-S103	S-103	COMPOSITE FRAMING PLAN - NORTH AND SOUTH BUILDING
28	CP01-90181004-S104	S-104	FRAMING PLAN - ELEVATIONS 38' AND 42'
29	CP01-90181004-S105	S-105	FRAMING PLAN - ELEVATION 48'
30	CP01-90181004-S106	S-106	FRAMING PLAN - ELEVATIONS 49' AND 58'
31	NOT USED: WORK BY OTHERS (AVAILABLE FOR REFERENCE BY REQUEST)		
32	NOT USED: WORK BY OTHERS (AVAILABLE FOR REFERENCE BY REQUEST)		
33	NOT USED: WORK BY OTHERS (AVAILABLE FOR REFERENCE BY REQUEST)		
34	NOT USED: WORK BY OTHERS (AVAILABLE FOR REFERENCE BY REQUEST)		
35	CP01-90181004-S201	S-201	FRAMING ELEVATIONS
36	CP01-90181004-S202	S-202	FRAMING ELEVATIONS
37	CP01-90181004-S203	S-203	FRAMING ELEVATIONS
38	CP01-90181004-S204	S-204	FRAMING ELEVATIONS
39	CP01-90181004-S205	S-205	FRAMING ELEVATIONS
40	CP01-90181004-S206	S-206	FRAMING ELEVATIONS
41	CP01-90181019-S207	S-207	FRAMING ELEVATIONS AND DETAILS - VISITOR CENTER
42	CP01-90181004-S501	S-501	STRUCTURAL SECTIONS AND DETAILS
43	CP01-90181004-S502	S-502	STRUCTURAL SECTIONS AND DETAILS
44	CP01-90181004-S503	S-503	STRUCTURAL SECTIONS AND DETAILS
45	CP01-90181019-S504	S-504	STRUCTURAL SECTIONS AND DETAILS
46	CP01-90181019-S505	S-505	STRUCTURAL SECTIONS AND DETAILS - VISITOR CENTER
47	CP01-90181019-S506	S-506	STRUCTURAL SECTIONS AND DETAILS - VISITOR CENTER
48	CP01-90181019-S507	S-507	STRUCTURAL SECTIONS AND DETAILS - VISITOR CENTER
49	NOT USED: WORK BY OTHERS (AVAILABLE FOR REFERENCE BY REQUEST)		
50	CP01-90181004-S509	S-509	STRUCTURAL SECTIONS AND DETAILS
51	CP01-90181004-S510	S-510	STRUCTURAL SECTIONS AND DETAILS
52	CP01-90181004-S601	S-601	COLUMN SCHEDULE
53	CP01-90181004-S602	S-602	COLUMN SCHEDULE
54	CP01-90181004-S603	S-603	PEDESTAL DETAILS
55	NOT USED: WORK BY OTHERS (AVAILABLE FOR REFERENCE BY REQUEST)		
		ARCHITECTURAL	
56	CP01-90181004A-001	A-001	ARCHITECTURAL ABBREVIATIONS, AND LEGEND
57	CP01-90181004A-101	A-101	FLOOR PLAN - NORTH BUILDING
58	CP01-90181004A-102	A-102	FLOOR PLAN - SOUTH BUILDING
59	CP01-90181004A-103	A-103	ROOF PLAN - NORTH BUILDING
60	CP01-90181004A-104	A-104	ROOF PLAN - SOUTH BUILDING
61	CP01-90181019A-105	A-105	FLOOR, REFLECTED CEILING , & ROOF PLAN - VISITOR CENTER
62	CP01-90181004A-201	A-201	REFLECTED CEILING PLAN - NORTH BUILDING
63	CP01-90181004A-202	A-202	REFLECTED CEILING PLAN - SOUTH BUILDING
64	CP01-90181004A-301	A-301	BUILDING ELEVATIONS
		ARCHITECTURAL CONTINUED	
65	CP01-90181004A-302	A-302	BUILDING ELEVATIONS
66	CP01-90181019A-303	A-303	BUILDING ELEVATIONS - VISITOR CENTER
67	CP01-90181004A-401	A-401	BUILDING SECTIONS
68	CP01-90181004A-402	A-402	BUILDING SECTIONS
69	CP01-90181004A-403	A-403	BUILDING SECTIONS
70	CP01-90181004A-404	A-404	WALL SECTIONS
71	CP01-90181004A-405	A-405	WALL SECTIONS
72	CP01-90181004A-406	A-406	WALL SECTIONS
73	CP01-90181019A-407	A-407	BUILDING SECTIONS - VISITOR CENTER
74	CP01-90181019A-408	A-408	WALL SECTIONS - VISITOR CENTER
75	CP01-90181019A-409	A-409	WALL SECTIONS - VISITOR CENTER
76	CP01-90181004A-501	A-501	ENLARGED TOILET ROOM PLANS AND ELEVATIONS
77	CP01-90181004A-502	A-502	INTERIOR ELEVATIONS AND DETAILS
78	CP01-90181004A-503	A-503	ENLARGED PLANS AND DETAILS
79	CP01-90181004A-504	A-504	MEZZANINE ENLARGED PLAN AND DETAILS
80	CP01-90181019A-505	A-505	ENLARGED TOILET ROOM PLANS - VISITOR CENTER
81	CP01-90181019A-506	A-506	INTERIOR ELEVATIONS - VISITOR CENTER
82	CP01-90181019A-507	A-507	TICKET OFFICE PLAN AND ELEVATIONS - VISITOR CENTER
83	CP01-90181004A-601	A-601	PLAN DETAILS
84	CP01-90181004A-602	A-602	PLAN DETAILS
85	CP01-90181004A-603	A-603	SECTION DETAILS
86	CP01-90181004A-604	A-604	SECTION DETAILS
87	CP01-90181004A-605	A-605	ENTRANCE CANOPY SECTION DETAILS
88	CP01-90181019A-606	A-606	PLAN DETAILS - VISITOR CENTER
89	CP01-90181019A-607	A-607	SECTION DETAILS - VISITOR CENTER
90	CP01-90181019A-608	A-608	SECTION DETAILS - VISITOR CENTER
91	NOT USED		
92	CP01-90181004A-801	A-801	FINISH SCHEDULE AND FINISHES LIST
93	CP01-90181004A-802	A-802	DOOR AND HARDWARE SCHEDULE
94	CP01-90181004A-803	A-803	DOOR AND FRAME TYPES AND HARDWARE LIST
95	CP01-90181004A-804	A-804	DOOR DETAILS
96	CP01-90181004A-805	A-805	STOREFRONT TYPES AND DETAILS
97	CP01-90181004A-806	A-806	INTERIOR HOLLOW METAL FRAME & STOREFRONT DETAILS
98	CP01-90181004A-807	A-807	LOUVER TYPES & DETAILS
99	CP01-90181019A-808	A-808	DOOR AND HARDWARE SCHEDULE - VISITOR CENTER
100	CP01-90181019A-809	A-809	FINISH PLAN AND SCHEDULE - VISITOR CENTER
101	CP01-90181019A-810	A-810	WINDOW, DOOR FRAMES AND LOUVER TYPES - VISITOR CENTER
102	CP01-90181019A-811	A-811	CURTAIN WALL AND WINDOW DETAILS - VISITOR CENTER
103	CP01-90181019A-812	A-812	CURTAIN WALL AND WINDOW DETAILS - VISITOR CENTER
104	CP01-90181019A-813	A-813	DOOR AND LOUVER DETAILS - VISITOR CENTER
105	CP01-90181019A-814	A-814	OVERHEAD DOOR DETAILS
106	CP01-90181004A-901	A-901	PARTITION TYPES
107	CP01-90181004A-902	A-902	PARTITION TYPES
108	CP01-90181004A-903	A-903	PARTITION DETAILS
109	CP01-90181004A-904	A-904	PARTITION DETAILS
		EQUIPMENT	
110	CP01-90181004EI-001	EI-001	EQUIPMENT ABBREVIATIONS AND NOTES
111	CP01-90181004EI-101	EI-101	EQUIPMENT PLAN SOUTH BUILDING
112	CP01-90181004EI-102	EI-102	EQUIPMENT DETAILS
		MECHANICAL	
113	CP01-90181004M-001	M-001	MECHANICAL & PLUMBING LEGEND AND ABBREVIATIONS, & GENERAL NOTES
114	CP01-90181004M-101	M-101	FLOOR AND ROOF PLANS - NORTH BUILDING - HVAC
115	CP01-90181004M-102	M-102	FLOOR PLAN - SOUTH BUILDING - HVAC
116	CP01-90181004M-103	M-103	ROOF PLAN - SOUTH BUILDING - HVAC
117	CP01-90181019M-104	M-104	FLOOR PLAN - VISITOR CENTER - HVAC
118	CP01-90181019M-105	M-105	ROOF PLAN - VISITOR CENTER - HVAC
119	CP01-90181004M-201	M-201	FLOOR PLAN - NORTH BUILDING - PIPING
120	CP01-90181004M-301	M-301	MECHANICAL ROOM PART PLANS - HVAC
121	CP01-90181004M-501	M-501	AUTOMATIC TEMPERATURE CONTROLS
122	CP01-90181004M-502	M-502	AUTOMATIC TEMPERATURE CONTROLS
123	CP01-90181004M-503	M-503	AUTOMATIC TEMPERATURE CONTROLS
124	CP01-90181004M-504	M-504	AUTOMATIC TEMPERATURE CONTROLS
125	CP01-90181004M-505	M-505	AUTOMATIC TEMPERATURE CONTROLS
126	CP01-90181019M-506	M-506	AUTOMATIC TEMPERATURE CONTROLS
127	CP01-90181004M-601	M-601	MECHANICAL DETAILS
128	CP01-90181004M-602	M-602	MECHANICAL DETAILS
129	CP01-90181004M-603	M-603	MECHANICAL DETAILS
130	CP01-90181004M-701	M-701	MECHANICAL SCHEDULES
131	CP01-90181004M-702	M-702	MECHANICAL SCHEDULES
		PLUMBING	
132	CP01-90181004P-100	P-100	FOUNDATION PLAN - NORTH BUILDING - PLUMBING
133	CP01-90181004P-101	P-101	FOUNDATION PLAN - SOUTH BUILDING - PLUMBING
134	CP01-90181004P-102	P-102	FLOOR PLAN - NORTH BUILDING - PLUMBING
135	CP01-90181004P-103	P-103	FLOOR PLAN - SOUTH BUILDING - PLUMBING
136	CP01-90181004P-104	P-104	PART PLANS
137	NOT USED		
138	CP01-90181019P-106	P-106	FLOOR PLAN - VISITOR CENTER - SANITARY/VENT/STORM WATER
139	CP01-90181019P-107	P-107	FLOOR PLAN - VISITOR CENTER - DOMESTIC WATER
140	CP01-90181004P-501	P-501	PLUMBING RISERS
141	CP01-90181004P-502	P-502	PLUMBING RISERS
142	CP01-90181004P-503	P-503	PLUMBING RISERS
143	CP01-90181004P-601	P-601	PLUMBING DETAILS
144	CP01-90181004P-602	P-602	PLUMBING DETAILS
145	CP01-90181004P-603	P-603	PLUMBING DETAILS
146	CP01-90181004P-604	P-604	PLUMBING DETAILS
147	CP01-90181004P-605	P-605	PLUMBING DETAILS
148	CP01-90181004P-701	P-701	PLUMBING SCHEDULES
		FIRE PROTECTION	
149	CP01-90181004F-001	F-001	FIRE PROTECTION LEGEND, NOTES AND ABBREVIATIONS
150	CP01-90181004F-101	F-101	FLOOR PLAN NORTH BUILDING FIRE PROTECTION
151	CP01-90181004F-102	F-102	FLOOR PLAN SOUTH BUILDING FIRE PROTECTION
152	CP01-90181004F-501	F-501	FIRE PROTECTION DETAILS
153	CP01-90181004FA-001	FA-001	FIRE ALARM LEGEND, NOTES AND ABBREVIATIONS
154	CP01-90181004FA-101	FA-101	FLOOR PLAN NORTH BUILDING ALARM
155	CP01-90181004FA-102	FA-102	FLOOR PLAN SOUTH BUILDING FIRE ALARM
156	CP01-90181004FA-501	FA-501	FIRE ALARM RISER AND SEQUENCE OF OPERATION
		ELECTRICAL	
157	CP01-90181004E-001	E-001	ELECTRICAL LEGEND
158	CP01-90181004E-002	E-002	ELECTRICAL ABBREVIATIONS & DIAGEM LEGEND
159	CP01-90181004E-003	E-003	ELECTRICAL GENERAL NOTES
160	CP01-90181004ED-100	ED-100	ELECTRICAL EXISTING SITE PLAN DEMOLITION
161	CP01-90181004E-100	E-100	ELECTRICAL SITE PLAN
162	CP01-90181004E-201	E-201	ELECTRICAL FLOOR PLAN NORTH BUILDING - LIGHTING
163	CP01-90181004E-202	E-202	ELECTRICAL FLOOR PLAN SOUTH BUILDING - LIGHTING
164	CP01-90181019E-203	E-203	LIGHTING FLOOR PLAN - VISITOR CENTER
165	CP01-90181004E-301	E-301	ELECTRICAL FLOOR PLAN NORTH BUILDING - POWER
166	CP01-90181004E-302	E-302	ELECTRICAL FLOOR PLAN SOUTH BUILDING - POWER
167	CP01-90181004E-303	E-303	ELECTRICAL ROOF PLANS - POWER
168	CP01-90181004E-304	E-304	ELECTRICAL ENLARGEMENT PLANS - POWER
169	CP01-90181004E-305	E-305	ELECTRICAL FLOOR PLAN NORTH BUILDING - SPECIAL SYSTEMS
170	CP01-90181004E-306	E-306	ELECTRICAL FLOOR PLAN SOUTH BUILDING - SPECIAL SYSTEMS
171	CP01-90181019E-307	E-307	POWER FLOOR PLAN - VISITOR CENTER
172	CP01-90181019E-308	E-308	SPECIAL SYSTEM FLOOR PLAN - VISITOR CENTER
173	CP01-90181004E-401	E-401	ELECTRICAL PLAN - GROUNDING
174	CP01-90181004E-501	E-501	ELECTRICAL SINGLE LINE DIAGRAM
175	CP01-90181004E-601	E-601	ELECTRICAL DETAILS
176	CP01-90181004E-602	E-602	ELECTRICAL DETAILS
177	CP01-90181004E-603	E-603	ELECTRICAL DETAILS
178	CP01-90181004E-604	E-604	ELECTRICAL DETAILS
179	CP01-90181004E-605	E-605	ELECTRICAL DETAILS
180	CP01-90181004E-606	E-606	ELECTRICAL DETAILS
181	CP01-90181004E-607	E-607	ELECTRICAL DETAILS
182	CP01-90181004E-608	E-608	ELECTRICAL DETAILS
183	CP01-90181004E-609	E-609	ELECTRICAL DETAILS
184	CP01-90181004E-701	E-701	LIGHTING FIXTURE SCHEDULE
185	CP01-90181004E-702	E-702	ELECTRICAL PANEL SCHEDULES
186	CP01-90181004E-703	E-703	ELECTRICAL PANEL SCHEDULES
187	CP01-90181004E-704	E-704	ELECTRICAL PANEL SCHEDULES
188	CP01-90181004E-705	E-705	ELECTRICAL PANEL SCHEDULES
189	CP01-90181004E-706	E-706	ELECTRICAL PANEL SCHEDULES

Unofficial Website Copy

N:\90181\c19\C4D\Phase II Sheet Files\CP01-90181004G-002.dgn
1/31/2018 10:37:00 AM

G-002

DELAWARE
DEPARTMENT OF TRANSPORTATION

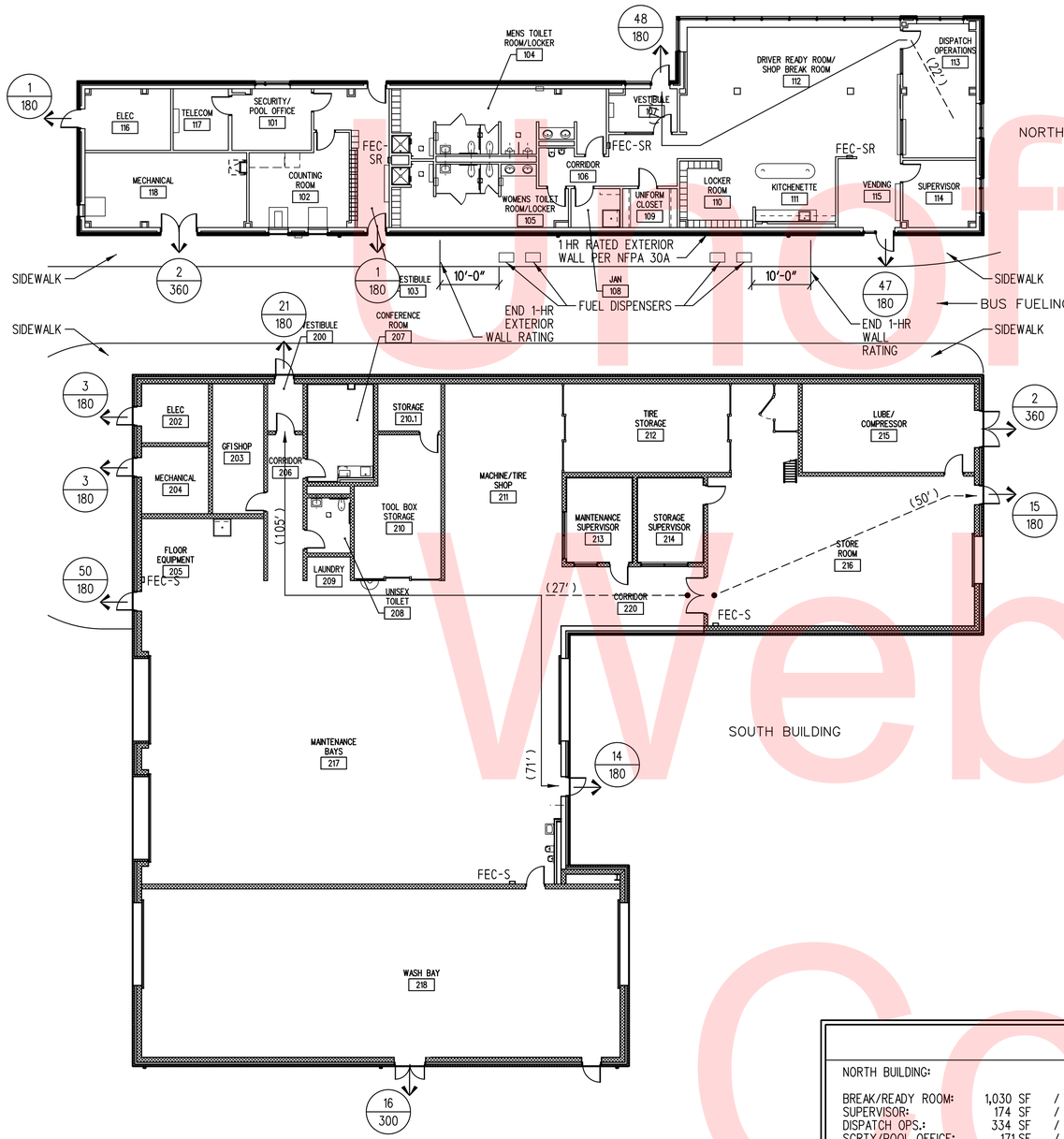
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: RJH	
COUNTY		
SUSSEX	CHECKED BY: EJ	

DRAWING INDEX

SHEET NO.	2
TOTAL SHTS.	189



1 / G-003 GROUND FLOOR CODE ANALYSIS PLAN
SCALE: 1/16" = 1'-0"

BUILDING CODE DATA

APPLICABLE CODES/YEAR:	INTERNATIONAL BUILDING CODE (IBC) 2012 NFPA 101: SPECIAL PURPOSE INDUSTRIAL NFPA 30A: MINOR REPAIR GARAGE
OCCUPANCY TYPE:	NORTH BUILDING: A-3 / SOUTH BUILDING: S-1
OCCUPANCY SEPARATIONS:	N/A
CONSTRUCTION TYPE:	TYPE II-B
SPRINKLERS:	NORTH BUILDING: NOT REQUIRED PROVIDED FOR ENTIRE BUILDING SOUTH BUILDING: REQUIRED PROVIDED FOR ENTIRE BUILDING
HEIGHT LIMITATION:	NORTH BUILDING: PERMITTED: 55 FT / 2 STORIES ACTUAL: 21'-4" FT / 1 STORIES SOUTH BUILDING: PERMITTED: 55 FT / 3 STORIES ACTUAL: 32'-0" FT / 1 STORIES
AREA LIMITATIONS: NORTH BUILDING: SOUTH BUILDING:	 40,945 SF ALLOWED / 4,474 SF ACTUAL 78,225 SF ALLOWED / 11,220 SF ACTUAL
OCCUPANT LOADS:	NORTH BUILDING: 105 SOUTH BUILDING: 120
EXITS:	NORTH: 2 REQUIRED / 6 PROVIDED SOUTH: 2 REQUIRED / 8 PROVIDED
TRAVEL DISTANCES:	NORTH BUILDING: COMMON PATH: 100 FEET (SPRINKLERED) TOTAL TRAVEL DISTANCE: 250 FEET SOUTH BUILDING: COMMON PATH: 100 FEET (SPRINKLERED) TOTAL TRAVEL DISTANCE: 250 FEET
STAIRWAY WIDTH:	44" MINIMUM
EGRESS WIDTH:	32" MINIMUM
CORRIDOR WIDTH:	44" MINIMUM

SEISMIC DESIGN CLASSIFICATION:

OCCUPANCY CATEGORY:	II	SS = 0.100
IMPORTANCE FACTOR:	1.00	S1 = 0.045
SITE CLASSIFICATION:	D	SDS = 0.108
DESIGN CATEGORY:	B	SD1 = 0.072

ALLOWABLE AREA CALCULATIONS

NORTH BUILDING:
A-3 ACTUAL = 4,474 SF — BASE ALLOWED = 9,500 SF

INCREASES ALLOWED:
SPRINKLERS: +300% (28,500 SF)
OPEN PERIMETER: +31% (2,945 SF)

TOTAL NORTH BUILDING ALLOWED: 40,945 SF

SOUTH BUILDING:
S-1 ACTUAL = 11,220 SF — BASE ALLOWED = 17,500

INCREASES ALLOWED:
SPRINKLERS: +300% (52,500 SF)
OPEN PERIMETER: +47% (8,225 SF)

TOTAL SOUTH BUILDING ALLOWED: 78,225 SF

OCCUPANT LOAD CALCULATIONS

NORTH BUILDING:

BREAK/READY ROOM:	1,030 SF	/	15 SF/PERSON	=	69
SUPERVISOR:	174 SF	/	100 SF/PERSON	=	2
DISPATCH OPS.:	334 SF	/	100 SF/PERSON	=	4
SCRTY/POOL OFFICE:	171 SF	/	100 SF/PERSON	=	2
COUNTING ROOM:	224 SF	/	100 SF/PERSON	=	3
VESTIBULE:	96 SF	/	100 SF/PERSON	=	1
LOCKER ROOM:	155 SF	/	50 SF/PERSON	=	4
RESTROOMS:	781 SF	/	N/A	=	12
KITCHENETTE:	178 SF	/	100 SF/PERSON	=	2
MECHANICAL/STORAGE:	900 SF	/	300 SF/PERSON	=	6
			OCCUPANT LOAD:	=	105

SOUTH BUILDING:

MAINT./WASH BAYS:	5,430 SF	/	100 SF/PERSON	=	55
OFFICES:	361 SF	/	100 SF/PERSON	=	4
CONFERENCE ROOM:	916 SF	/	7 SF/PERSON	=	32
RESTROOM:	100 SF	/	N/A	=	1
GFI SHOP:	110 SF	/	100 SF/PERSON	=	2
STORE ROOM:	1,488 SF	/	100 SF/PERSON	=	15
STORAGE:	1,012 SF	/	300 SF/PERSON	=	5
MECHANICAL:	868 SF	/	300 SF/PERSON	=	5
MACHINE/TIRE SHOP:	657 SF	/	100 SF/PERSON	=	7
			OCCUPANT LOAD:	=	126

CODE ANALYSIS LEGEND

(150') TOTAL EGRESS DISTANCE
(30') COMMON PATH OF TRAVEL
1 HOUR RATED WALL CONSTRUCTION
REQUIRED EXIT
50 / 100 OCCUPANT LOAD AT EXIT / EXIT CAPACITY
FEC-S PORTABLE FIRE EXTINGUISHER IN CABINET - SURFACE MOUNTED
FEC-R PORTABLE FIRE EXTINGUISHER IN CABINET - RECESSED
FEC-SR PORTABLE FIRE EXTINGUISHER IN CABINET - SEMI-RECESSED

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004G-003.dgn
10/27/2017 3:00:37 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 8' 16' 32'
SCALE: 1/16" = 1'-0"

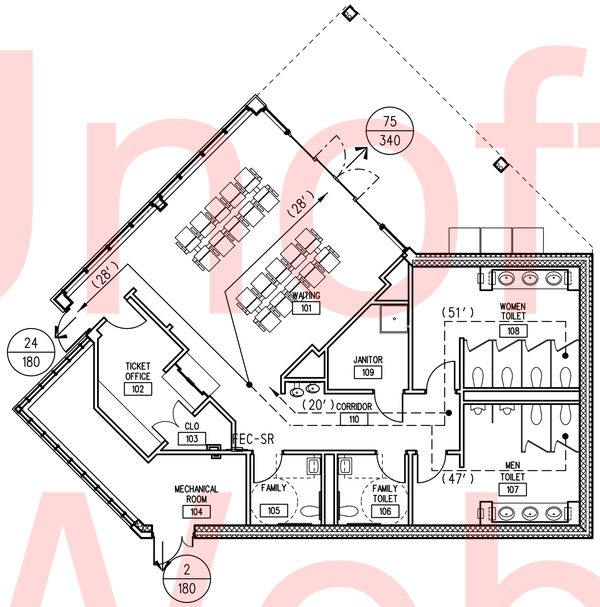
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: RJH
CHECKED BY: EL

CODE ANALYSIS

G-003
SHEET NO. 3
TOTAL SHTS. 189

Unofficial Website Copy



1 / G-004 GROUND FLOOR CODE ANALYSIS PLAN
SCALE: 1/8" = 1'-0"

BUILDING CODE DATA

APPLICABLE CODES/YEAR:	INTERNATIONAL BUILDING CODE (IBC) 2012 NFPA 101: ASSEMBLY
OCCUPANCY TYPE:	A-3
OCCUPANCY SEPARATIONS:	N/A
CONSTRUCTION TYPE:	TYPE II-B
SPRINKLERS:	NOT REQUIRED
HEIGHT LIMITATION:	PERMITTED: 55 FT / 2 STORIES ACTUAL: 26'-0" FT / 1 STORIES
AREA LIMITATIONS:	14,250 SF ALLOWED / 1,946 SF ACTUAL
OCCUPANT LOADS:	62
EXITS:	2 REQUIRED / 2 PROVIDED
TRAVEL DISTANCES:	COMMON PATH: 75 FEET (UNSPRINKLERED) TOTAL TRAVEL DISTANCE: 200 FEET
STAIRWAY WIDTH:	44" MINIMUM
EGRESS WIDTH:	32" MINIMUM
CORRIDOR WIDTH:	44" MINIMUM

SEISMIC DESIGN CLASSIFICATION:

OCCUPANCY CATEGORY:	III	SS = 0.100
IMPORTANCE FACTOR:	1.25	S1 = 0.045
SITE CLASSIFICATION:	D	SDS = 0.107
DESIGN CATEGORY:	B	SD1 = 0.072

CODE ANALYSIS LEGEND

(150') TOTAL EGRESS DISTANCE

(30') COMMON PATH OF TRAVEL

1 HOUR RATED WALL CONSTRUCTION

REQUIRED EXIT

50 / 100 OCCUPANT LOAD AT EXIT / EXIT CAPACITY

FEC-S PORTABLE FIRE EXTINGUISHER IN CABINET - SURFACE MOUNTED

FEC-R PORTABLE FIRE EXTINGUISHER IN CABINET - RECESSED

FEC-SR PORTABLE FIRE EXTINGUISHER IN CABINET - SEMI-RECESSED

ALLOWABLE AREA CALCULATIONS

VISITOR CNETER:
A-3 ACTUAL = 1,946 SF BASE ALLOWED = 9,500 SF

INCREASES ALLOWED:
OPEN PERIMETER: +50% (4,750 SF)

TOTAL BUILDING ALLOWED: 14,250 SF

OCCUPANT LOAD CALCULATIONS

WAITING AREA: 534 SQ FT	/	7 SF/PERSON	=	77
TICKET OFFICE: 111 SQ FT	/	100 SF/PERSON	=	2
MECHANICAL ROOM: 167 SQ FT	/	300 SF/PERSON	=	1
RESTROOMS: 574 SQ FT	/	N/A	=	20
JANITOR: 66 SQ FT	/	300 SF/PERSON	=	1
		OCCUPANT LOAD:	=	101

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019G-004.dgn
10/27/2017 3:00:36 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: RJH
CHECKED BY: EL

CODE ANALYSIS - VISITOR CENTER

G-004
SHEET NO. 4
TOTAL SHTS. 189

Unofficial Website Copy

NOTES:
1. CLEAR AND GRUB ALL TREES AND SHRUBS WITHIN LOC REMOVE ALL BUILDINGS, MACADAM, CONCRETE, AND GRAVEL WITHIN THE LOD.
2. FOR EROSION & SEDIMENT CONTROL, REFER TO SHEET CS01.
3. CONTRACTOR USE OF EXISTING PARKING LOT FOR ANY USE INCLUDING BUT NOT LIMITED TO MATERIAL LAYDOWN OR OPERATION OF EQUIPMENT IS PROHIBITED.

LEGEND:

LIMIT OF DEMOLITION	——— LOD ———
LIMIT OF CONSTRUCTION	--------LOC--------
EX. CONTOUR	– – – 26 – – –
SETBACK LINE	——— ———
EX. CURB & GUTTER	═══════
EX. STORM DRAIN	EX. 15" SD
EX. WATER LINE	— ——— W ———
EX. GAS LINE	— ——— G ——— —
EX. SEWER LINE	——— S ——— S —
EX. CONCRETE SIDEWALK	▨

PROPERTY INFORMATION:
1. PROPERTY ADDRESS:
   17616 COASTAL HIGHWAY
   LEWES, DE 19958
2. ZONING: C-1 COMMERCIAL

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004C-101.dgn
10/25/2017 10:04:49 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 40 80 120
FEET

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	PMG
CHECKED BY:	PMG

EXISTING CONDITIONS / DEMOLITION PLAN

C-101

SHEET NO.	5
TOTAL SHTS.	189

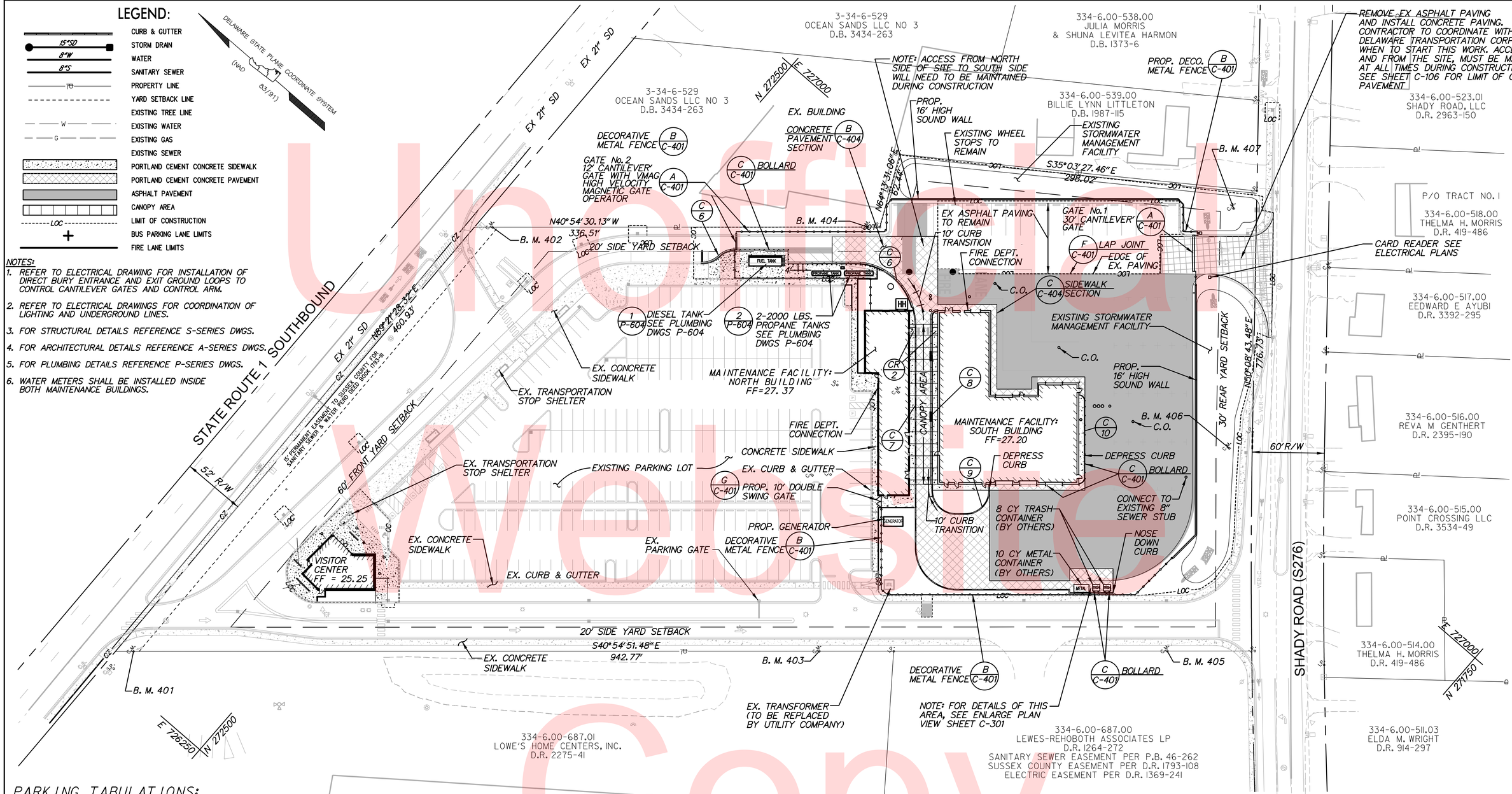
LEGEND:

- CURB & GUTTER
- STORM DRAIN
- WATER
- SANITARY SEWER
- PROPERTY LINE
- YARD SETBACK LINE
- EXISTING TREE LINE
- EXISTING WATER
- EXISTING GAS
- EXISTING SEWER
- PORTLAND CEMENT CONCRETE SIDEWALK
- PORTLAND CEMENT CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- CANOPY AREA
- LIMIT OF CONSTRUCTION
- BUS PARKING LANE LIMITS
- FIRE LANE LIMITS

DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91)

NOTES:

1. REFER TO ELECTRICAL DRAWING FOR INSTALLATION OF DIRECT BURY ENTRANCE AND EXIT GROUND LOOPS TO CONTROL CANTILEVER GATES AND CONTROL ARM.
2. REFER TO ELECTRICAL DRAWINGS FOR COORDINATION OF LIGHTING AND UNDERGROUND LINES.
3. FOR STRUCTURAL DETAILS REFERENCE S-SERIES DWGS.
4. FOR ARCHITECTURAL DETAILS REFERENCE A-SERIES DWGS.
5. FOR PLUMBING DETAILS REFERENCE P-SERIES DWGS.
6. WATER METERS SHALL BE INSTALLED INSIDE BOTH MAINTENANCE BUILDINGS.



PARKING TABULATIONS:

PARKING SPACE PROVIDED: 243 SPACES
PARKING SPACES REQUIRED: 1 PER 500 SF OF FLOOR AREA
PROPOSED FLOOR AREA = 15694 SF/500=31 SPACES REQUIRED
HANDICAP SPACES PROVIDED: 8
HANDICAP SPACES REQUIRED: 7

BENCH MARK INFORMATION:

POINT#	NORTHING	EASTING	ELEV.	DESCRIPTION
401	272594.8598	726275.4614	24.49	INSTALL CONCRETE MONUMENT
402	272600.0252	726736.2719	22.16	REPLACE EXISTING WOOD STAKE WITH CONCRETE MONUMENT
403	272164.8638	726648.1142	29.40	EXISTING CONCRETE MONUMENT TO REMAIN
404	272364.6158	726940.3069	22.41	REPLACE EXISTING WOOD STAKE WITH CONCRETE MONUMENT
405	271946.6363	726837.2111	26.77	EXISTING CONCRETE MONUMENT TO REMAIN
406	272017.8375	726997.9937	25.07	INSTALL CONCRETE MONUMENT
407	272145.2257	727150.6042	23.38	INSTALL CONCRETE MONUMENT

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
C-6	P.C.C. CURB AND GUTTER, TYPE 3-8 MODIFIED	197.6'
C-7	P.C.C. CURB AND GUTTER, TYPE 3-6 MODIFIED	385.7'
C-8	P.C.C. CURB AND GUTTER, TYPE 3-6	148.4'
C-9	P.C.C. CURB AND GUTTER, TYPE 1-6	80.8'
C-10	P.C.C. CURB AND GUTTER, TYPE 3-6	79.7'

BUILDING NAME	BUILDING DESCRIPTION	AREA	STORIES / HEIGHT	SPRINKLERS	CONSTRUCTION TYPE	OCCUPANCY / USE
MAINTENANCE FACILITY: NORTH BUILDING	DRIVERS LOUNGE AND DISPATCH	4,474 SF	1 / 15'-0"	YES	II (000)	ASSEMBLY (<300)
MAINTENANCE FACILITY: SOUTH BUILDING	BUS MAINTENANCE SHOPS	11,220 SF	1 / 32'-0"	YES	II (000)	INDUSTRIAL (MINOR REPAIR GARAGE)
VISITOR CENTER	PERMANENT TOILET ROOMS AND VISITOR CENTER	2000 SF	1/25'-0"	NO	II (000)	ASSEMBLY (<300)

1. THESE STRUCTURES WILL BE PROTECTED BY AUTOMATIC SPRINKLERS IN ACCORDANCE WITH NFPA13.
2. ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTION SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS.
3. LOCK BOXES REQUIRED, CONTACT LOCAL FIRE CHIEF FOR ORDERING INFORMATION AND LOCATION OF BOXES ON THE BUILDINGS.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004C-102.dgn
10/25/2017 11:02:38 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 40 80 120 FEET

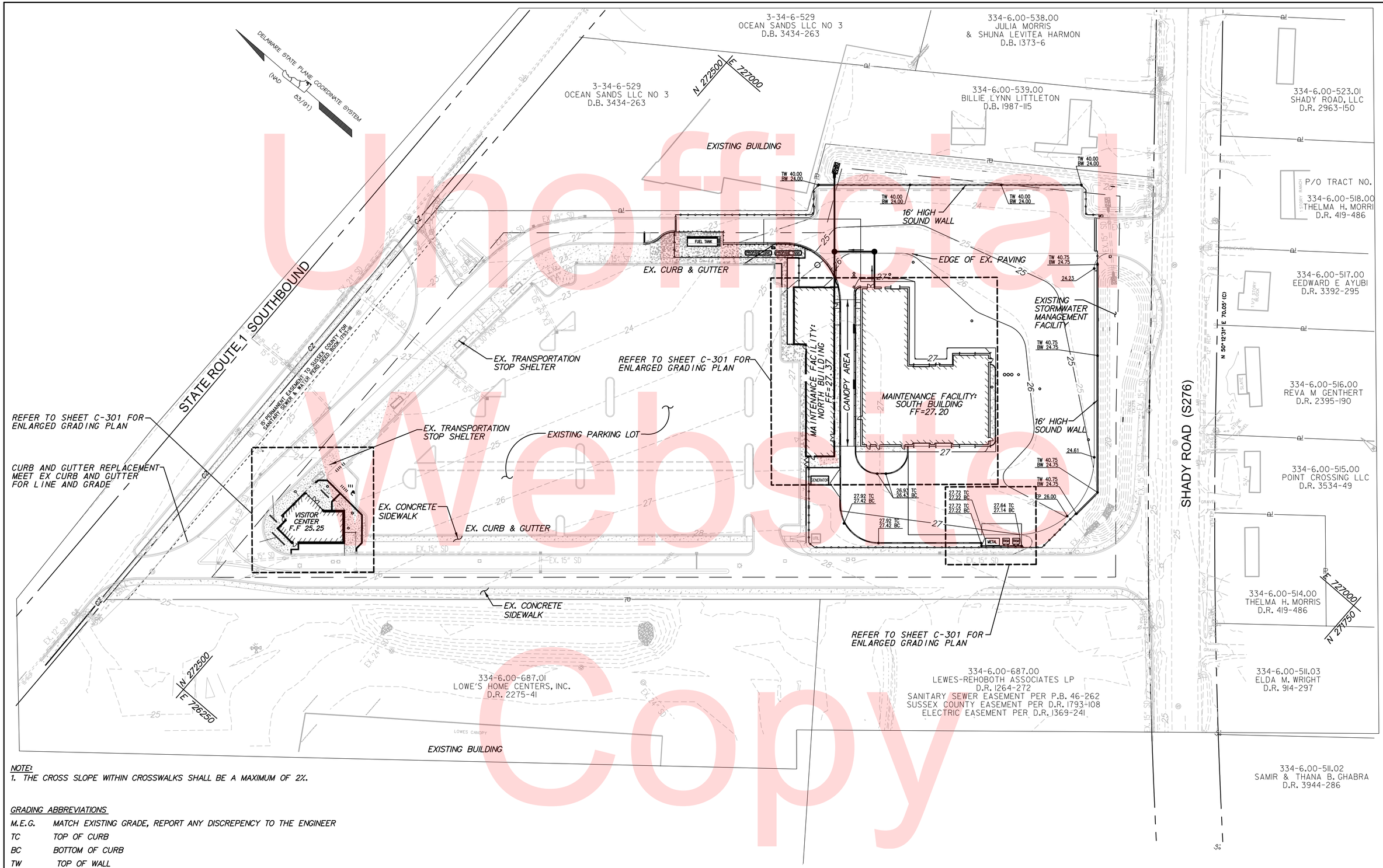
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: DJL
CHECKED BY: PMG

SITE PLAN

C-102
SHEET NO. 6
TOTAL SHTS. 189

Unofficial Website Copy



NOTE:
1. THE CROSS SLOPE WITHIN CROSSWALKS SHALL BE A MAXIMUM OF 2%.

GRADING ABBREVIATIONS

M.E.G.	MATCH EXISTING GRADE, REPORT ANY DISCREPENCY TO THE ENGINEER
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004C-103.dgn
10/25/2017 10:09:38 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 40 80 120 FEET

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	PMG
CHECKED BY:	PMG

GRADING PLAN

C-103

SHEET NO.	7
TOTAL SHTS.	189

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
13	8" CPP-S	N.A.	30 LF	0.0105	23.00	22.64
14	8" CPP-S	N.A.	31 LF	0.0114	22.54	22.17
15	12" CPP-S	N.A.	69 LF	0.0613	21.84	18.00
33	8" CPP-S	N.A.	30 LF	0.0109	22.50	22.34
37	4" PVC SDR 35	N.A.	2 LF	0.5000	21.75	21.74
38	4" PVC SDR 35	N.A.	9 LF	0.5000	21.74	21.69
39	4" PVC SDR 35	N.A.	37.5 LF	0.5000	21.69	21.50
40	4" PVC SDR 35	N.A.	39 LF	0.5000	21.50	21.30
41	4" PVC SDR 35	N.A.	18 LF	0.8000	21.75	21.60

TRENCH DRAIN SCHEDULE

NO.	WIDTH OF GRATE	LENGTH	TOP OF GRATE	NORTH	EAST
*TD-1	6"	10'	25.05	272519.2808	726467.4693
*TD-2	6"	16'	25.05	272524.4358	726409.2871
*TD-3	6"	9'	25.05	272539.7596	726419.9744

NOTE: COORDINATE LOCATION IS LOCATED AT THE CENTER OF THE TRENCH DRAIN

*TRENCH DRAIN TYPE, USE NDS 864G PRO SERIES OR APPROVED EQUAL

MANHOLE SCHEDULE

NO.	NORTHING	NORTHING	TYPE/SIZE	T.G. EL.	INV. EL.
5	272286.07	726959.08	48" X 48"	25.92	22.91
6	272312.28	726936.39	48" X 48"	25.84	22.46

ROOF DRAIN FITTING SCHEDULE

NO.	NORTHING	NORTHING	TYPE/SIZE
HB1	272532.3440	726472.1555	4"PVC 45° BEND
HB2	272525.5072	726478.0768	4"PVC 45° BEND
HB3	272488.1828	726475.3981	4"PVC 45° BEND
HB4	272510.0931	726466.6607	4"PVC 45° BEND
HB5	272464.7315	726455.7626	4"PVC 45° BEND
HB6	272465.2775	726448.8800	4"PVC 45° BEND

FLARED END SECTION SCHEDULE

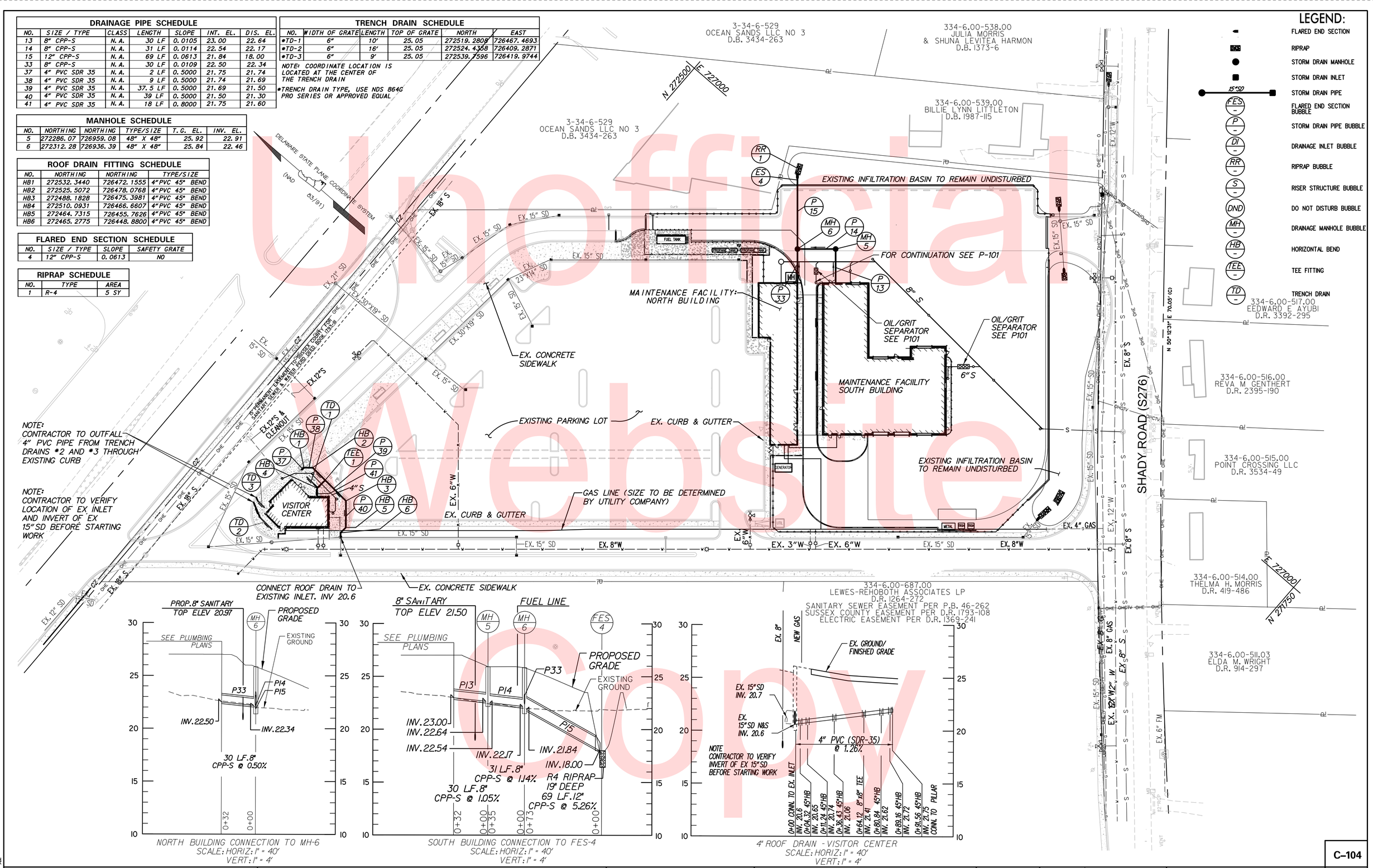
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
4	12" CPP-S	0.0613	NO

RIPRAP SCHEDULE

NO.	TYPE	AREA
1	R-4	5 SY

LEGEND:

- FLARED END SECTION
- RIPRAP
- STORM DRAIN MANHOLE
- STORM DRAIN INLET
- 15"SD — STORM DRAIN PIPE
- FES - FLARED END SECTION BUBBLE
- P - STORM DRAIN PIPE BUBBLE
- DI - DRAINAGE INLET BUBBLE
- RR - RIPRAP BUBBLE
- S - RISER STRUCTURE BUBBLE
- DND - DO NOT DISTURB BUBBLE
- MH - DRAINAGE MANHOLE BUBBLE
- HB - HORIZONTAL BEND
- TEE - TEE FITTING
- TD - TRENCH DRAIN



Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004C-104.dgn
10/25/2017 10:19:19 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 40 80 120 FEET

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: BPG
SUSSEX	CHECKED BY: JDC

STORM DRAIN PLAN

C-104

SHEET NO.
8
TOTAL SHTS.
189

SANITARY SEWER MATERIAL LIST

ITEM DESCRIPTION	QUANITY
8" PVC (SDR-35)	313 LF
6" PVC (SDR-35)	68 LF
4" PVC (SDR-35)	123 LF
8" PVC WYE FITTINGS	2
4" PVC WYE FITTINGS	3
4" PVC HORZ. BEND 22.5°	1
4" PVC HORZ. BEND 45°	1
SEWER CLEANOUT	12
STD. 48" DIAMETER MANHOLE	1
WATER AND OIL SEPARATOR (350 GAL.)	1
WATER AND OIL SEPARATOR (1000 GAL.)	1

WATER MATERIAL LIST

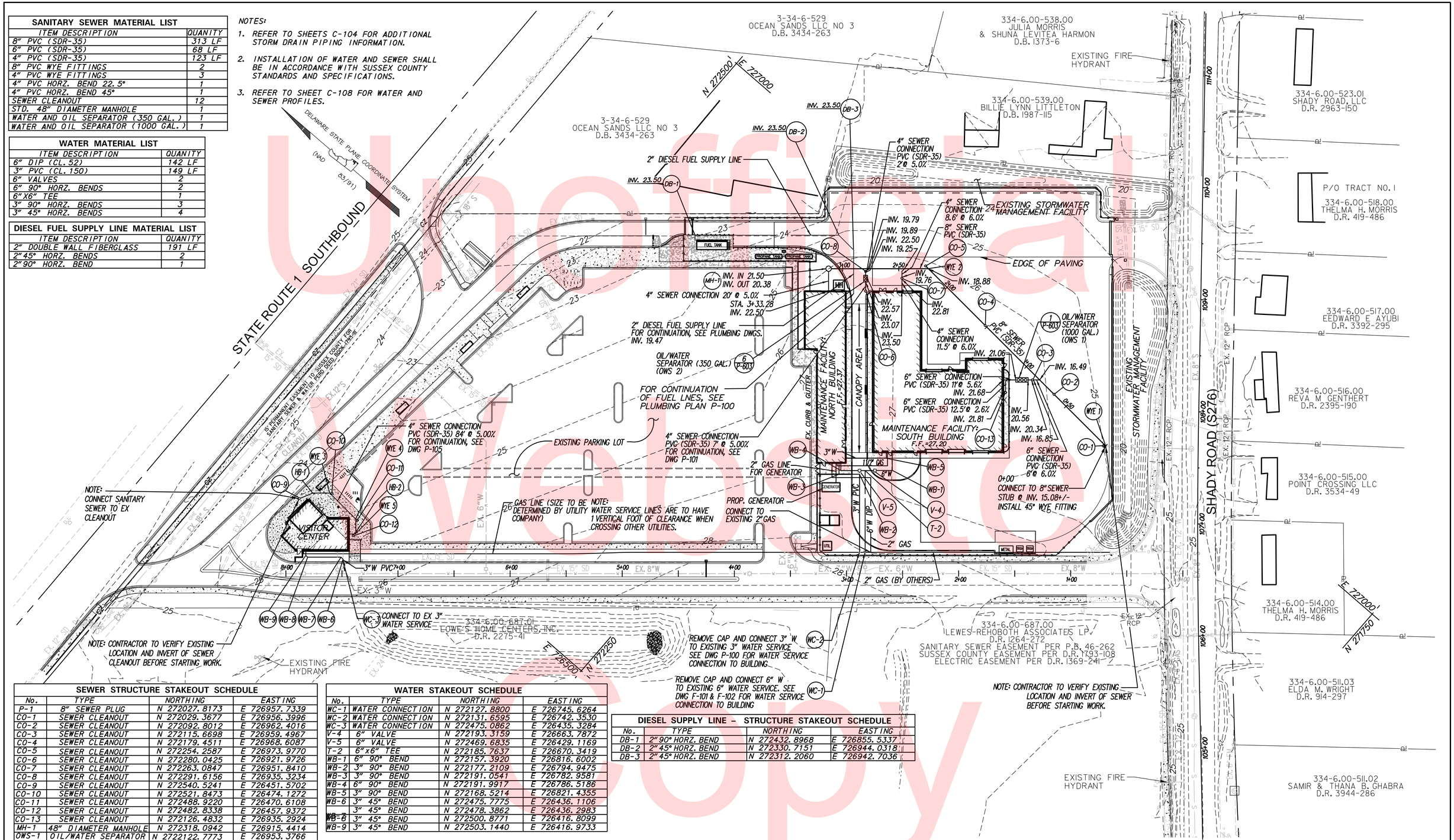
ITEM DESCRIPTION	QUANITY
6" DIP (CL.52)	142 LF
3" PVC (CL.150)	149 LF
6" VALVES	2
6" 90° HORZ. BENDS	2
6"X6" TEE	1
3" 90° HORZ. BENDS	3
3" 45° HORZ. BENDS	4

DIESEL FUEL SUPPLY LINE MATERIAL LIST

ITEM DESCRIPTION	QUANITY
2" DOUBLE WALL FIBERGLASS	191 LF
2" 45° HORZ. BENDS	2
2" 90° HORZ. BEND	1

NOTES:

1. REFER TO SHEETS C-104 FOR ADDITIONAL STORM DRAIN PIPING INFORMATION.
2. INSTALLATION OF WATER AND SEWER SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY STANDARDS AND SPECIFICATIONS.
3. REFER TO SHEET C-108 FOR WATER AND SEWER PROFILES.



Unofficial Website Copy

SEWER STRUCTURE STAKEOUT SCHEDULE

No.	TYPE	NORTHING	EASTING
P-1	8" SEWER PLUG	N 272027.8173	E 726957.7339
CO-1	SEWER CLEANOUT	N 272029.3677	E 726956.3996
CO-2	SEWER CLEANOUT	N 272092.8012	E 726962.4016
CO-3	SEWER CLEANOUT	N 272115.6698	E 726959.4967
CO-4	SEWER CLEANOUT	N 272179.4511	E 726968.6087
CO-5	SEWER CLEANOUT	N 272254.2587	E 726973.9770
CO-6	SEWER CLEANOUT	N 272280.0425	E 726921.9726
CO-7	SEWER CLEANOUT	N 272263.0847	E 726951.8410
CO-8	SEWER CLEANOUT	N 272291.6156	E 726935.3234
CO-9	SEWER CLEANOUT	N 272540.5241	E 726451.5702
CO-10	SEWER CLEANOUT	N 272521.8473	E 726474.1272
CO-11	SEWER CLEANOUT	N 272488.9220	E 726470.6108
CO-12	SEWER CLEANOUT	N 272482.8338	E 726457.9372
CO-13	SEWER CLEANOUT	N 272126.4832	E 726935.2924
MH-1	48" DIAMETER MANHOLE	N 272318.0942	E 726915.4414
OWS-1	OIL/WATER SEPARATOR	N 2722122.7773	E 726953.3766
OWS-2	OIL/WATER SEPARATOR	N 272287.2968	E 726930.3365
WYE-1	8" WYE (45°)	N 272027.8173	E 726957.7339
WYE-2	8" WYE (45°)	N 272250.8414	E 726973.7593
WYE-3	4" WYE (45°)	N 272523.3955	E 726472.9171
WYE-4	4" WYE (45°)	N 272490.6151	E 726470.5647
WYE-5	4" WYE (45°)	N 272482.9281	E 726459.7058
HB-1	4" HORIZ.BEND(22.5°)	N 272534.9224	E 726462.9025
HB-2	4" HORIZ.BEND(45°)	N 272482.7970	E 726461.5324

WATER STAKEOUT SCHEDULE

No.	TYPE	NORTHING	EASTING
WC-1	WATER CONNECTION	N 272127.8800	E 726745.6264
WC-2	WATER CONNECTION	N 272131.6595	E 726742.3530
WC-3	WATER CONNECTION	N 272475.0862	E 726435.3284
V-4	6" VALVE	N 272193.3159	E 726663.7872
V-5	6" VALVE	N 272469.6835	E 726429.1169
T-2	6"x6" TEE	N 272185.7637	E 726670.3419
WB-1	6" 90° BEND	N 272157.3920	E 726816.6002
WB-2	3" 90° BEND	N 272177.2109	E 726794.9475
WB-3	3" 90° BEND	N 272191.0541	E 726782.9581
WB-4	6" 90° BEND	N 272191.9917	E 726786.5186
WB-5	3" 90° BEND	N 272168.5214	E 726821.4355
WB-6	3" 45° BEND	N 272475.7775	E 726436.1106
	3" 45° BEND	N 272478.3862	E 726436.2983
WB-7 WB-8	3" 45° BEND	N 272500.8771	E 726416.8099
WB-9	3" 45° BEND	N 272503.1440	E 726416.9733

NOTE:
FOR LOCATION OF FIRE DEPARTMENT CONNECTIONS, SEE DWGS. F-101 AND F-102

NOTE:
REFER TO DRAWING P-604 FOR FUEL LINE DETAILS

DIESEL SUPPLY LINE – STRUCTURE STAKEOUT SCHEDULE

No.	TYPE	NORTHING	EASTING
DB-1	2" 90° HORZ. BEND	N 272432.8968	E 726855.5337
DB-2	2" 45° HORZ. BEND	N 272330.7151	E 726944.0318
DB-3	2" 45° HORZ. BEND	N 272312.2060	E 726942.7036

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004C-105.dgn
10/25/2017 10:34:58 AM

**DELAWARE
DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

SCALE
0 40 80 120
FEET

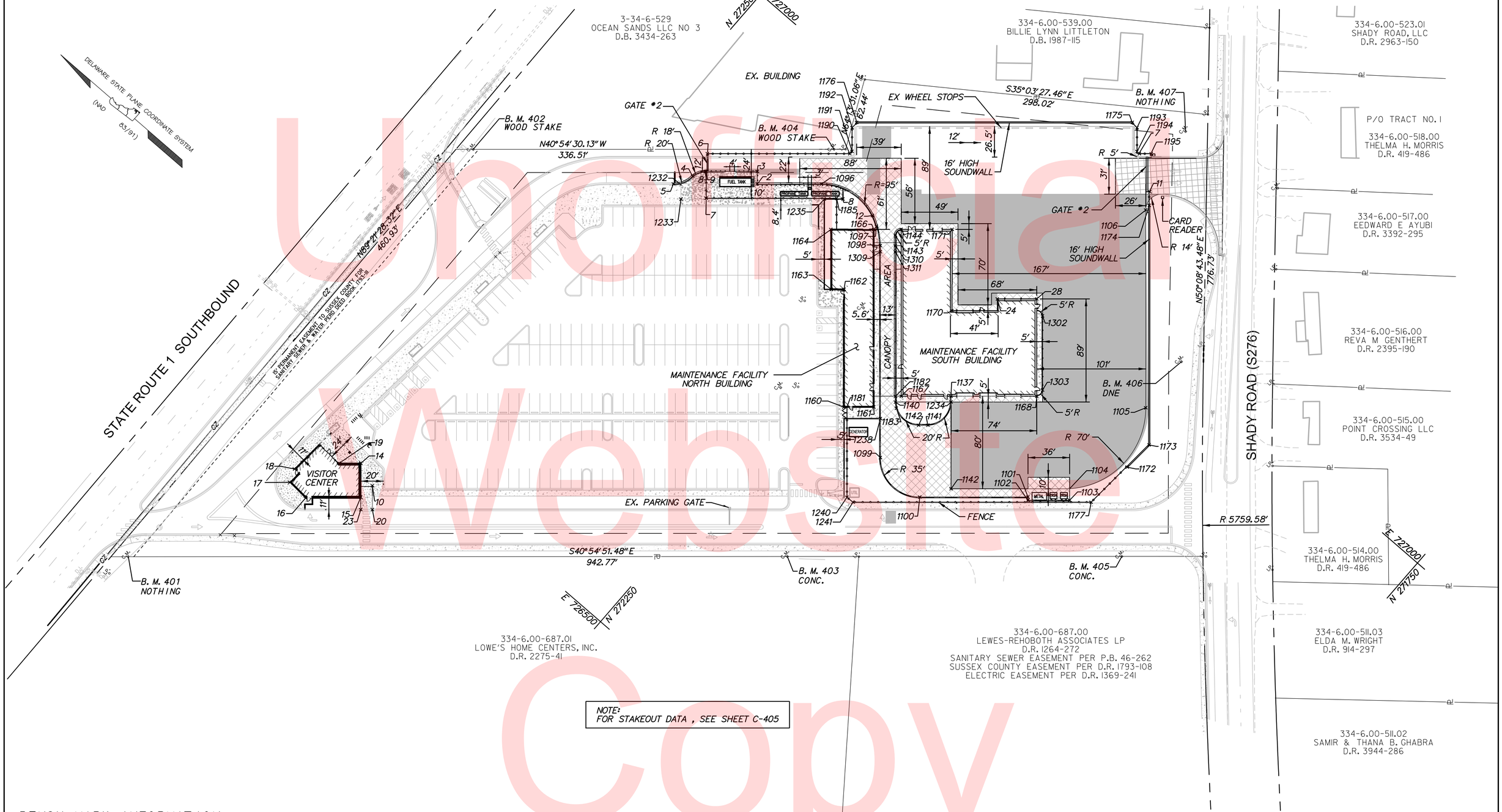
**LEWES PARK & RIDE
AND MAINTENANCE FACILITY –
PHASE 2**

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	DJL
CHECKED BY:	PMG

WATER AND SEWER PLAN

C–105

SHEET NO.	9
TOTAL SHTS.	189



NOTE:
FOR STAKEOUT DATA , SEE SHEET C-405

BENCH MARK INFORMATION:

POINT#	NORTHING	EASTING	ELEV.	DESCRIPTION
401	272594.8598	726275.4614	24.49	INSTALL CONCRETE MONUMENT
402	272600.0252	726736.2719	22.16	REPLACE EXISTING WOOD STAKE WITH CONCRETE MONUMENT
403	272164.8638	726648.1142	29.40	EXISTING CONCRETE MONUMENT TO REMAIN
404	272364.6158	726940.3069	22.41	REPLACE EXISTING WOOD STAKE WITH CONCRETE MONUMENT
405	271946.6363	726837.2111	26.77	EXISTING CONCRETE MONUMENT TO REMAIN
406	272017.8375	726997.9937	25.07	INSTALL CONCRETE MONUMENT
407	272145.2257	727150.6042	23.38	INSTALL CONCRETE MONUMENT

Unofficial Website
Copy

N:\90181-01P\C4D\Phase 1 Sheet Files\CP01-90181004C-106.dgn
10/25/2017 10:39:26 AM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 40 80 120
FEET

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: DJL	
COUNTY		
SUSSEX	CHECKED BY: PMG	

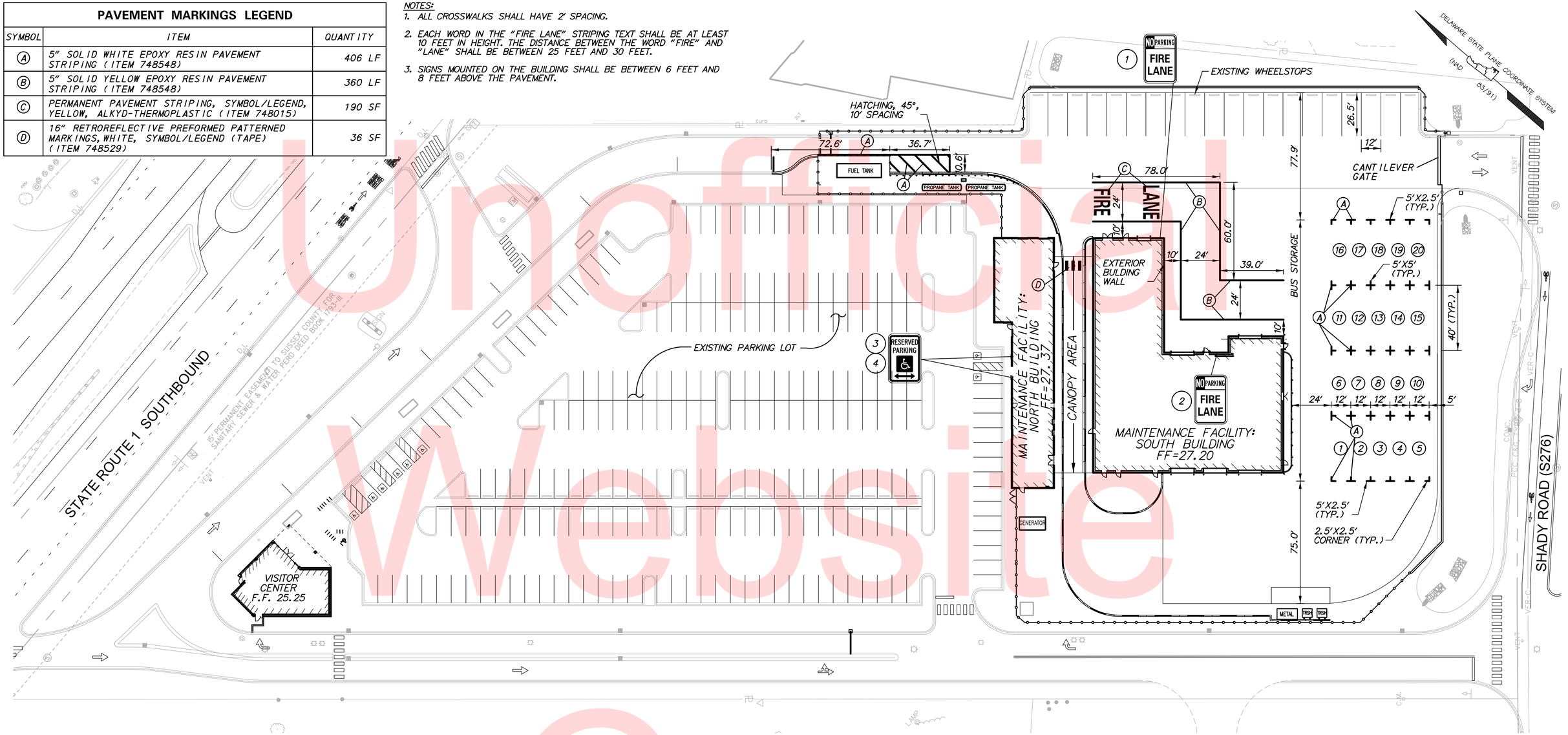
STAKEOUT & LAYOUT PLAN

C-106

SHEET NO.	
10	
TOTAL SHTS.	
189	

PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY RESIN PAVEMENT STRIPING (ITEM 748548)	406 LF
(B)	5" SOLID YELLOW EPOXY RESIN PAVEMENT STRIPING (ITEM 748548)	360 LF
(C)	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, YELLOW, ALKYD-THERMOPLASTIC (ITEM 748015)	190 SF
(D)	16" RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE, SYMBOL/LEGEND (TAPE) (ITEM 748529)	36 SF

NOTES:
1. ALL CROSSWALKS SHALL HAVE 2' SPACING.
2. EACH WORD IN THE "FIRE LANE" STRIPING TEXT SHALL BE AT LEAST 10 FEET IN HEIGHT. THE DISTANCE BETWEEN THE WORD "FIRE" AND "LANE" SHALL BE BETWEEN 25 FEET AND 30 FEET.
3. SIGNS MOUNTED ON THE BUILDING SHALL BE BETWEEN 6 FEET AND 8 FEET ABOVE THE PAVEMENT.



PERMANENT SIGN SCHEDULE

#	SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
440	C-107	1	R7-107-DE(12)	1	NO PARKING (Blank) - 12"x18"	12"	18"	1.5	NEW		1								"FIRE LANE" (MOUNT ON BUILDING)
440	C-107	2	R7-107-DE(12)	1	NO PARKING (Blank) - 12"x18"	12"	18"	1.5	NEW		1								"FIRE LANE" (MOUNT ON BUILDING)
428	C-107	3	R7-8	1	RESERVED PARKING (Disabilities - symbols)	12"	18"	1.5	NEW		1								(MOUNT ON BUILDING)
428	C-107	4	R7-8	1	RESERVED PARKING (Disabilities - symbols)	12"	18"	1.5	NEW		1								(MOUNT ON BUILDING)
PAGE TOTALS								6		0	4		0	0		0	0	0	

Unofficial Website Copy

N:\30181-01P\CADD\Phase II\Sheet Files\CP01-90181004C-107.dgn
10/25/2017 10:40:59 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

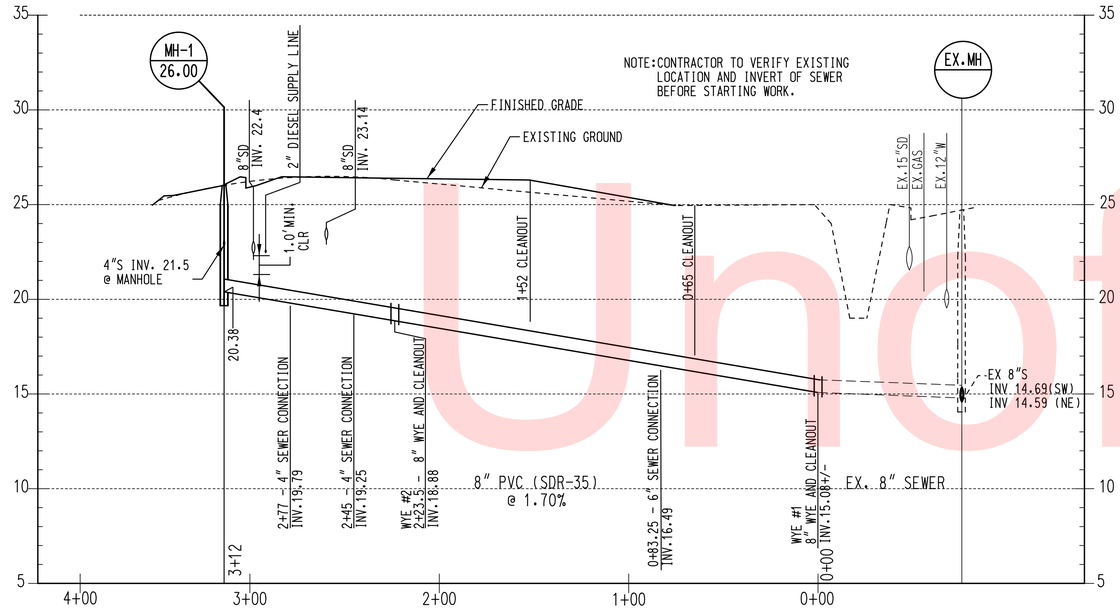
SCALE 0 30 60 90 FEET

LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: D.A.D.
CHECKED BY: M.J.B.

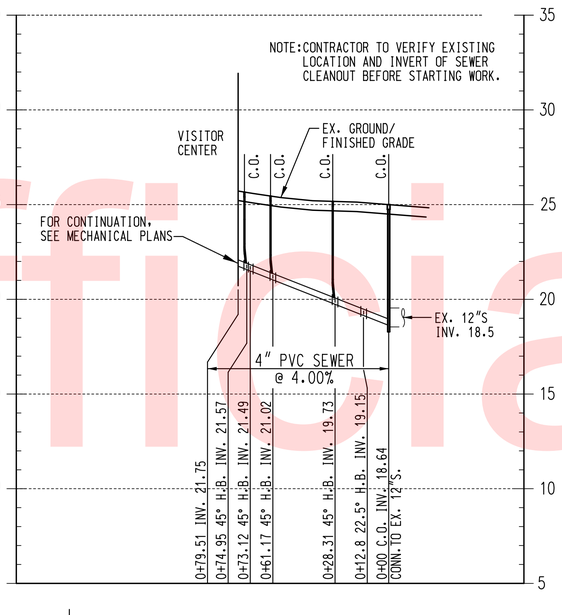
SIGNING AND STRIPING PLAN

C–107
SHEET NO. 11
TOTAL SHTS. 189



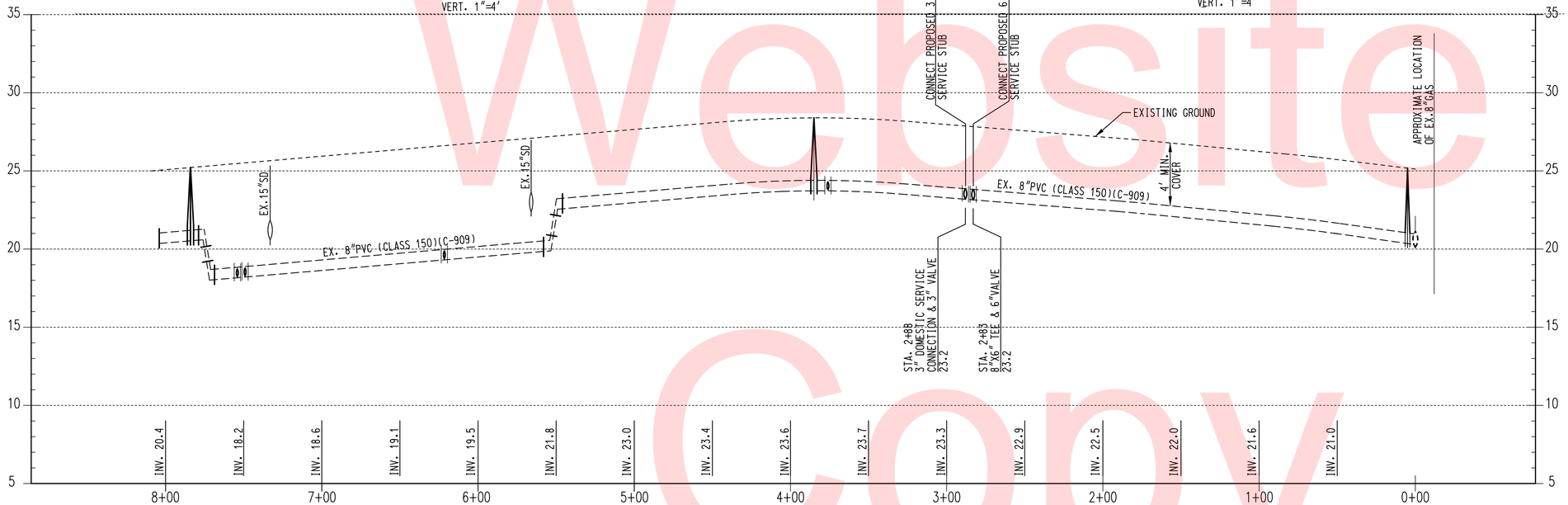
SEWER PROFILE MAINTENANCE BUILDINGS

SCALE: HORZ: 1"=40'
VERT. 1"=4'



SEWER PROFILE VISITOR CENTER

SCALE: HORZ: 1"=40'
VERT. 1"=4'



EXISTING WATER LINE PROFILE

SCALE: HORZ: 1"=40'
VERT. 1"=4'

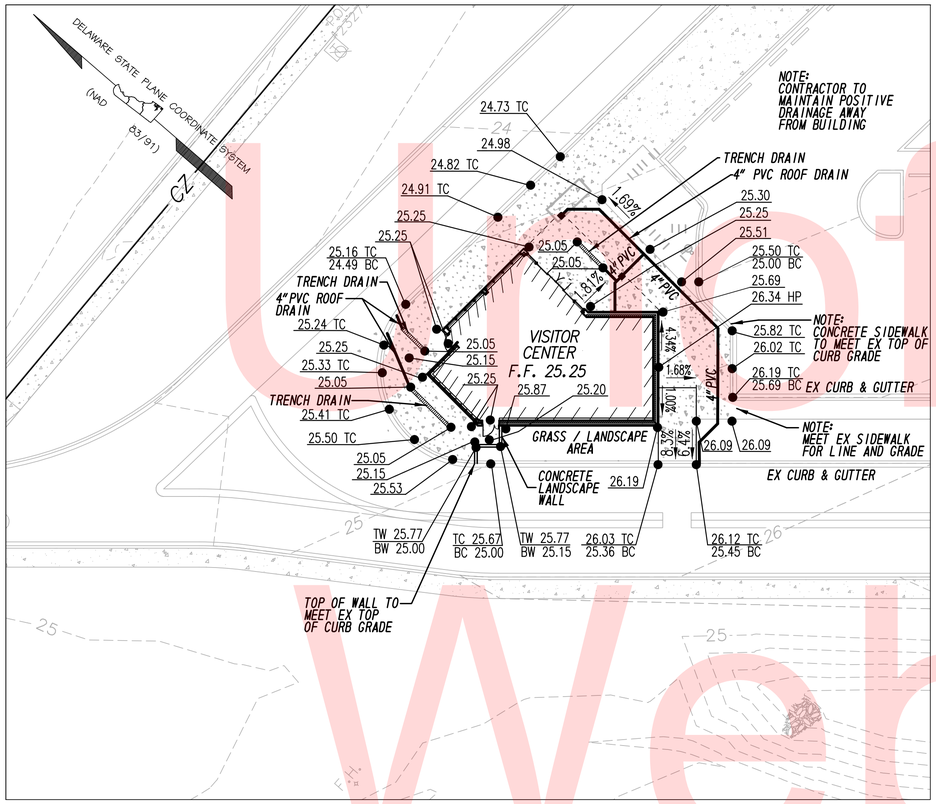
Unofficial Website Copy

N:\90181\01P\C4D\Phase II Sheet Files\CP01-90181004C-108.dgn
10/25/2017 10:42:10 AM

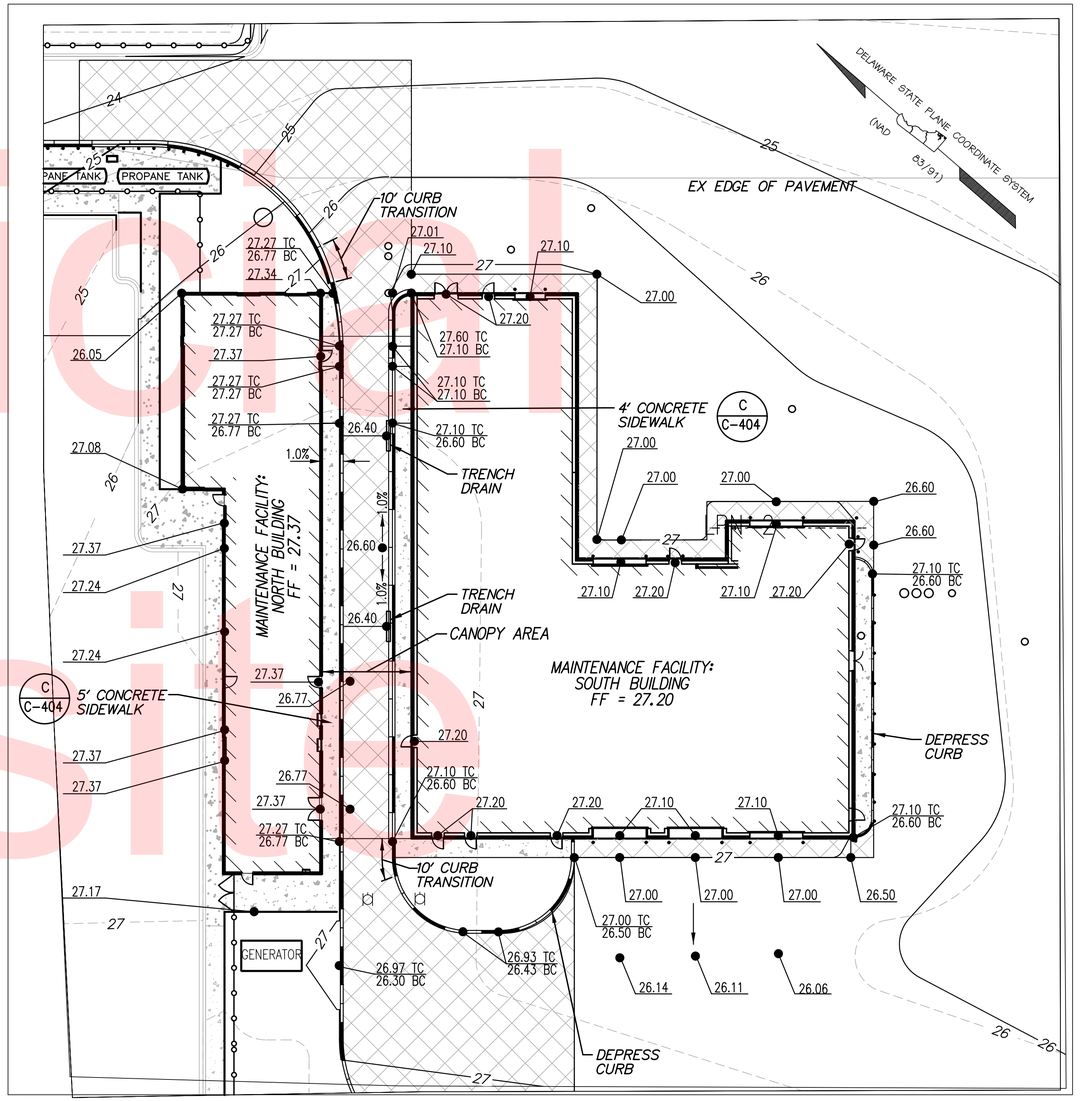
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 40 80 120 FEET SCALE: HORZ: 1"=40' VERT. 1"=4'	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	WATER AND SEWER PROFILES
				COUNTY SUSSEX	DESIGNED BY: DJL	
					CHECKED BY: PMG	

C–108

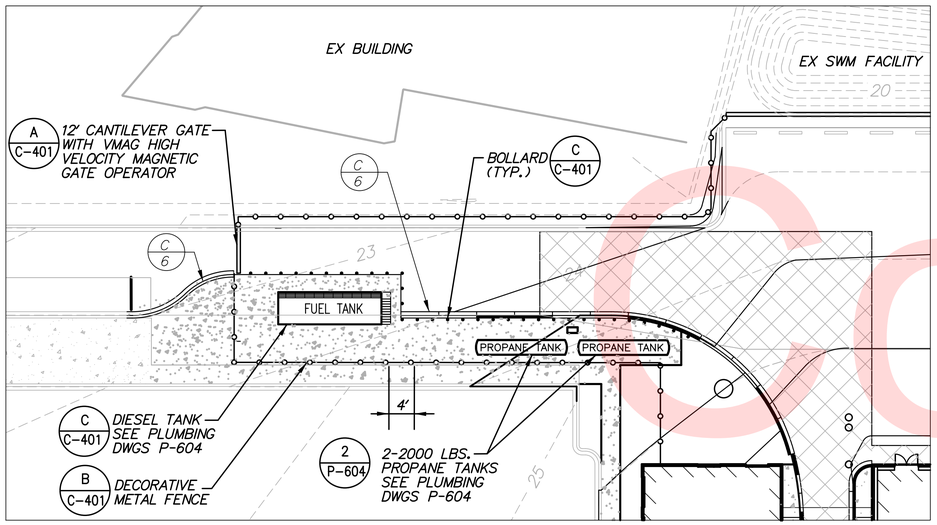
SHEET NO. 12
TOTAL SHTS. 189



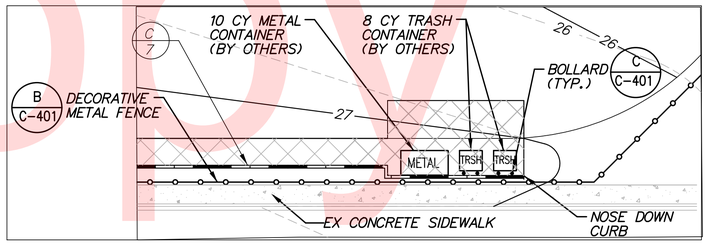
BUILDING ENLARGED GRADING PLAN



BUILDING ENLARGED GRADING PLAN



ENLARGEMENT PLAN – FUEL TANKS



ENLARGEMENT PLAN – DUMPSTER AREA

NOTE:
1. CONTRACTOR IS TO ENSURE THAT ALL SIDEWALK, RAMPS, MEET THE GRADING REQUIREMENTS OF THE LATEST ADA GUIDELINES.

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004C-301.dgn
10/25/2017 10:44:58 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 20 40 60 FEET

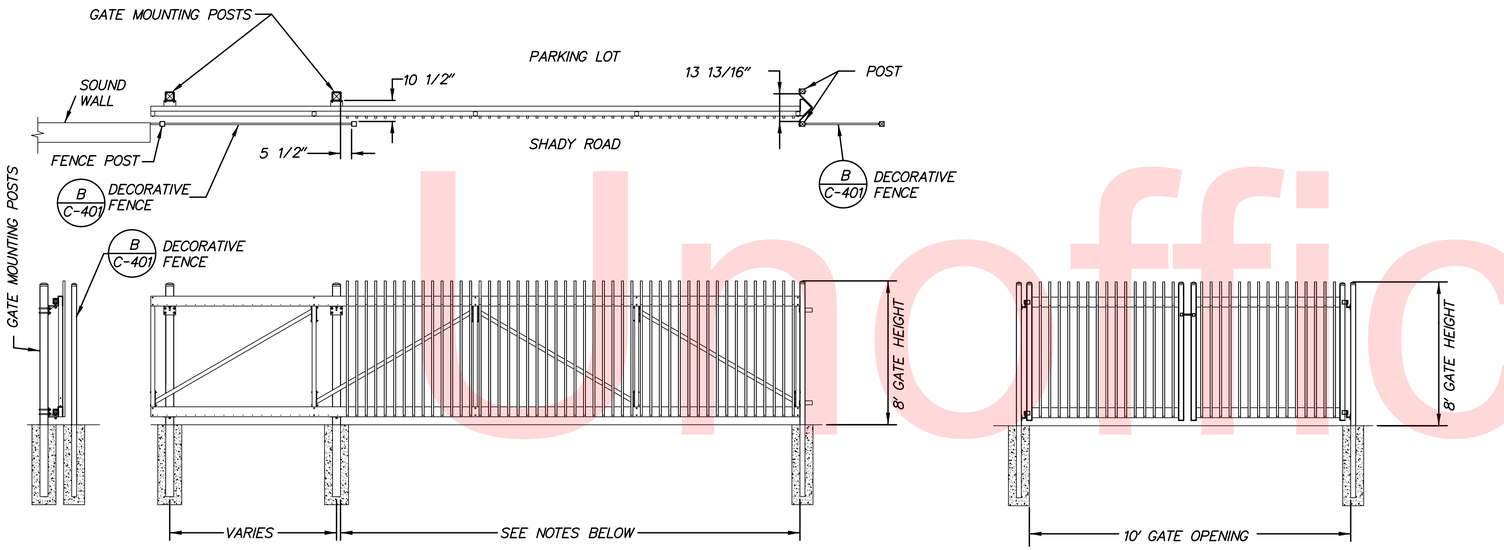
LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: PMG	
COUNTY	CHECKED BY: PMG	
SUSSEX		

ENLARGED GRADING PLAN

C-301

SHEET NO.
13
TOTAL SHTS.
189



NOTES:

1. GATE No 1 - 8' THROUGH 30' OPENING.
2. GATE No 2 - 8' THROUGH 12' OPENING WITH VMAG HIGH VELOCITY MAGNETIC GATE OPERATOR.
3. SEE SITE PLAN , SHEET C-102 FOR GATE LOCATIONS.

DECORATIVE METAL GATE

A C-401

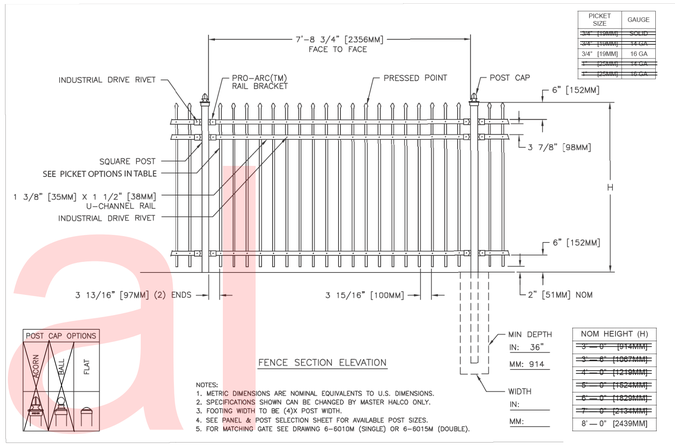
NOT TO SCALE

DOUBLE SWING DECORATIVE METAL GATE

G C-401

NOT TO SCALE

NOTE:
FENCE DETAILS ARE SHOWN FOR REFERENCE ONLY FENCE AND GATE SPECIFICATIONS WILL BE BASED ON MANUFACTURE RECOMMENDATIONS



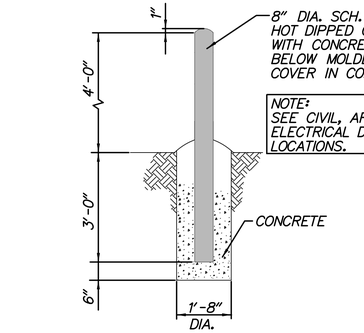
PICKET SIZE	GAUGE
3/4" [19MM]	SOLID
3/4" [19MM]	14 GA
3/4" [19MM]	16 GA
1" [25MM]	14 GA
1" [25MM]	16 GA

NOM HEIGHT (H)
3'-0" [914MM]
3'-8" [1067MM]
4'-0" [1219MM]
5'-0" [1524MM]
6'-0" [1829MM]
7'-0" [2134MM]
8'-0" [2439MM]

DECORATIVE METAL FENCE

B C-401

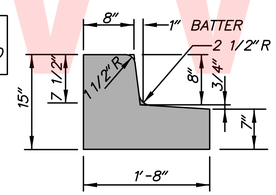
NOT TO SCALE



TYPICAL PIPE BOLLARD DETAIL

C C-401

NOT TO SCALE

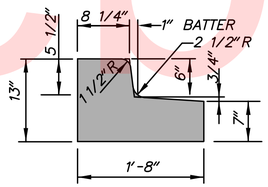


INTERGAL P.C.C. CURB AND GUTTER

D C-401

TYPE 3-8 MODIFIED

NOT TO SCALE

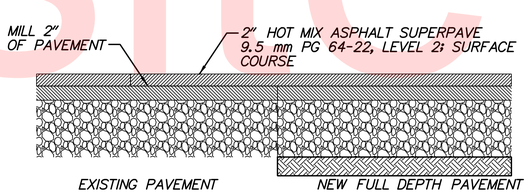


INTERGAL P.C.C. CURB AND GUTTER

E C-401

TYPE 3-6 MODIFIED

NOT TO SCALE



HMA PAVEMENT LAP JOINT

F C-401

NOT TO SCALE

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004C-401.dgn
10/25/2017 11:09:16 AM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

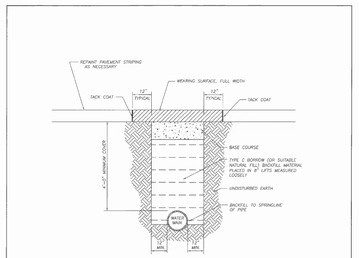
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	DJL
COUNTY	CHECKED BY:	PMG
SUSSEX		

SITE DETAILS

C-401

SHEET NO.	TOTAL SHTS.
14	189



NOTE:
IN UNPAVED AREAS PROVIDE 6" OF TOPSOIL AND MULCH

RESTORATION	BASE COURSE	WEARING SURFACE/OVERLAY
• CONCRETE DRIVEWAY REPAIRING	6" GRADED AGGREGATE	6" CLASS B CONCRETE
• HOT-MIX DRIVEWAY REPAIRING	6" GRADED AGGREGATE	2" INCHES HOT-MIX, MOT-LAID BITUMINOUS CONCRETE, TYPE D
TEMPORARY REPAIRING	6" INCHES GRADED AGGREGATE	2" INCHES HOT-MIX, MOT-LAID BITUMINOUS CONCRETE, TYPE B OR C OR 2" COLD LAID BITUMINOUS CONCRETE
LANDSCAPED/UNPAVED AREAS	COMPACTED SUBGRADE	SEEDING AND MULCHING OR SYOW AS REQUIRED

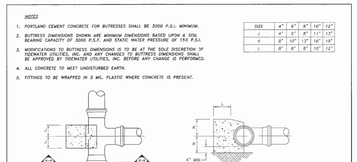
*IF A GREATER CROSS SECTION EXISTS, MATCH EXISTING.

TIDEWATER UTILITIES INC. — A Middlesex Water Company Affiliate — 1500 South Dupont Highway, Suite 1, Dover, Delaware 19901

TYPICAL DESIGN DETAILS
TEMPORARY PAVEMENT, DRIVEWAY AND TRENCH DETAIL
A-9

NO.	DATE	DESCRIPTION	APP'D
1	5.18.2016	INITIAL RELEASE	SAH

DATE: 5.18.2016 DRAWN BY: SAH
SCALE: N.T.S.
9 / 19



NOTES
1. PORTLAND CEMENT CONCRETE FOR BUTTRESSES SHALL BE 3000 P.S.I. MINIMUM.
2. BUTTRESS DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS BASED UPON A 500 BEARING CAPACITY OF 3000 P.S.F. AND STATIC WATER PRESSURE OF 150 P.S.I.
3. MODIFICATIONS TO BUTTRESS DIMENSIONS IS TO BE AT THE SOLE DISCRETION OF TIDEWATER UTILITIES, INC. AND ANY CHANGES TO BUTTRESS DIMENSIONS SHALL BE APPROVED BY TIDEWATER UTILITIES, INC. BEFORE ANY CHANGE IS PERFORMED.
4. ALL CONCRETE TO MEET UNDISTURBED EARTH.
5. FITTINGS TO BE WRAPPED IN 3 MIL. PLASTIC WHERE CONCRETE IS PRESENT.

SIZE	4"	6"	8"	10"	12"
J	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
K	8"	10"	12"	16"	18"
L	8"	8"	8"	10"	12"

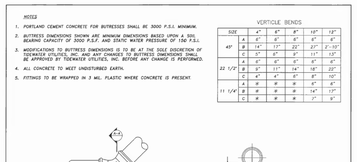
SIZE	4"	6"	8"	10"	12"
90° E	1'-0"	2'-0"	3'-0"	3'-0"	3'-6"
F	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
G	1'-0"	1'-0"	1'-0"	2'-0"	2'-0"
45° E	6"	6"	6"	10"	10"
F	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
G	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
22 1/2° E	6"	6"	6"	6"	6"
F	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
G	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
11 1/4° E	6"	6"	6"	6"	6"
F	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
G	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"

TIDEWATER UTILITIES INC. — A Middlesex Water Company Affiliate — 1500 South Dupont Highway, Suite 1, Dover, Delaware 19901

TYPICAL DESIGN DETAILS
THRUST BLOCK DETAIL
A-12

NO.	DATE	DESCRIPTION	APP'D
1	2.24.09	INITIAL RELEASE	JDM

DATE: 10.04.02 DRAWN BY: AC
SCALE: N.T.S.
10 / 19



NOTES
1. PORTLAND CEMENT CONCRETE FOR BUTTRESSES SHALL BE 3000 P.S.I. MINIMUM.
2. BUTTRESS DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS BASED UPON A 500 BEARING CAPACITY OF 3000 P.S.F. AND STATIC WATER PRESSURE OF 150 P.S.I.
3. MODIFICATIONS TO BUTTRESS DIMENSIONS IS TO BE AT THE SOLE DISCRETION OF TIDEWATER UTILITIES, INC. AND ANY CHANGES TO BUTTRESS DIMENSIONS SHALL BE APPROVED BY TIDEWATER UTILITIES, INC. BEFORE ANY CHANGE IS PERFORMED.
4. ALL CONCRETE TO MEET UNDISTURBED EARTH.
5. FITTINGS TO BE WRAPPED IN 3 MIL. PLASTIC WHERE CONCRETE IS PRESENT.

VERTICLE BENDS

SIZE	4"	6"	8"	10"	12"
45° A	6"	9"	8"	8"	9"
B	14"	17"	22"	27"	1'-10"
C	5"	6"	9"	11"	13"
22 1/2° A	6"	6"	6"	6"	6"
B	8"	11"	14"	18"	22"
C	4"	4"	5"	6"	10"
11 1/4° A	6"	6"	6"	6"	6"
B	6"	6"	6"	14"	17"
C	4"	4"	4"	7"	9"

NOTE:
CARRY CONCRETE TO SOLID GROUND

PLUGS

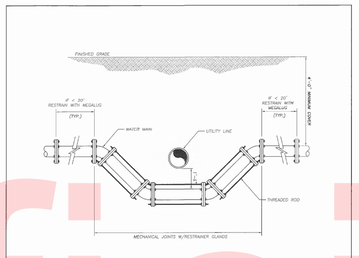
SIZE	4"	6"	8"	10"	12"
W	10"	13"	18"	18"	2'-0"
H	10"	18"	2'-0"	2'-6"	3'-0"
D	5"	7"	9"	11"	13"

TIDEWATER UTILITIES INC. — A Middlesex Water Company Affiliate — 1500 South Dupont Highway, Suite 1, Dover, Delaware 19901

TYPICAL DESIGN DETAILS
THRUST BLOCK DETAIL
A-13

NO.	DATE	DESCRIPTION	APP'D
1	2.24.09	INITIAL RELEASE	JDM

DATE: 10.04.02 DRAWN BY: AC
SCALE: N.T.S.
11 / 19

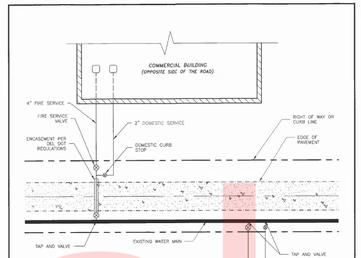


TIDEWATER UTILITIES INC. — A Middlesex Water Company Affiliate — 1500 South Dupont Highway, Suite 1, Dover, Delaware 19901

TYPICAL DESIGN DETAILS
WATER MAIN CROSSING UTILITY DETAIL
A-10

NO.	DATE	DESCRIPTION	APP'D
2	7.28.09	ADDED MIN. FOR MEGALUGS	DJM
1	2.24.09	ADDED THRUST BLOCK	DJM
0	2.24.09	INITIAL RELEASE	DJM

DATE: 10.04.02 DRAWN BY: AC
SCALE: N.T.S.
12 / 19



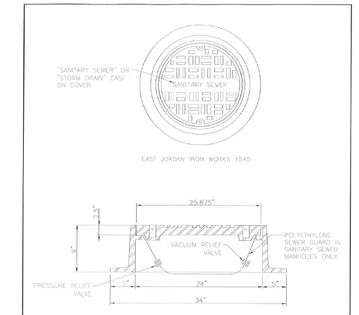
NOTES
1. SIZES OF FIRE AND DOMESTIC SERVICES SHOWN FOR CLARIFICATION PURPOSES ONLY.
2. CUSTOMER IS RESPONSIBLE FOR DETERMINING SIZE OF FIRE AND DOMESTIC SERVICE.

TIDEWATER UTILITIES INC. — A Middlesex Water Company Affiliate — 1500 South Dupont Highway, Suite 1, Dover, Delaware 19901

TYPICAL DESIGN DETAILS
LARGE COMMERCIAL SERVICE FIRE & DOMESTIC
A-19

NO.	DATE	DESCRIPTION	APP'D
0	8.6.12	INITIAL RELEASE	SAH

DATE: 8/14/12 DRAWN BY: SAH
SCALE: N.T.S.
13 / 19



MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE

JOB NO.: 20040002-C	STANDARD DETAILS BOARD OF PUBLIC WORKS CITY OF LEWES, DELAWARE	304
SCALE: NONE		DRAWING NO.
DATE: MAY 2004		

TIDEWATER UTILITIES INC. — A Middlesex Water Company Affiliate — 1500 South Dupont Highway, Suite 1, Dover, Delaware 19901

TYPICAL DESIGN DETAILS
TRACER WIRE & VALVE BOX DETAIL
A-16

NO.	DATE	DESCRIPTION	APP'D
		INITIAL RELEASE	

DATE: 12/5/08 DRAWN BY: SAH
SCALE: N.T.S.
18 / 19

NOTES:
1. C.O. NOT TO BE LOCATED IN DITCH, SWALE, ETC.
2. MAINTAIN 10' MIN. SEPARATION BETWEEN SEWER AND WATER LINES.
3. WHERE SEWER MAIN DEPTH IS TOO SHALLOW TO ACCOMMODATE 4' OF COVER SET LATERAL AT 2% FROM MAIN LINE SEWER TO THE PROPERTY LINE TO ACHIEVE THE MAXIMUM LATERAL DEPTH POSSIBLE AT THE PROPERTY LINE.
4. SIZE OF PVC LATERAL STUB TO MATCH LATERAL SIZE.
5. A MINIMUM OF 5" CLEARANCE SHALL BE PROVIDED BETWEEN CLEANOUT COVER AND CLEANOUT TOP.
6. ALL CLEANOUT DEPTHS LABELED AS CRITICAL DEPTH LATERALS SHALL BE INSTALLED AT THE DEPTH SCHEDULED ON THE PLAN SHEETS.

Revised	Sussex County, Delaware Engineering Department	Lateral Sewer Cleanout	Detail S-2.02
Revised	Approved: Sussex County Engineer		
Revised			

N:\13915-000\CADD\Civil\Sewer_details.dwg
Oct 24, 2013 - 4:04pm

NOTE:
1. LATERALS SHOWN ON THE PLANS AS CRITICAL DEPTH LATERALS WILL BE INSTALLED IN THE SAME FASHION AS THE SHALLOW REGARDLESS OF THE TRENCH DEPTH. FOR MAINS GREATER THAN 9' TO CROWN SEE RISER DETAIL S-2.07.

Revised	Sussex County, Delaware Engineering Department	Standard House Connections	Detail S-2.03
Revised	Approved: Sussex County Engineer		
Revised			

N:\13915-000\CADD\Civil\Sewer_details.dwg
Oct 24, 2013 - 4:44pm

NOTE:
1. HDPE COMPOSITE DONUT BASE SHALL BE SUBSTITUTED FOR CONCRETE RING IN NON-TRAFFIC AREA. HDPE DONUT IS NOT ALLOWED IN TRAFFIC BEARING AREA.
2. METAL CLEANOUT FRAME AND COVER SHALL BE INSTALLED BY UTILITY CONTRACTOR PRIOR TO SUBSTANTIVIAL COMPLETION INSPECTION.

Revised	Sussex County, Delaware Engineering Department	8" Cleanout and Cover	Detail S-2.06
Revised	Approved: Sussex County Engineer		
Revised			

N:\13915-000\CADD\Civil\Sewer_details.dwg
Oct 24, 2013 - 4:47pm

NOTES:
1. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
2. #57 STONE IS REQUIRED FOR BEDDING MATERIAL AND INITIAL BACKFILL REQUIREMENTS TO 12" ABOVE THE TOP CROWN FOR ALL SEWER INSTALLATIONS 15' AND GREATER. FOR INSTALLATIONS LESS THAN 15', SEE SPECIFICATION SECTION 02200.
3. THE MAXIMUM PAYMENT WIDTH FOR CONTINGENT BID ITEMS SHALL BE THREE FEET FOR INSTALLATIONS FIVE FEET DEEP AND LESS AND FIVE FEET FOR INSTALLATIONS GREATER THAN FIVE FEET DEEP.

Revised	Sussex County, Delaware Engineering Department	Gravity Sewer Trench	Detail S-3.01
Revised	Approved: Sussex County Engineer		
Revised			

N:\13915-000\CADD\Civil\Sewer_details.dwg
Oct 24, 2013 - 4:47pm

NOTES:
1. MANHOLE SHALL CONFORM TO ASTM C-478
2. ALL JOINTS TO CONFORM TO ASTM C-443 WITH GASKETS

PRECAST CONCRETE MANHOLE DETAIL
NOT TO SCALE

JOB NO.: 20040002-C	STANDARD DETAILS BOARD OF PUBLIC WORKS CITY OF LEWES, DELAWARE	300
SCALE: NONE		DRAWING NO.
DATE: MAY 2004		

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004C-402.dgn
10/25/2017 10:48:46 AM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

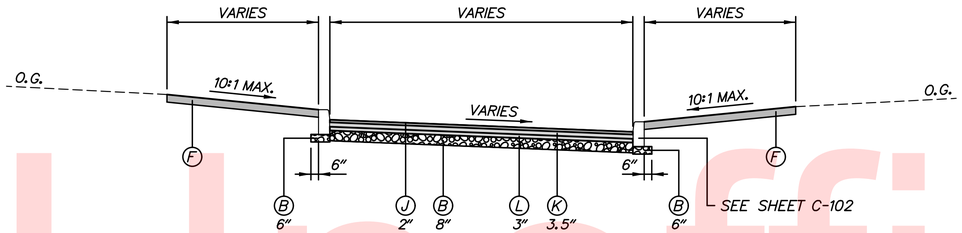
LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	BRIDGE NO.	
T201753109		
COUNTY	DESIGNED BY: DJL	
SUSSEX	CHECKED BY: PMG	

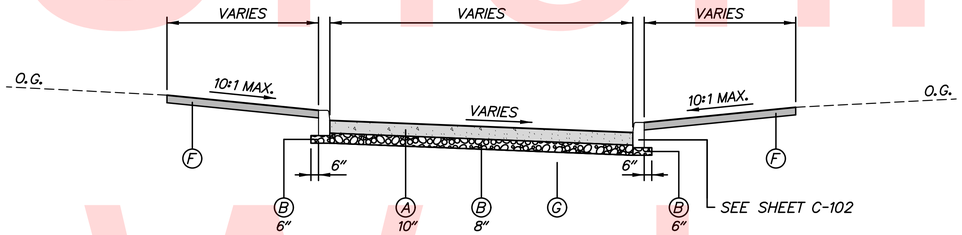
WATER AND SEWER DETAILS

C–402

SHEET NO.	TOTAL SHTS.
15	189



A C-404 **ASPHALT PAVEMENT TYPICAL SECTION**



B C-404 **PORTLAND CEMENT CONCRETE PAVEMENT TYPICAL SECTION**

NOTES:

1. PRIOR TO FORMING CONCRETE PAVEMENT SECTION, CONTRACTOR SHALL SUBMIT A JOINT PLAN FOR APPROVAL BY THE ENGINEER.
2. PORTLAND CEMENT CONCRETE PAVEMENT PER SECTION 501 OF DELDOT STANDARD SPECIFICATIONS
3. EMBEDDED REINFORCEMENT PER SECTION 824 OF DELDOT STANDARD SPECIFICATIONS

LEGEND

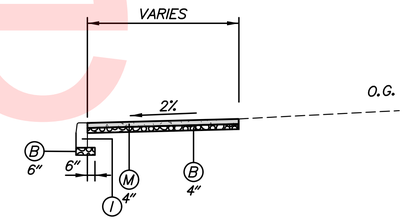
- (A) - PORTLAND CEMENT CONCRETE PAVEMENT, 10" (DELDOT SPECIFICATION SECTION NUMBER 501)
- (B) - GRADED AGGREGATE BASE COURSE, TYPE B (DELDOT SPECIFICATION SECTION NUMBER 301)
- (F) - TOPSOIL, 6" DEPTH
  - PERMANENT GRASS SEEDING, DRY GROUND (DELDOT SPECIFICATION SECTION NUMBERS 732 - 734)
- (G) - BORROW, TYPE A (IF REQUIRED TO FILL VOIDS) (DELDOT SPECIFICATION SECTION NUMBER 209)
- (H) - INTEGRAL PORTLAND CEMENT CONCRETE CURB, TYPE 3-6 (DELDOT SPECIFICATION SECTION NUMBER 701)
- (I) - PORTLAND CEMENT CONCRETE CURB, TYPE 1-6 (DELDOT SPECIFICATION SECTION NUMBER 701)
- (J) - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 76-22 (NON-CARBONATE STONE) (DELDOT SPECIFICATION SECTION NUMBER 401)
- (K) - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 76-22 (DELDOT SPECIFICATION SECTION NUMBER 401)
- (L) - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22 (DELDOT SPECIFICATION SECTION NUMBER 401)
- (M) - P.C.C. SIDEWALK, 4" (DELDOT SPECIFICATION SECTION NUMBER 705)

PR - POINT OF ROTATION
PDGA - PROFILE DITCH GRADE APPLICATION
PGA - PROFILE GRADE APPLICATION

MAXIMUM SINGLE LIFTS FOR THE FOLLOWING:
MATERIALS AFTER COMPACTION ARE:
2" = WARM-MIX, TYPE C
4" = WARM-MIX, TYPE B
6" = WARM-MIX, BCBC
8" = GABC

NOTES:

1. CONTRACTOR SHALL PROOF ROLL ALL SUBGRADE FOR THE ASPHALT PAVEMENT AND PORTLAND CEMENT CONCRETE PAVEMENT SECTIONS. ALL UNSUITABLE MATERIAL FOUND SHALL BE EXCAVATED TO THE DEPTH OF STABLE SOIL AND BACKFILLED WITH APPROVED MATERIAL. THE CONTRACTOR SHALL COMPACT ALL MATERIALS TO MEET THE DELDOT STANDARD SPECIFICATIONS.
2. IF REQUIRED, BORROW, TYPE A SHALL BE PLACED IN SUCCESSIVE LAYERS NOT TO EXCEED 8" IN DEPTH, LOOSE MEASUREMENT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. SEE GRADING PLAN FOR FURTHER DETAILS.



C C-404 **PORTLAND CEMENT CONCRETE SIDEWALK TYPICAL SECTION**

Unofficial Website Copy

SITE STAKEOUT DATA

POINT	NORTHING	EASTING	DESCRIPTION
1	272096.3149	726784.7902	EDGE OF PAV.
2	272395.1491	726874.2614	EDGE OF CONC. PAV
3	272402.2934	726882.3701	EDGE OF CONC. PAV.
4	272441.9274	726841.2768	CURB PCC
5	272448.7632	726827.8377	CURB PC
6	272444.6116	726865.8473	FENCE CORNER
7	272420.3565	726836.0881	FENCE CORNER
8	272435.7752	726853.3721	CURB
9	272435.5863	726853.5357	CURB
10	272475.7585	726459.7373	EDGE OF RAMP
11	272134.5376	727091.0815	FENCE CORNER
12	272302.1272	726918.7358	BEGIN CURB TRANSITION
14	272495.9895	726467.7928	BUILDING CORNER
15	272476.7729	726445.6340	BUILDING CORNER
16	272512.3709	726413.8911	BUILDING CORNER
17	272531.5718	726415.3049	BUILDING CORNER
18	272536.1037	726426.6490	BUILDING CORNER
19	272511.0398	726455.6526	BUILDING CORNER
20	272462.2284	726444.1153	FACE OF CURB
23	272469.7875	726437.5685	FACE OF CURB
24	272173.4518	726934.9225	BUILDING CORNER
28	272147.7271	726957.1841	BUILDING CORNER
1096	272353.1921	726910.5997	CURB PC
1097	272292.7840	726914.7646	END CURB TRANSITION
1098	272279.8905	726903.5571	CORNER OF HC RAMP
1099	272160.1016	726765.2642	CURB PC
1100	272112.0060	726761.8297	CURB PT
1101	272041.4144	726822.8781	CURB PI
1102	272039.6832	726820.8793	CURB PI
1103	272012.4842	726844.4360	END OF CURB
1104	272018.9827	726851.9393	EDGE OF PAV.
1105	272015.0460	726947.7864	EDGE OF PAV.
1106	272126.8177	727076.8223	EDGE OF PAV.
1137	272148.6748	726845.2385	END OF CURB
1140	272181.0767	726809.3666	CURB PC
1141	272153.8250	726807.7080	CURB PT
1142	272147.3554	726813.3017	CURB PC
1144	272275.1995	726926.1571	BUILDING CORNER

POINT	NORTHING	EASTING	DESCRIPTION
1160	272212.3562	726777.7378	BUILDING CORNER
1161	272193.2065	726794.3230	BUILDING CORNER
1162	272279.1050	726854.8074	BUILDING CORNER
1163	272287.2375	726847.2679	BUILDING CORNER
1164	272321.3153	726886.2330	BUILDING CORNER
1166	272293.5907	726910.2287	BUILDING CORNER
1167	272180.9265	726817.3058	BUILDING CORNER
1168	272092.7341	726893.6881	BUILDING CORNER
1170	272196.3615	726901.8335	BUILDING CORNER
1171	272242.1891	726954.7469	BUILDING CORNER
1172	271995.9801	726867.2522	END OF FENCE
1173	271991.8919	726925.5728	PI OF SOUND WALL
1174	272127.1918	727081.8362	END OF SOUND WALL
1175	272185.0879	727126.4339	END OF FENCE
1176	272364.9936	726970.6202	END OF SOUND WALL
1177	271997.2758	726855.2416	FENCE CORNER
1181	272210.4676	726779.3693	END OF FENCE
1182	272184.9534	726813.8156	BEGIN CURB TRANSITION
1183	272177.9003	726806.6525	END CURB TRANSITION
1185	272335.4691	726909.9810	FENCE CORNER
1190	272351.7861	726946.2721	FENCE CORNER
1191	272351.6502	726949.1038	FENCE CORNER
1192	272365.0745	726964.6002	FENCE CORNER
1193	272179.1182	727125.6511	FENCE CORNER
1194	272165.6948	727110.1522	FENCE CORNER
1195	272155.0749	727116.7037	FENCE CORNER
1232	272444.5222	726830.9283	EDGE OF SIDEWALK
1233	272436.3984	726821.2484	EDGE OF SIDEWALK
1234	272145.4261	726841.4938	CURB PT
1235	272342.8352	726902.2821	EDGE OF SIDEWALK
1238	272182.1243	726790.6920	EDGE OF SIDEWALK
1240	272161.3341	726718.8266	FENCE CORNER
1241	272152.7615	726720.6288	FENCE CORNER
1302	272134.3346	726949.3554	CURB PC
1303	272092.4351	726900.9774	CURB PT
1309	272276.3982	726899.5426	CORNER OF HC RAMP
1310	272270.0630	726912.0849	CORNER OF HC RAMP
1311	272266.5174	726908.0534	CORNER OF HC RAMP

Unofficial Website Copy

N:\90181-019\C4DD\Phase II Sheet Files\CP01-90181004C-405.dgn
10/25/2017 10:46:13 AM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: PMG	
CHECKED BY: PMG	

STAKEOUT DATA

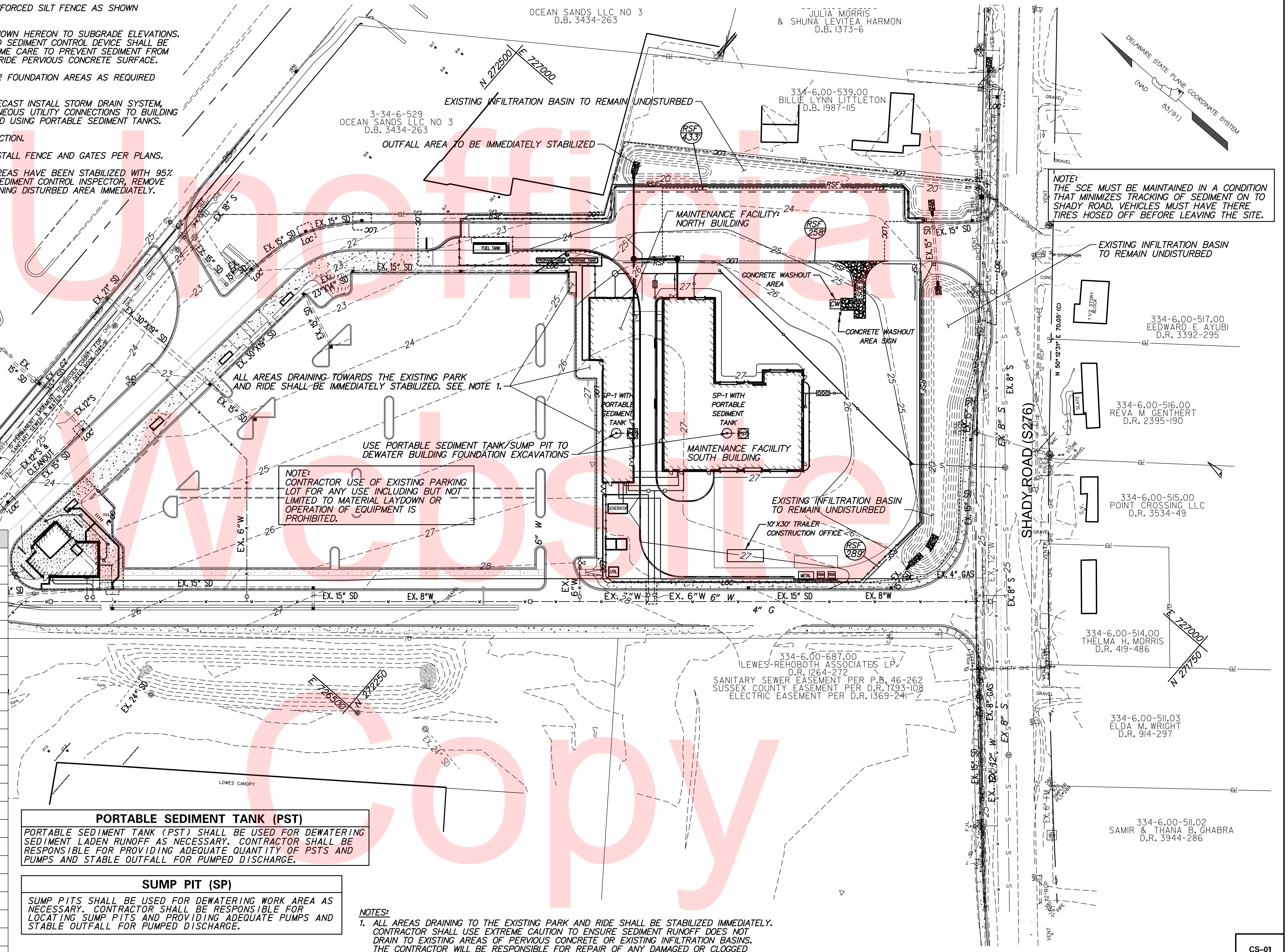
C-405

SHEET NO.	17
TOTAL SHTS.	189

Unofficial Website Copy

SEQUENCE OF CONSTRUCTION

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND REINFORCED SILT FENCE AS SHOWN TO PROTECT EXISTING INFILTRATION BASINS.
2. BEGIN ROUGH GRADING OF THE SITE WITHIN THE LOC SHOWN HEREON TO SUBGRADE ELEVATIONS. ANY AREA NOT DRAINING TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE SHALL BE STABILIZED IMMEDIATELY. CONTRACTOR SHALL USE EXTREME CARE TO PREVENT SEDIMENT FROM DISTURBED AREAS FROM CLOGGING EXISTING PARK AND RIDE PERVIOUS CONCRETE SURFACE.
3. BEGIN EXCAVATION FOR BUILDING FOUNDATIONS. DEWATER FOUNDATION AREAS AS REQUIRED USING SUMP PITS/PORTABLE SEDIMENT TANKS.
4. DURING A NOAA 3 DAY CONTINUOUS DRY WEATHER FORECAST INSTALL STORM DRAIN SYSTEM, WATER AND SEWER CONNECTIONS, AND OTHER MISCELLANEOUS UTILITY CONNECTIONS TO BUILDING FOUNDATIONS. DEWATER EXCAVATION AREAS AS REQUIRED USING PORTABLE SEDIMENT TANKS.
5. COMPLETE ABOVE-GRADE BUILDING AND UTILITY CONSTRUCTION.
6. PERFORM FINAL PAVING AND SIDEWALK INSTALLATION. INSTALL FENCE AND GATES PER PLANS.
7. COMPLETE FINAL STABILIZATION ACTIVITIES. AFTER ALL AREAS HAVE BEEN STABILIZED WITH 95% GROUND COVER, WITH THE APPROVAL OF THE DNREC SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE REMAINING DISTURBED AREA IMMEDIATELY.



EROSION & SEDIMENT CONTROL

Symbol	Description
DWBAG	DEWATERING BAG
DWB	DEWATERING BASIN
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE / LENGTH
SF	SILT FENCE
RSF	SILT FENCE - REINFORCED
SP	SUMP PIT
ST	SEDIMENT TRAP / NUMBER
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
CW	CONCRETE WASHOUT
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
T	TURBIDITY CURTAIN / LENGTH
T	TURBIDITY CURTAIN

PORTABLE SEDIMENT TANK (PST)

PORTABLE SEDIMENT TANK (PST) SHALL BE USED FOR DEWATERING SEDIMENT LADEN RUNOFF AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE QUANTITY OF PSTS AND PUMPS AND STABLE OUTFALL FOR PUMPED DISCHARGE.

SUMP PIT (SP)

SUMP PITS SHALL BE USED FOR DEWATERING WORK AREA AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING SUMP PITS AND PROVIDING ADEQUATE PUMPS AND STABLE OUTFALL FOR PUMPED DISCHARGE.

NOTES:

1. ALL AREAS DRAINING TO THE EXISTING PARK AND RIDE SHALL BE STABILIZED IMMEDIATELY. CONTRACTOR SHALL USE EXTREME CAUTION TO ENSURE SEDIMENT RUNOFF DOES NOT DRAIN TO EXISTING AREAS OF PERVIOUS CONCRETE OR EXISTING INFILTRATION BASINS. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGED OR CLOGGED EXISTING PERVIOUS CONCRETE DUE TO PHASE II CONSTRUCTION ACTIVITIES.

CS-01

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 40 80 120 FEET

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109	BRIDGE NO.	
COUNTY	SUSSEX	DESIGNED BY: CSC	CHECKED BY: JDC

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. 18

TOTAL SHTS. 189

GENERAL STRUCTURAL NOTES

GENERAL:

1. FIELD VERIFY ALL DIMENSIONS, LOCATIONS AND ELEVATIONS SHOWN ON CONTRACT DRAWINGS FOR EXISTING STRUCTURES. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. THE SIZES AND LOCATIONS OF EQUIPMENT PADS AND PEDESTALS, AS WELL AS EQUIPMENT-RELATED FLOOR AND WALL OPENINGS, ARE DEPENDENT ON THE ACTUAL EQUIPMENT FURNISHED. VERIFY AND COORDINATE ALL SUCH ITEMS. DIMENSIONS INDICATED ON THESE DRAWINGS SHALL NOT BE ALTERED WITHOUT APPROVAL OF THE ENGINEER. STRUCTURAL DRAWINGS MAY NOT SHOW ALL EQUIPMENT PADS AND OTHER EQUIPMENT SUPPORTS REQUIRED. REFER TO OTHER DISCIPLINES' DRAWINGS.
3. FOR NOTES PERTAINING DIRECTLY TO INDIVIDUAL STRUCTURES, SEE DRAWINGS FOR THOSE STRUCTURES.
4. COORDINATE ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, WITH DELDOT AND DART.
5. TEMPORARILY BRACE STEEL FRAMING UNTIL ALL PERMANENT BRACING AND ROOF DECKING HAVE BEEN INSTALLED, AND ALL CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE. DESIGN OF BRACING IS RESPONSIBILITY OF STEEL ERECTOR.

FOUNDATION:

1. THE CONTRACTOR SHALL HIRE AN INDEPENDENT PROFESSIONAL GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF DELAWARE TO INSPECT ALL EARTHWORK OPERATIONS AND FOUNDATION CONSTRUCTION. THE GEOTECHNICAL ENGINEER SHALL INSPECT EARTHWORK PROCEDURES AND VERIFY BEARING CAPACITY AT FOUNDATION BEARING ELEVATIONS PER EARTHWORK SPECIFICATIONS AND CONTRACT DRAWINGS
2. FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON ENGINEERED FILL CAPABLE OF SUPPORTING A NET ALLOWABLE DESIGN BEARING PRESSURE OF 2,000 PSF.
3. PERFORM CLEARING, GRUBBING, AND ROUGH GRADING.
4. EXCAVATE TO A DEPTH OF FOUR (4) FEET BELOW FOOTING SUBGRADE. UNDERCUT EXCAVATION WIDTH SHOULD EQUAL FOOTING WIDTH PLUS THE DEPTH OF UNDERCUT BELOW FOOTING SUBGRADE.
5. PROOF ROLL AS SPECIFIED.
6. REFILL TO FOOTING SUBGRADE WITH SUITABLE MATERIAL FROM THE EXCAVATIONS COMPACTED TO AT LEAST 95% OF AASHTO T-180 MAXIMUM DENSITY. BORROW TYPE C SHOULD BE USED IF SUFFICIENT QUANTITIES OF SUITABLE MATERIAL FROM THE EXCAVATIONS ARE NOT AVAILABLE.
7. THE CONTRACTOR MAY USE RAPID IMPACT COMPACTION AS AN ALTERNATE TO THE UNDERCUTTING OPERATION. IF THIS METHOD OF FOUNDATION PREPARATION IS CHOSEN, A PLAN FOR PERFORMING THIS WORK, ALONG WITH EVIDENCE OF COMPLETING AT LEAST FIVE PROJECTS SIMILAR IN SCOPE, SHALL BE SUBMITTED TO THE ENGINEER TWO (2) WEEKS PRIOR TO PERFORMING THE WORK.
8. KEEP ALL EXCAVATIONS DRY. STANDING WATER WILL NOT BE ALLOWED IN EXCAVATIONS. PLACE A LAYER OF 15 MIL VAPOR BARRIER AND A 6" LAYER OF OPEN GRADED COARSE AGGREGATE UNDER ALL SLABS ON GRADE. ALL EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER BEFORE PLACING ANY CONCRETE OR COARSE AGGREGATE.
9. MINIMUM DEPTH BELOW GRADE FOR FOUNDATIONS FOR FROST PROTECTION IS 24".
10. FOR WORK TO BE INCORPORATED IN FOUNDATION WORK, SEE DRAWINGS FROM OTHER DISCIPLINES.
11. FILL ALL EXCESS EXCAVATION BELOW THE ELEVATION OF THE CONCRETE AS SPECIFIED.

CONCRETE:

1. PROVIDE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
2. DETAIL AND CONSTRUCT REINFORCED CONCRETE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE."
3. DETAIL REINFORCING STEEL IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE SP-66, "ACI DETAILING MANUAL," WHICH INCLUDES ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
4. PROVIDE REINFORCEMENT CONFORMING TO ASTM A 615, GRADE 60, DEFORMED BARS.
5. PROVIDE WELDED WIRE FABRIC CONFORMING TO ASTM A 1064.
6. UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE CONCRETE COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS:
   A. BOTTOM BARS IN FOOTINGS AND IN SLABS ON EARTH OR COARSE AGGREGATE: 3".
   B. SLABS, PIERS, AND WALLS EXPOSED TO GROUND, WEATHER OR TRAFFIC AFTER REMOVAL OF FORMS: 2".
   C. COLUMNS, WALLS AND PILASTERS NOT EXPOSED TO WEATHER: 1-1/2".
   D. STRUCTURAL SLABS NOT EXPOSED TO GROUND, WEATHER OR VEHICLE TRAFFIC: 1-1/2".
7. SUBMIT REINFORCING STEEL DETAILS (SHOP DRAWINGS) AND RECEIVE APPROVAL BEFORE PROCEEDING WITH FABRICATION.
8. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE NOTED.
9. DETAIL ALL SPLICES FOR REINFORCING BARS NOT DIMENSIONED ON THE DRAWINGS AS TABULATED ON SHEET S-002.
10. PROVIDE JOINTS AS DETAILED ON THE DRAWINGS. NO ADDITIONAL JOINTS SHALL BE USED NOR ANY OMITTED EXCEPT BY WRITTEN AUTHORIZATION FROM THE ENGINEER. APPROVED ADDITIONAL JOINTS SHALL NOT RESULT IN ADDITIONAL EXPENSE TO THE OWNER.
11. WHERE A SLAB IS SLOPED (TOP AND/OR BOTTOM), PROVIDE SLOPED REINFORCING PARALLEL TO THE CONCRETE SURFACE.

CONCRETE (CONTINUED):

12. SIZE AND LOCATE ANCHOR BOLTS AND EQUIPMENT PADS OR PEDESTALS TO SUIT EQUIPMENT FURNISHED.
13. REVIEW ALL DRAWINGS FROM OTHER DISCIPLINES AND COORDINATE ALL OPENINGS AND EMBEDDED ITEMS SUCH AS SLEEVES, ANCHORS, CONDUIT, ETC. THAT WILL BE INCORPORATED INTO CONCRETE WORK.
14. PROVIDE BONDING COMPOUND AT ALL LOCATIONS IN WHICH FRESH CONCRETE COMES IN CONTACT WITH CURED CONCRETE.

CONCRETE MASONRY:

1. CONSTRUCT MASONRY IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE ACI-530/ ASCE 5/ TMS 402, 2011 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES."
2. PROVIDE HOLLOW LIGHTWEIGHT LOAD-BEARING CONCRETE MASONRY UNITS MEETING THE REQUIREMENTS OF ASTM C 90, WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1,900 PSI.
3. PROVIDE MORTAR CONFORMING TO THE REQUIREMENTS OF ASTM C-270, TYPE M OR S. CEMENT USED FOR MORTAR SHALL BE PORTLAND CEMENT.
4. PROVIDE GROUT CONFORMING TO THE REQUIREMENTS OF ASTM C 476 COARSE GROUT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
5. PROVIDE CONCRETE MASONRY VENEER WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH (F'm) OF 2,150 PSI.
6. PROVIDE REINFORCING BARS CONFORMING TO ASTM A 615, GRADE 60.
7. IN ADDITION TO THE MASONRY WALL REINFORCEMENT SHOWN ON THE DRAWINGS, FURNISH THE FOLLOWING:

   #5 VERTICAL REINFORCEMENT SHALL BE PROVIDED AT CORNERS, WITHIN 16 INCHES OF EACH SIDE OF OPENINGS, WITHIN 8 INCHES OF EACH SIDE OF MOVEMENT JOINTS AND WITHIN 8 INCHES OF THE ENDS OF THE WALLS.
8. LAP SPLICE FOR #5 BAR IN CMU SHALL BE 30" MINIMUM. LEGS FOR #5 BAR STANDARD HOOK SHALL BE 9" MINIMUM.
9. PROVIDE DOWELS AT BOTTOM OF CMU MATCHING SIZE AND SPACING AT WALL REINFORCING. LAP DOWEL BARS WITH BARS, AND PROVIDE DOWEL STANDARD HOOK INTO SUPPORTING CONCRETE BELOW.

POST-INSTALLED ANCHORS:

EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHORAGE TYPES:

1. ANCHORAGE TO SOLID GROUTED MASONRY AND CONCRETE, ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED USE:
   A. HILTI HIT HY-200 ADHESIVE ANCHORING SYSTEM, PER ICC ESR-3187.
2. ANCHORAGE TO HOLLOW / MULTI-WHYTHE MASONRY, ADHESIVE ANCHORS FOR USE:
   A. HILTI HIT HY-70 MASONRY ADHESIVE ANCHORING SYSTEM, PER ICC ESR 3342.
3. INSTALL ANCHORS PER THE MANUFACTURER'S INSTRUCTIONS.
4. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD, PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
5. ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING OF ANCHORS.
6. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES WHERE INDICATED ON THE DRAWINGS AND MANUFACTURER'S REQUIREMENTS.

STRUCTURAL STEEL:

1. FABRICATE AND ERECT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), "STEEL CONSTRUCTION MANUAL", 14TH EDITION, AISC 360-10.
2. SUBMIT ERECTION PLANS AND SHOP DETAILS AND RECEIVE APPROVAL BEFORE PROCEEDING WITH FABRICATION.
3. PROVIDE STRUCTURAL STEEL WIDE-FLANGE SHAPES CONFORMING TO ASTM A992 (Fy=50 KSI), HSS MEMBERS CONFORMING TO ASTM A500, GRADE B (RECTANGULAR/SQUARE HSS, Fy=46 KSI; ROUND HSS, Fy=42 KSI) AND ALL OTHER MEMBERS CONFORMING TO ASTM A36 (Fy=36KSI).
4. PROVIDE HEAVY HEX HEAD ANCHORS CONFORMING TO ASTM F1554, GRADE 55 FOR COLUMN BASE PLATE ANCHORAGE. HEAVY HEX AND NUTS CONFORMING TO ASTM A563, GRADE DH (HEAVY HEX). PROVIDE DOUBLE NUTS SPUN TIGHT AGAINST WASHER AT EMBEDDED END. REFER TO SECTIONS AND DETAILS ON THE SHEETS FOR SIZE AND EMBEDMENT DEPTHS.
5. ALL BOLTED SHEAR CONNECTIONS ARE HIGH-STRENGTH BOLTS, 3/4" DIAMETER MINIMUM, CONFORMING TO ASTM F3125, GRADE A325, UNLESS OTHERWISE NOTED.
6. PROVIDE ALL SPLICED CONNECTIONS WITH COMPRESSIBLE-WASHER-TYPE DIRECT-TENSION INDICATORS CONFORMING TO ASTM F959.

STRUCTURAL STEEL (CONTINUED):

7. WELD IN COMPLIANCE WITH AMERICAN WELDING SOCIETY AWS D1.1, "STRUCTURAL WELDING CODE." WELD ALL SHOP CONNECTIONS WITH CLASS E-70 SERIES ELECTRODES. PROVIDE FIELD CONNECTIONS WITH HIGH STRENGTH BOLTED CONNECTIONS EXCEPT WHERE NOTED.
8. REFER TO SHEET S-106 FOR STEEL CONNECTION DELEGATED DESIGN NOTES.
9. MILL BOTTOM OF ALL COLUMNS AND FINISH TOP OF ALL BASE PLATES IN ACCORDANCE WITH AISC SPECIFICATIONS. WELD BASE PLATES TO BOTTOM OF COLUMNS.
10. DO NOT SHOP-PRIME STEEL SURFACES TO BE EMBEDDED IN CONCRETE, OR AT DESIGNATED FIELD-WELD LOCATIONS.

STEEL DECK:

1. FABRICATE AND ERECT ALL STEEL DECK CONFORMING TO THE REQUIREMENTS OF "STEEL DECK INSTITUTE" (SDI) DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS - NO. 31.
2. STEEL DECK SHALL MEET OR EXCEED THE PROPERTIES GIVEN ON THE "MINIMUM REQUIRED STEEL DECK PROPERTIES" TABLE ON SHEET S-002.
3. STEEL DECK SHALL BE FABRICATED OF G-90, GALVANIZED SHEETS CONFORMING TO ASTM A653-11, STRUCTURAL QUALITY, FEDERAL SPECIFICATION QQS-775.
4. SUBMIT ERECTION PLANS AND SHOP DETAILS AND RECEIVE APPROVAL BEFORE PROCEEDING WITH FABRICATION AND ERECTION. FAILURE TO COMPLY MAY RESULT IN CORRECTIVE WORK AT THE CONTRACTOR'S EXPENSE.
5. STAGGERING OF STEEL DECK END LAPS SHALL NOT BE PERMITTED.
6. DECK ENDS MAY BE EITHER BUTTED OR LAPPED OVER SUPPORTS.
7. STEEL DECK UNITS SHALL BE ANCHORED TO SUPPORTING MEMBERS BY MECHANICAL FASTENERS AS SHOWN ON THE DRAWINGS.
8. ALL FIELD WELDING OF DECK SHALL BE IN STRICT ACCORDANCE WITH AWS D1.3 STRUCTURAL WELDING CODE - SHEET METAL.
9. STEEL DECK UNITS SHALL BE ANCHORED BY SUPPORTING MEMBERS INCLUDING PERIMETER SUPPORT STEEL AND/OR BEARING WALLS BY EITHER WELDING OR MECHANICAL FASTENERS, TO PROVIDE LATERAL STABILITY TO THE TOP FLANGE OF STEEL MEMBERS AND TO RESIST THE FOLLOWING MINIMUM LRFD FACTORED NET UPLIFTS:
   A. EACH DECK PANEL SHALL BE A MINIMUM OF 2 SPANS SUPPORTED BY AT LEAST 3 MEMBERS: 45 PSF

COLD-FORMED STEEL:

1. FABRICATE AND ERECT COLD FORMED STEEL FRAMING CONFORMING TO THE REQUIREMENTS OF THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.
2. COLD FORMED STEEL MEMBERS SHALL MEET OR EXCEED THE MINIMUM REQUIRED SECTION PROPERTIES AND GEOMETRIES AS PROPOSED BY THE STEEL STUD MANUFACTURERS ASSOCIATION FOR INDUSTRY STANDARDIZATION (SSMA).
3. ALL COLD FORMED STEEL MEMBERS ON THESE DRAWINGS ARE IDENTIFIED IN SSMA PRODUCT DESIGNATIONS.
4. COLD FORMED MATERIALS SHALL BE FORMED OF STEEL CONFORMING TO ASTM A446 "STEEL SHEET, ZINC COATED (GALVANIZED) BY THE HOT-DIP PROCESS, STRUCTURAL QUALITY." MANUFACTURE IS TO BE IN COMPLIANCE WITH ASTM C955 "LOAD BEARING STEEL STUDS" AND ASTM C1007 "INSTALLATION OF LOAD BEARING STEEL STUDS AND RELATED ACCESSORIES."
5. ALL COLD-FORMED MEMBERS 16 GAUGE (54 MIL) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI, UNLESS SPECIFICALLY NOTED OTHERWISE.
6. ALL 18 GAUGE AND LIGHTER MEMBERS, INCLUDING TRACK, BRIDGING AND ACCESSORY ITEMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI, UNLESS NOTED OTHERWISE.
7. ALL SUPPORT CLIPS, SLIDE CLIP AND CLIP ANGLES SHALL BE 50 KSI, UNLESS OTHERWISE NOTED.
8. WEB STIFFENERS AT REACTION POINTS AND AT POINTS OF CONCENTRATED LOADS SHALL BE 16 GAUGE MINIMUM.
9. WHENEVER POSSIBLE, WEBS OF ALL HORIZONTAL AND VERTICAL MEMBERS SHALL BE ALIGNED.
10. ALL FRAMING COMPONENTS WILL BE SQUARELY CUT FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED ON ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS WILL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
11. ALL FIELD CUTTING OF MEMBERS MUST BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF COLD FORMED MEMBERS IS UNACCEPTABLE AND NOT PERMITTED.
12. WHEN REQUIRED FOR BRIDGING PURPOSES, THE CONTRACTOR IS TO ENSURE PUNCH OUT ALIGNMENT WHEN ASSEMBLING FRAMING AND FIELD CUTTING MEMBERS TO LENGTH.
13. NO SPLICES IN ALL LOAD-CARRYING COLD FORMED MEMBERS MAY BE MADE WITHOUT PRIOR ENGINEERING REVIEW AND SPECIFIC DETAILS FOR ANY SUCH SPLICE(S).
14. NO NOTCHING OR COPING OF COLD FORMED MEMBERS IS ALLOWED, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.

ALUMINUM NOTES:

1. FABRICATE ALL STRUCTURAL ALUMINUM IN ACCORDANCE WITH THE SPECIFICATIONS OF THE ALUMINUM ASSOCIATION.
2. PROVIDE ALLOY 6061-T6 STRUCTURAL ALUMINUM.
3. COAT ALL ALUMINUM IN CONTACT WITH CONCRETE AND OTHER DISSIMILAR METALS WITH BITUMINOUS PAINT ON THE CONTACT SURFACE.
4. USE TYPE 316L STAINLESS STEEL CONNECTION BOLTS FOR CONNECTING ALUMINUM MEMBERS.
5. PROVIDE ALUMINUM GRATING BEARING BARS OF DEPTH AND THICKNESS INDICATED ON PLANS. ALL EXTERIOR GRATING SHALL BE SERRATED.
6. BAND OUTSIDE EDGES OF ALL GRATING AND THE OPENINGS IN THE GRATING USING ALUMINUM BARS OF THE SAME DEPTH AS THE BEARING BARS.

CODES AND STANDARDS:

1. INTERNATIONAL CODE COUNCIL (ICC) INTERNATIONAL BUILDING CODE (IBC) 2012, INCLUDING THE MODIFICATIONS MADE BY LOCAL JURISDICTION.
2. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE), ASCE 7-10 (2010), MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.
3. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), AISC 360-10 (2010), "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS."
4. AMERICAN CONCRETE INSTITUTE (ACI), ACI-318-11 (2011), BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
5. AMERICAN CONCRETE INSTITUTE (ACI), ACI 530-11 (2011), "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES."
6. STEEL DECK INSTITUTE (SDI), "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS - NO. 31 (2007)."
7. AMERICAN IRON AND STEEL INSTITUTE (AISI), AISI S100-12, "NORTH AMERICAN SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS," 2012 EDITION.

DESIGN LOADS:

ALL LOADS INDICATED BELOW ARE UNFACTORED LOADS.

1. DEAD LOADS:
   A. STRUCTURES: ACTUAL WEIGHT
   B. WEIGHT OF SOIL 100 PCF FOR RESISTING UPLIFT
   C. WEIGHT OF SOIL 120 PCF FOR DEAD LOAD
   D. HANGING (MEP) 15 PSF
2. LIVE LOADS:
   A. MAINTENANCE BAYS, SHOP AND STORAGE AREAS, AND SHOP OFFICES: 250 PSF OR AASHTO HS-20 TRUCK LOADING.
   B. ALL OTHER FIRST FLOOR AREAS: 150 PSF
   C. MEZZANINE: 250 PSF
   D. STAIRS AND LANDINGS: 100 PSF
3. ROOF LIVE LOADS:
   A. CANOPY AND UPPER LEVEL: 25 PSF + 5 PSF FOR PV PANELS (MAINTENANCE BUILDING)
   B. ALL OTHER AREAS: 25 PSF
4. ROOF SNOW LOAD:
   A. GROUND SNOW LOAD (Pg): 20 PSF
   B. REQUIRED FLAT-ROOF SNOW LOAD (Pf): 20 PSF
   C. SNOW EXPOSURE FACTOR (Ce): 0.9
   D. SNOW LOAD IMPORTANCE FACTOR (I): 1.0
   E. THERMAL FACTOR (Ct): 1.0
   F. ADDITIONAL SNOW LOAD DUE TO SNOW DRIFT AND SLIDING SNOW PER ASCE 7-10 HAS BEEN CONSIDERED WHERE APPLICABLE.
5. WIND LOAD:
   A. BASIC WIND SPEED, V: 121 MPH
   B. RISK CATEGORY: II
   C. WIND EXPOSURE: B
   D. INTERNAL PRESSURE COEFFICIENT: +/- 0.18
   E. COMPONENTS AND CLADDING: PER ASCE 7-10
6. SEISMIC LOAD:
   A. RISK CATEGORY : II
   B. SEISMIC IMPORTANCE FACTOR Ie: 1.0
   C. MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss= 0.100 g, AND S1= 0.045 g.
   D. SITE CLASS: D
   E. SPECTRAL RESPONSE COEFFICIENT: SDS = 0.108g; SD1 = 0.072g.
   F. SEISMIC DESIGN CATEGORY: B
   G. BASIC SEISMIC-FORCE-RESISTING SYSTEM(S): STEEL SYSTEM NOT SPECIFICALLY DESIGNED FOR SEISMIC RESISTANCE EXCLUDING CANTILEVER COLUMNS
   H. BASIC SEISMIC-FORCE-RESISTING SYSTEM: ORDINARY REINFORCED MASONRY SHEAR WALLS - LOAD BEARING
   I. SEISMIC RESPONSE COEFFICIENT(S) (Cs): 0.041 (MAINTENANCE FACILITY), 0.0534 (VISITOR CENTER)
   J. RESPONSE MODIFICATION FACTOR(S) (R): 3 (MAINTENANCE CENTER), 2 (VISITOR CENTER)

Unofficial Web Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180045-001.dgn
10/27/2017 3:00:38 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	GENERAL STRUCTURAL NOTES, LOADS, AND CODES	S-001 SHEET NO.
			COUNTY SUSSEX	DESIGNED BY: GAP		19 TOTAL SHTS.
				CHECKED BY: RBG		189

LAP SPLICE LENGTH					MINIMUM TENSION EMBEDMENTS			
BAR SIZE	SLAB AND WALL		BEAM		STD 90° HOOK		STD 180° HOOK	
ENGLISH	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	ldh	12db	ldh	4db
#3	12"	13"	12"	13"	6"	5"	6"	3"
#4	14"	18"	17"	22"	6"	6"	6"	3"
#5	17"	22"	25"	32"	8"	8"	8"	3"
#6	20"	26"	34"	44"	9"	9"	9"	3"
#7	33"	43"	49"	63"	11"	11"	11"	4"
#8	42"	54"	56"	72"	12"	12"	12"	4"
#9	52"	67"	63"	81"	14"	14"	14"	5"
#10	63"	82"	71"	92"	16"	16"	16"	6"
#11	75"	97"	78"	102"	17"	17"	17"	6"

LAP SPLICE ASSUMPTIONS:

CONCRETE: 5000 PSI COMPRESSIVE STRENGTH (NORMALWEIGHT CONCRETE)

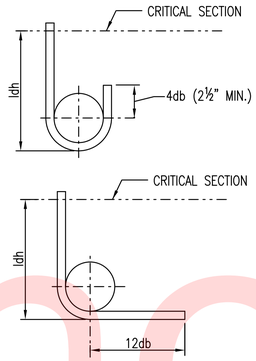
SLAB AND WALL: 6" MINIMUM REBAR SPACING WITH CONCRETE COVER = 1.5" CLEAR

BEAM: MINIMUM CLEAR SPACING BETWEEN BARS = 1.5 db (1.5" MIN). MINIMUM CONCRETE COVER = 1.5" CLEAR. MINIMUM STIRRUP #4@12 PROVIDED.

TOP BAR: TOP BAR FOR SLAB AND BEAM SHALL BE DEFINED AS REINFORCEMENT SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST BELOW THE SPLICE.

TENSION LAP SPLICE AND STANDARD HOOK LENGTH (ACI 318-11)

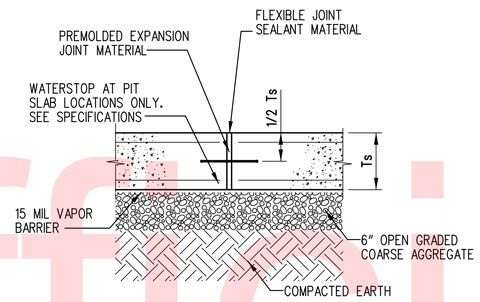
(NON-EPOXY COATED)



STANDARD HOOK ASSUMPTIONS:

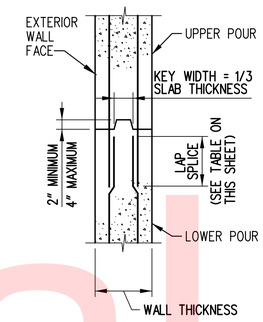
SIDE COVER SHALL NOT BE LESS THAN 2.5"
END COVER ON 90° HOOK SHALL NOT BE LESS THAN 2"

STANDARD 180° AND 90° END HOOKS

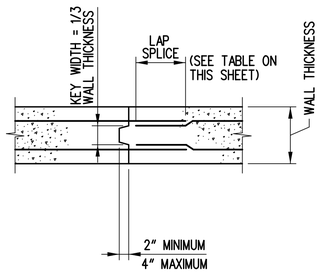


TYPICAL SLAB ISOLATION/EXPANSION JOINT

NO SCALE



HORIZONTAL JOINT

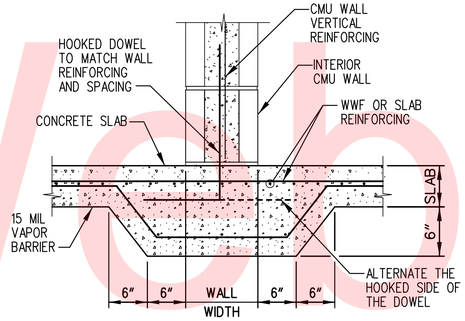


VERTICAL JOINT

CONSTRUCTION JOINTS IN WALLS

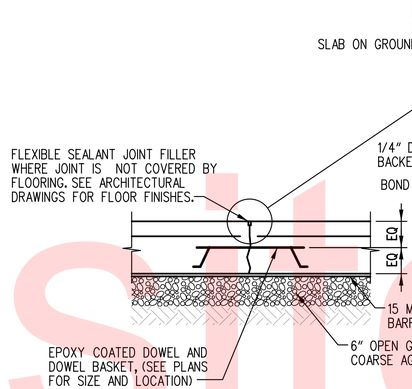
NO SCALE

MINIMUM REQUIRED STEEL DECK PROPERTIES						
DEPTH (IN)	DESIGN THICKNESS (IN)	I(Pos) (IN^4/FT)	I(Neg) (IN^4/FT)	S (Pos) (IN^3/FT)	S (Neg) (IN^3/FT)	Fy (ksi)
3" TYPE N, 20 GA.	0.0358	0.936	1.088	0.507	0.557	33
3" TYPE N, 18 GA.	0.0474	1.342	1.440	0.696	0.757	33
1 1/2" TYPE B, 20 GA.	0.0358	0.205	0.213	0.227	0.238	33
3 1/2" EPICORE, 18 GA.	0.0474	2.49	2.49	1.01	1.10	40



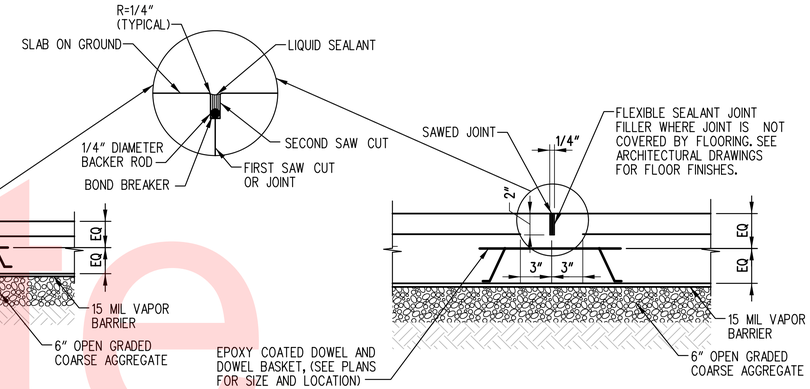
THICKENED SLAB AT PARTITION WALL

NO SCALE



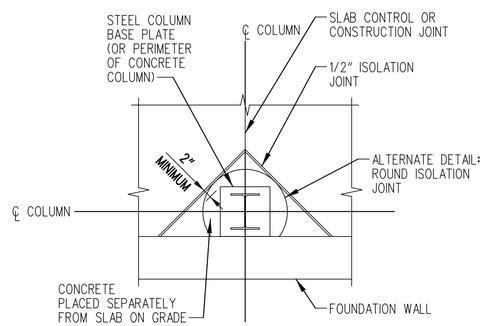
TYPICAL CONSTRUCTION JOINT IN SLAB-ON-GRADE

NO SCALE



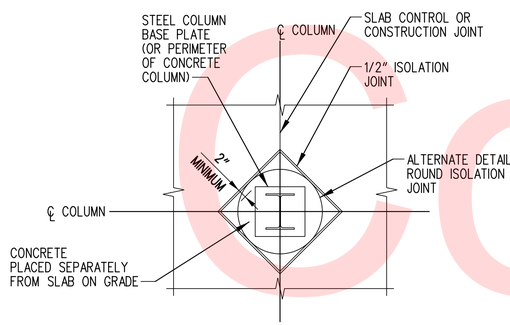
TYPICAL CONTRACTION JOINT IN SLAB-ON-GRADE

NO SCALE



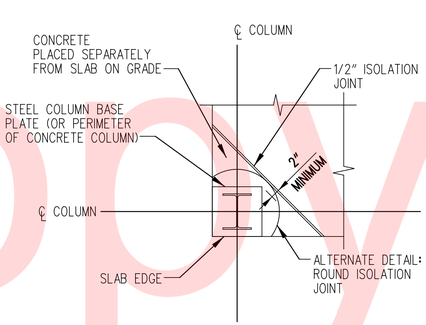
TYPICAL EXTERIOR COLUMN ISOLATION JOINT

NO SCALE



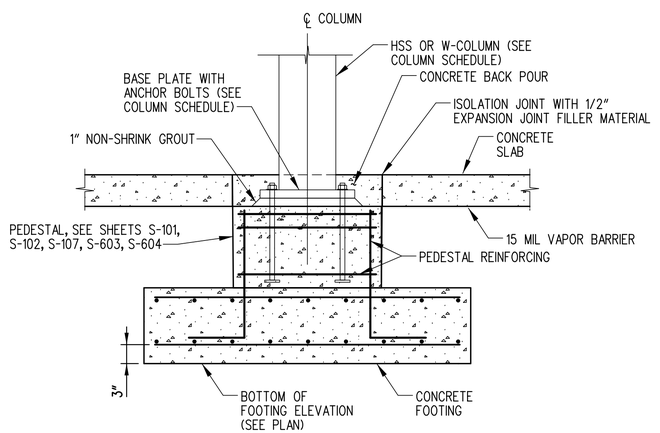
TYPICAL INTERIOR COLUMN ISOLATION JOINT

NO SCALE



TYPICAL CORNER COLUMN ISOLATION JOINT

NO SCALE



TYPICAL COLUMN BASE

NO SCALE

Unofficial Website Copy

N:\90181-01\CADD\Phase II\Sheet Files\CP01-90181004S-002.dgn
10/27/2017 3:00:39 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

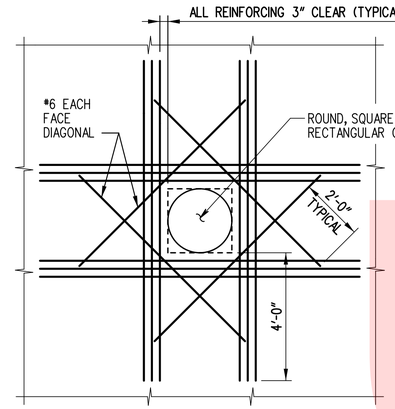
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: GAP
CHECKED BY: RBG

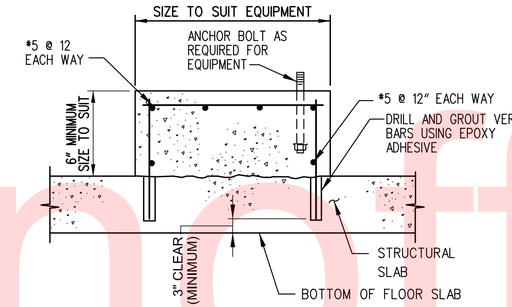
STRUCTURAL TYPICAL DETAILS

S-002
SHEET NO. 20
TOTAL SHTS. 189

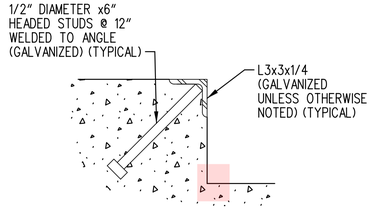


NOTES:
1. PROVIDE ADDITIONAL REINFORCING, (MINIMUM OF ONE-HALF THE NUMBER OF PRINCIPLE REINFORCING BARS INTERRUPTED BY THE OPENING) ON EACH SIDE AND EACH FACE OF THE OPENING.
2. FOR OPENINGS LESS THAN 12" DIAMETER, NO ADDITIONAL REINFORCING IS REQUIRED PROVIDED NO REINFORCING IS INTERRUPTED BY THE OPENING.

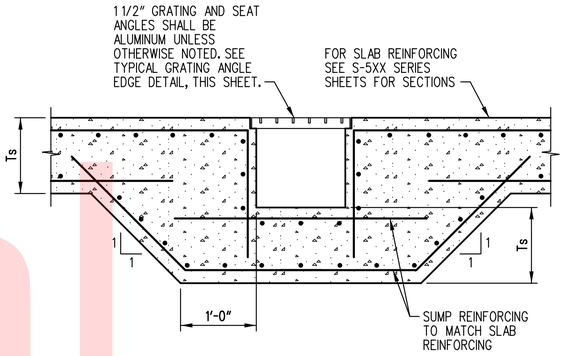
ADDITIONAL REINFORCING AROUND OPENINGS
NO SCALE



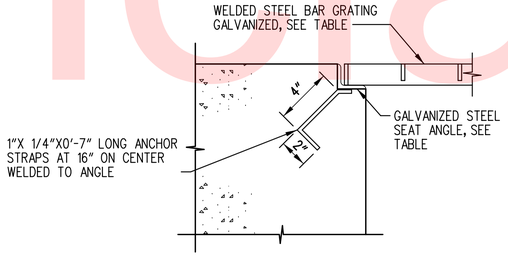
TYPICAL INTERIOR EQUIPMENT SUPPORT
NO SCALE



TYPICAL EDGE ANGLE DETAIL
SCALE: NONE



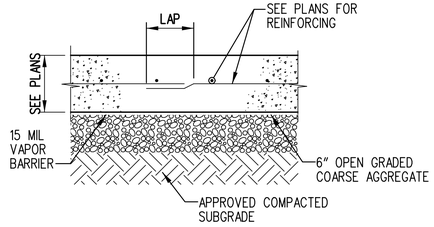
FLOOR SUMP DETAIL
NO SCALE



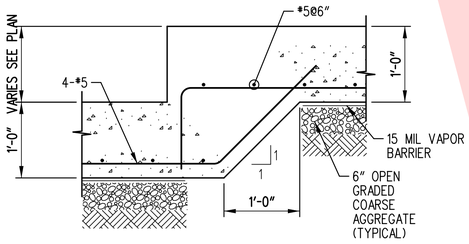
NOTE:
1. PROVIDE SUPPORT OF GRATING ON ALL 4 SIDES.

TRENCH DRAIN AND SUMP GRATING TABLE		
CLEAR SPAN	GRATING REQUIRED	SEAT ANGLE
1'-0"	W-19-4 (1 1/4x3/8)	L1 1/2x1 1/2x1/4
3'-0"	W-19-4 (2 1/2x3/8)	L3x3x1/2
4'-0"	W-19-4 (3x3/8)	L3 1/2x3 1/2x1/2

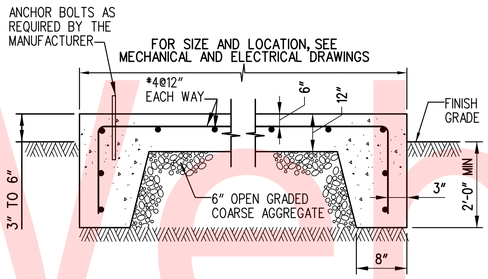
TYPICAL GRATING ANGLE EDGE
NO SCALE



TYPICAL SLAB ON GRADE
NO SCALE



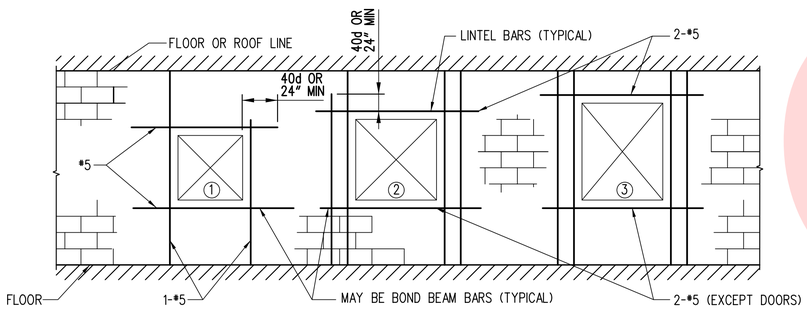
TYPICAL STEP FOOTING DETAIL
SCALE: NONE



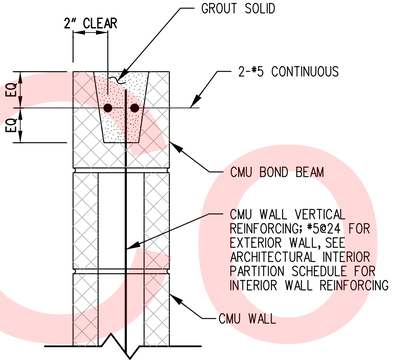
TYPICAL EXTERIOR EQUIPMENT PAD DETAIL
NO SCALE

NOTES
1. GROUT CELLS OF CMU LINTEL SOLID FOR 1' (MINIMUM) BEYOND OPENING
2. FOR (1) OPENINGS, CMU LINTEL IS 8" DEEP (UNLESS OTHERWISE NOTED)
   FOR (2) OPENINGS, CMU LINTEL IS 16" DEEP(UNLESS OTHERWISE NOTED)
   FOR (3) OPENINGS, CMU LINTEL IS 24" DEEP, (UNLESS OTHERWISE NOTED)
3. BOND BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.

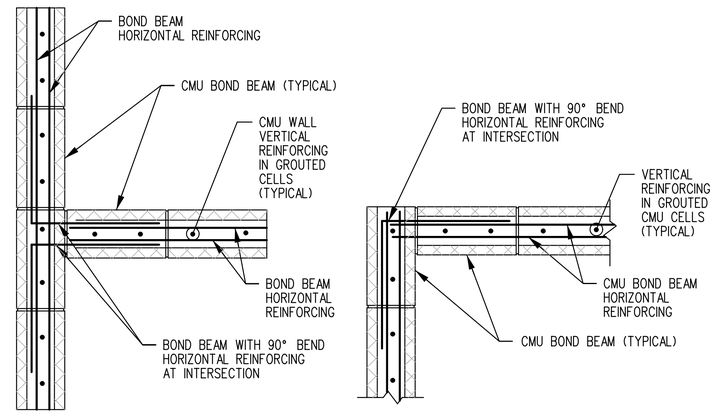
LEGEND:
(1) OPENING 2'-0" OR LESS
(2) OPENING GREATER THAN 2'-0" BUT LESS THAN 4'-0"
(3) OPENING EQUALS 4'-0"



TYPICAL CMU WALL REINFORCING AT OPENINGS
NO SCALE



TYPICAL CMU BOND BEAM DETAIL
NO SCALE



AT WALL INTERSECTIONS AT CORNERS

TYPICAL CMU BOND BEAM REINFORCING DETAIL
NO SCALE

Unofficial Website Copy

N:\90181-01\D\CADD\Phase II Sheet Files\CP01-90181004S-003.dgn
10/27/2017 3:00:40 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

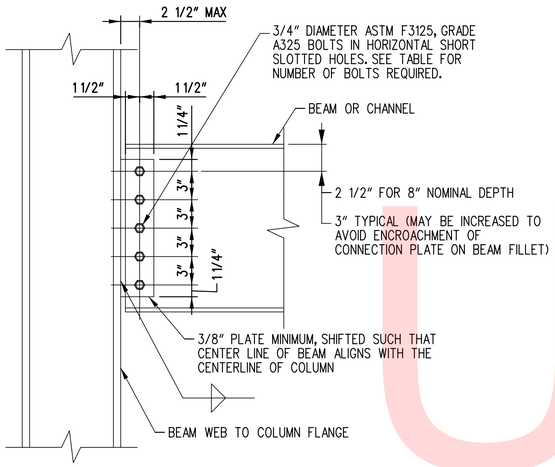
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	GAP
COUNTY	CHECKED BY:	RBG
SUSSEX		

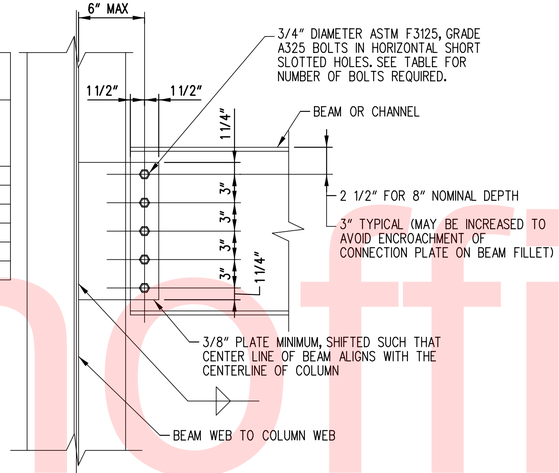
STRUCTURAL TYPICAL DETAILS

S-003	
SHEET NO.	21
TOTAL SHTS.	189



BEAM TO COLUMN FLANGE

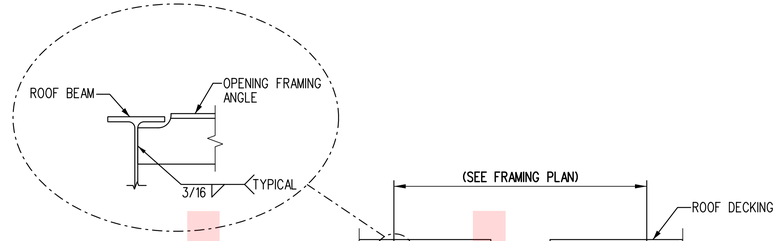
TYPICAL BEAM CONNECTION BOLT TABLE	
NOMINAL BEAM DEPTH	NUMBER OF BOLTS
8-10	2
12-14	3
16	4
18-20	5
21	6
24-27	8



BEAM TO COLUMN WEB

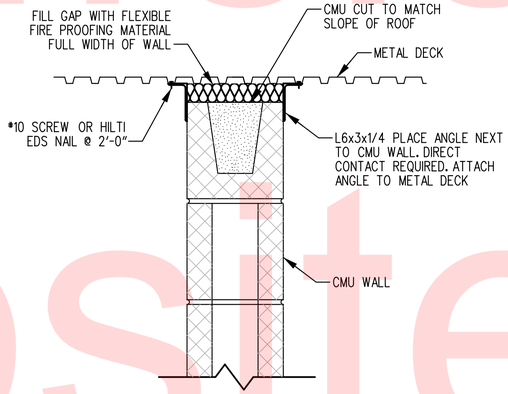
TYPICAL BEAM TO COLUMN SHEAR CONNECTION DETAIL

NO SCALE



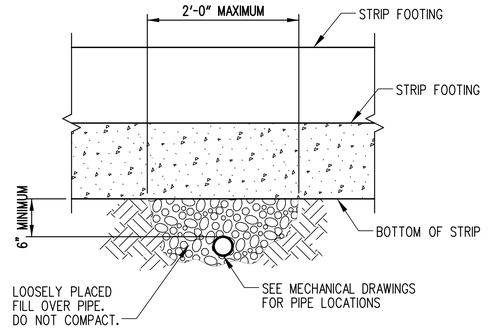
TYPICAL FRAME AT ROOF PENETRATION

NO SCALE



TYPICAL DETAIL OF CONNECTION FOR CMU PARTITION TO UNDERSIDE OF SLAB/DECK

NO SCALE



TYPICAL PIPE UNDER STRIP FOOTING

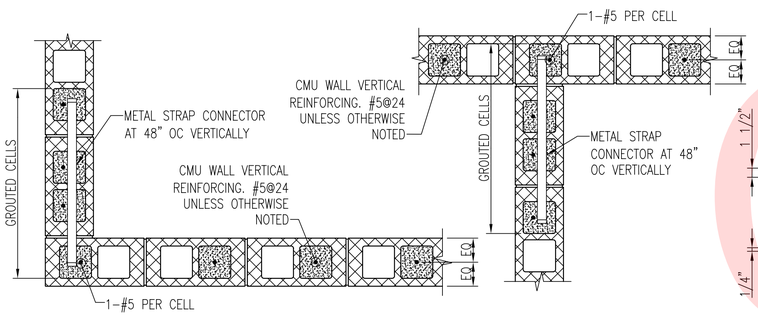
NO SCALE

REINFORCING DETAILS AT WALL INTERSECTIONS

NO SCALE

CMU JAMB DETAIL

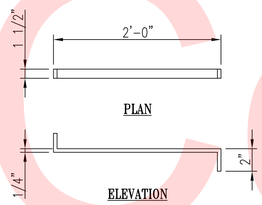
NO SCALE



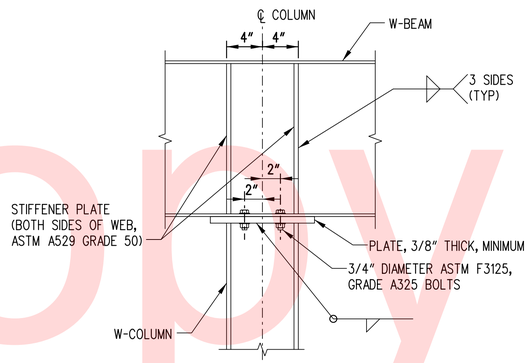
AT CORNER AT INTERSECTION

CMU WALL REINFORCING DETAILS AT CORNERS AND INTERSECTION

NO SCALE



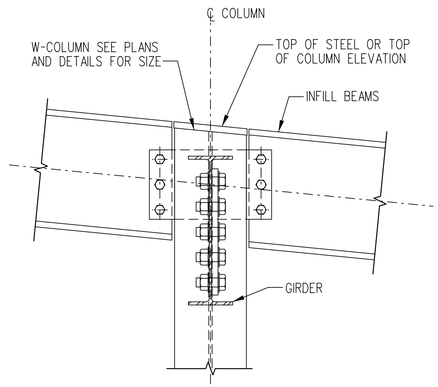
METAL STRAP CONNECTOR DETAILS



NOTE: OFFSET AS REQUIRED TO UTILIZE STIFFENER AS CONNECTION PLATE.

TYPICAL CANTILEVERED BEAM DETAIL (TYPE I)

NO SCALE



NOTE: CAP PLATES SHALL BE 3/8" THICK MINIMUM AND WELDED TO W COLUMNS WITH 3/32" FILLET WELD AT EACH FLANGE, OR 3/32" SQUARE WELD ALL AROUND FOR HSS COLUMNS.

TYPICAL COLUMN CAP PLATE DETAIL

NO SCALE

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180045-004.dgn
10/27/2017 3:00:40 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

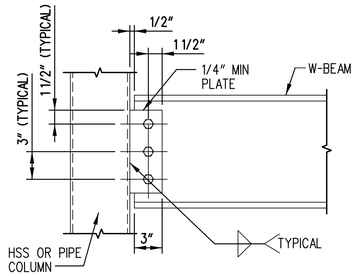
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	GAP
COUNTY	CHECKED BY:	RBG
SUSSEX		

STRUCTURAL TYPICAL DETAILS

S-004

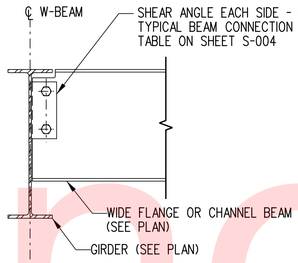
SHEET NO.	TOTAL SHTS.
22	189



NOTE: REFER TO TYPICAL BEAM CONNECTION BOLT TABLE ON SHEET S-004.

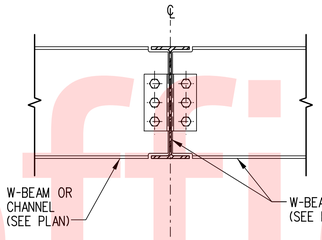
TYPICAL W-BEAM TO HSS COLUMN SHEAR CONNECTION DETAIL

NO SCALE



TYPICAL BEAM TO GIRDER SHEAR CONNECTION DETAIL

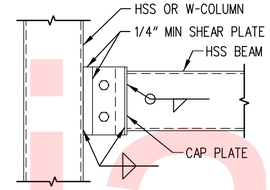
NO SCALE



NOTE: REFER TO TYPICAL BEAM CONNECTION BOLT TABLE ON SHEET S-004.

TYPICAL BEAM TO BEAM SHEAR CONNECTION DETAIL

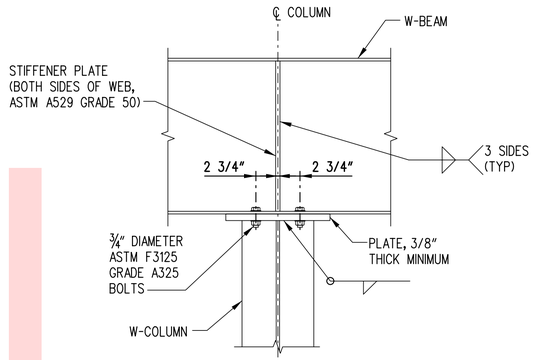
NO SCALE



NOTE: REFER TO TYPICAL BEAM CONNECTION BOLT TABLE ON SHEET S-004, PROVIDE SIMILAR DETAIL AT HSS BEAM TO BEAM CONNECTION.

TYPICAL HSS BEAM TO HSS OR W-COLUMN DETAIL

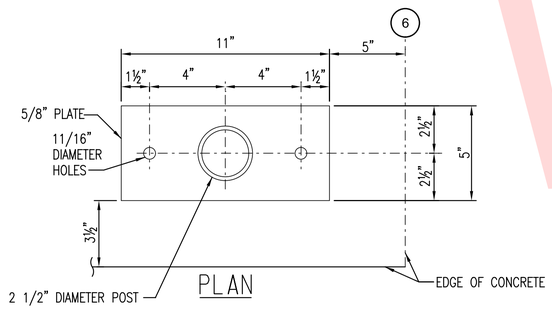
NO SCALE



TYPICAL CANTILEVERED BEAM DETAIL (TYPE II)

NO SCALE

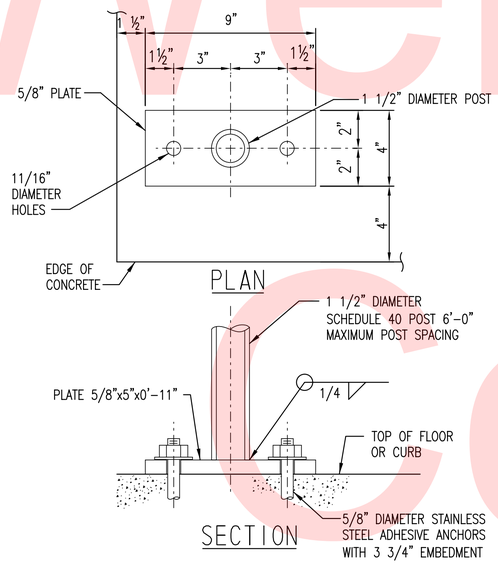
NOTE: OFFSET AS REQUIRED TO UTILIZE STIFFER AS CONNECTION PLATE.



NOTE:
ALL GUARDRAIL COMPONENTS SHALL BE ALUMINUM, UNLESS NOTED

REMOVABLE POST CONNECTION TO CONCRETE - ALUMINUM

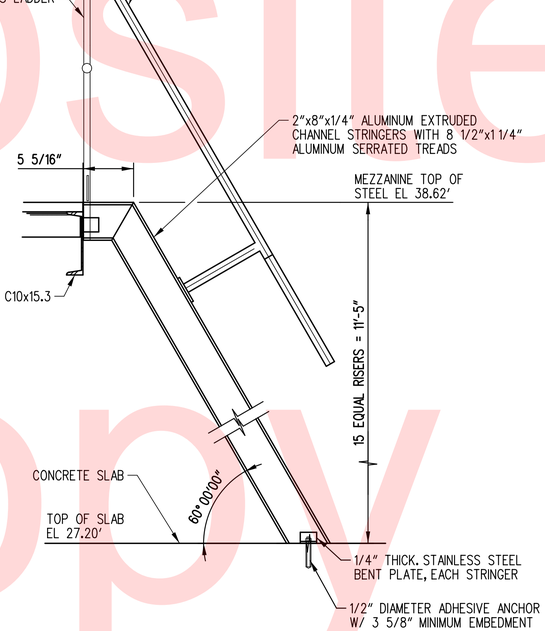
NO SCALE



NOTE:
ALL GUARDRAIL COMPONENTS SHALL BE ALUMINUM, UNLESS NOTED

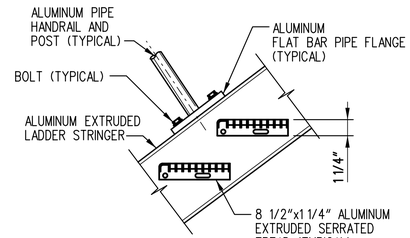
POST CONNECTION TO CONCRETE - ALUMINUM

NO SCALE



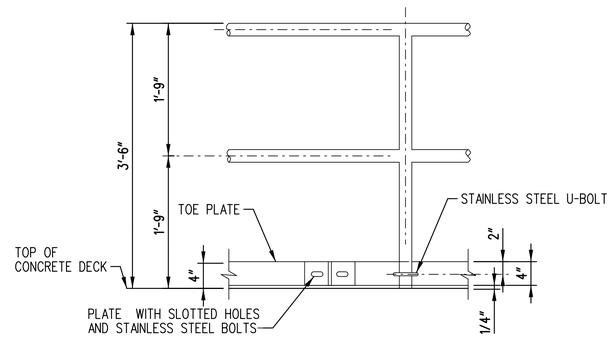
SHIPS LADDER DETAIL - ALUMINUM

NO SCALE



SHIPS LADDER HANDRAIL CONNECTION DETAIL - ALUMINUM

NO SCALE



NOTES:
1. ALL GUARDRAIL COMPONENTS SHALL BE ALUMINUM, UNLESS OTHERWISE NOTED.
2. SEE PROJECT SPECIFICATIONS.
3. FOR CONNECTION DETAILING OF GUARDRAIL, SEE "POST CONNECTION TO CONCRETE" AND "REMOVABLE POST CONNECTION TO CONCRETE ALUMINUM" ON THIS SHEET.

AT FLOOR OR DECK

TYPICAL GUARDRAIL ELEVATION - ALUMINUM

NO SCALE

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004S-005.dgn
10/27/2017 3:00:41 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

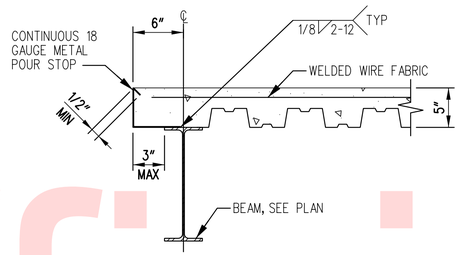
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	GAP
COUNTY	CHECKED BY:	RBG
SUSSEX		

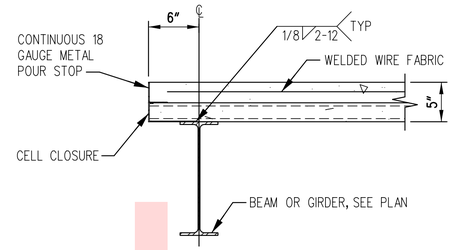
STRUCTURAL TYPICAL DETAILS

S-005	
SHEET NO.	23
TOTAL SHTS.	189



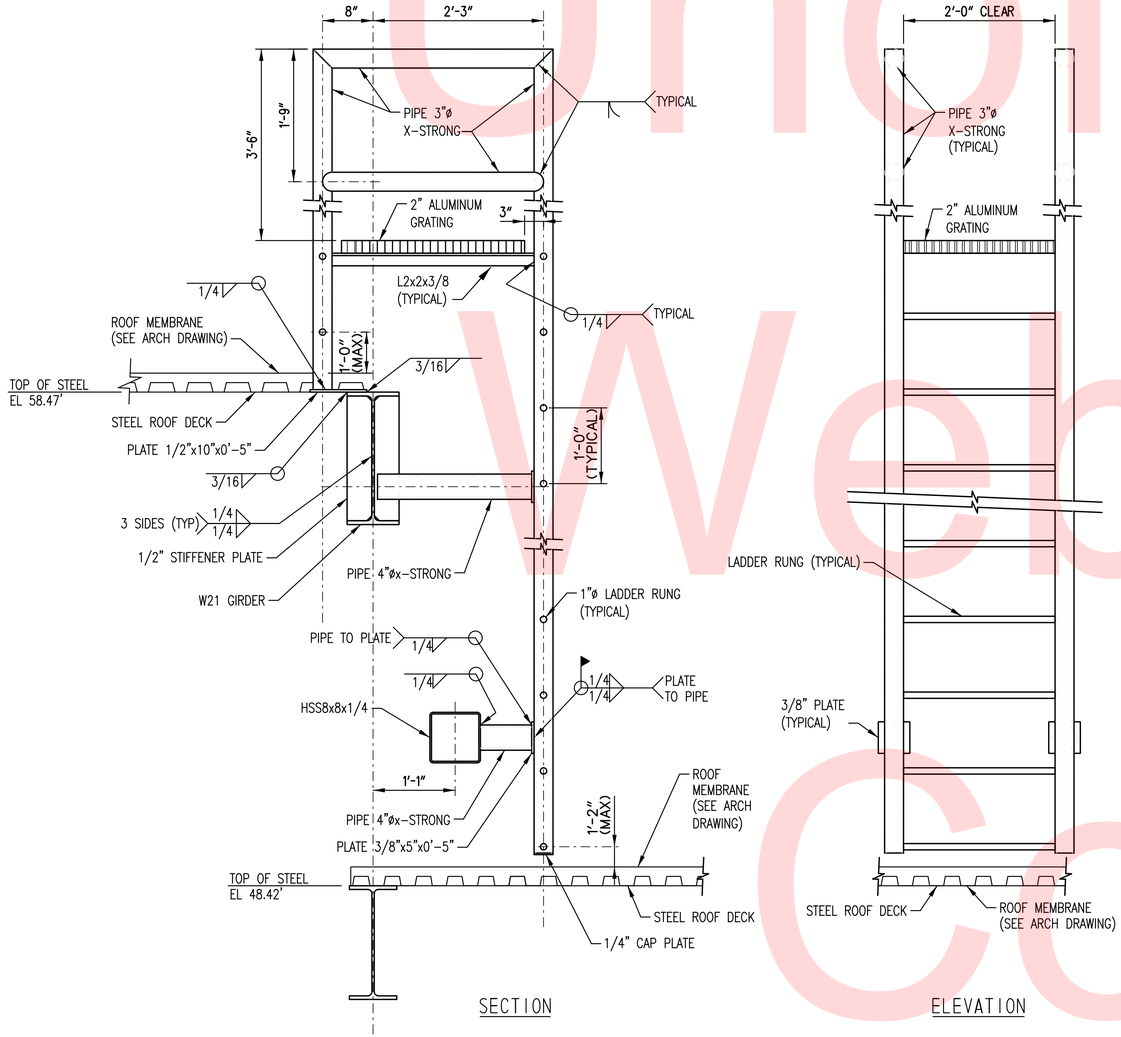
TYPICAL DETAIL AT EDGE OF DECK-MEZZANINE

NO SCALE



TYPICAL DETAIL AT EDGE OF DECK-MEZZANINE

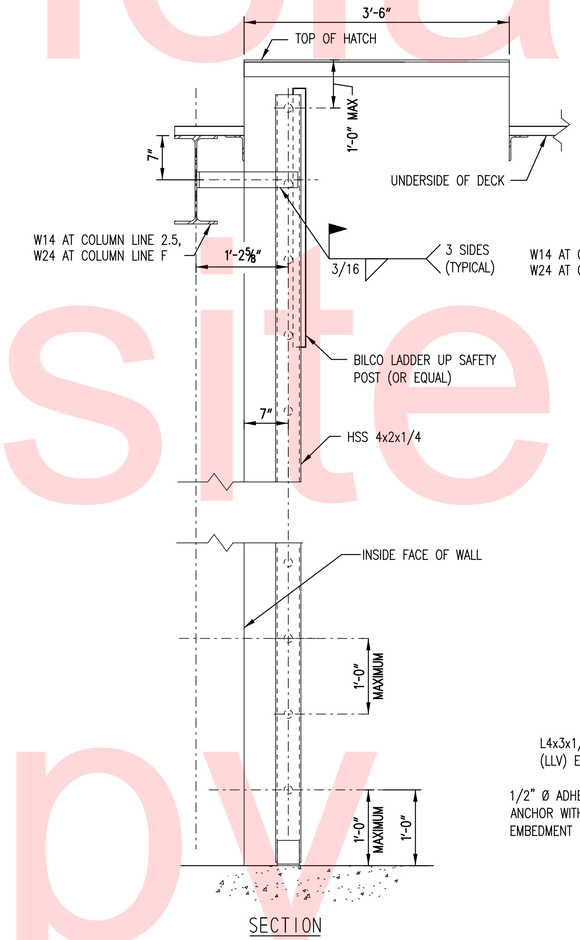
NO SCALE



NOTE: GALVANIZE ALL LADDER COMPONENTS.

EXTERIOR LADDER DETAIL AT COLUMN LINE D (MAINTENANCE BUILDING)

NO SCALE



NOTE: COORDINATE HEIGHT OF LADDER WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS AND APPROVED ROOF HATCH AND CURB DRAWINGS.

TYPICAL LADDER DETAIL AT COLUMN LINES 2.5 AND F (MAINTENANCE BUILDING)

NO SCALE

Unofficial Website Copy

N:\90181-019\CADD\Phase 1 Sheet Files\CP01-90180045-006.dgn
10/27/2017 3:00:42 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

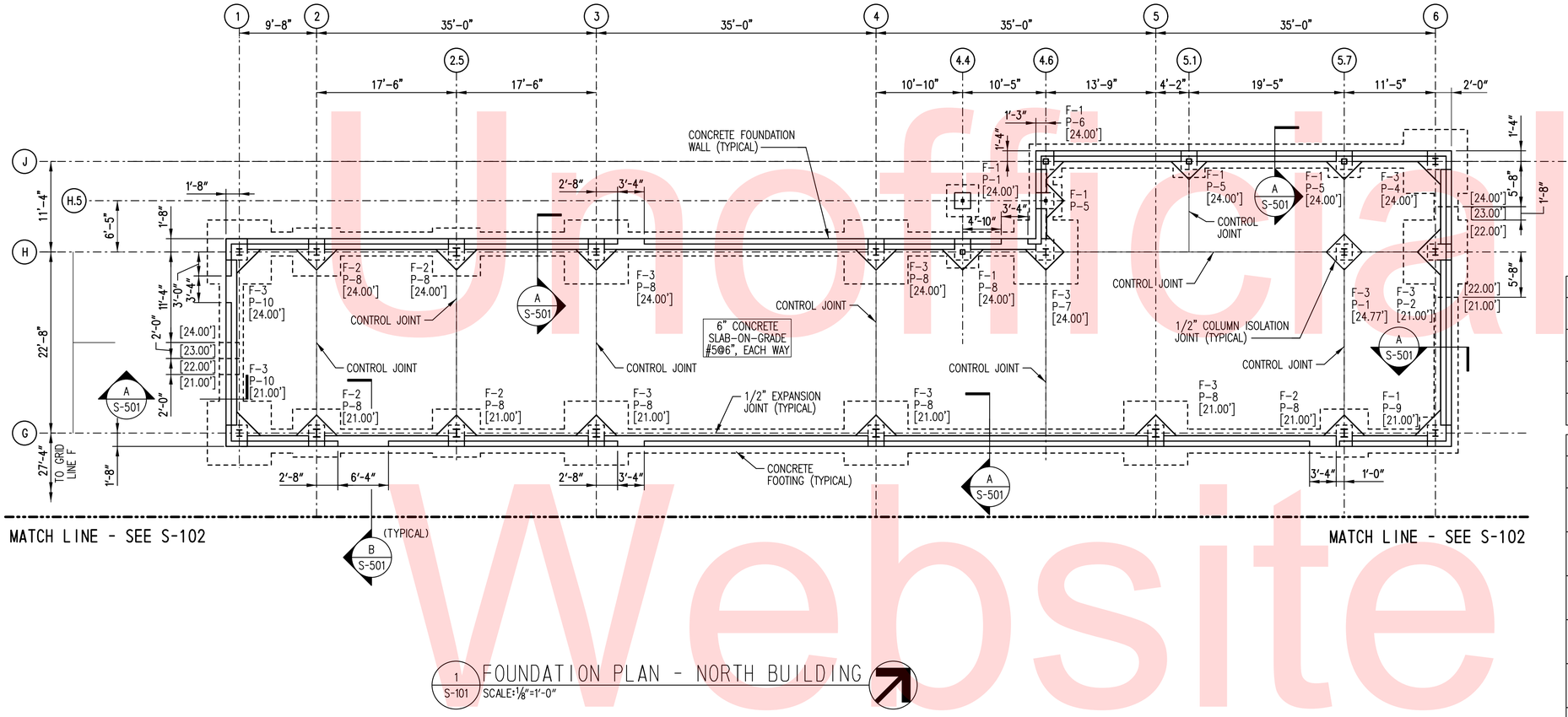
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109	BRIDGE NO.	
COUNTY	SUSSEX	DESIGNED BY:	GAP
		CHECKED BY:	RBG

STRUCTURAL TYPICAL DETAILS

	S-006
SHEET NO.	24
TOTAL SHTS.	189



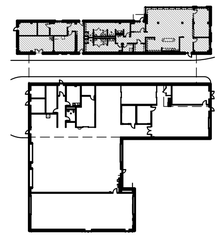
1 S-101 FOUNDATION PLAN - NORTH BUILDING
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. FLOOR CONSTRUCTION TO BE 6" THICK, CONCRETE SLAB-ON-GRADE REINFORCED WITH #5@6" EACH WAY. THESE AREAS ARE DESIGNATED ON THE PLAN. TOP OF SLAB ELEVATION 27.37' (NORTH BUILDING). TOP OF PEDESTAL ELEVATION IS 26.87' IN NORTH BUILDING.
2. [XX.XX'] INDICATES THE BOTTOM OF FOOTING ELEVATION.
3. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
4. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
5. REFER TO SHEETS S-501 TO S-502 FOR FOUNDATION DETAILS AND SECTIONS.
6. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS.
7. COORDINATE ALL STRUCTURAL WORK WITH THE CIVIL, ELECTRICAL, AND PLUMBING DRAWINGS TO LOCATE ALL CONCRETE FOUNDATION AND SLAB PENETRATIONS.
8. CONTRACTOR TO VERIFY MINIMUM ALLOWABLE BEARING CAPACITY OF 2,000 PSF PRIOR TO INSTALLATION OF FOUNDATION AND FOOTINGS.

FOOTING SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
F-1	4'-0"x4'-0"x1'-0" THICK	4-#5 EACH WAY TOP & BOTTOM	-
F-2	6'-0"x6'-0"x1'-0" THICK	6-#5 EACH WAY TOP & BOTTOM	-
F-3	8'-0"x8'-0"x1'-0" THICK	8-#5 EACH WAY TOP & BOTTOM	-

PIER/PEDESTAL SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
P-1	24"x24"	12-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-2	24"x36"	16-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-3	36"x36"	20-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-4	28"x36"	18-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-5	24"x28"	14-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-6	27"x28"	16-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-7	27"x32"	16-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-8	24"x32"	14-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-9	32"x36"	16-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-10	32"x32"	16-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
NOTE: NORTH BUILDING TOP OF PEDESTAL ELEVATION IS 26.78'			



KEY PLAN
SCALE: NTS

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004S-101.dgn
10/27/2017 3:00:14 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

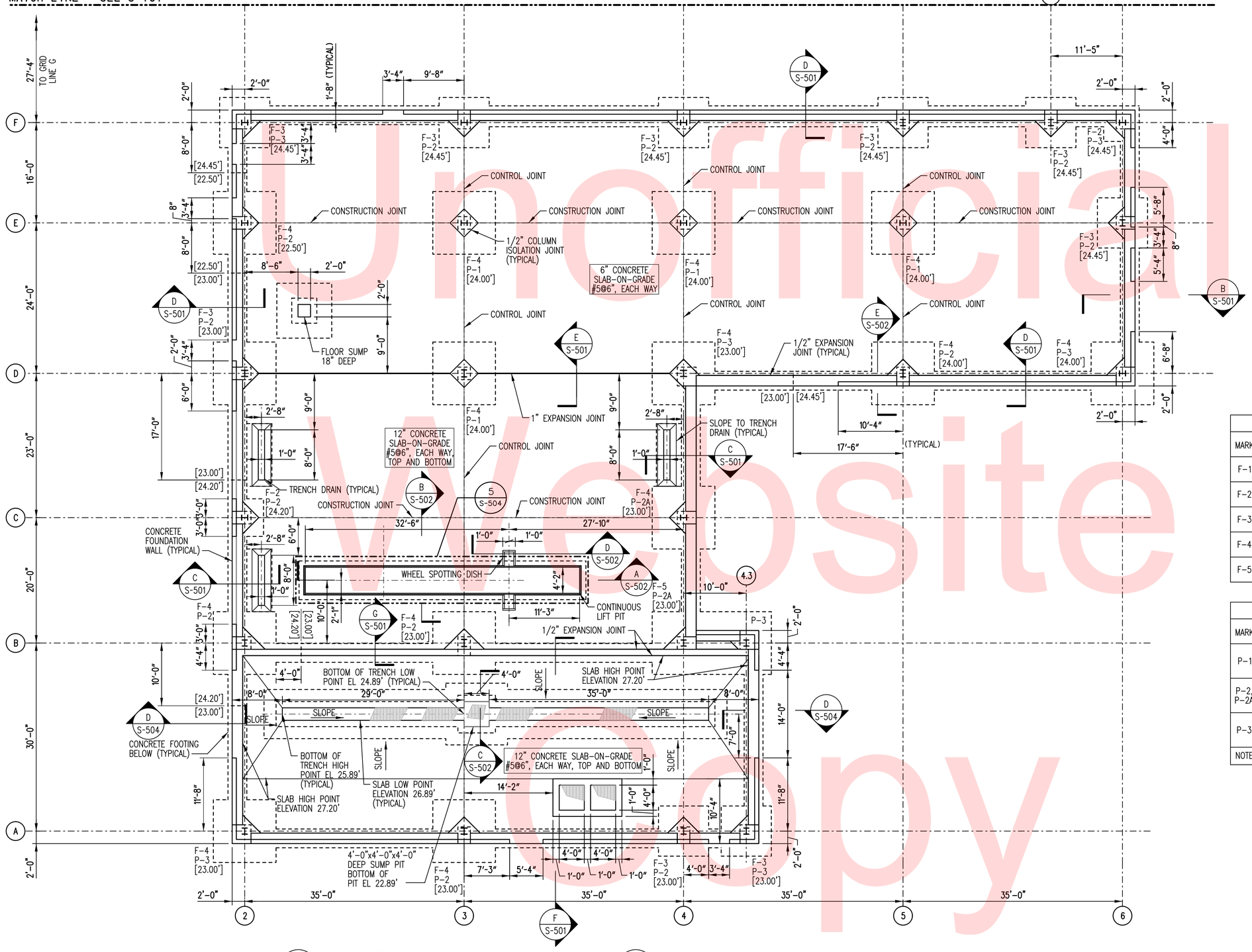
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	RJN/GAP
CHECKED BY:	RBG

FOUNDATION PLAN - NORTH BUILDING

	S-101
SHEET NO.	25
TOTAL SHTS.	189



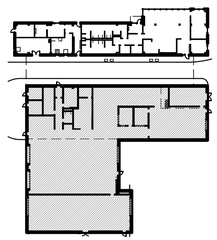
1 S-102 FOUNDATION PLAN - SOUTH BUILDING
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. FLOOR CONSTRUCTION TO BE 6" AND 12" THICK REINFORCED CONCRETE SLAB-ON-GRADE. THESE AREAS ARE DESIGNATED ON THE PLAN. TOP OF CONCRETE ELEVATION IS 27.20' (SOUTH BUILDING). PORTIONS OF COLUMN LINE 4 TO RECEIVE DOWELS AT JOINTS. TOP OF PEDESTAL ELEVATION IS 26.70' IN SOUTH BUILDING.
2. [XX.XX'] INDICATES THE BOTTOM OF FOOTING ELEVATION.
3. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
4. REFER TO SHEET S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
5. REFER TO SHEETS S-501, S-502,A SND S-504 FOR FOUNDATION DETAILS AND SECTIONS.
6. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS.
7. COORDINATE ALL STRUCTURAL WORK WITH THE CIVIL, ELECTRICAL, AND PLUMBING DRAWINGS TO LOCATE ALL CONCRETE SLAB PENETRATIONS.
8. CONTRACTOR TO VERIFY MINIMUM ALLOWABLE BEARING CAPACITY OF 2,000 PSF PRIOR TO INSTALLATION OF FOUNDATION AND FOOTINGS.
9. COORDINATE ALL DETAILS OF LIFT PITS WITH LIFT MANUFACTURER'S REQUIREMENTS/RECOMMENDATIONS. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN LIFT MANUFACTURER'S REQUIREMENTS AND INFORMATION SHOWN ON THESE DRAWINGS PRIOR TO BEGINNING CONCRETE WORK. CONTRACTOR SHALL NOT FORM PITS FOR VEHICLE LIFT OR WASH SYSTEM INCLUDING WASH BAY TRENCH UNTIL EQUIPMENT SHOP DRAWINGS ARE APPROVED.
10. 1/4" PER FOOT, MINIMUM SLOPE GROUT TOPPING IN TRENCH DRAIN TO ACCOMMODATE POSITIVE FLOW TO DRAIN. SEE PLUMBING PLAN (P-101) DRAWINGS FOR LOCATION OF DRAWN PIPE OPENING IN TRENCH.
11. REFER TO SHEET S-504 FOR LIFT PIT SLOPE.

FOOTING SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
F-1	4'-0"x4'-0"x1'-0" THICK	4-#5 EACH WAY TOP & BOTTOM	-
F-2	6'-0"x6'-0"x1'-0" THICK	6-#5 EACH WAY TOP & BOTTOM	-
F-3	8'-0"x8'-0"x1'-0" THICK	8-#5 EACH WAY TOP & BOTTOM	-
F-4	10'-0"x10'-0"x1'-4" THICK	12-#5 EACH WAY TOP & BOTTOM	-
F-5	10'-0"x30'-0"x1'-4" THICK	12-#5 TOP & BOTTOM LONG DIRECTION 36-#5 TOP & BOTTOM SHORT DIRECTION	-

PIER/PEDESTAL SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
P-1	24"x24"	12-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-2, P-2A	24"x36"	16-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
P-3	36"x36"	20-#6 VERT BARS WITH #4 TIES @6", 2 TIES WITHIN TOP 5" OF PEDESTAL	SEE PEDESTAL DETAIL ON S-603
NOTE: SOUTH BUILDING TOP OF PEDESTAL ELEVATION IS 26.53'.			



KEY PLAN
SCALE:NTS

Unofficial Website Copy

N:\9018\c019\CADD\Phase II Sheet Files\CP01-9018I004S-102.dgn
10/27/2017 3:00:43 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

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

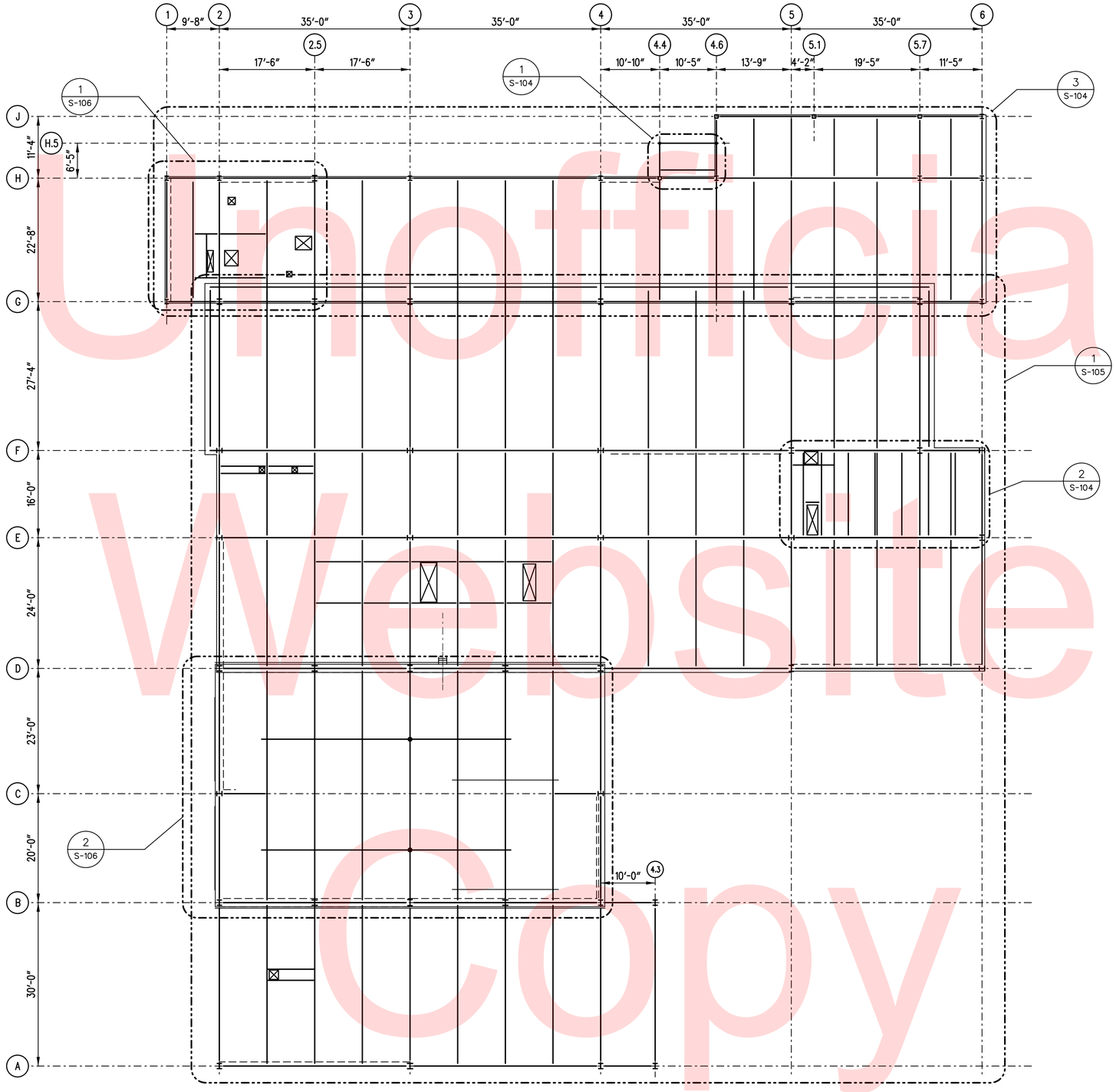
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	RJN/GAP
CHECKED BY:	RBG

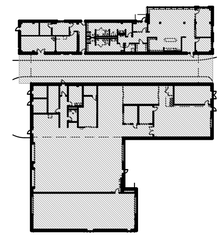
FOUNDATION PLAN - SOUTH BUILDING

S-102

SHEET NO.	26
TOTAL SHTS.	189



1 S-103 COMPOSITE FRAMING PLAN
SCALE: 1/32"=1'-0"

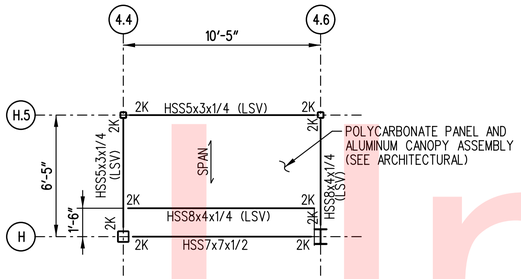


KEY PLAN
SCALE: NTS

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004S-103.dgn
10/27/2017 3:00:42 PM

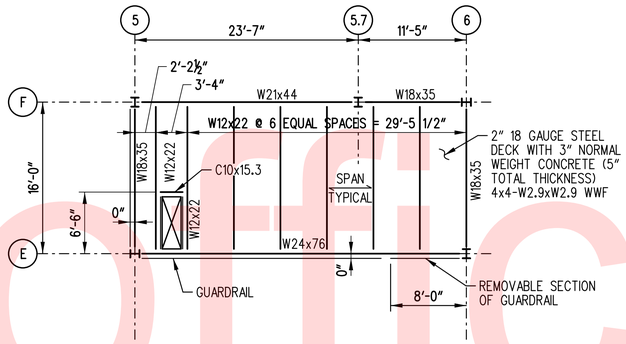
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 12' 20' SCALE: 3/32" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	COMPOSITE FRAMING PLAN NORTH & SOUTH BUILDING
				COUNTY SUSSEX	DESIGNED BY: GAP	SHEET NO. 27
					CHECKED BY: RBG	TOTAL SHTS. 189
						S-103



NOTE:

1. ALL EXPOSED STEEL TO BE HOT-DIPPED GALVANIZED AND FIELD PAINTED PER SPECIFICATIONS.
2. COORDINATE APPROVED MANUFACTURED CANOPY ASSEMBLY WITH CANOPY STEEL DIMENSIONS PRIOR TO SUBMITTAL FOR FABRICATION.

1 / S-104 CANOPY FRAMING PLAN AT ELEVATION 37.25'
SCALE: 1/4"=1'-0"

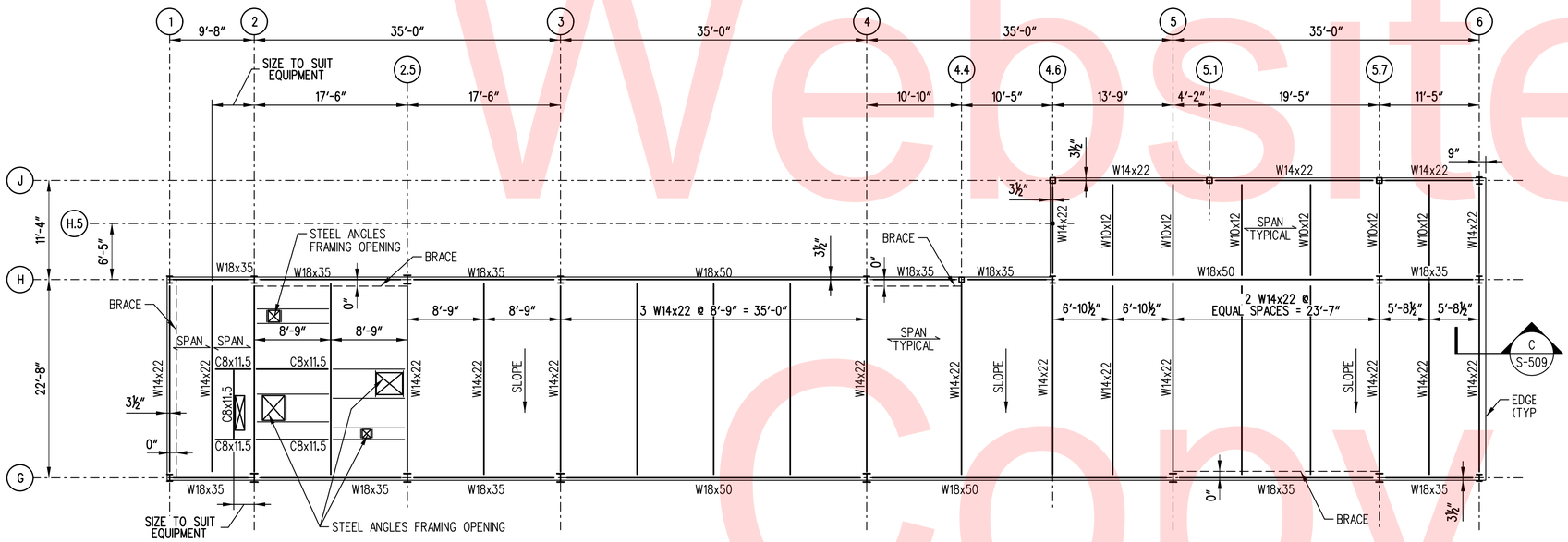


MEMBER LOAD SCHEDULE FOR FRAMING AT ELEVATION 38.20'		
MEMBER SIZE	SHEAR AT EITHER END OF MEMBER (KIPS)	MOMENT (KIP-FT)
C10x15.3	10	–
W12x22	22K	–
W24x76	70	–
W18x35	30	–

2 / S-104 MEZZANINE FRAMING PLAN AT ELEVATION 38.20'
SCALE: 1/8"=1'-0"

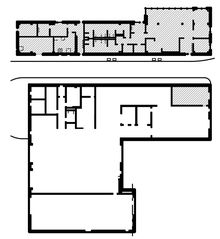
GENERAL SHEET NOTES

1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-201 TO S-206 FOR FRAMING ELEVATIONS AND BEAM CONNECTION FORCES NOT SHOWN ON THIS SHEET.
5. REFER TO SHEETS S-503 FRAMING DETAILS AND SECTIONS.
6. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS.
7. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
8. PROVIDE 3", 18 GAGE, TYPE N STEEL ROOF DECK, UNLESS NOTED OTHERWISE.
9. PROVIDE 5/8" PUDDLE WELD IN A 24/4 PATTERN AT ALL SUPPORTS. PROVIDE #10 SCREWS AT 12" ON CENTER AT SIDE LAPS.
10. SCREEN WALL FRAMING NOT SHOWN ON 3/S-104 FOR CLARITY. SEE FRAMING PLAN AT ELEVATION 49.00' ON SHEET S-106.



MEMBER LOAD SCHEDULE FOR FRAMING BETWEEN ELEVATION 40.93' AND 41.87'		
MEMBER SIZE	SHEAR AT EITHER END OF MEMBER (KIPS)	MOMENT (KIP-FT)
W10x12	10	–
W14x22	15	–

3 / S-104 FRAMING PLAN BETWEEN ELEVATION 40.93' AND 41.87'
SCALE: 1/8"=1'-0"



KEY PLAN
SCALE: NTS

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004S-104.dgn
10/27/2017 3:00:46 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

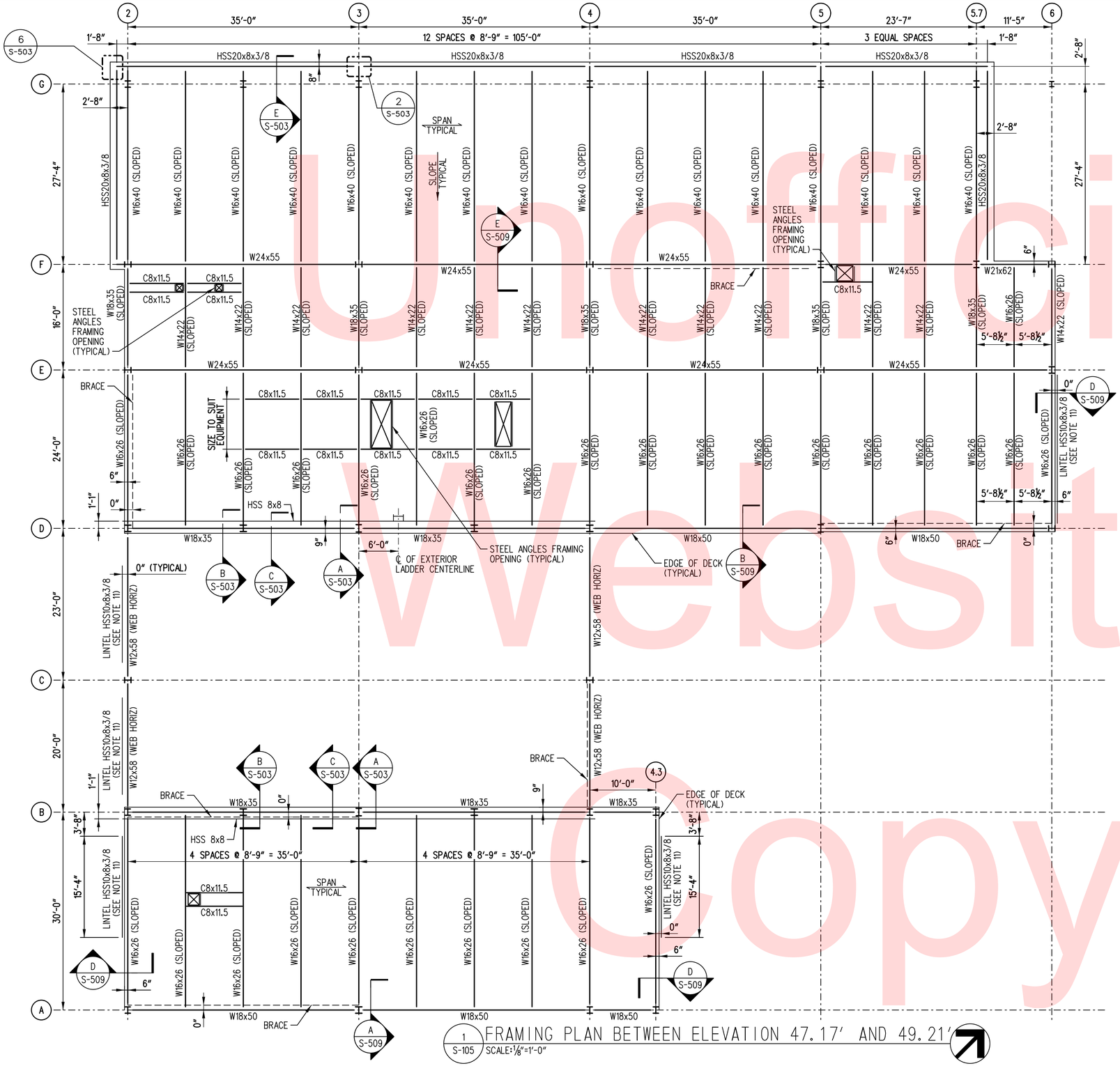
SCALE: 1/8" = 1'-0"
SCALE: 1/4" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: GAP
SUSSEX	CHECKED BY: RBG

FRAMING PLAN – ELEVATIONS 38' AND 42'

S-104	
SHEET NO.	28
TOTAL SHTS.	189



GENERAL SHEET NOTES

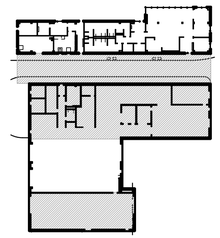
1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-502 THROUGH S-504 FOR FRAMING DETAILS AND SECTIONS.
5. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS.
6. REFER TO FRAMING ELEVATION SHEETS S-201 THROUGH S-206 FOR BEAM CONNECTION DESIGN FORCES NOT SHOWN.
7. ALL EXPOSED CANOPY STEEL, STEEL NORTH-WEST OF COLUMN LINE F, TO BE HOT-DIPPED GALVANIZED AND FIELD PAINTED PER SPECIFICATIONS.
8. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
9. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS AS FOLLOWS:

   T = TENSION
   C = COMPRESSION
   P = VERTICAL REACTIONS
   M = MOMENT

10. LINTEL, HSS10x8x3/8 WITH 1/2" BOTTOM PLATE (OUTBOARD OF FRAMING). TOP OF STEEL 41.87'. SEE DETAIL 1/S-503.
11. PROVIDE 3", 18 GAGE, TYPE N STEEL ROOF DECK, UNLESS NOTED OTHERWISE.
12. PROVIDE 5/8" PUDDLE WELD IN A 24/4 PATTERN AT ALL SUPPORTS. PROVIDE #10 SCREWS AT 12" ON CENTER AT SIDE LAPS.

MEMBER LOAD SCHEDULE FOR FRAMING BETWEEN ELEVATION 47.17' AND 49.21'		
MEMBER SIZE	SHEAR AT EITHER END OF MEMBER (KIPS)	MOMENT (KIP-FT)
W14x22	15	–
W16x26	15	–
C8x11.5	5	–

1 S-105 FRAMING PLAN BETWEEN ELEVATION 47.17' AND 49.21'
SCALE: 1/8"=1'-0"

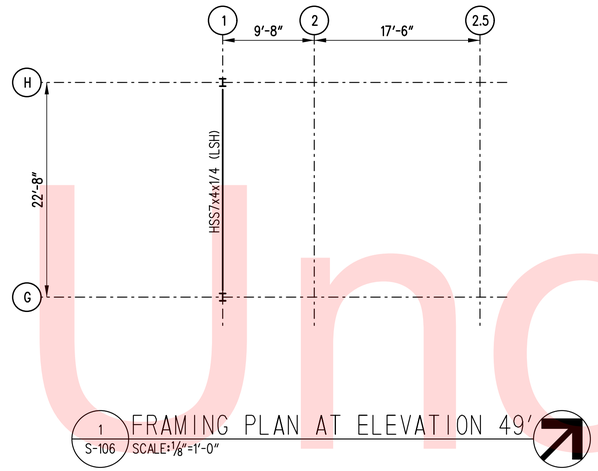


KEY PLAN
SCALE: NTS

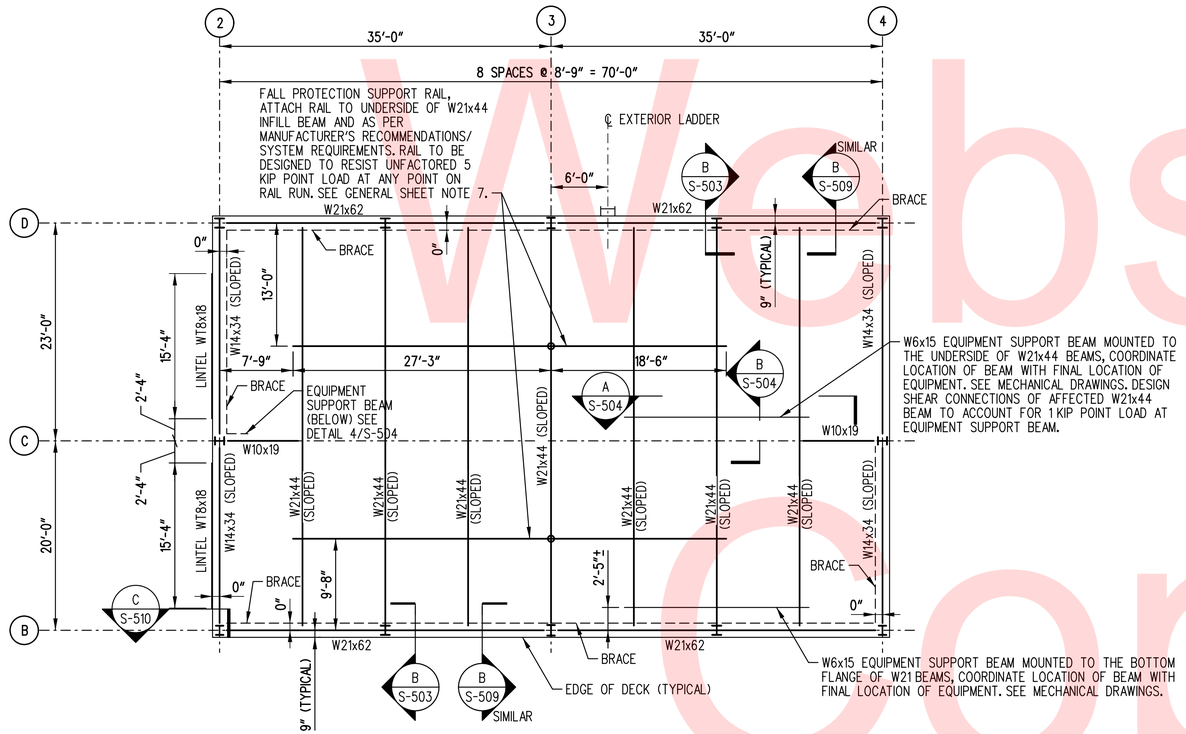
Unofficial Website Copy

N:\39181-019\CADD\Phase II\Sheet Files\CP01-90181004S-105.dgn
10/27/2017 3:00:47 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.
				COUNTY SUSSEX	DESIGNED BY: GAP
					CHECKED BY: RBG
			FRAMING PLAN – ELEVATION 48'		S-105
					SHEET NO. 29
					TOTAL SHTS. 189



1 / S-106 FRAMING PLAN AT ELEVATION 49' SCALE: 1/8"=1'-0"



2 / S-106 FRAMING PLAN AT ELEVATION 58' SCALE: 1/8"=1'-0"

STRUCTURAL STEEL CONNECTION NOTES

1. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
2. ALL CONNECTIONS, UNLESS FULLY DETAILED ON THE STRUCTURAL DRAWINGS, SHALL BE DESIGNED AND DETAILED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE. THE DESIGN AND DETAIL SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS. SUBMIT SIGNED AND SEALED DRAWINGS AND CALCULATIONS FOR ALL OF THE CONNECTIONS DESIGNED AND DETAILED.
3. UNLESS FULLY DETAILED, DETAILS AND SECTIONS ON DRAWINGS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF CONNECTIONS. DETAILS ARE NOT INTENDED TO CONVEY COMPLETE CONNECTOR SIZES, PLATE SIZES, WELD SIZES, NUMBER OF BOLTS, OR ANY OTHER SPECIFIC INFORMATION THAT IS OBTAINED THROUGH DESIGNING OF AN INDIVIDUAL CONNECTION FOR A GIVEN SET OF LOADS. THESE DETAILS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.
4. SUBMIT CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO REVIEW OF SHOP DRAWINGS. FOR BIDDING PURPOSES, WHERE A MOMENT CONNECTION IS INDICATED BUT NO VALUE IS PROVIDED, PROVIDE FULL MOMENT CAPACITY OF MEMBER (0.9 Fy Z).
5. ALTERNATE CONNECTIONS TO THOSE SHOWN ON DRAWINGS WILL ONLY BE CONSIDERED ACCEPTABLE IF CONTRACTOR FORMALLY SUBMITS ALTERNATES AND THE ENGINEER APPROVES THE SUBMITTAL.
6. FOR CONNECTION DESIGN AND DETAILING, SET CONNECTION WORK POINT AT INTERSECTION OF MEMBER CENTERLINES, UNLESS NOTED OTHERWISE.
7. DESIGN ALL CONNECTIONS FOR FORCES INDICATED ON THE DRAWINGS. CONNECTION DESIGN FORCES INDICATED ON THE DRAWINGS ARE FACTORED USING LRFD LOAD COMBINATIONS UNLESS OTHERWISE NOTED. PROVIDE A MINIMUM SHEAR CONNECTION OF 10 KIPS, FACTORED UNLESS NOTED OTHERWISE.
8. PROVIDE A MINIMUM OF 3/4" DIAMETER HIGH STRENGTH BOLTS CONFORMING TO ASTM F3125, GRADE A-325 FOR CONNECTIONS FULLY DESIGNED ON THE STRUCTURAL DRAWINGS. PROVIDE ALL CONNECTIONS, INCLUDING MOMENT CONNECTIONS, WITH COMPRESSIBLE-WASHER-TYPE DIRECT-TENSION INDICATORS CONFORMING TO ASTM F959 UNLESS NOTED OTHERWISE. DESIGN OF MEMBERS IS BASED ON ASSUMPTION OF 3/4-INCH DIAMETER AND 1-INCH DIAMETER GRADE A325 OR A490 BOLTS. OTHER BOLT DIAMETERS MAY BE ACCEPTABLE WITH THE ENGINEER'S APPROVAL. USE NO MORE THAN TWO BOLT DIAMETERS, ONE GRADE PER DIAMETER, SKIP ONE SIZE BETWEEN DIAMETERS.
9. BEAM CONNECTION DESIGN NOTES
   - A. SEE PLANS AND ELEVATIONS FOR BEAM REACTIONS AND MOMENTS.
   - B. WHERE NO AXIAL FORCE IS SHOWN, ALL BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM AXIAL FORCE EQUAL TO 5% OF THE VERTICAL SHEAR REACTION ACTING CONCURRENTLY WITH THE VERTICAL BEAM SHEAR.
   - C. ALL BEAM REACTIONS, AXIAL FORCES AND MOMENTS ACT CONCURRENTLY, UNLESS OTHERWISE NOTED. BEAM REACTIONS ACT IN GRAVITY DIRECTION WHILE AXIAL FORCES AND MOMENTS ARE TO BE CONSIDERED REVERSIBLE.
   - D. EXCEPT WHERE "SNUG TIGHT" INSTALLATION IS SPECIFICALLY PERMITTED ON DRAWINGS OR "SLIP CRITICAL" DETAILING IS REQUIRED, ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED AS FULL PRETENSION BOLTS.
   - E. PROVIDE PRETENSIONED BOLTS IN STANDARD HOLES FOR ALL CONNECTIONS UNLESS NOTED OTHERWISE.
   - F. BOLTED MOMENT CONNECTIONS AT CANTILEVERS AND BACKSPANS SHALL BE SLIP CRITICAL.
   - G. REFER TO AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" TABLE J3.4 FOR MINIMUM EDGE DISTANCE FROM CENTER OF STANDARD HOLE TO EDGE OF CONNECTED PART.
10. PERFORM ALL WELDED CONNECTIONS WITH CLASS E-70 SERIES ELECTRODES. PROVIDE FIELD CONNECTIONS WITH HIGH STRENGTH BOLTED CONNECTIONS EXCEPT WHERE NOTED. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1, LATEST EDITION. ALL WELD SIZES SHALL BE THE LARGER OF THE SIZE REQUIRED BY CONNECTION FORCES, THE MINIMUM SIZE PER ANSI/AWS D1.1, OR 3/16 INCH MINIMUM FILLET WELD, UNLESS OTHERWISE NOTED. ANY WELD SIZES SHOWN ON THE DESIGN DRAWINGS ARE CONSIDERED EFFECTIVE WELD SIZES AND SHALL BE INCREASED IN ACCORDANCE WITH AWS AS REQUIRED BY GAPS OR SKEWS BETWEEN COMPONENTS.
11. USE RUNOFF TABS AT ALL BEVEL AND FULL PENETRATION WELDS. REMOVE RUNOFF TABS AND GRIND SMOOTH AFTER WELD IS COMPLETED.
12. WHERE REQUIRED BY DETAIL, REMOVE WELD BACK UP BARS AND GRIND SMOOTH AFTER WELD IS COMPLETE, UNLESS OTHERWISE NOTED.
13. DESIGN, DETAIL, FURNISH AND INSTALL STIFFENERS, CONTINUITY PLATES, DOUBLER PLATES, OR OTHER NECESSARY ADDITIONAL LOCAL STRENGTHENING MEASURES AS REQUIRED. MEMBER SIZES INDICATED ON THE DRAWINGS ARE BASED ON MEMBER BEHAVIOR AWAY FROM CONNECTIONS.

GENERAL SHEET NOTES

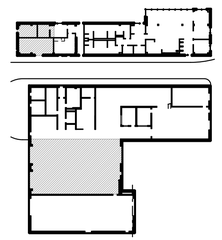
1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEETS S-502 TO S-504 FOR FRAMING DETAILS AND SECTIONS.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. CONTRACTOR TO PROVIDE AND INSTALL FALL PROTECTION SYSTEM AS MANUFACTURED BY RIGID LIFE LINES. THE SYSTEM SHALL INCLUDE A 2-MAN, PLAIN FALL ARREST TRACK, PART NUMBER FAPT 6XX OR EQUAL. CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR FALL PROTECTION SYSTEM FROM ENGINEER PRIOR TO INSTALLATION.
7. REFER TO FRAMING ELEVATION SHEETS S-201 TO S-206 FOR FRAMING ELEVATIONS AND BEAM CONNECTION FORCES NOT SHOWN ON THIS SHEET.
8. PROVIDE 3", 18 GAGE, TYPE N STEEL ROOF DECK, UNLESS NOTED OTHERWISE.
9. PROVIDE 5/8" PUDDLE WELD IN A 24/4 PATTERN AT ALL SUPPORTS. PROVIDE #10 SCREWS AT 12" ON CENTER AT SIDE LAPS.
10. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS AS FOLLOWS:
    - T = TENSION
    - C = COMPRESSION
    - P = REACTIONS

MEMBER LOAD SCHEDULE FOR FRAMING AT ELEVATION 49

MEMBER SIZE	SHEAR AT EITHER END OF MEMBER (KIPS)	MOMENT (KIP-FT)
W21x44	25	–

MEMBER LOAD SCHEDULE FOR FRAMING AT ELEVATION 58

MEMBER SIZE	SHEAR AT EITHER END OF MEMBER (KIPS)	MOMENT (KIP-FT)
W21x44	25	–



KEY PLAN
SCALE: NTS

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004S-106.dgn
10/27/2017 3:00:48 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

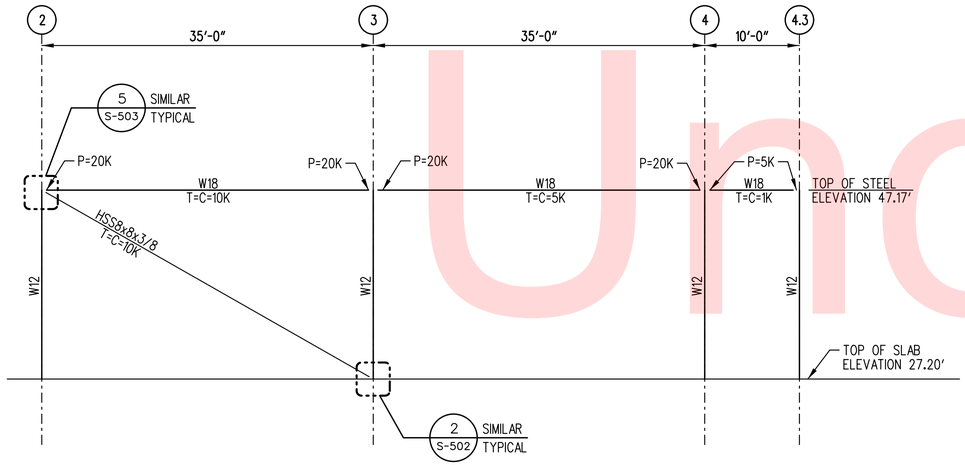
SCALE: 1/8" = 1'-0" (0, 4', 8', 16')

LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

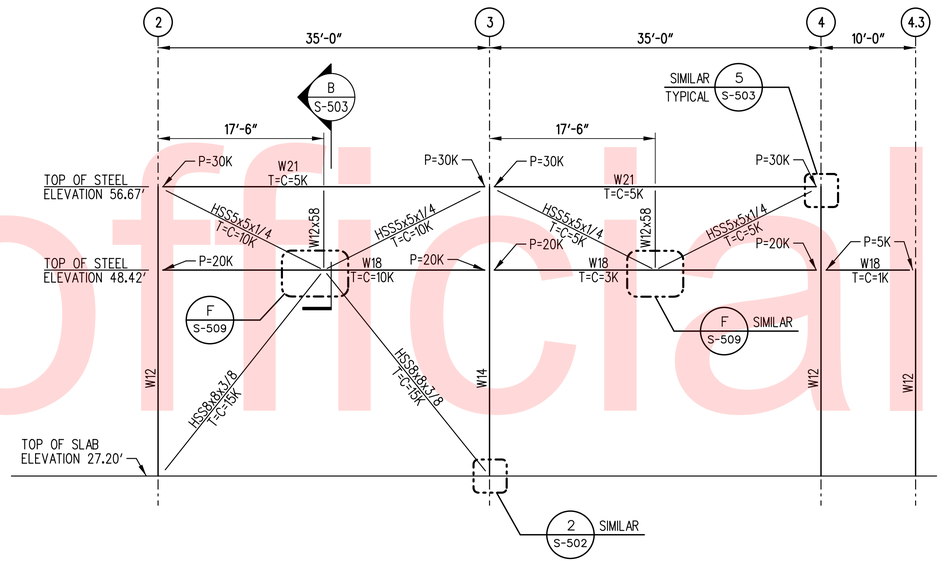
CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: GAP
SUSSEX	CHECKED BY: RBG

FRAMING PLAN – ELEVATIONS 49' AND 58'

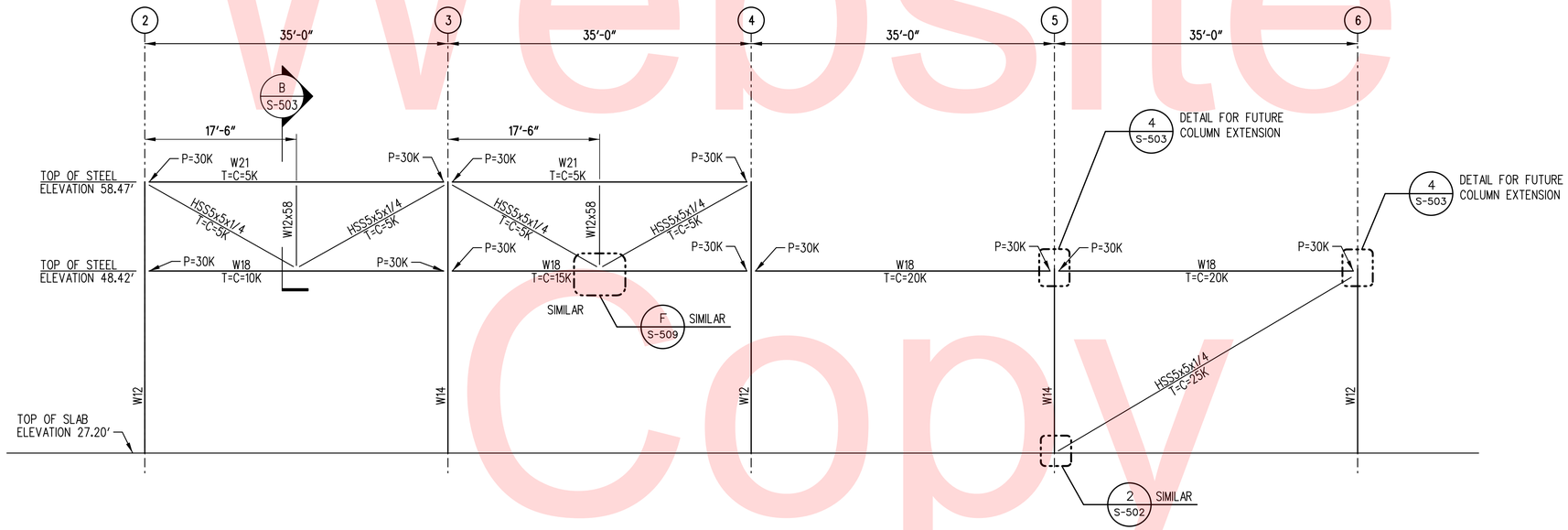
SHEET NO.	S-106
30	
TOTAL SHTS.	
189	



A S-201 ELEVATION ALONG COLUMN LINE A
SCALE: 1/8"=1'-0"



B S-201 ELEVATION ALONG COLUMN LINE B
SCALE: 1/8"=1'-0"



C S-201 ELEVATION ALONG COLUMN LINE D
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS, AND TOP OF COLUMN ELEVATIONS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION
   C = COMPRESSION
   P = REACTIONS (SHEAR)

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOADS FOR INFILL BEAMS ARE AS GIVEN IN THE MEMBER LOAD SCHEDULES ON S-1XX SERIES SHEETS FOR EACH PARTIAL FRAMING PLAN.
8. → INDICATES THE ROOF SLOPE.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180045-201.dgn
10/27/2017 3:00:48 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: GAP	
CHECKED BY: RBG	

FRAMING ELEVATIONS

S-201
SHEET NO. 35
TOTAL SHTS. 189

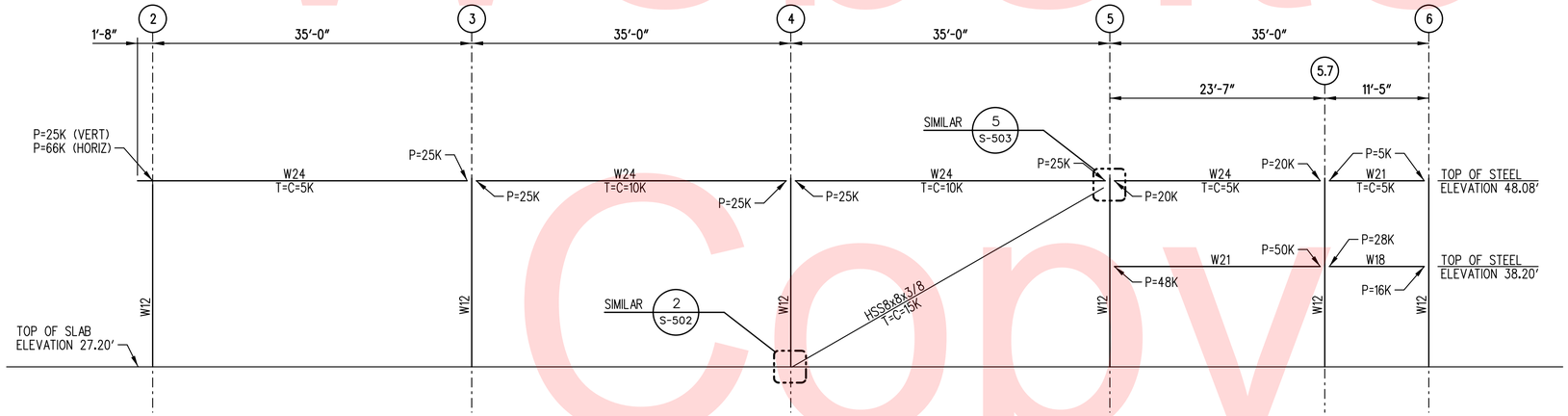
Unofficial Website Copy

GENERAL SHEET NOTES

1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS, AND TOP OF COLUMN ELEVATIONS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. LOADS ARE FACTORED AND USING LRFD LOAD COMBINATIONS GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION
   C = COMPRESSION
   P = REACTIONS (SHEAR)

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOADS FOR INFILL BEAMS ARE AS GIVEN IN THE MEMBER LOAD SCHEDULES ON S-1XX SERIES SHEETS FOR EACH PARTIAL FRAMING PLAN.
8. → INDICATES THE ROOF SLOPE.

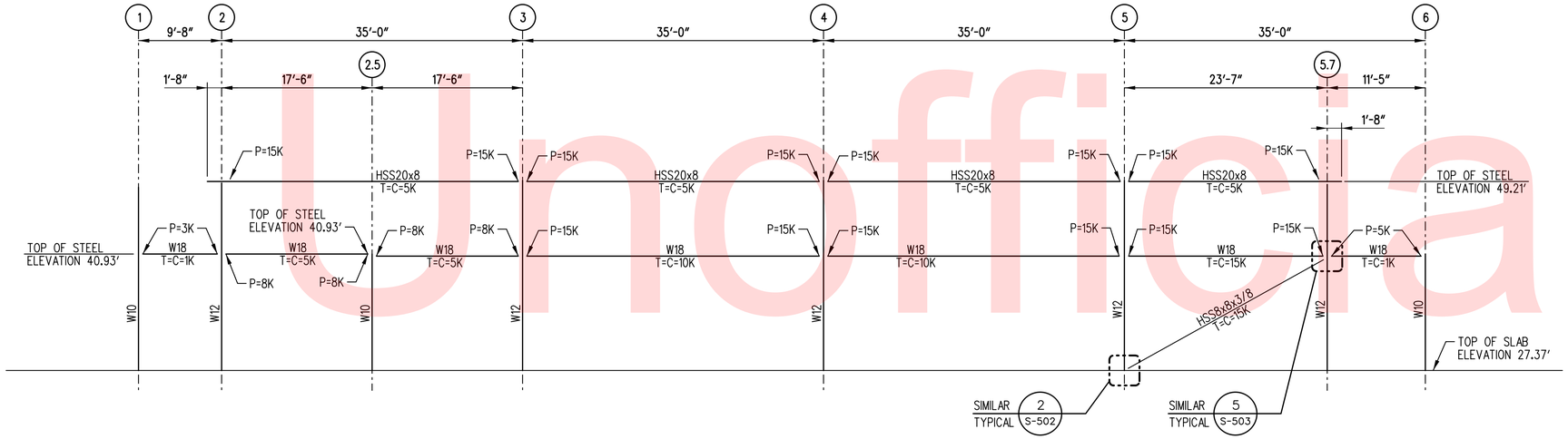


B / S-202 ELEVATION ALONG COLUMN LINE F
SCALE: 1/8"=1'-0"

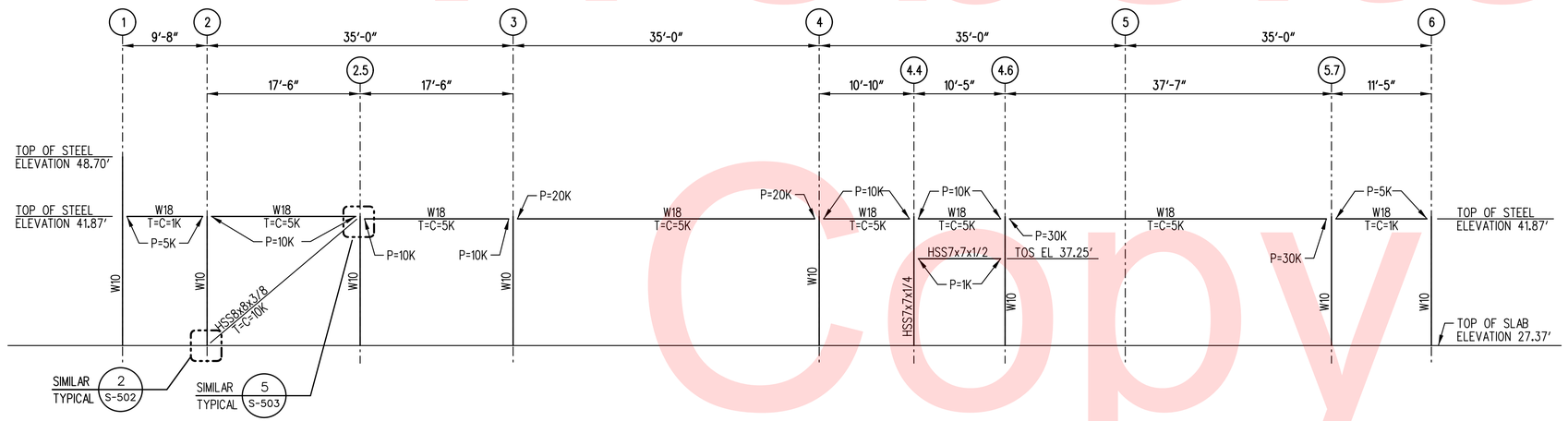
N:\90181-019\CADD\Phase II Sheet Files\CP01-90180045-202.dgn
10/27/2017 3:00:49 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	FRAMING ELEVATIONS
				COUNTY SUSSEX	DESIGNED BY: GAP	
					CHECKED BY: RBG	

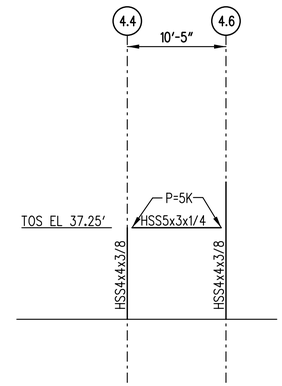
S-202
SHEET NO. 36
TOTAL SHTS. 189



A S-203 ELEVATION ALONG COLUMN LINE G
SCALE: 1/8"=1'-0"



B S-203 ELEVATION ALONG COLUMN LINE H
SCALE: 1/8"=1'-0"



C S-203 ELEVATION ALONG COLUMN LINE H.5
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS, AND TOP OF COLUMN ELEVATIONS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION
   C = COMPRESSION
   P = REACTIONS (SHEAR)

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOADS FOR INFILL BEAMS ARE AS GIVEN IN THE MEMBER LOAD SCHEDULES ON S-1XX SERIES SHEETS FOR EACH PARTIAL FRAMING PLAN.
8. → INDICATES THE ROOF SLOPE.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180045-203.dgn
10/27/2017 3:00:50 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

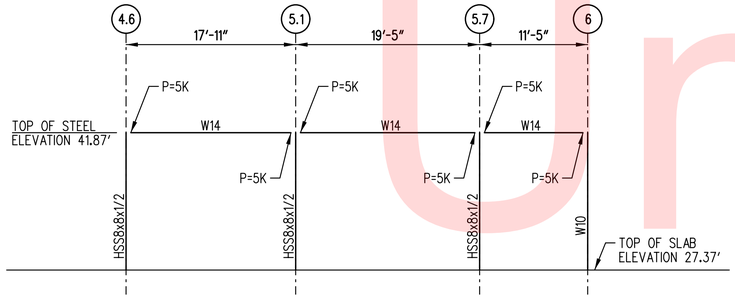
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: GAP	
CHECKED BY: RBG	

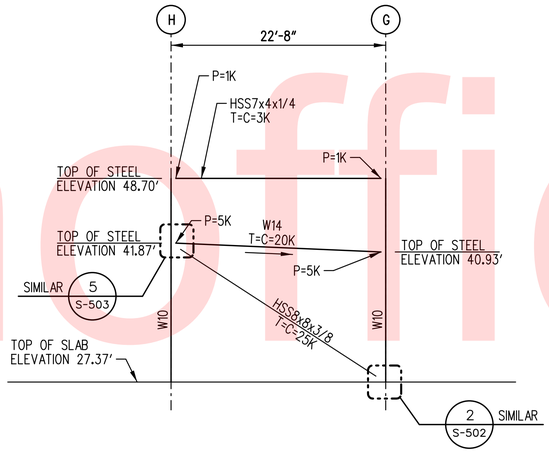
FRAMING ELEVATIONS

S-203
SHEET NO. 37
TOTAL SHTS. 189

Unofficial Website Copy



A S-204 ELEVATION ALONG COLUMN LINE J
SCALE: 1/8"=1'-0"



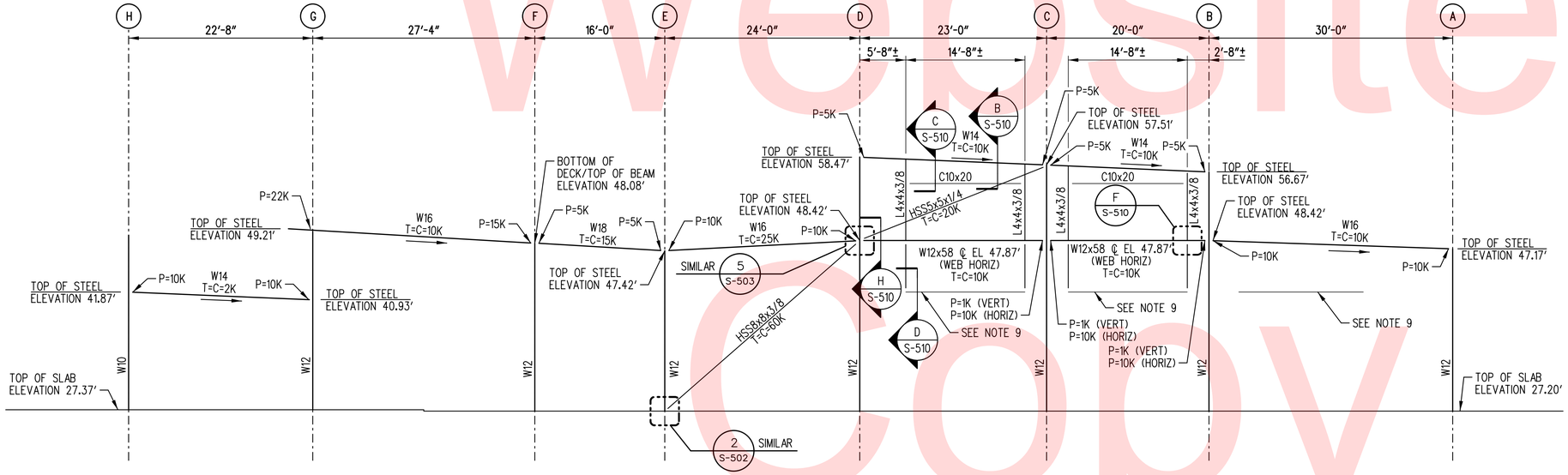
B S-204 ELEVATION ALONG COLUMN LINE 1
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

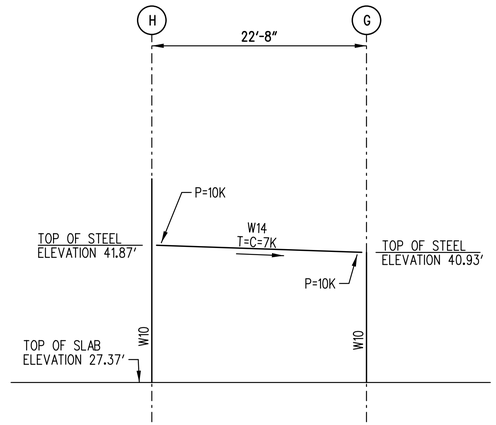
1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS, AND TOP OF COLUMN ELEVATIONS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION
   C = COMPRESSION
   P = REACTIONS (SHEAR)

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOADS FOR INFILL BEAMS ARE AS GIVEN IN THE MEMBER LOAD SCHEDULES ON S-1XX SERIES SHEETS FOR EACH PARTIAL FRAMING PLAN.
8. → INDICATES THE ROOF SLOPE.
9. HSS10x8x3/8 WITH 1/2" BOTTOM PLATE (OUTBOARD OF FRAMING) TOP OF STEEL 41.87'. SEE DETAIL 1/S-503.



B S-204 ELEVATION ALONG COLUMN LINE 2
SCALE: 1/8"=1'-0"



D S-204 ELEVATION ALONG COLUMN LINE 2.5
SCALE: 1/8"=1'-0"

N:\30181-01\CADD\Phase II Sheet Files\CP01-901810045-204.dgn
10/27/2017 3:00:50 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	FRAMING ELEVATIONS
				COUNTY SUSSEX	DESIGNED BY: GAP	
					CHECKED BY: RBG	

S-204
SHEET NO. 38
TOTAL SHTS. 189

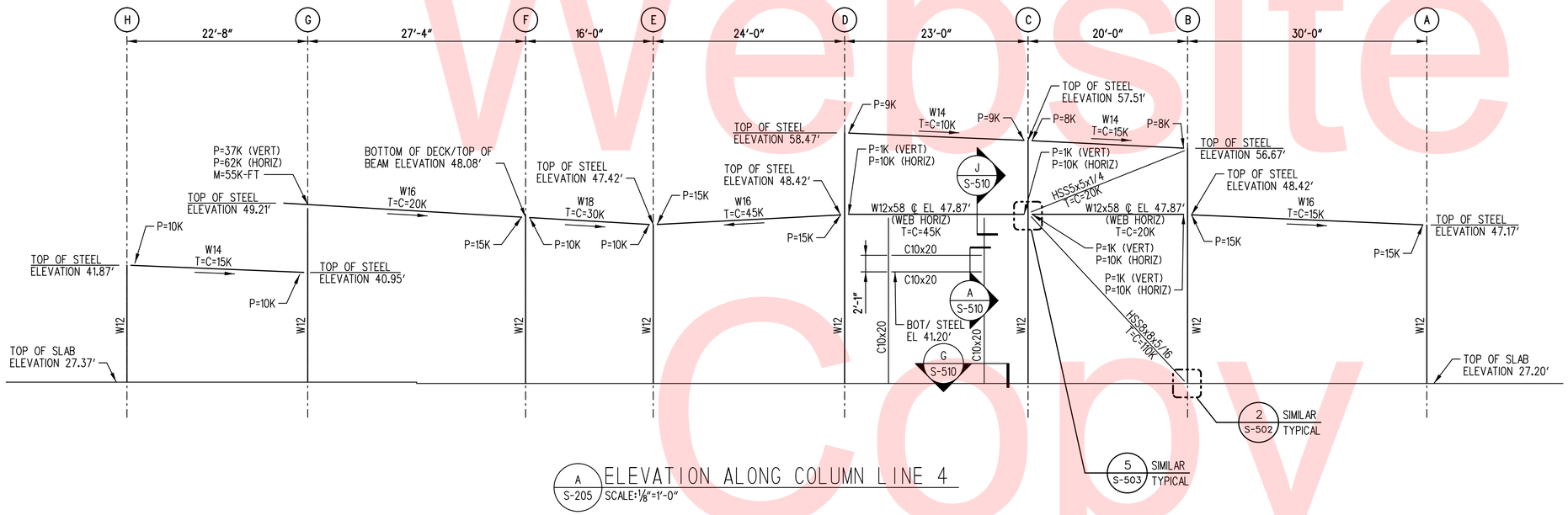
Unofficial Website Copy

GENERAL SHEET NOTES

1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS, AND TOP OF COLUMN ELEVATIONS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION
   C = COMPRESSION
   P = REACTIONS (SHEAR)

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOADS FOR INFILL BEAMS ARE AS GIVEN IN THE MEMBER LOAD SCHEDULES ON S-1XX SERIES SHEETS FOR EACH PARTIAL FRAMING PLAN.
8. ⟶ INDICATES THE ROOF SLOPE.



A S-205 ELEVATION ALONG COLUMN LINE 4
SCALE: 1/8"=1'-0"

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004S-205.dgn
10/27/2017 3:00:51 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	FRAMING ELEVATIONS
				COUNTY SUSSEX	DESIGNED BY: GAP	
					CHECKED BY: RBG	

S-205 | SHEET NO. 39 | TOTAL SHTS. 189

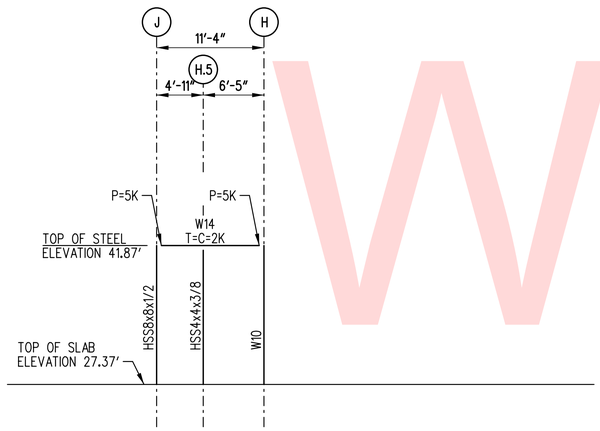
Unofficial Website Copy

GENERAL SHEET NOTES

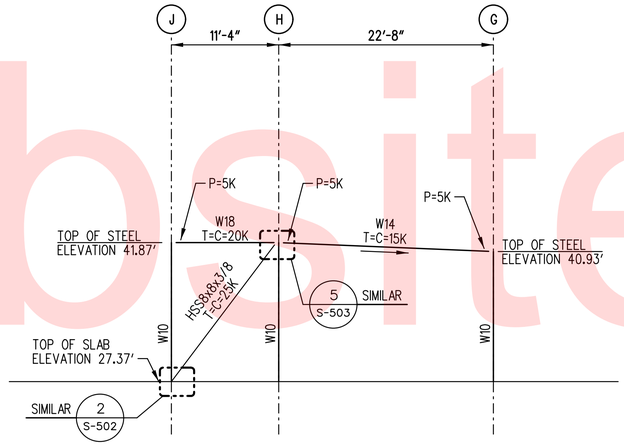
1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. REFER TO SHEETS S-601 TO S-603 FOR COLUMN SCHEDULES, BASE PLATE AND CONCRETE PEDESTAL DETAILS, AND TOP OF COLUMN ELEVATIONS.
5. COORDINATE ALL STRUCTURAL WORK WITH THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO LOCATE ALL ROOF AND DECK PENETRATIONS.
6. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION
   C = COMPRESSION
   P = REACTIONS (SHEA

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOADS FOR INFILL BEAMS ARE AS GIVEN IN THE MEMBER LOAD SCHEDULES ON S-1XX SERIES SHEETS FOR EACH PARTIAL FRAMING PLAN.
8. → INDICATES THE ROOF SLOPE.



A S-206 ELEVATION ALONG COLUMN LINE 4.6
SCALE: 1/8"=1'-0"



B S-206 ELEVATION ALONG COLUMN LINE 6
SCALE: 1/8"=1'-0"

N:\30181-019\CADD\Phase II Sheet Files\CP01-80180045-206.dgn
10/27/2017 3:00:51 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

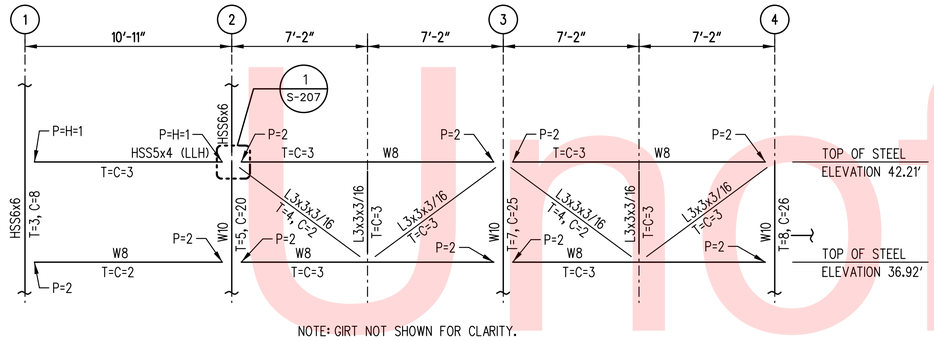
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: GAP
SUSSEX	CHECKED BY: RBG

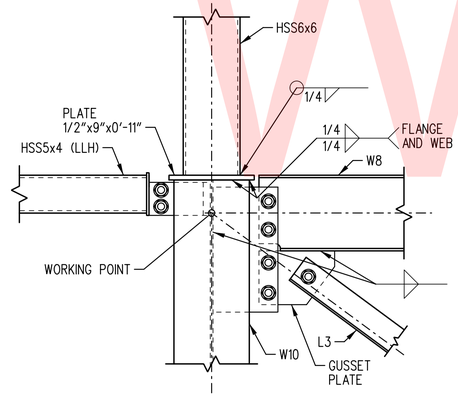
FRAMING ELEVATIONS

S-206	
SHEET NO.	40
TOTAL SHTS.	189



NOTE: GIRT NOT SHOWN FOR CLARITY.

A / S-207 ELEVATION ALONG COLUMN LINE A
SCALE: 1/4"=1'-0"



1 / S-207 DETAIL
SCALE: 1½"=1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET S-001 FOR GENERAL STRUCTURAL NOTES, CODES, AND LOADS.
2. REFER TO SHEETS S-002 TO S-006 FOR STRUCTURAL TYPICAL DETAILS. REFER TO SHEET A-001 FOR ABBREVIATIONS.
3. REFER TO SHEET S-106 FOR STRUCTURAL STEEL CONNECTION NOTES.
4. LOADS ARE FACTORED USING LRFD LOAD COMBINATIONS AND GIVEN ON THE DRAWINGS BY THE FOLLOWING SYMBOLOGY:

   T = TENSION (KIPS)
   C = COMPRESSION (KIPS)
   P = REACTIONS (SHEAR) (KIPS)
   H = HORIZONTAL REACTIONS (KIPS)
   M = MOMENT (FT-KIPS)

   CONNECTIONS AT END OF BEAMS OR GIRDERS SHALL BE DESIGNED AND DETAILED BY FABRICATOR. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

Unofficial Website Copy

N:\30181-01\CADD\Phase II Sheet Files\CP02-90180195-207.dgn
10/27/2017 3:01:01 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

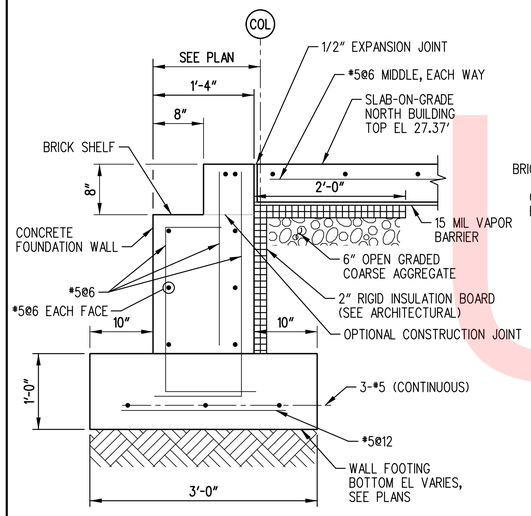
0 2' 4' 8'
SCALE: 1/4" = 1'-0"
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
BRIDGE NO.	
COUNTY	SUSSEX
DESIGNED BY: TJC/WAY/CMS	
CHECKED BY: RBG	

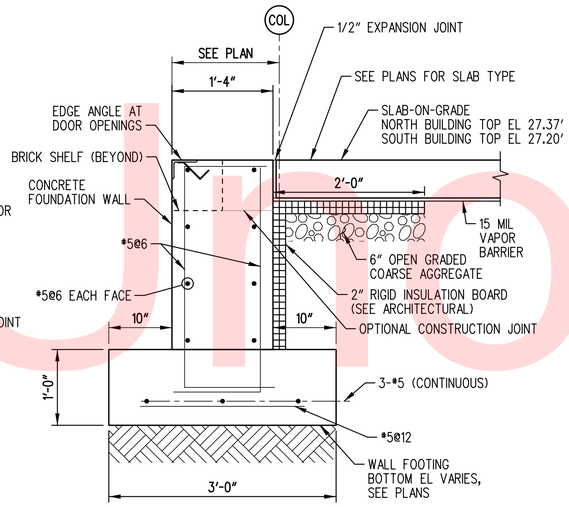
FRAMING ELEVATION
AND DETAILS
- VISITOR CENTER

S-207	
SHEET NO.	41
TOTAL SHTS.	189



SECTION AT BRICK SHELF

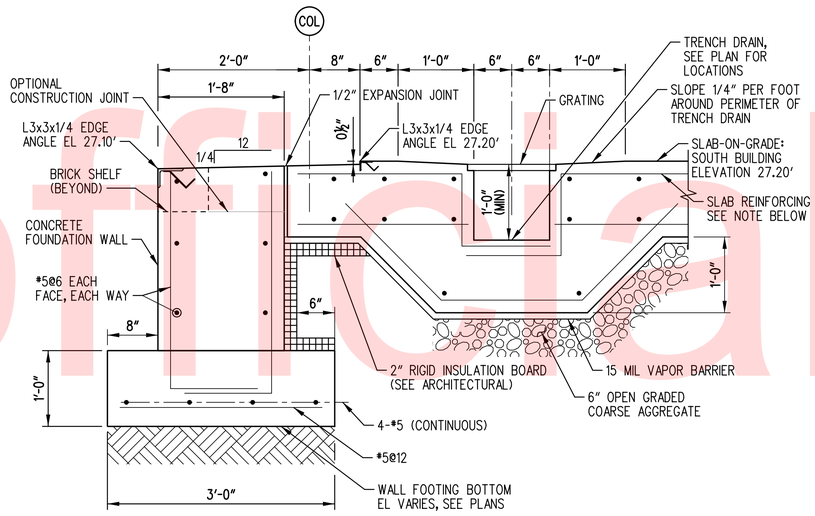
A / S-501 — SCALE: 1" = 1'-0" — REF: S-101



NOTE:
SLAB REINFORCING IS
*5@6 TOP & BOTTOM, EACH WAY AT 12" SLAB
*5@6 EACH WAY, MIDDLE AT 6" SLAB

SECTION AT DOORS, OR CURTAIN WALL, AND METAL PANEL WALLS

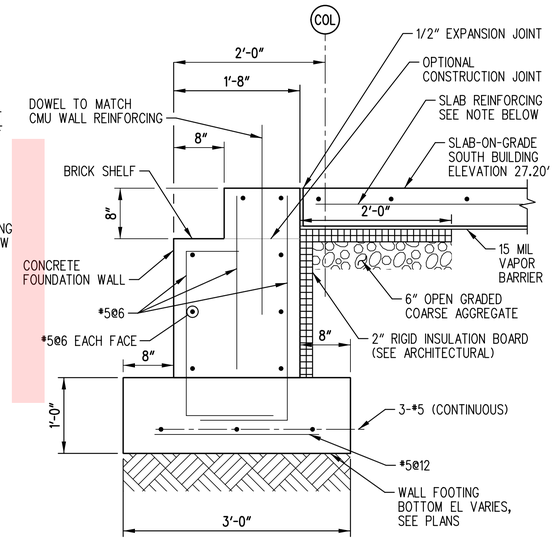
B / S-501 — SCALE: 1" = 1'-0" — REF: S-101, S-102



NOTE:
SLAB REINFORCING IS
*5@6 TOP & BOTTOM, EACH WAY

SECTION AT SECTIONAL DOORS

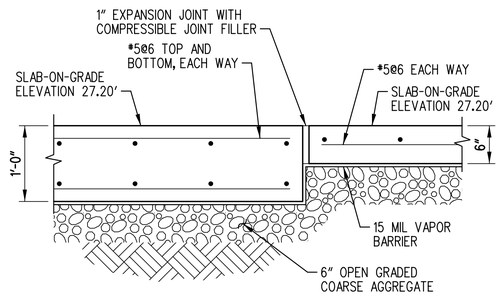
C / S-501 — SCALE: 1" = 1'-0" — REF: S-102



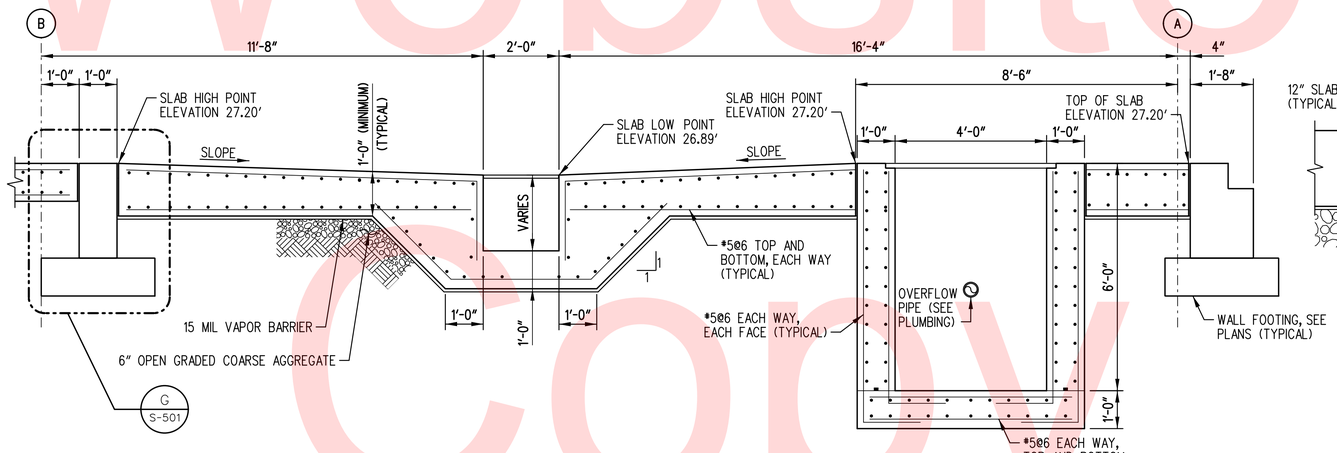
NOTE:
SLAB REINFORCING IS:
*5@6 EACH WAY, MIDDLE AT 6" SLAB

SECTION AT BRICK SHELF

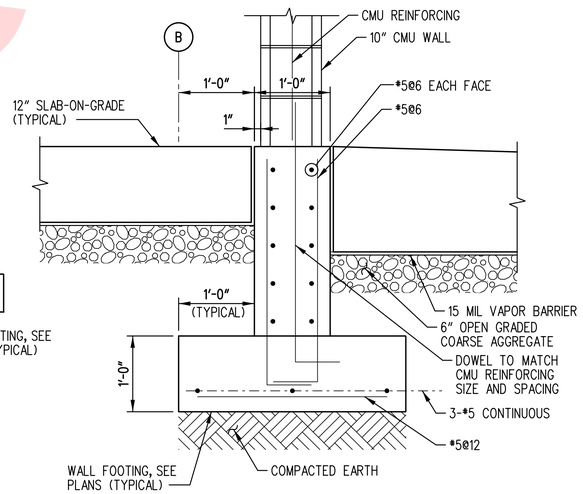
D / S-501 — SCALE: 1" = 1'-0" — REF: S-102



E / S-501 SECTION — SCALE: 1" = 1'-0" — REF: S-102



F / S-501 SECTION — SCALE: 1/2" = 1'-0" — REF: S-102



G / S-501 SECTION — SCALE: 1" = 1'-0" — REF: S-102

Unofficial Website Copy

N:\9018\-09\CADD\Phase II\Sheet Files\CP01-90180004S-501.dgn
10/27/2017 3:00:52 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 6" 1' 2'
SCALE: 1" = 1'-0"
0 1' 2' 4'
SCALE: 1/2" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: GAP	
COUNTY	CHECKED BY: RBG	
SUSSEX		

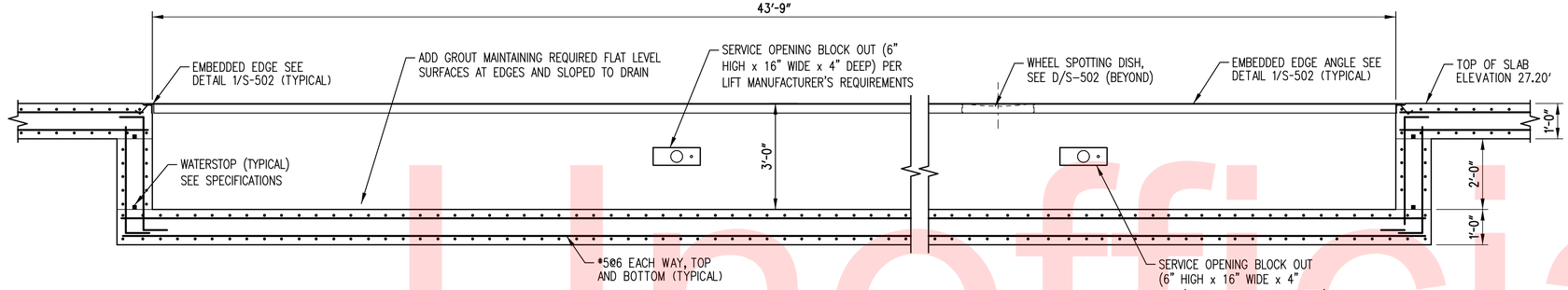
STRUCTURAL SECTIONS
AND DETAILS

S-501	
SHEET NO.	42
TOTAL SHTS.	189

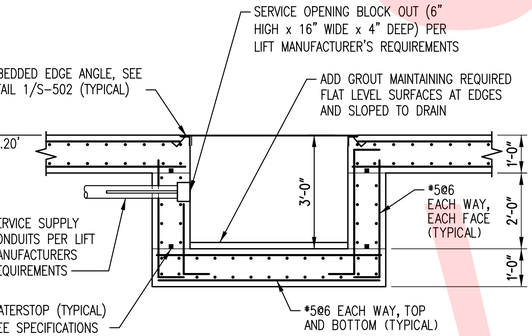
Unofficial Website Copy

GENERAL SHEET NOTES

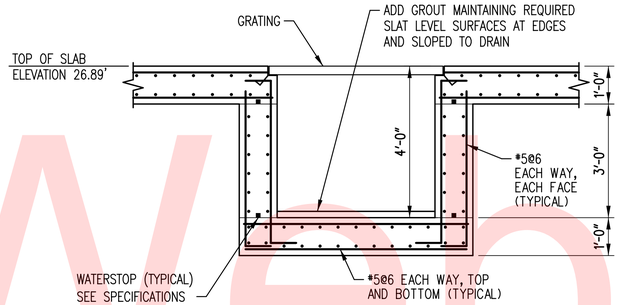
1. VERIFY PIT DIMENSIONS AND REQUIREMENTS WITH THE MANUFACTURER OF THE LIFT EQUIPMENT.
2. DO NOT PERFORM ANY FORMWORK OR CONCRETE WORK WITHOUT APPROVED LIFT MANUFACTURER'S SHOP DRAWINGS.



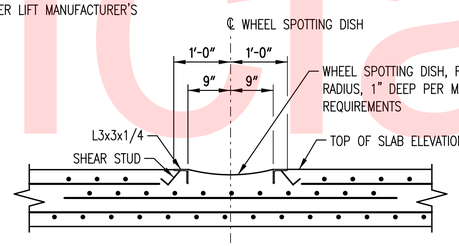
A S-502 SECTION
SCALE: 1/2" = 1'-0"
REF: S-102



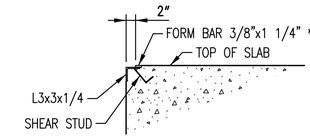
B S-502 SECTION
SCALE: 1/2" = 1'-0"
REF: S-102



C S-502 SECTION
SCALE: 1/2" = 1'-0"
REF: S-102

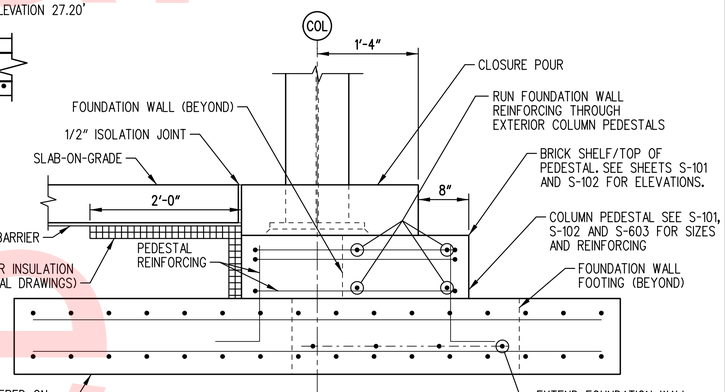


D S-502 SECTION
SCALE: 3/4" = 1'-0"
REF: S-102

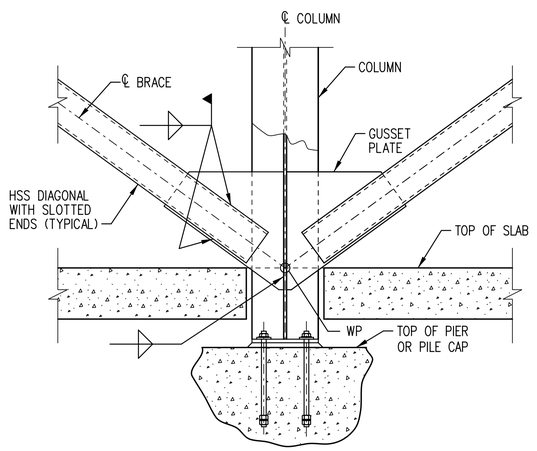


* SET THE ELEVATION OF THE FORM BAR LEVEL AND 3/8" ABOVE FINISHED FLOOR. SLOPE CONCRETE AWAY FROM FORM BAR DOWN TO FF ELEVATION. SET THE NOSING ANGLE BELOW THE FORM BAR AT FINISHED FLOOR ELEVATION PER LIFT MANUFACTURER'S REQUIREMENTS/INSTRUCTIONS.

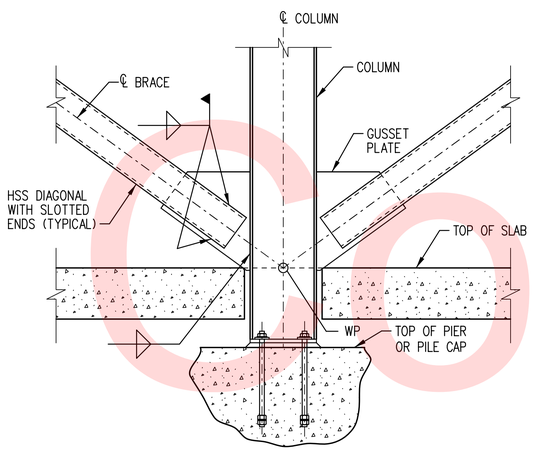
1 S-502 DETAIL
SCALE: 3/4" = 1'-0"
REF: S-502



E S-502 SECTION
SCALE: 1" = 1'-0"
REF: S-102

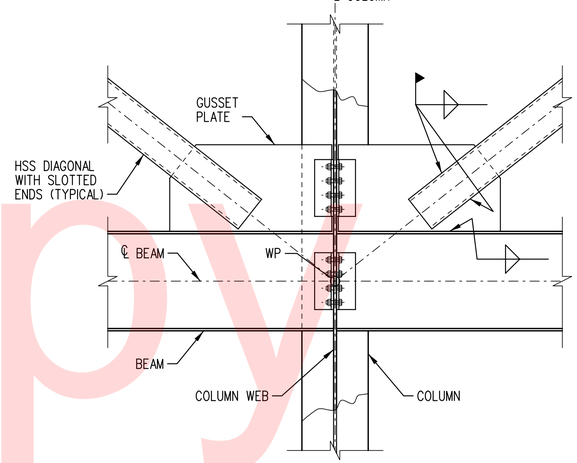


BRACE TO COLUMN WEB

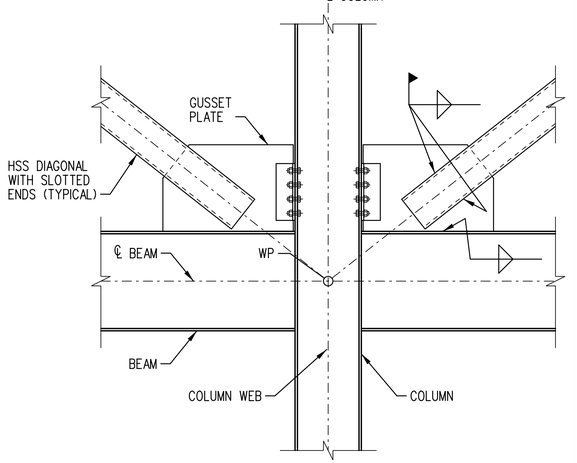


BRACE TO COLUMN FLANGE

2 S-502 DETAIL
SCALE: 3/4" = 1'-0"
REF: S-201, S-202, S-203, S-204, S-205, S-206



BRACE TO COLUMN WEB



BRACE TO COLUMN FLANGE

3 S-502 DETAIL
SCALE: 3/4" = 1'-0"
REF: S-205

0 6" 1' 2'
SCALE: 1" = 1'-0"

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

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

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

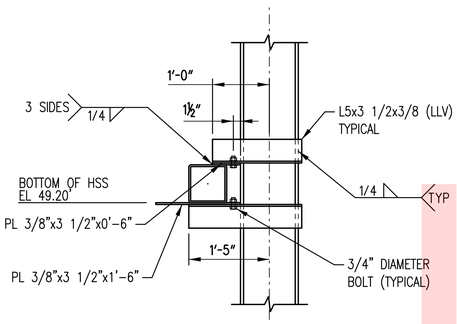
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	DESIGNED BY: RJN/GAP
COUNTY	CHECKED BY: RBG
SUSSEX	

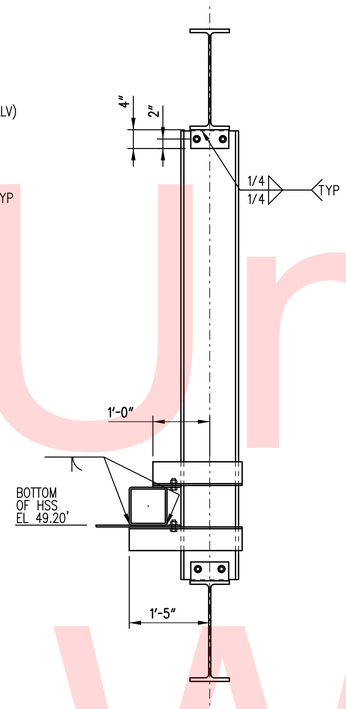
STRUCTURAL SECTIONS AND DETAILS

S-502	
SHEET NO.	43
TOTAL SHTS.	189

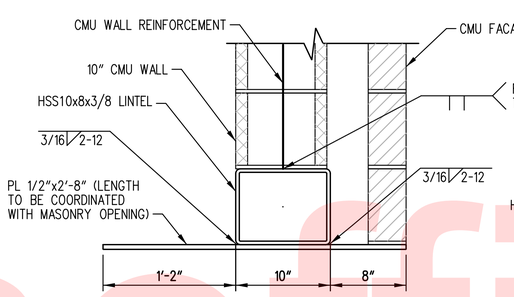
N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004S-502.dgn
10/27/2017 3:00:53 PM



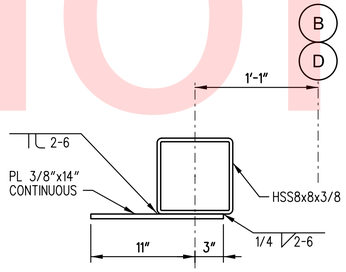
A / S-503 SECTION
SCALE: ¾" = 1'-0"
REF: S-105



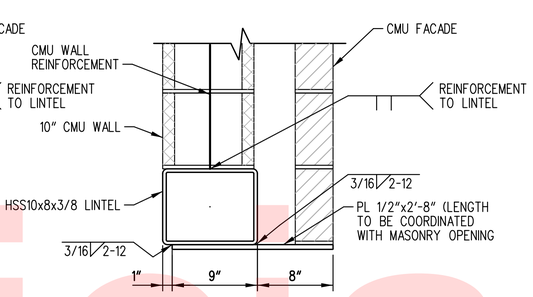
B / S-503 SECTION
SCALE: ¾" = 1'-0"
REF: S-105,S-106, S-201



AT MAINTENANCE BAY

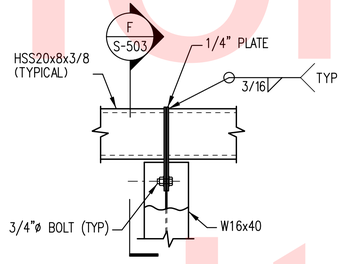


C / S-503 SECTION
SCALE: 1½" = 1'-0"
REF: S-105

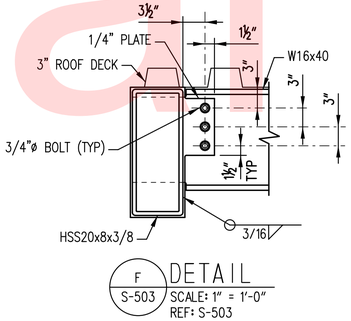


AT WASH BAY

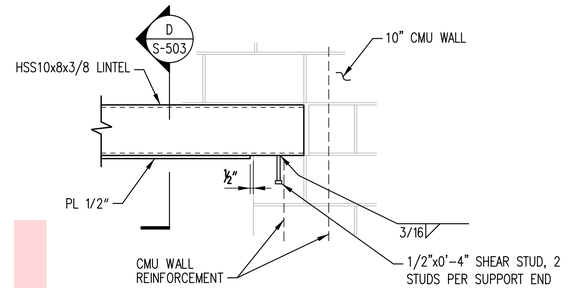
D / S-503 SECTION
SCALE: 1½" = 1'-0"
REF: S-503



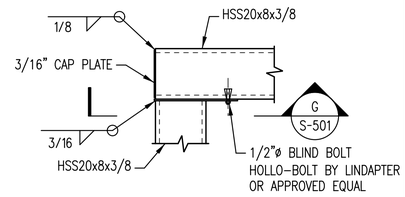
2 / S-503 DETAIL
SCALE: 1" = 1'-0"
REF: S-105



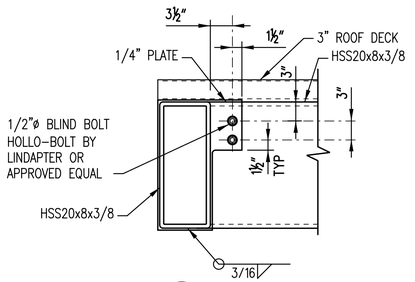
F / S-503 DETAIL
SCALE: 1" = 1'-0"
REF: S-503



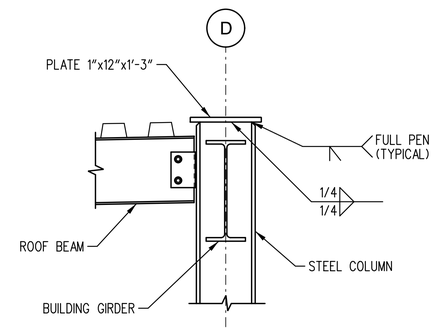
1 / S-503 DETAIL
SCALE: 1" = 1'-0"
REF: S-204



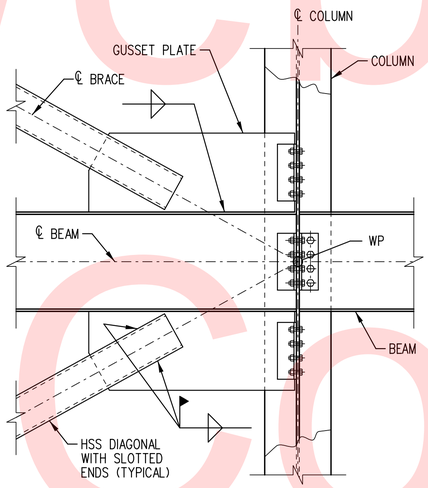
6 / S-503 DETAIL
SCALE: 1" = 1'-0"
REF: S-105



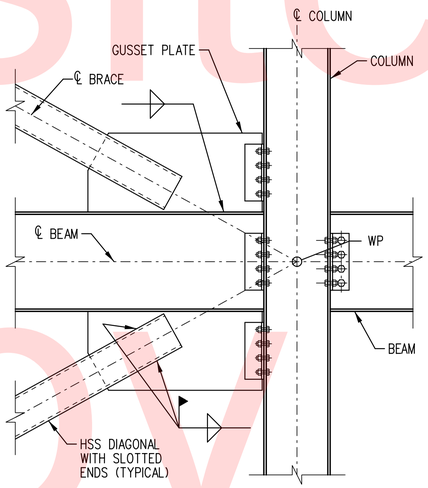
G / S-503 SECTION
SCALE: 1" = 1'-0"
REF: S-503



4 / S-503 DETAIL FOR COLUMNS D-5 AND D-6
SCALE: ¾" = 1'-0"
REF: S-201



BRACE TO COLUMN WEB



BRACE TO COLUMN FLANGE

5 / S-503 DETAIL
SCALE: ¾" = 1'-0"
REF: S-201, S-202, S-203, S-204, S-205, S-206

Unofficial Website Copy

0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

0 6" 1' 2'
SCALE: 1" = 1'-0"

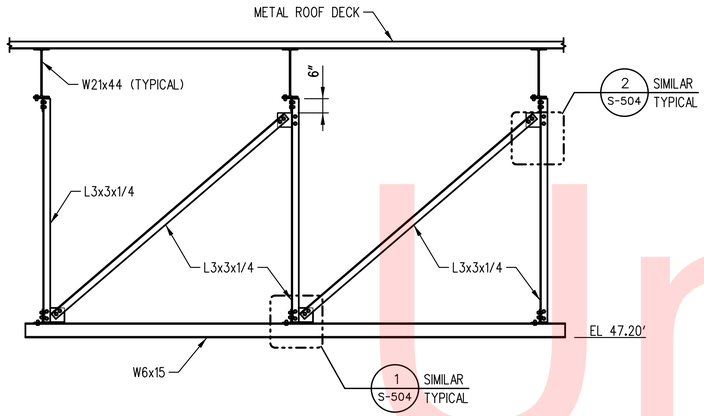
0 1' 2' 3'
SCALE: ¾" = 1'-0"

N:\9018\-01\CADD\Phase II Sheet Files\CP01-90180045-503.dgn
10/27/2017 3:00:53 PM

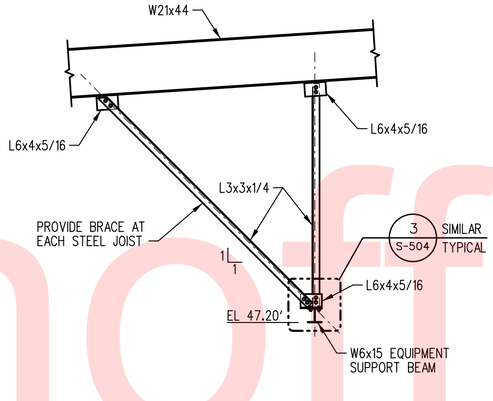
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.
			COUNTY SUSSEX	DESIGNED BY: HLH
				CHECKED BY: RBG

STRUCTURAL SECTIONS AND DETAILS

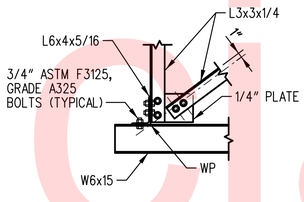
	S-503
SHEET NO.	44
TOTAL SHTS.	189



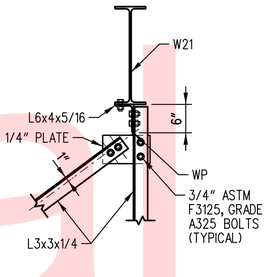
A S-504 SECTION
SCALE: 3/8" = 1'-0"
REF: S-106



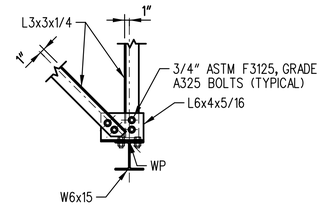
B S-504 SECTION
SCALE: 3/8" = 1'-0"
REF: S-106



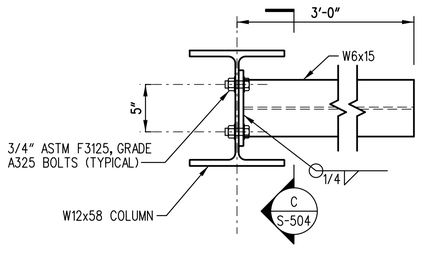
1 S-504 DETAIL
SCALE: 3/4" = 1'-0"
REF: S-504



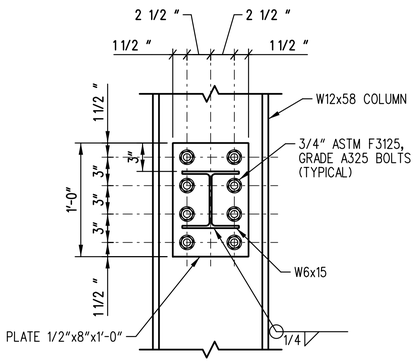
2 S-504 DETAIL
SCALE: 3/4" = 1'-0"
REF: S-504



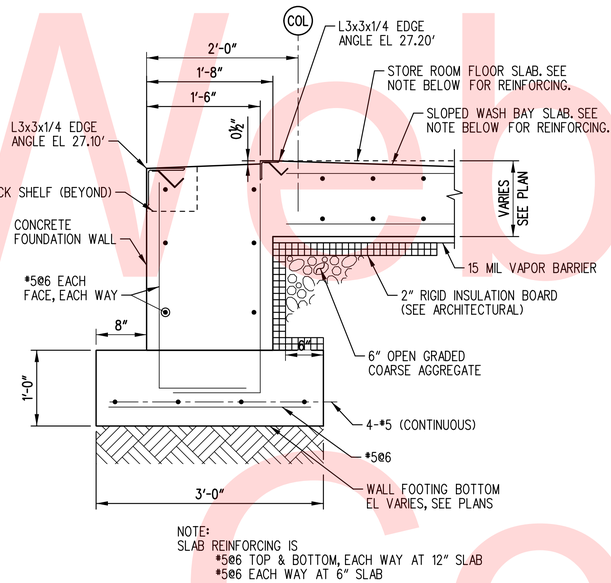
3 S-504 DETAIL
SCALE: 3/4" = 1'-0"
REF: S-504



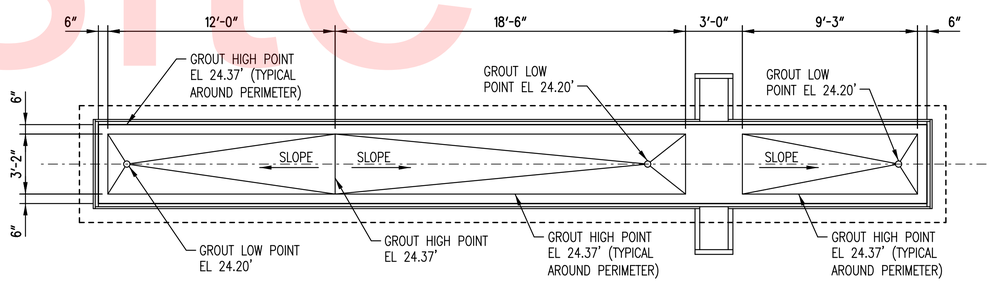
4 S-504 DETAIL
SCALE: 1½" = 1'-0"
REF: S-106



C S-504 SECTION
SCALE: 1½" = 1'-0"
REF: S-504



D S-504 SECTION
SCALE: 1" = 1'-0"
REF: S-102



5 S-504 DETAIL
SCALE: 1/4" = 1'-0"
REF: S-102

Unofficial Website Copy

N:\39185-01P\CADD\Phase II\Sheet Files\CP01-801810045-504.dgn
10/27/2017 3:00:54 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

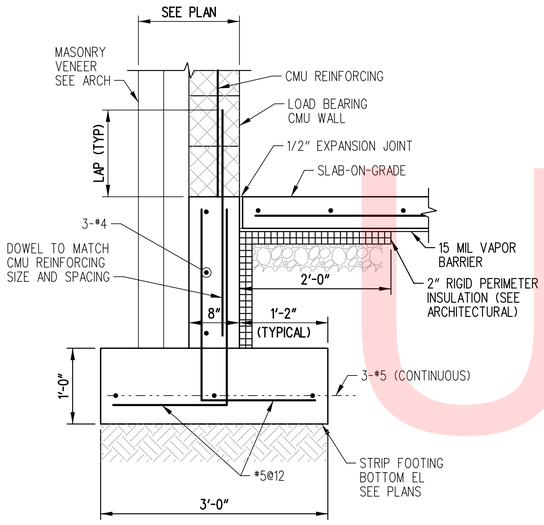
SCALE: 3/4" = 1'-0"
SCALE: 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

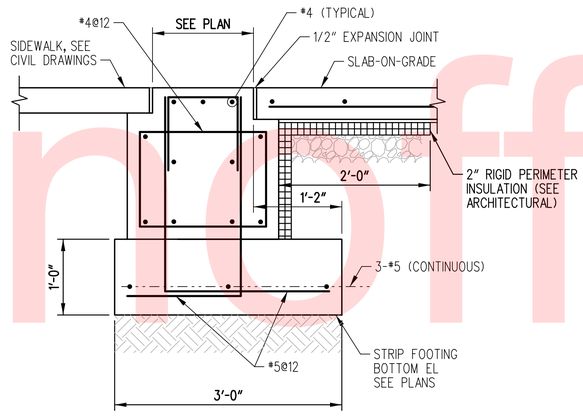
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: RJN/GAP	
COUNTY	CHECKED BY: RBG	
SUSSEX		

STRUCTURAL SECTIONS AND DETAILS

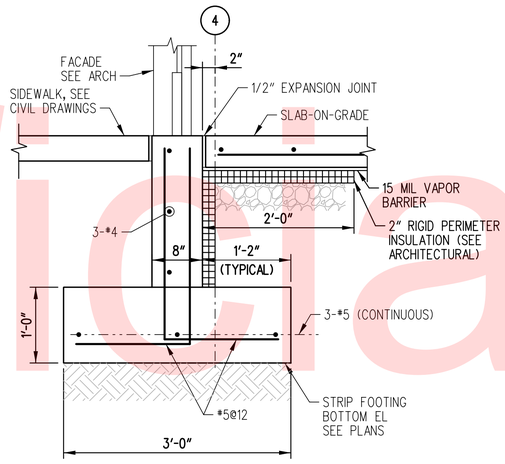
S-504	
SHEET NO.	45
TOTAL SHTS.	189



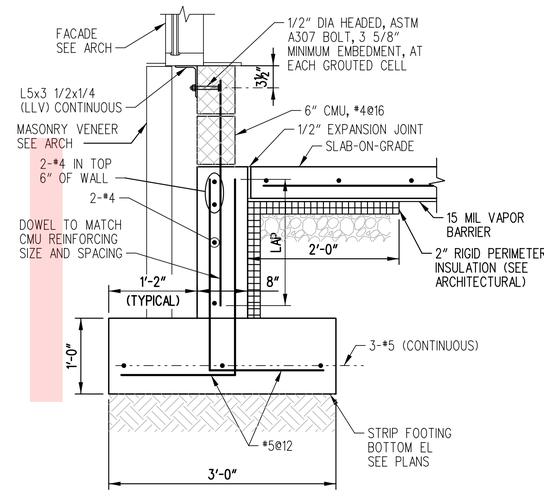
A S-505 SECTION
SCALE: 1" = 1'-0"
REF: S-107,S-108



B S-505 SECTION AT DOOR
SCALE: 1" = 1'-0"
REF: S-107,S-108



C S-505 SECTION
SCALE: 1" = 1'-0"
REF: S-107,S-108



D S-505 SECTION
SCALE: 1" = 1'-0"
REF: S-107,S-108

Unofficial Website Copy

N:\9018\-019\CADD\Phase II Sheet Files\CP02-90180195-505.dgn
10/27/2017 3:01:01 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

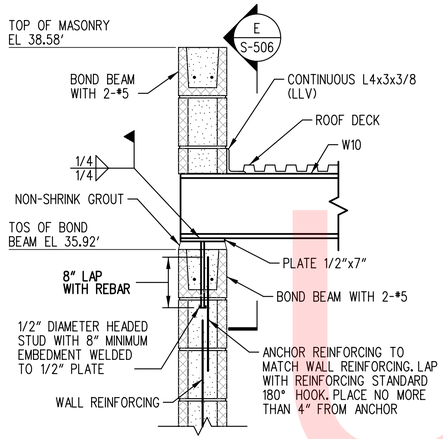
0 6" 1' 2'
SCALE: 1" = 1'-0"
0 1' 2' 4'
SCALE: 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

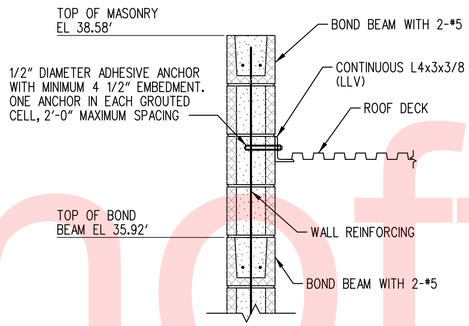
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: TJC/WAY/CMS	
CHECKED BY: RBG	

STRUCTURAL SECTIONS AND DETAILS - VISITOR CENTER

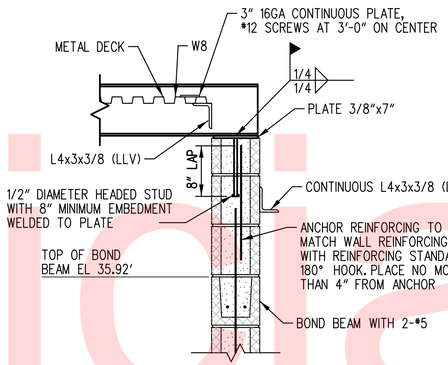
S-505
SHEET NO. 46
TOTAL SHTS. 189



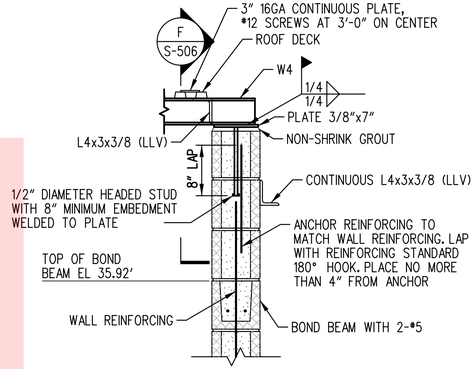
A S-506 SECTION
SCALE: 1" = 1'-0"
REF: S-109



B S-506 SECTION
SCALE: 1" = 1'-0"
REF: S-109



C S-506 SECTION
SCALE: 1" = 1'-0"
REF: S-109



D S-506 SECTION
SCALE: 1" = 1'-0"
REF: S-109

E S-506 SECTION
SCALE: 1" = 1'-0"
REF: S-506

F S-506 SECTION
SCALE: 1" = 1'-0"
REF: S-506

1 S-506 DETAIL
SCALE: 1" = 1'-0"
REF: S-109

2 S-506 DETAIL
SCALE: 1" = 1'-0"
REF: S-109

3 S-506 DETAIL
SCALE: 1" = 1'-0"
REF: S-109

Unofficial Website Copy

N:\9018\-019\C4D\Phase II Sheet Files\CP02-90181019S-506.dgn
10/27/2017 3:01:02 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

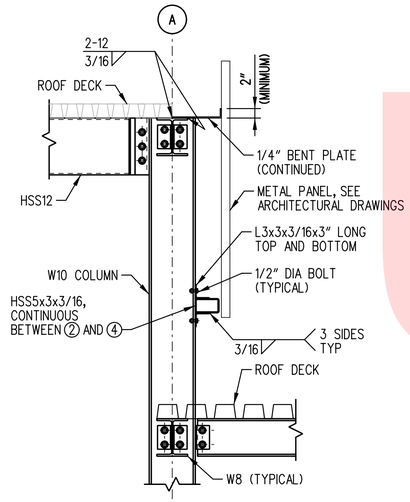
0 6" 1' 2'
SCALE: 1" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: RJN/GAP
SUSSEX	CHECKED BY: RBG

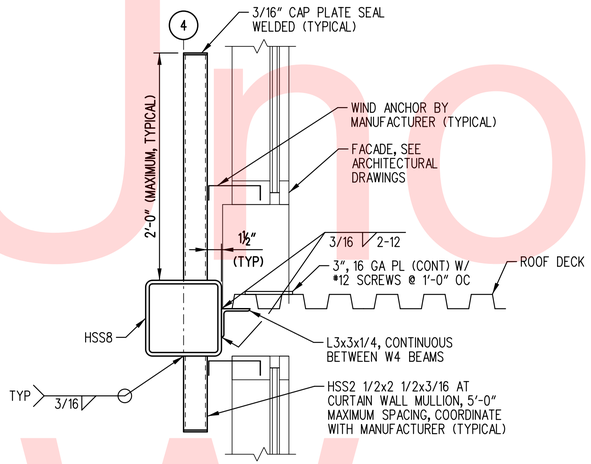
STRUCTURAL SECTIONS
AND DETAILS
- VISITOR CENTER

S-506	
SHEET NO.	47
TOTAL SHTS.	189

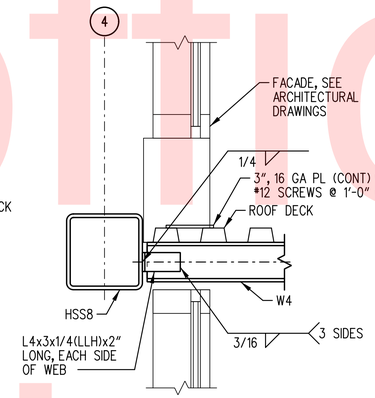


NOTES:
1. COORDINATE LOCATION OF HSS AND BENT PLATE WITH ARCHITECTURAL SHEETS AND METAL PANEL MANUFACTURER.
2. BRACING NOT SHOWN FOR CLARITY.

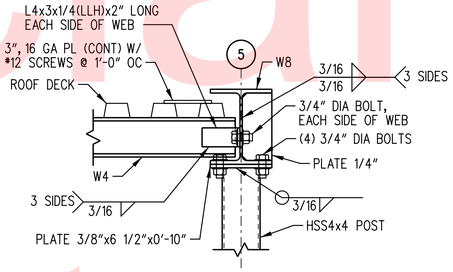
A S-507 SECTION
SCALE: 3/4" = 1'-0"
REF: S-109



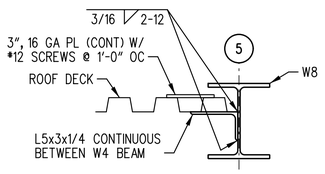
B S-507 SECTION
SCALE: 1½" = 1'-0"
REF: S-109



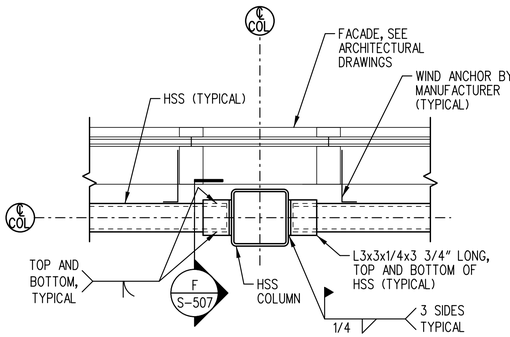
C S-507 SECTION
SCALE: 1½" = 1'-0"
REF: S-109



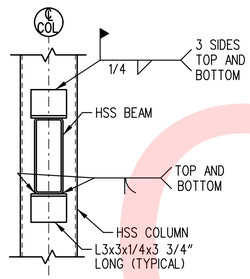
D S-507 SECTION
SCALE: 1½" = 1'-0"
REF: S-109



E S-507 SECTION
SCALE: 1½" = 1'-0"
REF: S-109



1 S-507 DETAIL
SCALE: 1½" = 1'-0"
REF: S-109



F S-507 SECTION
SCALE: 1½" = 1'-0"
REF: S-507

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019S-507.dgn
10/27/2017 3:09:02 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

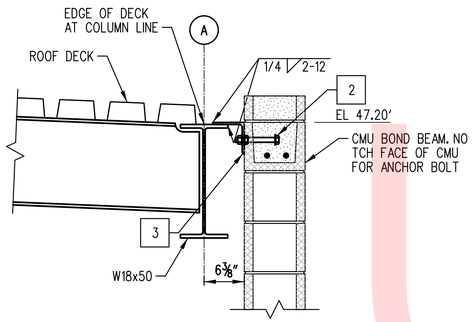
0 1' 2' 3'
SCALE: 3/4" = 1'-0"
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: TJC/WAY/CMS
SUSSEX	CHECKED BY: RBG

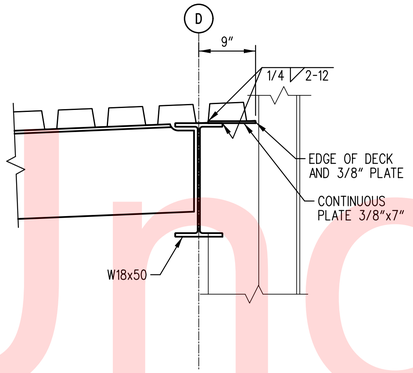
STRUCTURAL SECTIONS AND DETAILS – VISITOR CENTER

S-507
SHEET NO.
48
TOTAL SHTS.
189

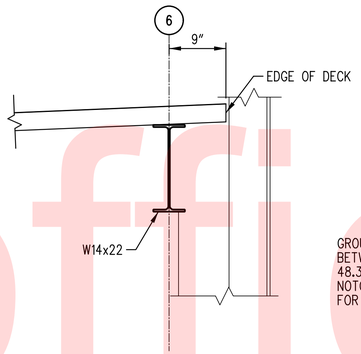


NOTE: BEAM TO GIRDER CONNECTION NOT SHOWN FOR CLARITY.

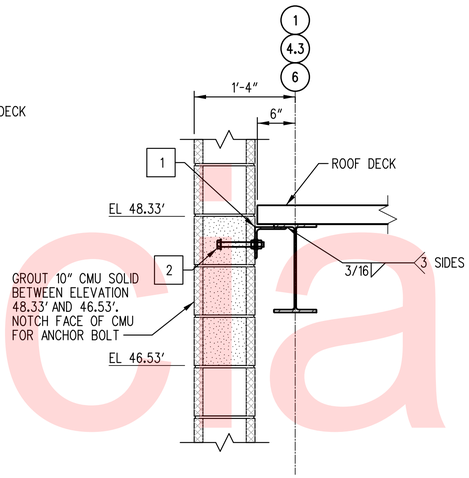
A S-509 SECTION
SCALE: 1" = 1'-0"
REF: S-105



B S-509 SECTION
SCALE: 1" = 1'-0"
REF: S-105, S-106



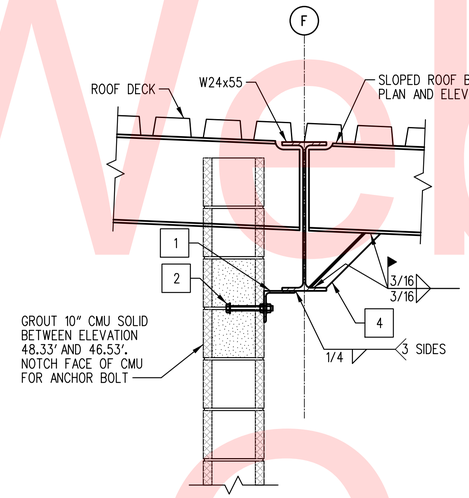
C S-509 SECTION
SCALE: 1" = 1'-0"
REF: S-104



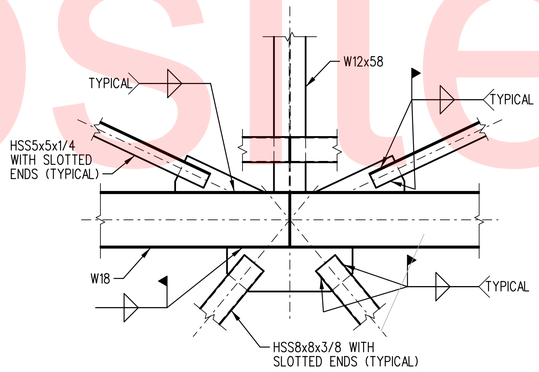
D S-509 SECTION
SCALE: 1" = 1'-0"
REF: S-105

GENERAL SHEET NOTES

1. L5x5x3/16x0'-6" WITH 13/16"x 2 1/2" VERTICAL SLOTTED HOLE AT 3'-0" ON CENTER.
2. 3/4" DIAMETER HEADED ANCHOR BOLT. DOUBLE NUTTED WITH 3" WASHERS. FINGER TIGHTEN ONLY. PLACE ANCHOR BOLT AT MIDDLE OF VERTICAL SLOTTED HOLE.
3. L5x5x3/16 CONTINUOUS WITH 13/16"x 2 1/2" VERTICAL SLOTTED HOLE AT 3'-0" ON CENTER.
4. L2x2x1/4 AT EACH ROOF BEAM, TYPICAL.
5. TOP OF STEEL ELEVATION SHALL BE MINIMUM 3" ABOVE THE ROOF'S BEAM BOTTOM OF STEEL AT EL 56.12' (28'-11" ABOVE FINISHED FLOOR) WHICHEVER IS GREATER.



E S-509 SECTION
SCALE: 1" = 1'-0"
REF: S-105



F S-509 SECTION
SCALE: 1½" = 1'-0"
REF: S-201

Unofficial Website Copy

N:\90181-010\CADD\Phase II Sheet Files\CP01-90181004S-509.dgn
10/27/2017 3:00:54 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

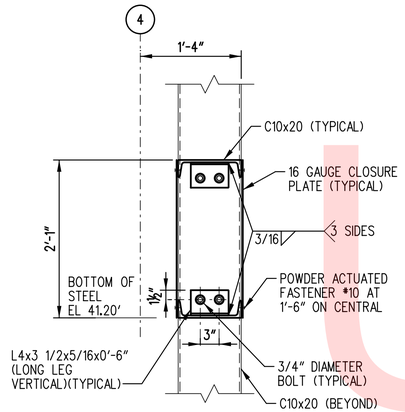
SCALE: ¾" = 1'-0"
SCALE: 1/2" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

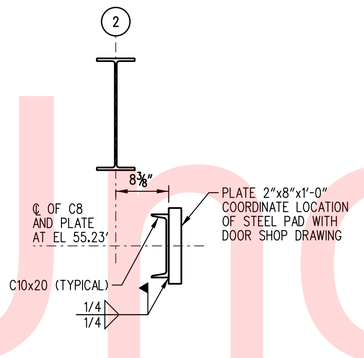
CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: WC
SUSSEX	CHECKED BY: RBG

STRUCTURAL SECTIONS
AND DETAILS

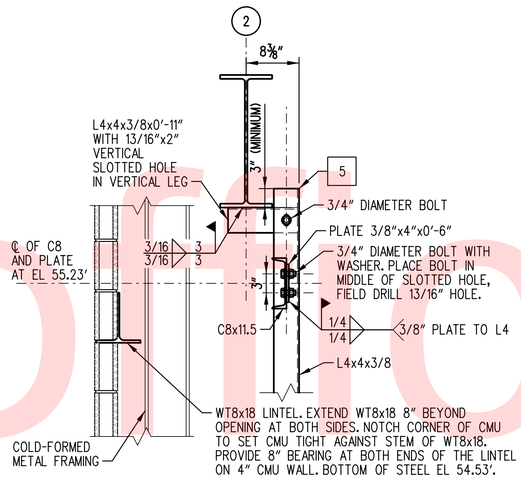
S-509	
SHEET NO.	50
TOTAL SHTS.	189



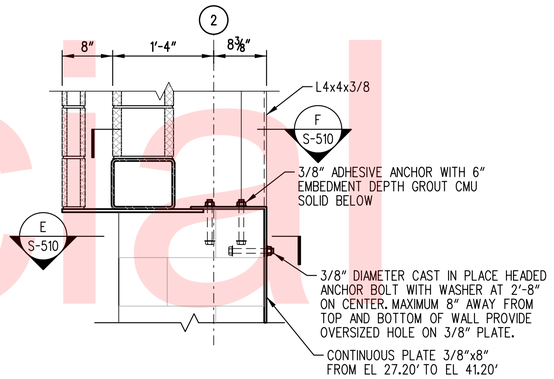
A S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-205



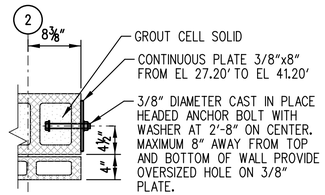
B S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-204



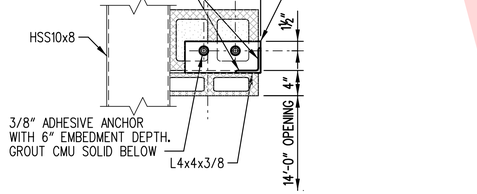
C S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-106, S-204



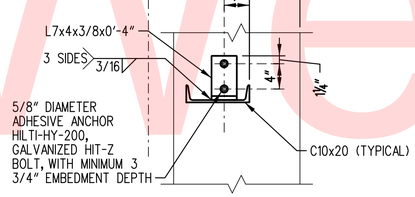
D S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-204



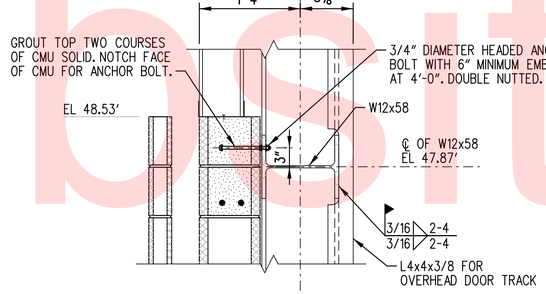
E S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-510



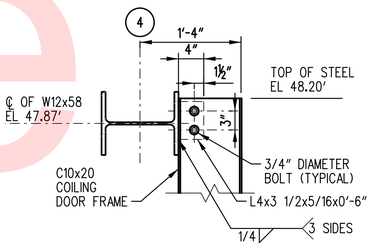
F S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-510



G S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-205



H S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-204



J S-510 SECTION
SCALE: 1" = 1'-0"
REF: S-205

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180045-510.dgn
10/27/2017 3:00:56 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: ¾" = 1'-0"
SCALE: 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: WC
CHECKED BY: RBG

STRUCTURAL SECTIONS AND DETAILS

S-510
SHEET NO. 51
TOTAL SHTS. 189

COLUMN SCHEDULE

COLUMN LOCATION	A-2	A-3	A-4	A-4.3	B-2	B-3	B-4	B-4.3	C-2	C-4	D-2	D-3	D-4	D-5	D-6	E-2	E-3	E-4	E-5
HIGH ROOF HIGH POINT											TOS EL 58.47′	TOS EL 58.47′	TOS EL 58.47′						
ELEVATION = 58.95′					TOS EL 56.67′	TOS EL 56.67′	TOS EL 56.67′		TOS EL 57.51′	TOS EL 57.51′									
INTERMEDIATE ROOF HIGH POINT														TOS EL 48.67′	TOS EL 48.67′				
ELEVATION = 48.20′	TOS EL 47.17′	TOS EL 47.17′	TOS EL 47.17′	TOS EL 47.17′				TOS EL 48.42′								TOS EL 47.42′	TOS EL 47.42′	TOS EL 47.42′	TOS EL 47.42′
LOW ROOF HIGH POINT																			
ELEVATION = 41.87′	W12x58	W12x79	W12x58	W12x58	W12x58	W14x74	W12x58	W12x58	W12x58	W12x58	W12x58	W14x74	W12x58	W14X74	W12x58	W12x58	W12x58	W12x58	W12x58
GROUND FLOOR LEVEL																			
SOUTH BUILDING EL = 27.20′ NORTH BUILDING EL = 27.37′																			
PEDESTAL	P-3	P-2	P-2	P-3	P-2	P-2	P-2A	P-3	P-2	P-2A	P-2	P-1	P-3	P-2	P-3	P-2	P-1	P-1	P-1
BASE PLATE	TYPE 2	TYPE 2A	TYPE 2	TYPE 2	TYPE 2A	TYPE 2A	TYPE 2A	TYPE 2	TYPE 2	TYPE 2	TYPE 2	TYPE 2	TYPE 2	TYPE 2A	TYPE 2	TYPE 2A	TYPE 2	TYPE 2A	TYPE 2
ANCHOR BOLT SIZE AND EMBEDMENT DEPTH	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT

NOTES:
1. COLUMN BASE PLATE DETAILS ARE SHOWN ON SHEET S-602. PEDESTAL DETAILS ON S-603.
2. ALL TOS ELEVATIONS LISTED ON SCHEDULE INDICATE TOP OF COLUMN OR IF THE COLUMN HAS A CAP THEN THE ELEVATION INDICATES TOP OF CAP PLATE.

COLUMN SCHEDULE

COLUMN LOCATION	E-6	F-2	F-3	F-4	F-5	F-5.7	F-6	G-1	G-2	G-2.5	G-3	G-4	G-5	G-5.7	G-6	H-1	H-2	H-2.5
HIGH ROOF HIGH POINT																		
ELEVATION = 58.95′																		
INTERMEDIATE ROOF HIGH POINT		TOS EL 48.08′	TOS EL 48.08′	TOS EL 48.08′	TOS EL 48.08′	TOS EL 48.08′	TOS EL 48.08′	TOS EL 48.70′	TOS EL 49.10′		TOS EL 49.10′	TOS EL 49.10′	TOS EL 49.10′	TOS EL 49.10′		TOS EL 48.70′		
ELEVATION = 48.20′	TOS EL 47.42′	CAP							CAP		CAP	CAP	CAP	CAP			TOS EL 41.87′	TOS EL 41.87′
LOW ROOF HIGH POINT																		
ELEVATION = 41.87′	W12x58	W12x58	W12x58	W12x58	W12x58	W12x58	W12x58	W10x33	W12x58	TOS EL 40.93′ W12x58	W12x58	W12x58	W12x58	W12x58	TOS EL 40.93′ W10x33	W10x33	W10x33	W10x33
GROUND FLOOR LEVEL																		
SOUTH BUILDING EL = 27.20′ NORTH BUILDING EL = 27.37′																		
PEDESTAL	P-2	P-3	P-2	P-2	P-2	P-2	P-3	P-10	P-8	P-8	P-8	P-8	P-8	P-8	P-9	P-10	P-8	P-8
BASE PLATE	TYPE 2	TYPE 2	TYPE 2	TYPE 2A	TYPE 2	TYPE 2	TYPE 2	TYPE 2A	TYPE 2	TYPE 2	TYPE 2	TYPE 2	TYPE 2A	TYPE 2	TYPE 1	TYPE 1	TYPE 2A	TYPE 1
ANCHOR BOLT SIZE AND EMBEDMENT DEPTH	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT

NOTES:
1. COLUMN BASE PLATE DETAILS ARE SHOWN ON SHEET S-602. PEDESTAL DETAILS ON S-603.
2. ALL TOS ELEVATIONS LISTED ON SCHEDULE INDICATE TOP OF COLUMN OR IF THE COLUMN HAS A CAP THEN THE ELEVATION INDICATES TOP OF CAP PLATE.

Unofficial Website Copy

S-601

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	GAP/JAKE
COUNTY	CHECKED BY:	RBG
SUSSEX		

COLUMN SCHEDULE

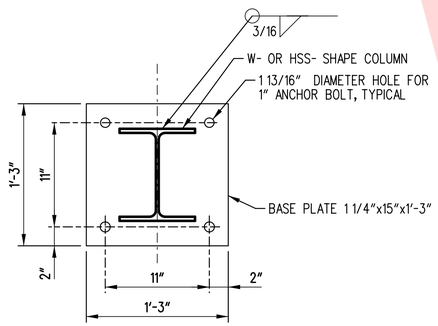
SHEET NO.
52
TOTAL SHTS.
189

N:\90181-01\D\CADD\Phase II Sheet Files\CP01-90181004S-601.dgn
10/27/2017 3:00:56 PM

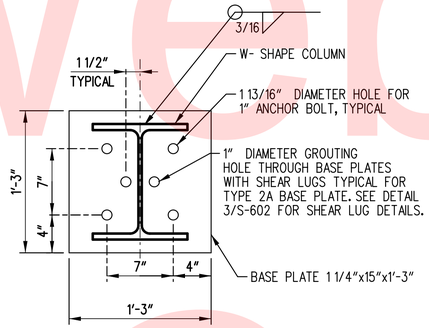
COLUMN SCHEDULE

COLUMN LOCATION	H-3	H-4	H-4.4	H-4.6	H-5.7	H-6	H.5-4.4	H.5-4.6	J-4.6	J-5.1	J-5.7	J-6
HIGH ROOF HIGH POINT												
ELEVATION = 58.95′ INTERMEDIATE ROOF HIGH POINT												
ELEVATION = 48.20′ LOW ROOF HIGH POINT	TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′		TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′	TOS EL 41.87′
ELEVATION = 41.87′ GROUND FLOOR LEVEL	W10x33	W10x33	HSS7x7x1/4	W10x33	W10x33	W10x33	TOS EL 37.25′ HSS4x4x3/8	3/8″ CAP HSS4x4x3/8	HSS8x8x1/2	HSS8x8x1/2	HSS8x8x1/2	W10x33
SOUTH BUILDING EL = 27.20′ NORTH BUILDING EL = 27.37′												
PEDESTAL	P-8	P-8	P-8	P-7	P-1	P-2	P-1	P-5	P-6	P-5	P-5	P-4
BASE PLATE	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1
ANCHOR BOLT SIZE AND EMBEDMENT DEPTH	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT	(4) 1″ DIA 12″ EMBEDMENT

NOTES:
1. COLUMN BASE PLATE DETAILS ARE SHOWN BELOW. PEDESTAL DETAILS ON S-603.
2. ALL TOS ELEVATIONS LISTED ON SCHEDULE INDICATE TOP OF COLUMN OR IF THE COLUMN HAS A CAP THEN THE ELEVATION INDICATES TOP OF CAP PLATE.

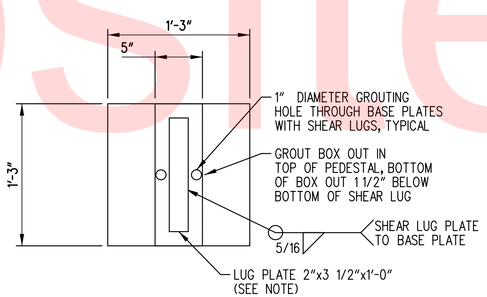


1 S-602 BASE PLATE TYPE 1
SCALE: 1½″=1′-0″
REF: S-101, S-102



NOTES:
1. BASE PLATE TYPE 2 DOES NOT HAVE A SHEAR LUG. PROVIDE GROUT HOLES AS REQUIRED FOR INSTALLATION TO ACHIEVE FULL BEARING.
2. BASE PLATE TYPE 2A HAS A SHEAR LUG. LOCATE GROUT HOLES AS REQUIRED.

2 S-602 BASE PLATE TYPE 2 AND 2A
SCALE: 1½″=1′-0″
REF: S-101, S-102



NOTES:
1. SEE COLUMN SCHEDULE ON S-601 AND S-602 FOR LOCATIONS OF COLUMN BASE PLATES WITH SHEAR LUGS.
2. ORIENT SHEAR LUG SUCH THAT THE LONG DIMENSION IS PERPENDICULAR TO THE COLUMN LINE WITH BRACING.

3 S-602 SHEAR LUG PLATE DETAIL
SCALE: 1½″=1′-0″
REF: S-101, S-102

ANCHOR ROD WASHER DIMENSIONS

ANCHOR ROD DIAMETER	MINIMUM WASHER SIZE	MINIMUM WASHER THICKNESS
1″	3″	3/8″
3/4″	2″	1/4″
-	-	-

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-901810045-602.dgn
10/27/2017 3:00:57 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

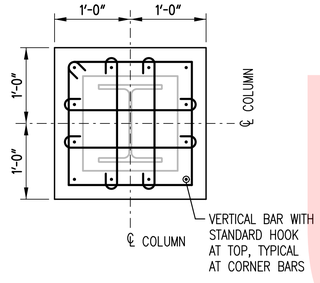
0 4″ 8″ 16″
SCALE: 1½″ = 1′-0″

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

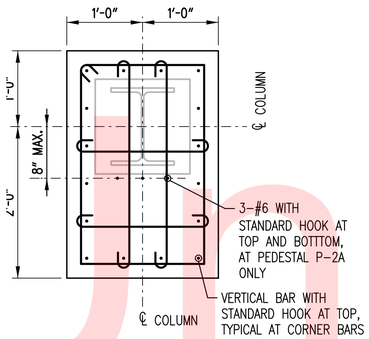
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	GAP/BJK
COUNTY	CHECKED BY:	RBG
SUSSEX		

COLUMN SCHEDULE AND BASE PLATE DETAILS

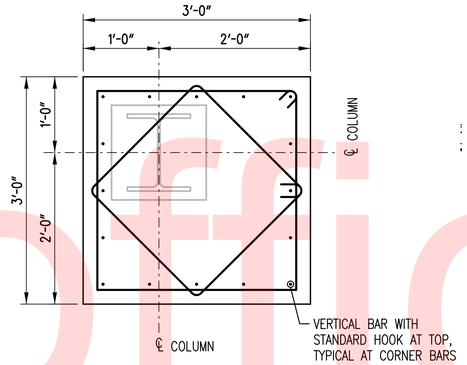
S-602	
SHEET NO.	53
TOTAL SHTS.	189



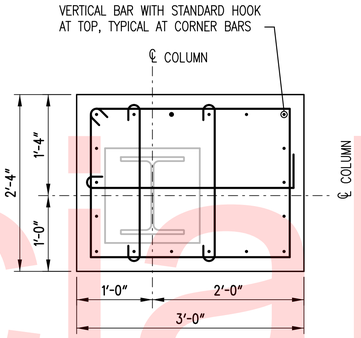
1 S-603 PEDESTAL P-1
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602



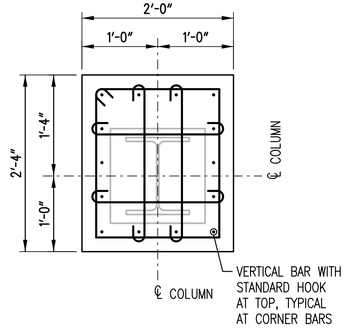
2 S-603 PEDESTAL P-2 AND P-2A
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602



3 S-603 PEDESTAL P-3
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602



4 S-603 PEDESTAL P-4
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602



5 S-603 PEDESTAL P-5
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602

6 S-603 PEDESTAL P-6
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602

7 S-603 PEDESTAL P-7
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602

8 S-603 PEDESTAL P-8
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602

9 S-603 PEDESTAL P-9
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602

10 S-603 PEDESTAL P-10
SCALE: 1 "=1'-0"
REF: S-101, S-102, S-601, S-602

GENERAL SHEET NOTES

1. REFER TO PIER/PEDESTAL SCHEDULE ON SHEETS S-101 AND S-102 FOR PEDESTAL REINFORCING.
2. REFER TO SHEETS S-601 AND S-602 FOR COLUMN AND BASE PLATE SCHEDULES AND SHEAR LUG LOCATIONS.

Unofficial Website Copy

N:\9018\-019\CADD\Phase II Sheet Files\CP01-90181004S-603.dgn
10/27/2017 3:00:57 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

0 6" 1' 2'
SCALE: 1" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	GAP/BJK
COUNTY	CHECKED BY:	RBG
SUSSEX		

PEDESTAL DETAILS

S-603	
SHEET NO.	54
TOTAL SHTS.	189

ARCHITECTURAL ABBREVIATIONS

ABV	ABOVE
AC	AIR CONDITIONING (CONDITIONER)
AD	ACCESS DOOR (OR PANEL)
ADA	AAMERICAN WITH DISABILITIES ACT
ADD	ADDENDUM
ADJ	ADJACENT
AES	ABOVE EXISTING SLAB
AF	ACCESS FLOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
APC	ACOUSTICAL PANEL CEILING (LAY-IN)
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASB	ASBESTOS
ASP	ASPHALT
ATC	ACOUSTICAL TILE CEILING (CONCEALED SUSPENSION)
AWP	ACOUSTICAL WALL PANEL
BB	BULLETIN BOARD (GLASS COVERED)
BC	BOTTOM OF CURB
BD	BOARD
BEN	BENCH
BETW	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BR	BRICK
BR/S	BACKER ROD AND SEALANT
C	CONDUIT
C/C	CENTER TO CENTER
CB	CHALK BOARD
CAB	CABINET
CARP	CARPET
CARPT	CARPET TILE
CEM	CEMENT
CER	CERAMIC
CI	CAST IRON
CG	CORNER GUARD
CH	CEILING HEIGHT
CJ	CONTROL JOINT
CL	CENTERLINE
CLOS	CLOSET
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEAR OPENING
COL	COLUMN
COMP	COMPACTED
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONV	CONVECTOR
CR	COLD ROLLED
CSK	COUNTERSUNK
CSPE	CHLOROSULFONATED POLYETHYLENE ELASTOMER
CT	CERAMIC TILE
CTR	COUNTER
CW	COLD WATER
CX	CONNECT TO EXISTING
D	DOUBLE
DEG	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIR	DIRECTORY
DN	DOWN
DO	DOOR OPENING
DR	DOOR
DS	DOWNSPOUT
DWG	DRAWING
E	EAST
EA	EACH
EF	EACH FACE
EFS	EXTERIOR FINISH SYSTEM
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EM	ENTRY MAT
EP	ETHYLENE PROPYLENE-BASED (SINGLE PLY ROOFING)
EPB	ELECTRIC PANEL BOX
EPDM	ETHYLENE-PROPYLENE-DIENE MEMBRANE
EPS	EXPANDED POLYSTYRENE
EPX	EPOXY
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
EUH	ELECTRIC UNIT HEATER
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWCA	ELECTRIC WATER COOLER - ACCESSIBLE
EXIST	EXISTING
EXP	EXPANSION OR EXPOSED
EXT	EXTERIOR
F	FILLER
FC	FAN COIL UNIT
FD	FLOOR DRAIN OR FIRE DAMPER
FDR	FOLDING DOOR (WOOD OR FABRIC)
FE	FIRE EXTINGUISHER ON BRACKET
FEC	FIRE EXTINGUISHER CABINET
FH	FLAT HEAD
FIRE T	FIRE TREATED
FIN	FINISH OR FINISHED
FIX	FIXTURE
FL	FLASHING
FLM	FULL LENGTH MIRROR
FLR	FLOOR
FR	FIRE RATED
FRC	FIBER-REINFORCED COATING
FS	FOLDING SHELF
FSS	FOLDING SHOWER SEAT
FT	FOOT OR FEET
FTG	FOOTING
FWP	FABRIC-WRAPPED PANEL (FABRICATED; TACKABLE; ACOUSTICAL PANEL)
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GEN	GENERAL
GL	GLASS
GLM	GLASS UNIT MASONRY (GLASS BLOCK)
GMU	GLAZED MASONRY UNIT
GRD	GROUND
GP	GYPSUM PLASTER
GRT	GROUT
GVP	GYPSUM VENEER PLASTER
GYPB	GYPSUM BOARD (WALL OR CEILING)
GYPBS	GYPSUM BOARD SHAFT-WALL ASSEMBLY
H	HEAD
HB	HORIZONTAL BLIND
HDW	HARDWARE
HM	HOLLOW METAL
HOR	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HT	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
ID	INSIDE DIAMETER
IN	INCH
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
J	JAMB
JC	JANITOR'S CLOSET
JT	JOINT
KIT	KITCHEN
L	LINTEL
LAB	LABORATORY
LAV	LAVATORY
LG	LONG
LIN	LINOLEUM FLOOR COVERING
LLV	LONG LEG VERTICAL
LOC	LOCATION
LOCK	LOCKER
LP	LOW POINT
LT	LIGHT
LTG	LIGHTING
LV	LOUVER
M	MIRROR OR MEN
MACH	MACHINE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MC	MEDICINE CABINET
MET	METAL
MDF	MEDIUM DENSITY FIBERBOARD
MFB	MINERAL FIBER BLANKET
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MK	MARK
MO	MASONRY OPENING
MP	METAL PANEL
MR	MOP RACK
MTD	MOUNTED
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
ND	SANITARY NAPKIN DISPENSER
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OHD	OVERHEAD COILING DOOR
OHG	OVERHEAD COILING GRILLE
OP	OPERABLE PANEL PARTITION (HUNG FROM OVERHEAD TRACK)
OPNG	OPENING
OPP	OPPOSITE
OZ	OUNCE
PAV	PAVER TILE
PC	PIECE/PRECAST CONCRETE
PF	PLASTIC FABRICATION
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PREFAB	PREFABRICATED
PRES T	PRESSURE TREATED
PT	PAINT
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
QTY	QUANTITY
R	RISER OR RADIUS
RB	RESILIENT WALL BASE AND ACCESSORIES (VINYL BASE; RUBBER BASE; TREADS; NOSINGS; EDGINGS)
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN OR ROUND
REQ'D	REQUIRED
RF	RESILIENT FLOORING (VINYL; RUBBER; VINYL COMPOSITION; SHEET FLOORING)
REBAR	REINFORCING BAR
REINF	REINFORCED OR REINFORCING
RESF	RESINOUS FLOORING
REQ	REQUIRED
RET	RETURN
REV	REVISION
RH	ROBE HOOK
RM	ROOM
RO	ROUGH OPENING
RWR	RECESSED WASTE RECEPTACLE
RV	ROOF VENT
RX	REMOVE EXISTING
S	SILL, SOUTH OR SINGLE
SC	SPECIAL COATING (OTHER THAN PAINT SYSTEMS)
SCH	SCHEDULE OR SCHEDULED
SCR	SHOWER CURTAIN ROD
SD	SOAP DISPENSER OR STORM DRAIN
SECT	SECTION
SF	SQUARE FOOT
SFT	STRUCTURAL FACING TILE
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SJ	STEEL JOIST
SND	SANITARY NAPKIN DISPOSAL
SOD	SECTIONAL OVERHEAD DOOR (STEEL; ALUMINUM; PLASTIC PANEL)
SPEC	SPECIFICATION
SP	STAND PIPE
SQ	SQUARE
SS	STAINLESS STEEL OR SERVICE SINK
SSM	SOLID SURFACING MATERIAL
STAT	STATIONARY
STL	STEEL
STRUCT	STRUCTURAL OR STRUCTURE
SUSP	SUSPENDED
SWR	SURFACE-MOUNTED WASTE RECEPTACLE
SYS	SYSTEM
T	TILE
TOB	TOWEL BAR
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
TC	TOP OF CURB
TCD	TOILET SEAT COVER DISPENSER
TEL	TELEPHONE
TER	TERRAZZO
TH	THICK
TO	TOP OF
TOS	TOP OF STEEL
TOW	TOP OF WALL
TP	TOILET PARTITION (WATER CLOSET; URINAL; SHOWER; SCREEN)
TPD	TOILET PAPER DISPENSER
TR	TREAD
TYP	TYPICAL
U	UNIT
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
V	VENT
VB	VERTICAL BLIND
VDB	VISUAL DISPLAY BOARD (HINGED CONFERENCE UNIT)
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VP	VAPOR BARRIER
VS	VERTICAL STANDPIPE
W	WOMEN, WIDTH, WEST OR WOVEN
W/	WITH
WC	WATER CLOSET OR WALL COVERING (VINYL OR TEXTILE WALL COVERING; WALL PAPER)
WD	WOOD
WH	WEEP HOLE
WHT	WHITE
WO	WINDOW OPENING
WP	WATERPROOF OR WORKING POINT
WR	WATER RESISTANT OR WASTE RECEPTACLE
WT	WEIGHT
WWF	WOVEN WIRE FABRIC
YD	YARD
YR	YEAR

ARCHITECTURAL LEGEND

BRICK

CONCRETE MASONRY UNITS

STRUCTURAL CLAY UNITS

GYPSUM BOARD PARTITIONS

WOOD-FINISH GRADE

WOOD BLOCKING

RIGID WALL/PERIMETER INSULATION

RIGID ROOF INSULATION

BATT INSULATION

CONCRETE

POROUS FILL

EARTH

METAL PATTERN

DOOR NUMBER SYMBOL

LOUVER, WINDOW, CURTAIN WALL, STORFRONT NUMBER SYMBOL

ROOM NUMBER SYMBOL

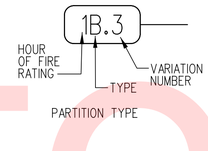
WALL/BUILDING SECTION SYMBOL

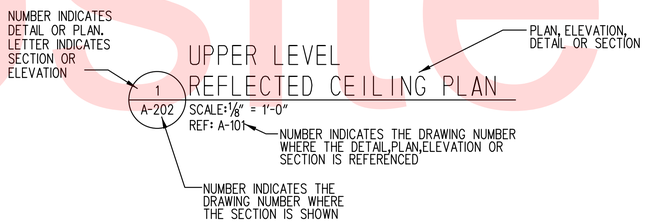
TITLE AND DETAIL REFERENCE SYMBOL

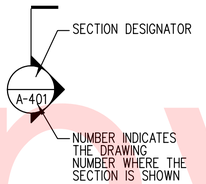
NUMBER-DRAWING NOTE

REVISION

NORTH ARROW (CONSTRUCTION NORTH)







NOTE: CONTRACTOR SHALL BE RESPONSIBLE TO OBTAINING ALL REQUIRED PERMITS FOR THIS PROJECT.

Unofficial Website Copy

N:\90181-019\CADD\Phase 1\Sheet Files\CP01-90181004A-001.dgn
10/27/2017 3:01:05 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

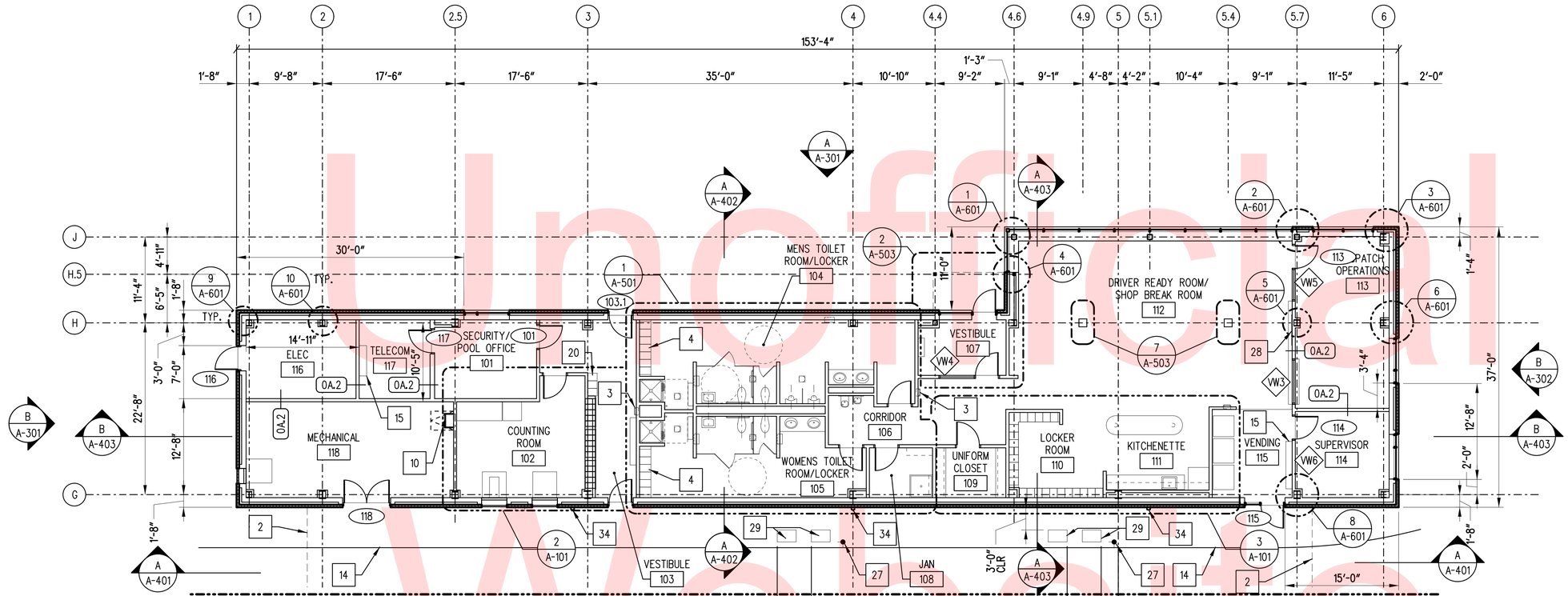
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

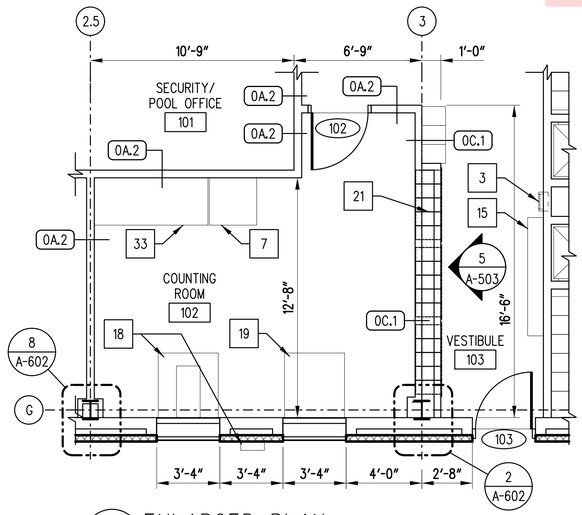
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: NCL	
CHECKED BY: EJ	

ARCHITECTURAL ABBREVIATIONS AND LEGEND

	A-001
SHEET NO.	56
TOTAL SHTS.	189



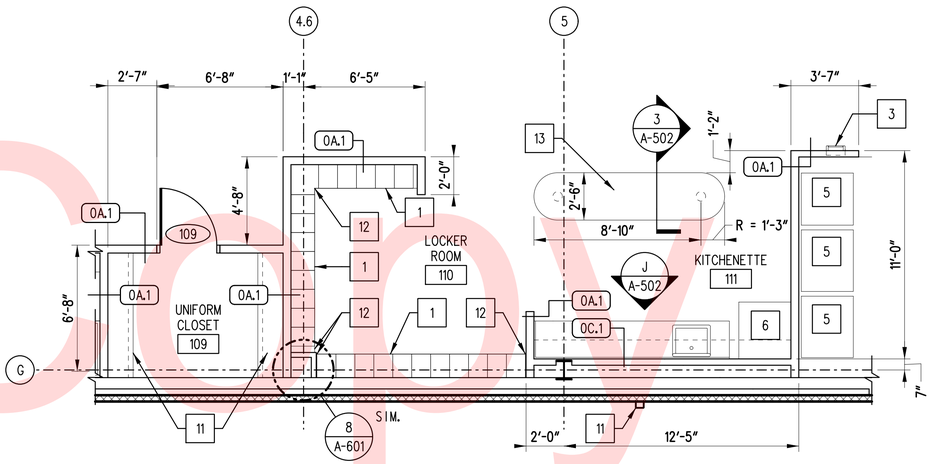
1 / A-101 FLOOR PLAN - NORTH BUILDING
SCALE: 1/8"=1'-0"



2 / A-101 ENLARGED PLAN
SCALE: 1/4"=1'-0"

COUNTING ROOM 102 NOTES:

1. PROVIDE ALL EQUIPMENT FOR THE COUNTING ROOM AS SHOWN AND AS SPECIFIED IN SECTION 111000.
2. COORDINATE REQUIREMENTS OF EQUIPMENT WITH THROUGH-WALL COMPONENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. FOR SPECIFIED EQUIPMENT NOT SHOWN ON THE PLANS COORDINATE WITH OWNER FOR FINAL LOCATIONS.



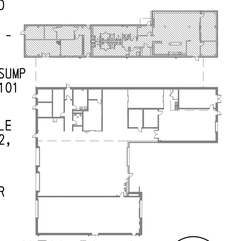
3 / A-101 ENLARGED PLAN
SCALE: 1/4"=1'-0"

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON PLAN SHEETS DO NOT NECESSARILY APPLY TO EVERY PLAN SHEET.
2. NOT ALL DIMENSIONS, WALL TAGS, OR DOOR NUMBERS ARE PROVIDED ON FLOOR PLANS. SEE ENLARGED PLANS OF AREAS INDICATED ON PLAN FOR SUCH ITEMS.

CONSTRUCTION NOTES

1. 12" WIDE BY 15" DEEP DOUBLE TIER LOCKERS
2. LINE OF ROOF ABOVE.
3. FIRE EXTINGUISHER AND CABINET: SURFACE MTD. (FEC-S) ON CMU WALLS SEMI-RECESSED (FEC-SR) IN STUD WALLS LESS THAN 6" RECESSED (FEC-R) IN STUDS 6" OR GREATER
4. 12" WIDE BY 18" DEEP DOUBLE TIER LOCKERS
5. VENDING MACHINE (NIC)
6. REFRIGERATOR
7. FIREPROOF SAFE
8. ALUMINUM SHIPS LADDER TO MEZZANINE - SEE SHEET A-504 FOR MEZZANINE
9. EDGE OF MEZZANINE FLOOR ABOVE - SEE A-504 AND S-104
10. ROOF ACCESS LADDER AND HATCH ABOVE
11. CLOTHES ROD WITH SHELF ABOVE
12. METAL FILLER PANEL TO MATCH METAL LOCKER FINISH.
13. 1-1/2" PLASTIC LAMINATE COUNTERTOP, PLAM-4.
14. EDGE OF EXTERIOR SIDEWALK - SEE C-301
15. CABINET UNIT HEATER - SEE M-101
16. CORRUGATED METAL PANEL SIDING
17. WIRE MESH GFI STORAGE CAGE TO UNDERSIDE OF MEZZANINE
18. FARE PULL VAULT - WITH GFI PROBE
19. THROUGH-WALL PARCEL DROP BOX
20. 12" WIDE BY 15" DEEP SINGLE TIER METAL LOCKERS
21. REAR LOADING POST OFFICE BOXES
22. WIRE MESH PARTITIONS TO 12'-0" AFF AND 4070 SLIDING DOOR
23. WALL MOUNTED COAT HOOKS - TOTAL (6)
24. TIME CLOCK - OWNER FURNISHED AND CONTRACTOR INSTALLED
25. ELECTRIC WATER COOLER - SEE P-103, P-104
26. UTILITY SINK - SEE P-103, P-104
27. CONCRETE FILLED STEEL PIPE BOLLARDS - SEE C-401
28. 3'x4' TACK BOARD
29. FUEL DISPENSERS - SEE P-605
30. TRENCH DRAIN / SUMP - SEE S-102, P-101
31. IN-GROUND VEHICLE LIFT - SEE S-102, EI-101
32. CLOTHES WASHER (CW-1) AND DRYER (CD-1)
33. WORK TABLE
34. 4X5 ALUMINUM DOWNSPOUT



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-010\CAD\Phase I Sheet Files\CP01-90181004A-101.dgn
11/9/2017 11:54:36 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

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

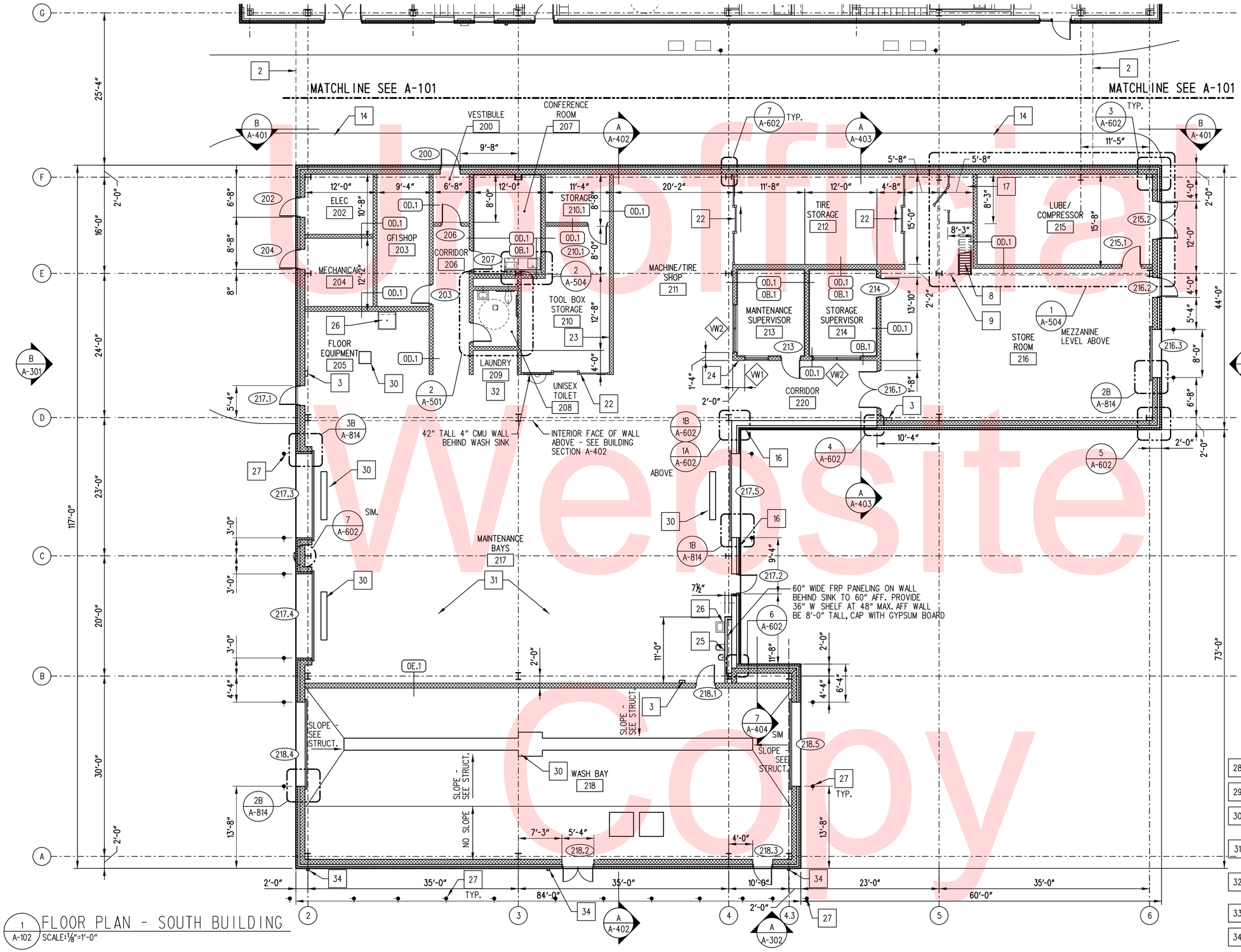
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109		
COUNTY	DESIGNED BY: KDM/NCL	
SUSSEX	CHECKED BY: EJ	

FLOOR PLAN - NORTH BUILDING

A-101

SHEET NO.
57
TOTAL SHTS.
189



1 A-102 FLOOR PLAN - SOUTH BUILDING SCALE: 1/8"=1'-0"

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON PLAN SHEETS DO NOT NECESSARILY APPLY TO EVERY PLAN SHEET.
2. NOT ALL DIMENSIONS, WALL TAGS, OR DOOR NUMBERS ARE PROVIDED ON FLOOR PLANS. SEE ENLARGED PLANS OF AREAS INDICATED ON PLAN FOR SUCH ITEMS.

CONSTRUCTION NOTES

1. 12" WIDE BY 15" DEEP DOUBLE TIER LOCKERS
2. LINE OF ROOF ABOVE.
3. FIRE EXTINGUISHER AND CABINET: SURFACE MTD. (FEC-S) ON CMU WALLS SEMI-RECESSED (FEC-SR) IN STUD WALLS LESS THAN 6" RECESSED (FEC-R) IN STUDS 6" OR GREATER
4. 12" WIDE BY 18" DEEP DOUBLE TIER LOCKERS
5. VENDING MACHINE (NIC)
6. REFRIGERATOR
7. SAFE (NIC)
8. ALUMINUM SHIPS LADDER TO MEZZANINE - SEE SHEET A-504 FOR MEZZANINE
9. EDGE OF MEZZANINE FLOOR ABOVE - SEE A-504 AND S-104
10. ROOF ACCESS LADDER AND HATCH ABOVE
11. CLOTHES ROD WITH SHELF ABOVE
12. METAL FILLER PANEL TO MATCH METAL LOCKER FINISH.
13. 1-1/2" PLASTIC LAMINATE COUNTERTOP, PLAM-4.
14. EDGE OF EXTERIOR SIDEWALK - SEE C-301
15. CABINET UNIT HEATER - SEE M-101
16. CORRUGATED METAL PANEL SIDING
17. WIRE MESH GFI STORAGE CAGE TO UNDERSIDE OF MEZZANINE
18. FARE PULL VAULT - WITH GFI PROBE
19. THROUGH-WALL PARCEL DROP BOX
20. 12" WIDE BY 15" DEEP SINGLE TIER METAL LOCKERS
21. REAR LOADING POST OFFICE BOXES
22. WIRE MESH PARTITIONS TO 12'-0" AFF AND 4070 SLIDING DOOR
23. WALL MOUNTED COAT HOOKS - TOTAL (6)
24. TIME CLOCK - OWNER FURNISHED AND CONTRACTOR INSTALLED
25. ELECTRIC WATER COOLER - SEE P-103, P-104
26. UTILITY SINK - SEE P-103, P-104
27. CONCRETE FILLED STEEL PIPE BOLLARDS - SEE C-401
28. 3'x4' TACK BOARD
29. FUEL DISPENSERS - SEE P-605
30. TRENCH DRAIN / SUMP - SEE S-102, P-101
31. IN-GROUND VEHICLE LIFT - SEE S-102, EI-101
32. CLOTHES WASHER (CW-1) AND DRYER (CD-1)
33. WORK TABLE (NIC)
34. 4X5 ALUMINUM DOWNSPOUT

KEY PLAN SCALE: N.T.S.

Unofficial Website Copy

N:\9018\c01\C4D\Phase II Sheet Files\CP01-9018I004A-102.dgn
10/27/2017 3:01:06 PM

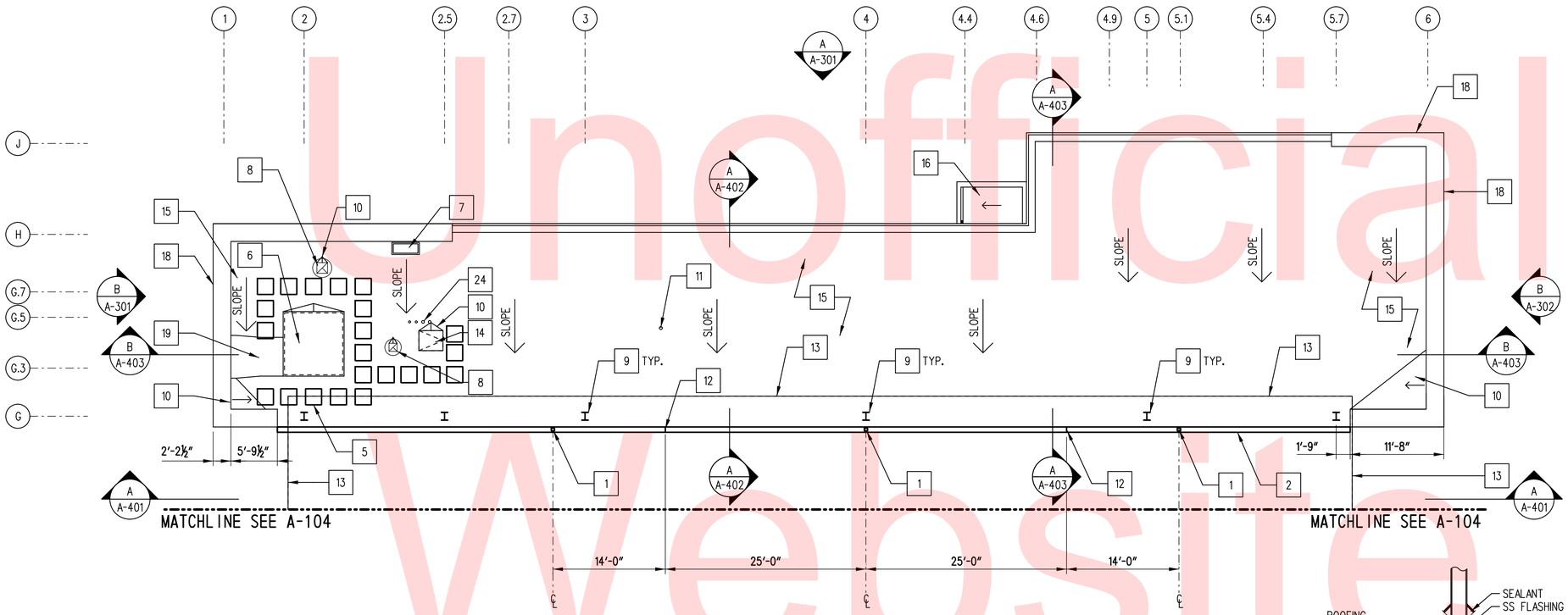
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR PLAN - SOUTH BUILDING	A-102
				COUNTY SUSSEX	DESIGNED BY: KDM/NCL		SHEET NO. 58
					CHECKED BY: EJ		TOTAL SHTS. 189

GENERAL NOTES

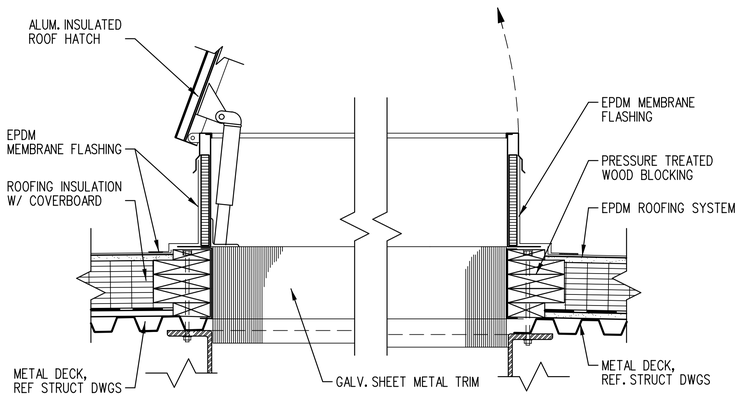
1. CONSTRUCTION NOTES LISTED ON ROOF PLAN SHEETS DO NOT NECESSARILY APPEAR ON EVERY ROOF PLAN SHEET.

CONSTRUCTION NOTES

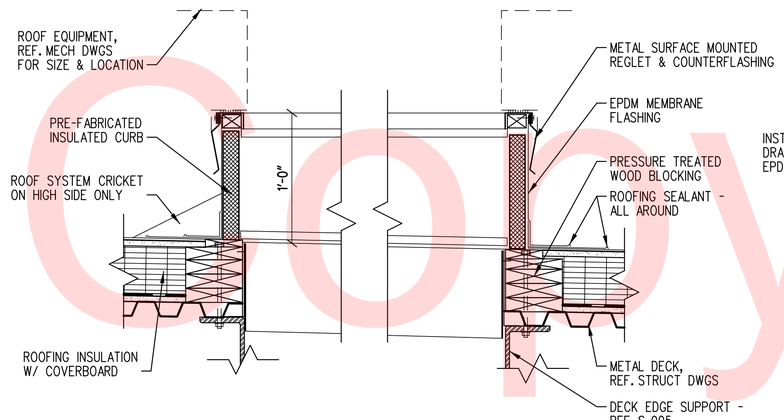
1	4" X 5" ALUMINUM DOWNSPOUT
2	8"X8" ALUMIMUM GUTTER
3	ROOF DRAINS - SEE PLUMBING AND DETAIL 5/A-103
4	ROOF ACCESS LADDER
5	ROOF WALKWAY PAD
6	ROOF TOP UNIT - SEE MECHANICAL
7	CONDENSING UNITS - SEE MECHANICAL
8	EXHAUST FAN - SEE MECHANICAL SEE DETAIL 3/A-103 FOR EQUIPMENT CURB
9	STRUCTURAL STEEL COLUMN THROUGH ROOF (PAINT PT-5) - SEE DETAIL 3/A-605 FOR FLASHING AT ROOF
10	CRICKET
11	PLUMBING VENT THROUGH ROOF - SEE 4/A-103 AND PLUMBING
12	EXPANSION JOINT IN GUTTER
13	LINE OF ROOF EDGE ABOVE
14	ROOF ACCESS HATCH - SEE DETAIL 2/A-103.
15	EPDM ROOFING SYSTEM ON POLYISOCYANURATE INSULATION
16	POLYCARBONATE PANEL GLAZING IN CANOPY - SEE SHEET A-605
17	4" X 5" ALUMINUM DOWNSPOUT TO METAL SPLASH PAN ON ROOF BELOW
18	EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
19	DUCTWORK ABOVE ROOF - SEE MECHANICAL
20	NOT USED
21	ROOF OF NORTH BUILDING BELOW - SEE A-103
22	LADDER TIE-OFF POINTS ANCHORED TO STRUCTURE BELOW
23	EXTERIOR FACE OF BUILDING WALL BELOW
24	HOT FLUE THIMBLE THROUGH ROOF - SEE MECHANICAL DETAIL 3\M-601



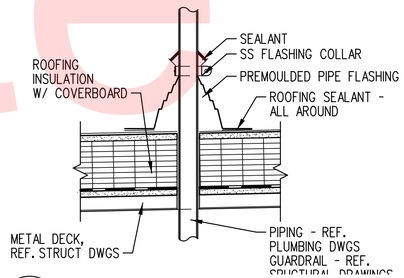
1 A-103 ROOF PLAN - NORTH BUILDING
SCALE: 1/8"=1'-0"



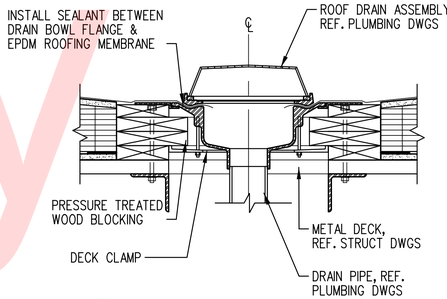
2 A-103 DETAIL - ROOF HATCH
SCALE: 1½"=1'-0"



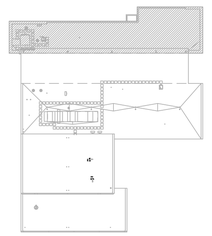
3 A-103 DETAIL - EQUIPMENT CURB
SCALE: 1½"=1'-0"



4 A-103 DETAIL - TYP. PIPE PENETRATION
SCALE: 1½"=1'-0"



5 A-103 DETAIL - ROOF DRAIN
SCALE: 1½"=1'-0"



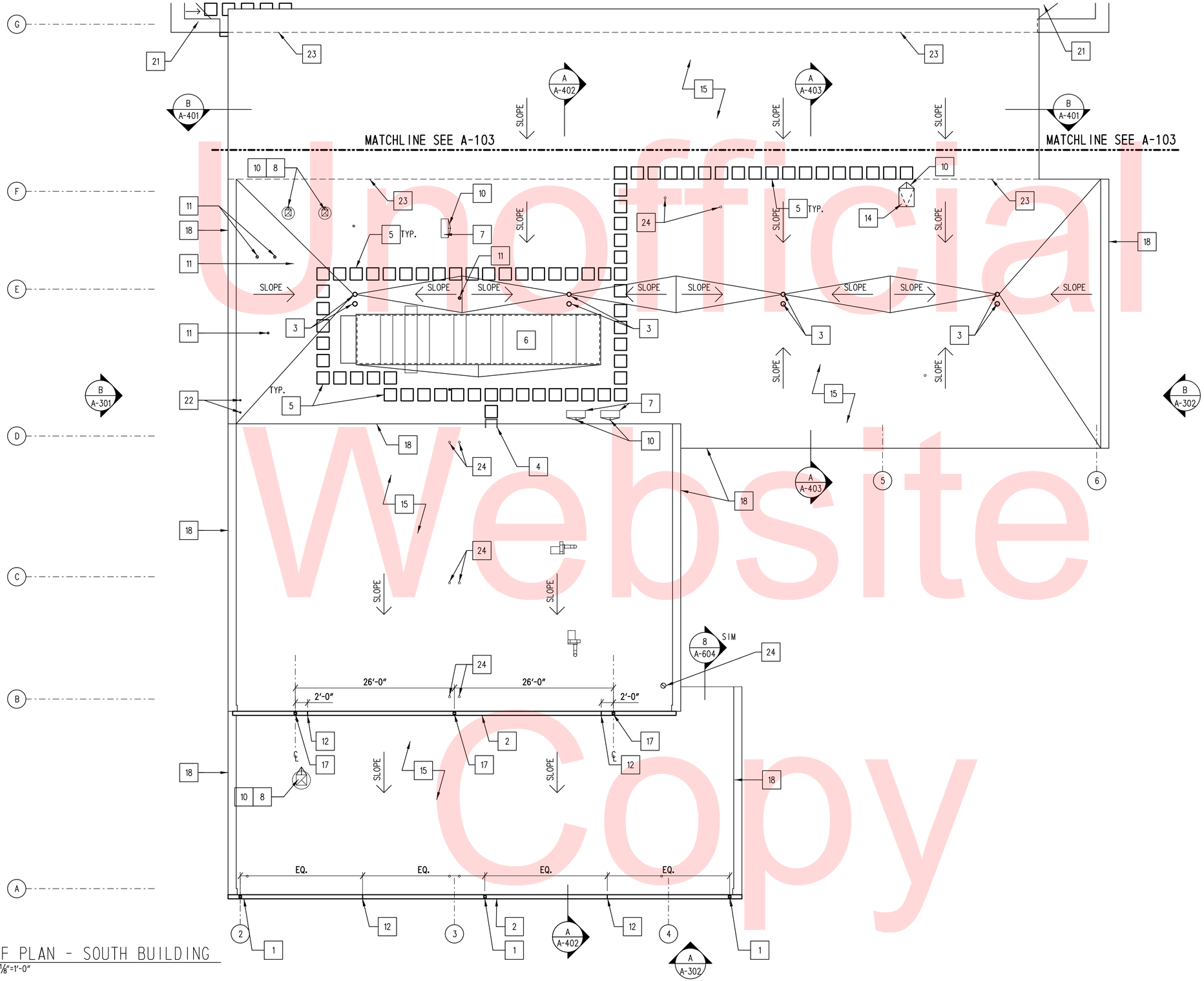
KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\99181-019\CADD\Phase II\Sheet Files\CP01-99181004A-103.dgn
10/27/2017 3:07:07 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4" 8" 16" SCALE: 1 1/2" = 1'-0" 0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109 / BRIDGE NO.	ROOF PLAN - NORTH BUILDING
				COUNTY SUSSEX / DESIGNED BY: KDM/NCL	SHEET NO. 59
				CHECKED BY: EJ	TOTAL SHTS. 189

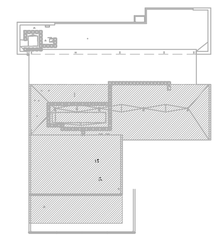
A-103



1 A-104 ROOF PLAN - SOUTH BUILDING
SCALE: 1/8" = 1'-0"

CONSTRUCTION NOTES

1. 4" X 5" ALUMINUM DOWNSPOUT
2. 8"X8" ALUMIMUM GUTTER
3. ROOF DRAINS - SEE PLUMBING AND DETAIL 5/A-103
4. ROOF ACCESS LADDER
5. ROOF WALKWAY PAD
6. ROOF TOP UNIT - SEE MECHANICAL
7. CONDENSING UNITS - SEE MECHANICAL
8. EXHAUST FAN - SEE MECHANICAL SEE DETAIL 3/A-103 FOR EQUIPMENT CURB
9. STRUCTURAL STEEL COLUMN THROUGH ROOF (PAINT PT-5) - SEE DETAIL 3/A-605 FOR FLASHING AT ROOF
10. CRICKET
11. PLUMBING VENT THROUGH ROOF - SEE 4/A-103 AND PLUMBING
12. EXPANSION JOINT IN GUTTER
13. LINE OF ROOF EDGE ABOVE
14. ROOF ACCESS HATCH - SEE DETAIL 2/A-103.
15. EPDM ROOFING SYSTEM ON POLYISOCYANURATE INSULATION
16. POLYCARBONATE PANEL GLAZING IN CANOPY - SEE SHEET A-605
17. 4" X 5" ALUMINUM DOWNSPOUT TO METAL SPLASH PAN ON ROOF BELOW
18. EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
19. DUCTWORK ABOVE ROOF - SEE MECHANICAL
20. NOT USED
21. ROOF OF NORTH BUILDING BELOW - SEE A-103
22. LADDER TIE-OFF POINTS ANCHORED TO STRUCTURE BELOW
23. EXTERIOR FACE OF BUILDING WALL BELOW
24. HOT FLUE THIMBLE THROUGH ROOF - SEE MECHANICAL DETAIL 5\M-601



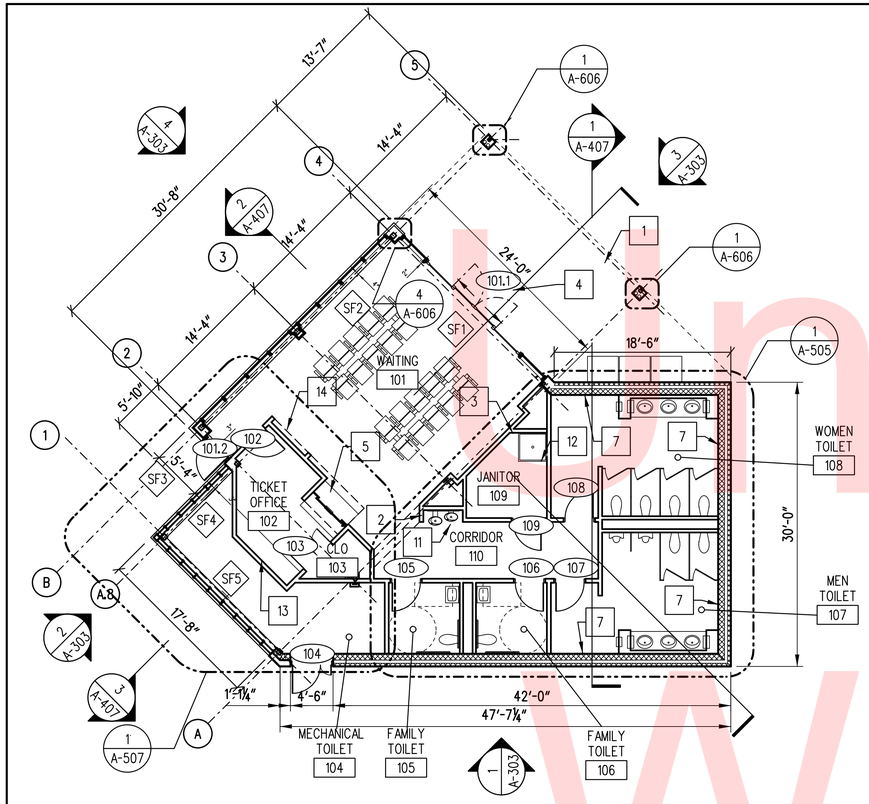
KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

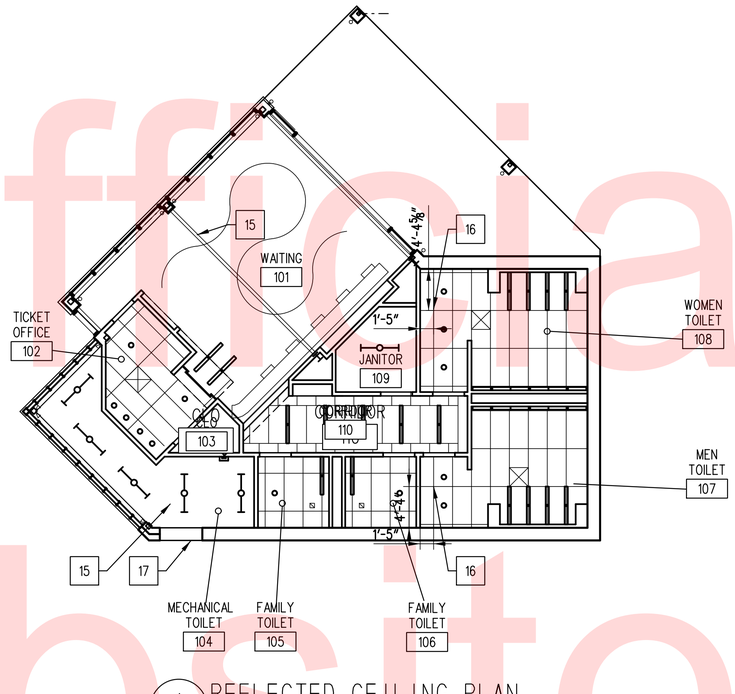
N:\90181\09\CAD\Phase II Sheet Files\CP01-90181004A-104.dgn
10/27/2017 3:01:08 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ROOF PLAN - SOUTH BUILDING
				COUNTY SUSSEX	DESIGNED BY: KDM/NCL	
					CHECKED BY: EJ	

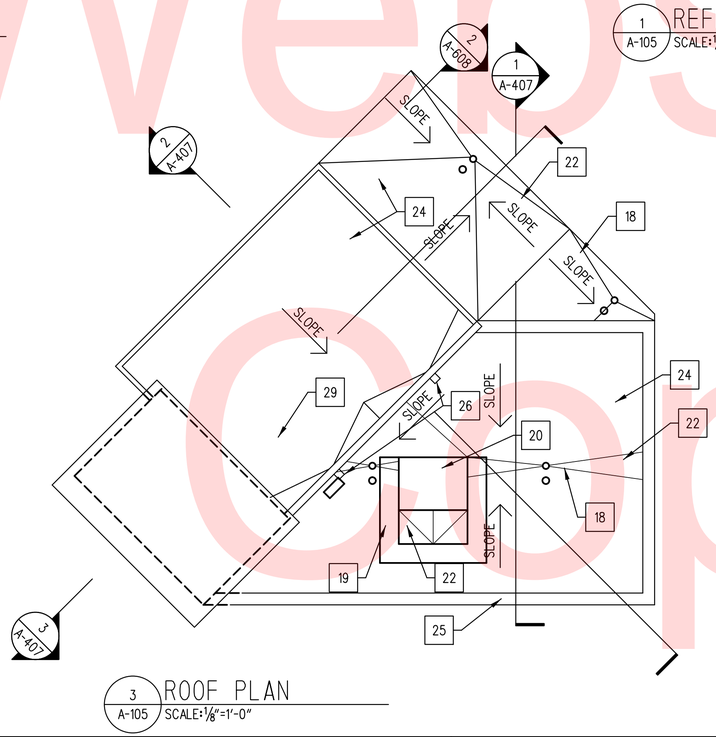
A-104	
SHEET NO.	60
TOTAL SHTS.	189



2 / A-105 FLOOR PLAN - NORTH BUILDING
SCALE: 1/8"=1'-0"



1 / A-105 REFLECTED CEILING PLAN
SCALE: 1/8"=1'-0"



3 / A-105 ROOF PLAN
SCALE: 1/8"=1'-0"

REFELECTED CEILING PLAN LEGEND

- 2x4 ACOUSTICAL PANEL CEILING
- GYPSUM BOARD CEILING
- LIGHTING FIXTURES. SEE ELECTRICAL DRAWINGS
- DIFFUSERS OR HVAC EQUIPMENT. SEE MECHANICAL DRAWINGS

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON PLAN SHEETS DO NOT NECESSARILY APPLY TO EVERY PLAN SHEET.
2. NOT ALL DIMENSIONS, WALL TAGS, OR DOOR NUMBERS ARE PROVIDED ON FLOOR PLANS. SEE ENLARGED PLANS OF AREAS INDICATED ON PLAN FOR SUCH ITEMS.
3. SEE FINISH SCHEDULE SHEET A-809 FOR FINISH CEILING HEIGHTS.
4. ALL ACOUSTICAL CEILING GRIDS TO BE CENTERED WITHIN ROOM UNLESS NOTED OTHERWISE.

CONSTRUCTION NOTES

1	LINE OF ROOF ABOVE.
2	FIRE EXTINGUISHER AND CABINET: SURFACE MTD. (FEC-S) ON CMU WALLS SEMI-RECESSED (FEC-SR) IN STUD WALLS LESS THAN 6" RECESSED (FEC-R) IN STUDS 6" OR GREATER
3	VENDING MACHINE (NIC)
4	IN GROUND LIGHTS
5	1-1/2" PLASTIC LAMINATE COUNTERTOP, PLAM-4.
6	EDGE OF EXTERIOR SIDEWALK - SEE CIVIL
7	CABINET UNIT HEATER - SEE MECHANICAL
8	COMPOSITE ALUMINUM PANEL SOFFIT
9	WALL MOUNTED COAT HOOKS - TOTAL (6)
10	TIME CLOCK - OWNER FURNISHED AND CONTRACTOR INSTALLED
11	ELECTRIC WATER COOLER - SEE PLUMBING
12	UTILITY SINK - SEE PLUMBING
13	3'x4' TACK BOARD
14	BROCHURE RACK
15	EXPOSED STRUCTURE AND METAL DECK - PAINTED PT-1
16	CEILING GRID ORIGIN POINT
17	EXTERIOR LIGHT FIXTURES - SEE ELECTRICAL
18	ROOF DRAINS - SEE PLUMBING AND DETAIL 1/A-606
19	ROOF WALKWAY PAD
20	ROOF TOP UNIT - SEE MECHANICAL
21	CONDENSING UNITS - SEE MECHANICAL
22	CRICKET
23	PLUMBING VENT THROUGH ROOF - SEE 4/A-103 AND PLUMBING
24	EPDM ROOFING SYSTEM ON POLYISOCYANURATE INSULATION
25	EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
26	COLLECTOR HEAD AND DOWNSPOUT
27	PRE-FINISHED BOX RIB METAL PANEL
28	INSULATED METAL PANEL

Unofficial Website Copy

N:\90181-01\CADD\Phase II Sheet Files\CP02-90181019A-105.dgn
10/27/2017 3:04:07 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: KDM/NCL
SUSSEX	CHECKED BY: EJ

FLOOR, RELECTED CEILING, & ROOF PLAN - VISITOR CENTER

A-105

SHEET NO.	TOTAL SHTS.
61	189

1 / A-201 REFLECTED CEILING PLAN - NORTH BUILDING
SCALE: 1/8"=1'-0"

REFELECTED CEILING PLAN LEGEND

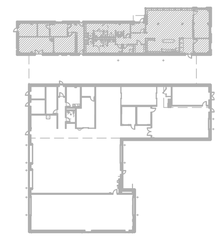
- 2x4 ACOUSTICAL PANEL CEILING
- GYPSUM BOARD CEILING
- LIGHTING FIXTURES. SEE ELECTRICAL DRAWINGS
- DIFFUSERS OR HVAC EQUIPMENT. SEE MECHANICAL DRAWINGS

GENERAL NOTES

1. SEE FINISH SCHEDULE SHEET A-801 FOR FINISH CEILING HEIGHTS.
2. ALL ACOUSTICAL CEILING GRIDS TO BE CENTERED WITHIN ROOM UNLESS NOTED OTHERWISE.

CONSTRUCTION NOTES

1. EXPOSED STRUCTURE AND METAL DECK - PAINTED PT-1
2. ROOF ACCESS HATCH - SEE DETAIL 2/A-103
3. POLYCARBONATE PANEL GLAZING IN CANOPY ROOF - SEE SHEETS A-503 AND A-605 FOR DETAILS
4. EDGE OF MEZZANINE - PAINT STRUCTURE AND DECK ON UNDERSIDE OF MEZZAINE PT-1
5. EXPOSED EXTERIOR STRUCTURE AT FUELING LANE PAINT (PT-5) - SEE BUILDING ELEVATIONS AND SECTIONS
6. WIRE MESH PARTITIONS TO UNDERSIDE OF ROOF DECK
7. EXPOSED STRUCTURE IN WASH BAY - PAINTED PT-6
8. CEILING GRID ORIGIN POINT
9. ALIGN CEILING GRID ACROSS ROOMS
10. EXTERIOR LIGHT FIXTURES - SEE ELECTRICAL
11. INTERIOR FACE OF WALL ABOVE - SEE BUILDING SECTION A-402
12. DECORATIVE METAL EDGE TRIM
13. CANTILEVER SURFACE MOUNTED LIGHT FIXTURES BEYOND EDGE OF APC-1 CEILING

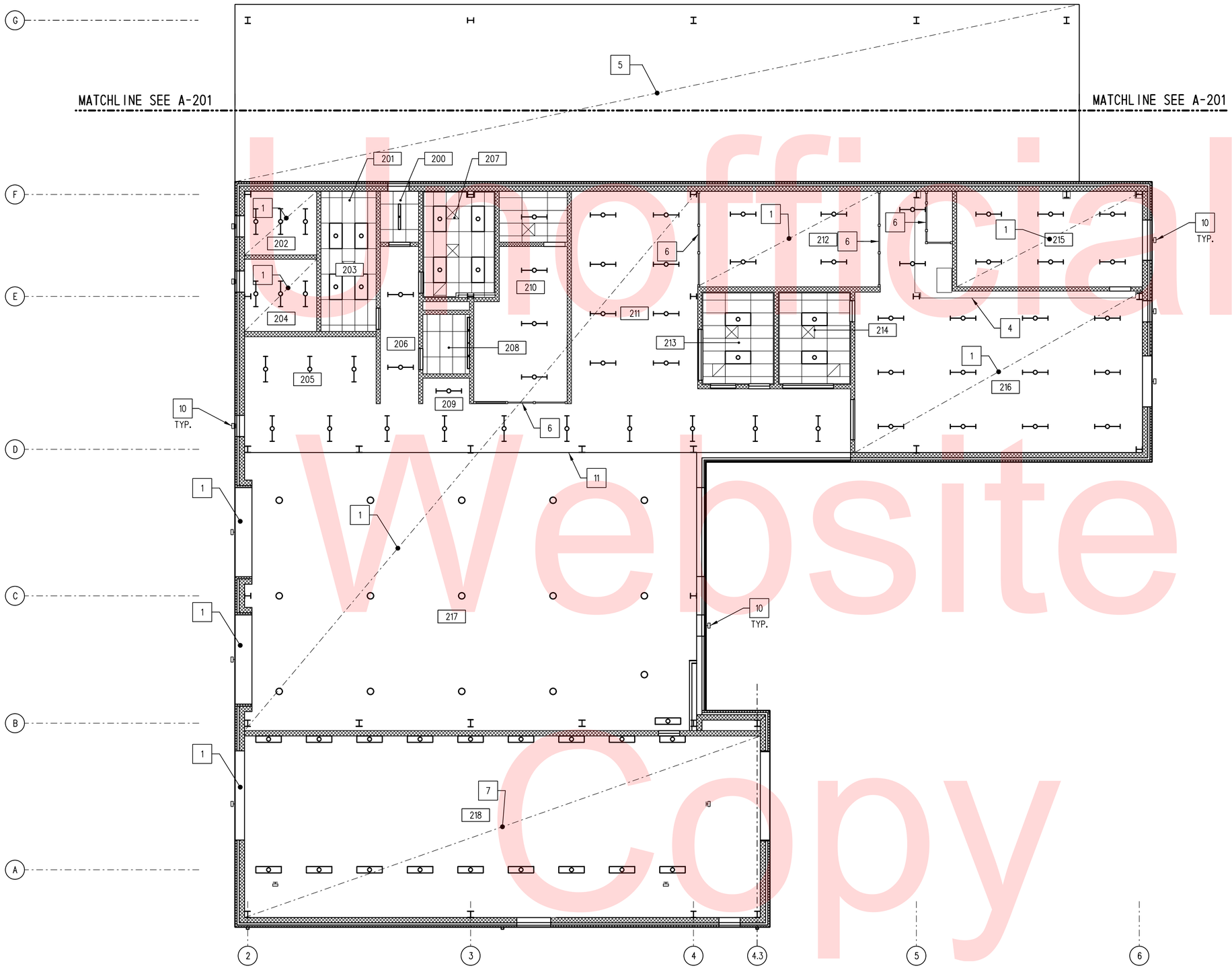


KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004A-201.dgn
10/27/2017 3:09:09 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	REFLECTED CEILING PLAN - NORTH BUILDING	A-201
				COUNTY SUSSEX	DESIGNED BY: KDM/NCL		SHEET NO. 62
					CHECKED BY: EJ		TOTAL SHTS. 189



1 A-202 REFLECTED CEILING PLAN - SOUTH BUILDING
SCALE: 1/8"=1'-0"

REFELECTED CEILING PLAN LEGEND

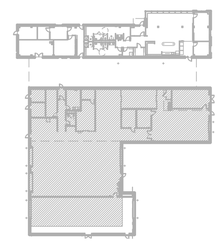
- 2x4 ACOUSTICAL PANEL CEILING
- GYPSUM BOARD CEILING
- LIGHTING FIXTURES. SEE ELECTRICAL DRAWINGS
- DIFFUSERS OR HVAC EQUIPMENT. SEE MECHANICAL DRAWINGS

GENERAL NOTES

1. SEE FINISH SCHEDULE SHEET A-801 FOR FINISH CEILING HEIGHTS.
2. ALL ACOUSTICAL CEILING GRIDS TO BE CENTERED WITHIN ROOM UNLESS NOTED OTHERWISE.

CONSTRUCTION NOTES

1. EXPOSED STRUCTURE AND METAL DECK - PAINTED PT-1
2. ROOF ACCESS HATCH - SEE DETAIL 2/A-103
3. POLYCARBONATE PANEL GLAZING IN CANOPY ROOF - SEE SHEETS A-503 AND A-605 FOR DETAILS
4. EDGE OF MEZZANINE - PAINT STRUCTURE AND DECK ON UNDERSIDE OF MEZZAINE PT-1
5. EXPOSED EXTERIOR STRUCTURE AT FUELING LANE PAINT (PT-5) - SEE BUILDING ELEVATIONS AND SECTIONS
6. WIRE MESH PARTITIONS TO UNDERSIDE OF ROOF DECK
7. EXPOSED STRUCTURE IN WASH BAY - PAINTED PT-6
8. CEILING GRID ORIGIN POINT
9. ALIGN CEILING GRID ACROSS ROOMS
10. EXTERIOR LIGHT FIXTURES - SEE ELECTRICAL
11. INTERIOR FACE OF WALL ABOVE - SEE BUILDING SECTION A-402
12. DECORATIVE METAL EDGE TRIM
13. CANTILEVER SURFACE MOUNTED LIGHT FIXTURES BEYOND EDGE OF APC-1 CEILING

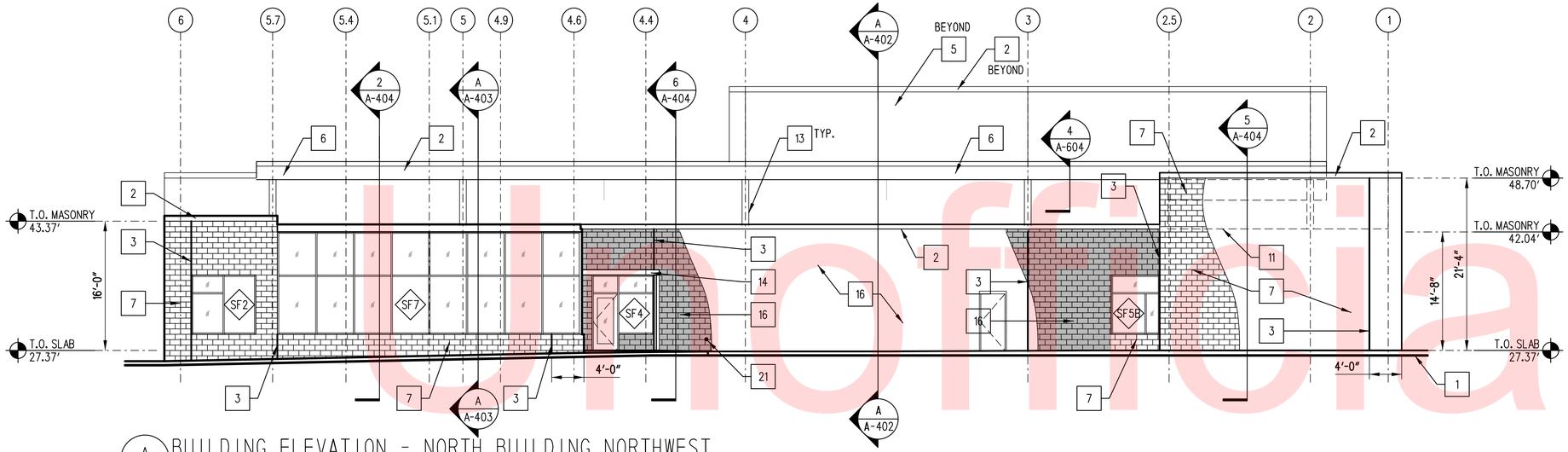


KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-019\CADD\Phase # Sheet Files\CP01-90181004-A-202.dgn
10/27/2017 3:10:10 PM

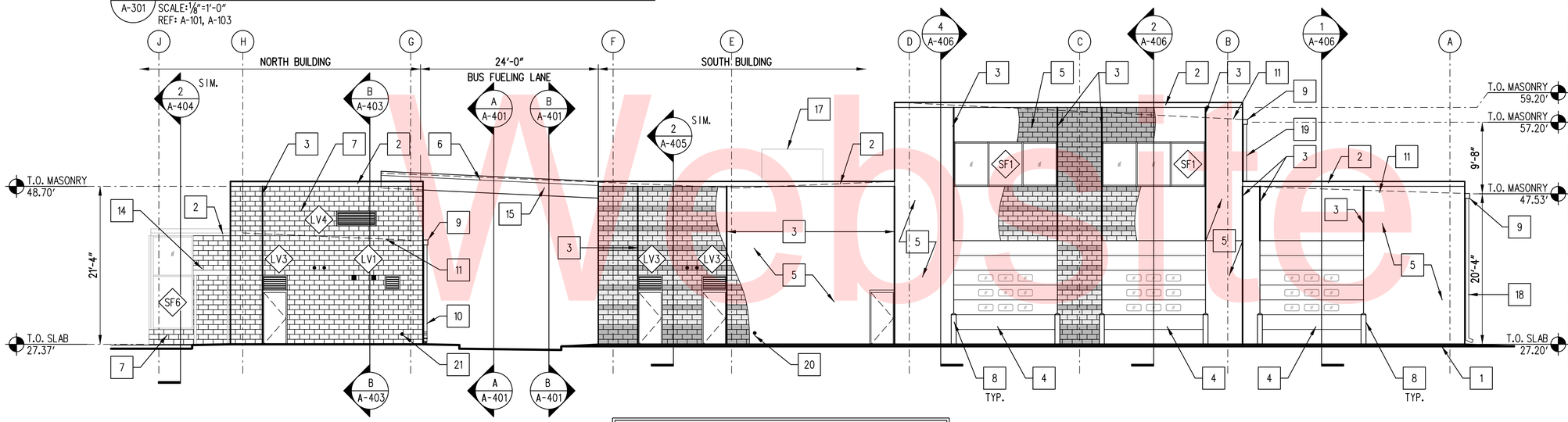
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	REFLECTED CEILING PLAN - SOUTH BUILDING	A-202
				COUNTY SUSSEX	DESIGNED BY: KDM/RJH		SHEET NO. 63
					CHECKED BY: EJ		TOTAL SHTS. 189



A A-301 BUILDING ELEVATION - NORTH BUILDING NORTHWEST

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

REF: A-101, A-103



B A-301 BUILDING ELEVATION - SOUTHWEST

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

REF: A-101, A-102, A-103, A-104

SOUTH BUILDING CMU COLOR SCHEME - SEE DETAIL 1/A-401

CONSTRUCTION NOTES

1. FINISHED GRADE - SEE CIVIL DRAWINGS
2. PRE-FINISHED ALUMINUM FASCIA
3. 1/2" CONTROL JOINT IN CMU VENEER
4. MOTOR OPERATED INSULATED OVERHEAD SECTIONAL DOOR
5. GROUND FACE CMU VENEER (CMU-2, AND CMU-3) - SEE 1/A-401 FOR PATTERN
6. PRE-FINISHED ALUMINUM EXTENDED FASCIA ON BUS LANE CANOPY - SEE 4\A-604
7. GROUND FACE MASONRY UNIT VENEER (CMU-1)
8. CONCRETE FILLED STEEL PIPE BOLLARDS - SEE CIVIL DRAWINGS
9. PRE-FINISHED ALUMINUM GUTTER
10. PRE-FINISHED ALUMINUM DOWNSPOUT TO BOOT - SEE PLUMBING FOR CONTINUATION BELOW SIDEWALK
11. DASHED LINE REPRESENTS TOP OF ROOF BEYOND
12. PRE-FINISHED CORRUGATED METAL PANEL SIDING ON COLD FORMED FURRING
13. STRUCTURAL STEEL COLUMN THROUGH ROOF - PAINT PT-5
14. ENTRANCE CANOPY WITH METAL FASCIA - SEE SHEETS A-503 AND A-605
15. STRUCTURAL STEEL - PAINT PT-5
16. GROUND FACE MASONRY UNIT VENEER (CMU-3)
17. ROOFTOP MECHANICAL UNIT - SEE MECH DWGS
18. PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASHBLOCK AT GRADE
19. PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH PAN ON LOWER ROOF
20. OVERFLOW DRAIN OUTLET - SEE P-103
21. FIRE PROTECTION DEVICE - SEE F-101

EXTERIOR FINISH SCHEDULE

NO.	MATERIALS	MANUFACTURER - BASIS OF DESIGN	COLORS
CMU-1	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "PARCHMENT"
CMU-2	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "PUTTY"
CMU-3	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "SILVER"
IG-1(s)	TINTED LOW-E INSULATING GLASS	PPG	SOLARBAN 60:"ATLANTICA"
PC-1	POLYCARBONATE PANEL	POLYGAL	11 MM MULTI-CELLED PANEL: CLEAR
PT-4	EXTERIOR PAINT	BENJAMIN MOORE	PAINT: COLOR PREVIEW SERIES: "READY-MIX BRIARWOOD"; PAINTED DOORS & FRAMES, LOUVERS, ENTRY CANOPY FRAMES

EXTERIOR FINISH SCHEDULE (CONT.)

NO.	MATERIALS	MANUFACTURER - BASIS OF DESIGN	COLORS
PT-5	EXTERIOR PAINT	BENJAMIN MOORE	PAINT: COLOR PREVIEW SERIES: *2134-70, "GENESIS WHITE";BUS CANOPY STRUCTURE
--	ALUMINUM STOREFRONT FRAMING/ENTRY DOOR FINISH	KAWNEER	ANNODIZED ALUMINUM: COLOR: "MEDIUM BRONZE"
--	METAL WALL PANEL	CENTRIA	METAL WALL PANEL: CONCEPT SERIES: CS-660-E ; COLOR: KYNAR 500, "GRANITE"
MTL-1	EXPOSED METAL FLASHING/GUTTERS & DOWNSPOUTS	PAC-CLAD	KYNAR 500 FLUOROPOLYMER: COLOR: "GRANITE"
MTL-2	EXPOSED METAL FLASHING	PAC-CLAD	KYNAR 500 FLUOROPOLYMER: COLOR: "SIERRA TAN"; CAP FLASHING AT CMU-1 ONLY
MTL-3	METAL FASCIA CANOPY PANEL	PAC-CLAD	KYNAR 500 FLUOROPOLYMER: COLOR: "STONE WHITE"
MTL-4	METAL FASCIA, TRIM, CURTAINWALL, POLYCARBONATE FRAME @ VISITORS CENTER ONLY	PPG	KYNAR 500 FLUOROPOLYMER; COLOR: *UC72638 "GRAHAM WHITE"

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180044A-301.dgn
10/27/2017 3:01:11 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

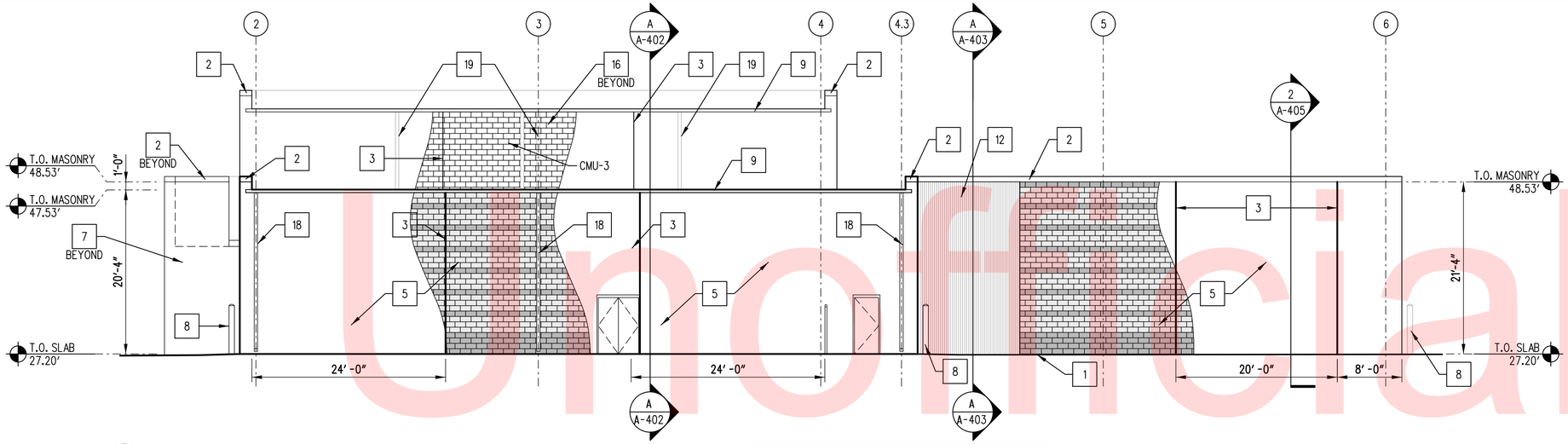
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: RJH
SUSSEX	CHECKED BY: EJ

BUILDING ELEVATIONS

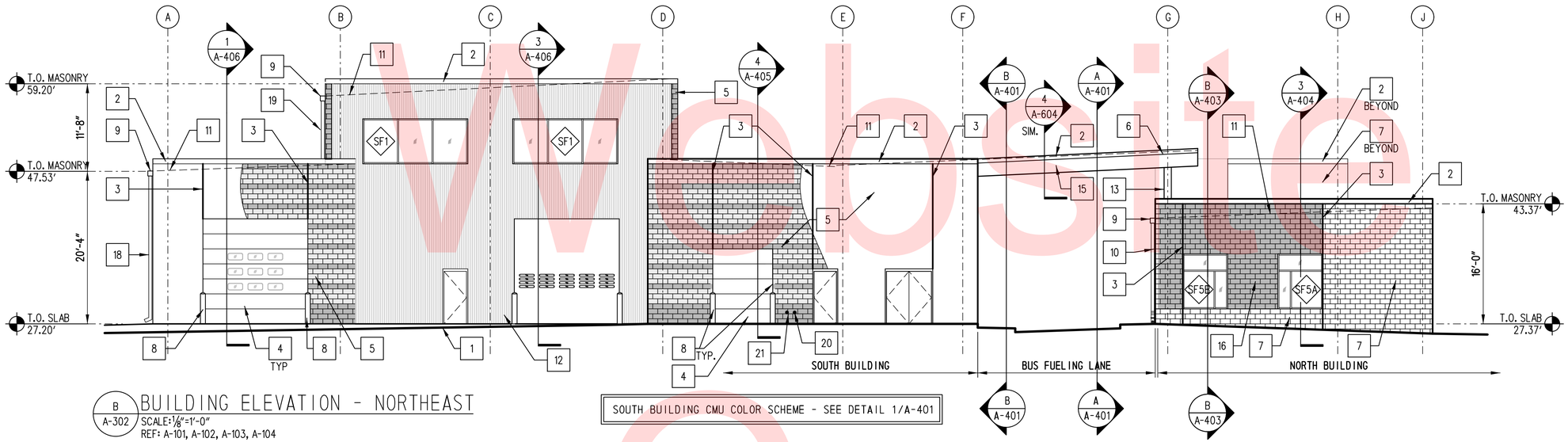
A-301

SHEET NO.	TOTAL SHTS.
64	189



A A-302 BUILDING ELEVATION - SOUTH BUILDING SOUTHEAST
SCALE: 1/8"=1'-0"
REF: A-101, A-102, A-103, A-104

FOR CMU COLOR SCHEME - SEE DETAIL 1/A-401



B A-302 BUILDING ELEVATION - NORTHEAST
SCALE: 1/8"=1'-0"
REF: A-101, A-102, A-103, A-104

SOUTH BUILDING CMU COLOR SCHEME - SEE DETAIL 1/A-401

CONSTRUCTION NOTES

1. FINISHED GRADE - SEE CIVIL DRAWINGS
2. PRE-FINISHED ALUMINUM FASCIA
3. 1/2" CONTROL JOINT IN CMU VENEER
4. MOTOR OPERATED INSULATED OVERHEAD SECTIONAL DOOR
5. GROUND FACE CMU VENEER (CMU-2, AND CMU-3) - SEE 1/A-401 FOR PATTERN
6. PRE-FINISHED ALUMINUM EXTENDED FASCIA ON BUS LANE CANOPY - SEE 4\A-604
7. GROUND FACE MASONRY UNIT VENEER (CMU-1)
8. CONCRETE FILLED STEEL PIPE BOLLARDS - SEE CIVIL DRAWINGS
9. PRE-FINISHED ALUMINUM GUTTER
10. PRE-FINISHED ALUMINUM DOWNSPOUT TO BOOT - SEE PLUMBING FOR CONTINUATION BELOW SIDEWALK
11. DASHED LINE REPRESENTS TOP OF ROOF BEYOND
12. PRE-FINISHED CORRUGATED METAL PANEL SIDING ON COLD FORMED FURRING
13. STRUCTURAL STEEL COLUMN THROUGH ROOF - PAINT PT-5
14. ENTRANCE CANOPY WITH METAL FASCIA - SEE SHEETS A-503 AND A-605
15. STRUCTURAL STEEL - PAINT PT-5
16. GROUND FACE MASONRY UNIT VENEER (CMU-3)
17. ROOFTOP MECHANICAL UNIT - SEE MECH DWGS
18. PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASHBLOCK AT GRADE
19. PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH PAN ON LOWER ROOF
20. OVERFLOW DRAIN OUTLET - SEE P-103
21. FIRE PROTECTION DEVICE - SEE F-101

EXTERIOR FINISH SCHEDULE

NO.	MATERIALS	MANUFACTURER - BASIS OF DESIGN	COLORS
CMU-1	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "PARCHMENT"
CMU-2	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "PUTTY"
CMU-3	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "SILVER"
IG-1(s)	TINTED LOW-E INSULATING GLASS	PPG	SOLARBAN 60:"ATLANTICA"
PC-1	POLYCARBONATE PANEL	POLYGAL	11 MM MULTI-CELLED PANEL: CLEAR
PT-4	EXTERIOR PAINT	BENJAMIN MOORE	PAINT: COLOR PREVIEW SERIES: "READY-MIX BRIARWOOD"; PAINTED DOORS & FRAMES, LOUVERS, ENTRY CANOPY FRAMES

EXTERIOR FINISH SCHEDULE (CONT.)

NO.	MATERIALS	MANUFACTURER - BASIS OF DESIGN	COLORS
PT-5	EXTERIOR PAINT	BENJAMIN MOORE	PAINT: COLOR PREVIEW SERIES: #2134-70, "GENESIS WHITE";BUS CANOPY STRUCTURE
--	ALUMINUM STOREFRONT FRAMING/ENTRY DOOR FINISH	KAWNEER	ANNODIZED ALUMINUM: COLOR: "MEDIUM BRONZE"
--	METAL WALL PANEL	CENTRIA	METAL WALL PANEL: CONCEPT SERIES: CS-660-E ; COLOR: KYNAR 500, "GRANITE"
MTL-1	EXPOSED METAL FLASHING/GUTTERS & DOWNSPOUTS	PAC-CLAD	KYNAR 500 FLUOROPOLYMER: COLOR: "GRANITE"
MTL-2	EXPOSED METAL FLASHING	PAC-CLAD	KYNAR 500 FLUOROPOLYMER: COLOR: "SIERRA TAN"; CAP FLASHING AT CMU-1 ONLY
MTL-3	METAL FASCIA CANOPY PANEL	PAC-CLAD	KYNAR 500 FLUOROPOLYMER: COLOR: "STONE WHITE"
MTL-4	METAL FASCIA, TRIM, CURTAINWALL, POLYCARBONATE FRAME @ VISITORS CENTER ONLY	PPG	KYNAR 500 FLUOROPOLYMER: COLOR: #UC72638 "GRAHAM WHITE"

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004A-302.dgn
10/27/2017 3:01:12 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

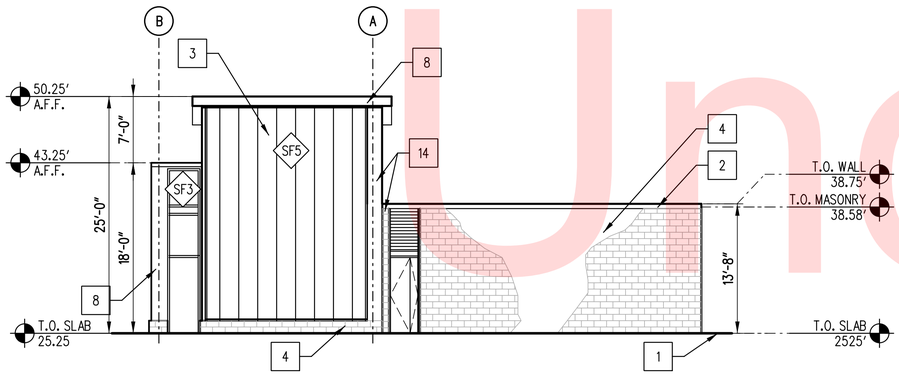
CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: RJH
SUSSEX	CHECKED BY: EJ

BUILDING ELEVATIONS

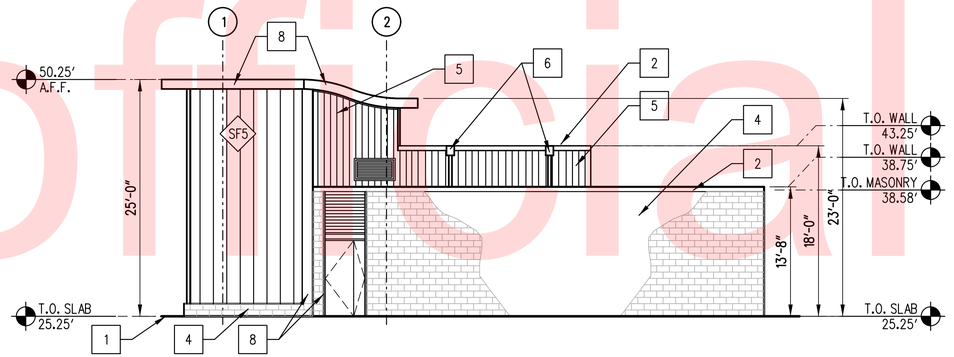
A-302

SHEET NO.	TOTAL SHTS.
65	189

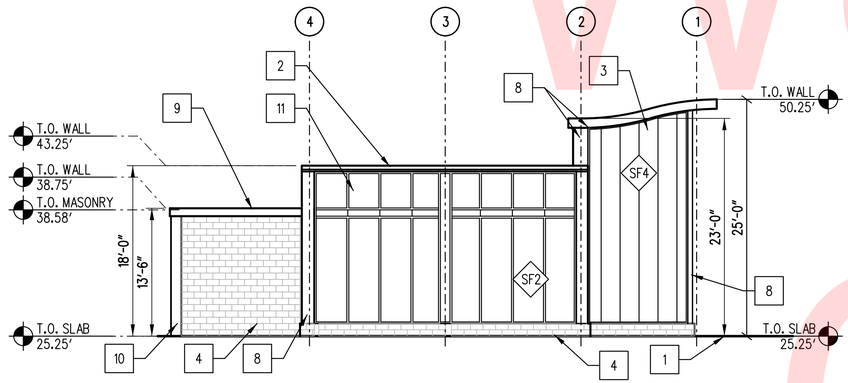
Unofficial Website Copy



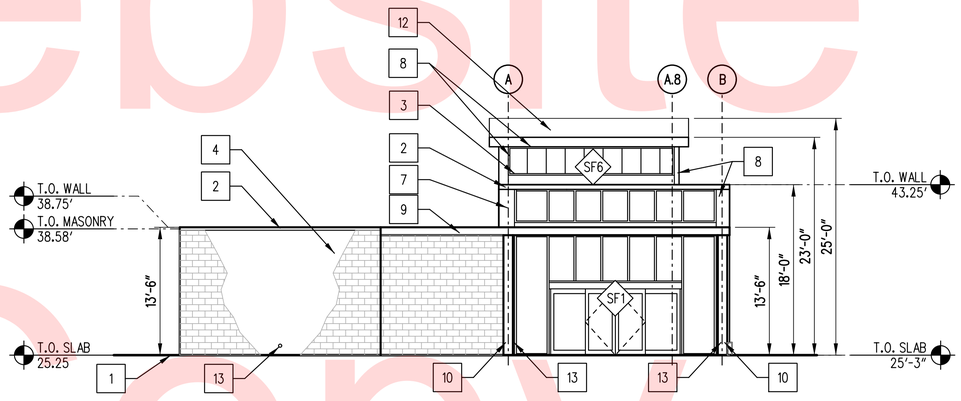
2 / A-303 EXTERIOR ELEVATION - WEST
SCALE: 1/8"=1'-0"



1 / A-303 EXTERIOR ELEVATION - SOUTH WEST
SCALE: 1/8"=1'-0"



4 / A-303 EXTERIOR ELEVATION - NORTH
SCALE: 1/8"=1'-0"



3 / A-303 EXTERIOR ELEVATION - EAST
SCALE: 1/8"=1'-0"

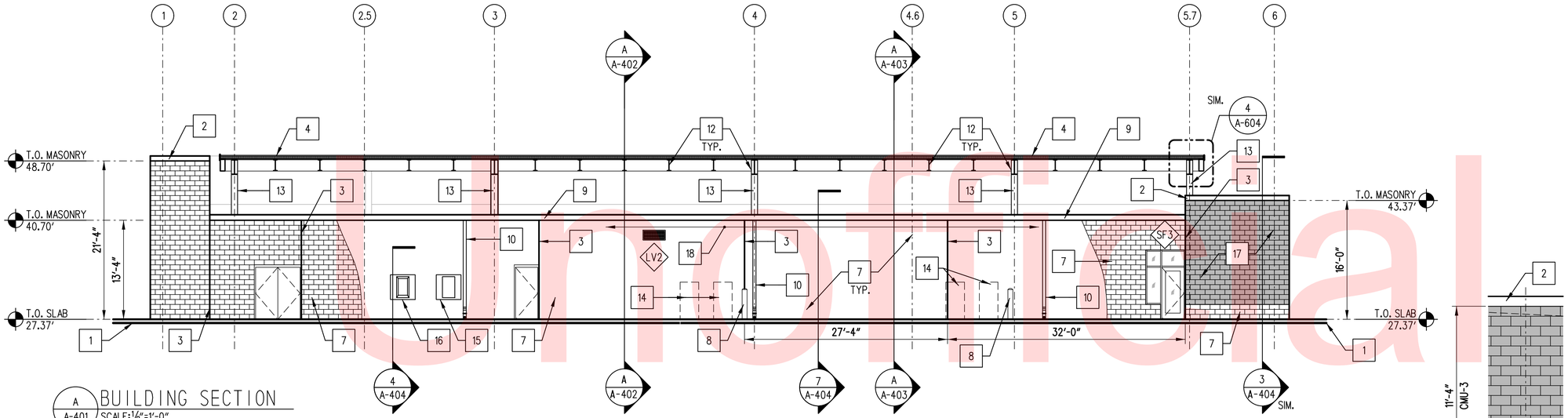
CONSTRUCTION NOTES

1. FINISHED GRADE - SEE CIVIL DRAWINGS
2. PRE-FINISHED ALUMINUM COPING (MTL-4)
3. POLYCARBONATE PANEL WINDOW
4. GROUND FACE CMU VENEER (CMU-3)
5. PRE-FINISHED BOX-RIB METAL PANEL (CENTRIA "DEEP SEA BLUE")
6. ALUMINUM COLLECTOR HEAD AND DOWNSPOUT (MTL-4)
7. METAL PANEL (MTL-4)
8. PREFINISHED ALUMINUM COMPOSITE PANEL (MTL-4)
9. ENTRANCE CANOPY WITH METAL FASCIA - SEE SHEETS A-608, A-811 (MTL-4)
10. PRE-FINISHED ALUMINUM COLUMN COVER (MTL-4)
11. ALUMINUM CURTAIN WALL (MTL-4)
12. ROOF MEMBRANE
13. OVERFLOW DRAIN - MOUNTED 12" A.F.F. - SEE 1/A-606

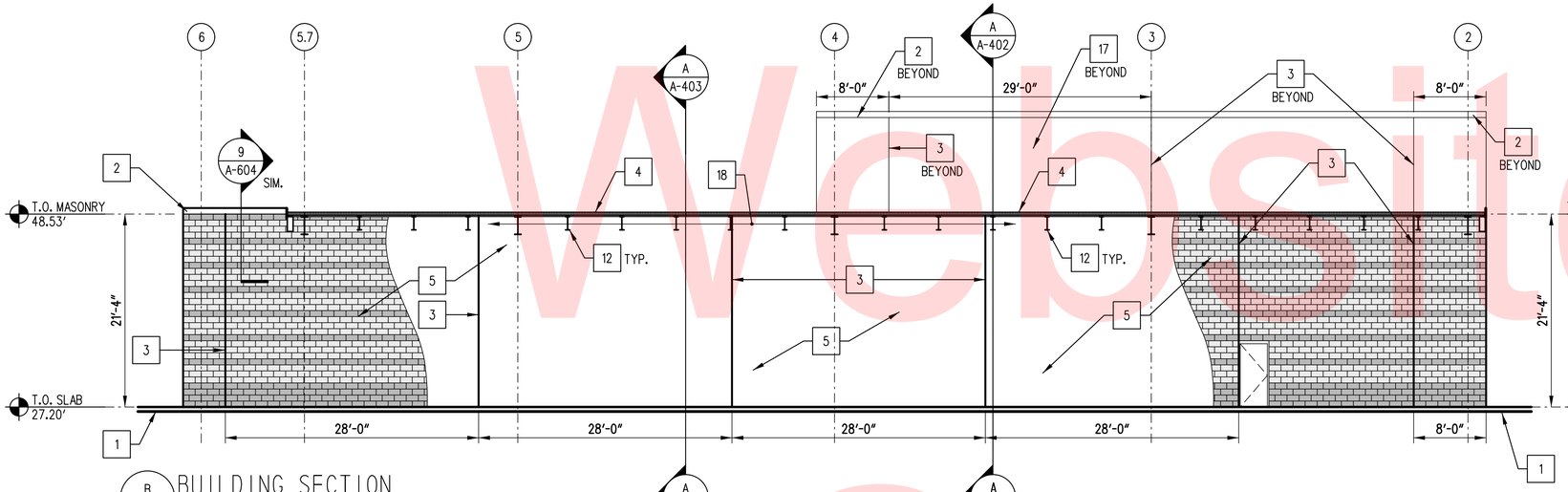
N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-303.dgn
10/27/2017 3:04:08 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	BUILDING ELEVATIONS – VISITOR CENTER
				COUNTY SUSSEX	DESIGNED BY: KDM/NCL	
					CHECKED BY: EJ	

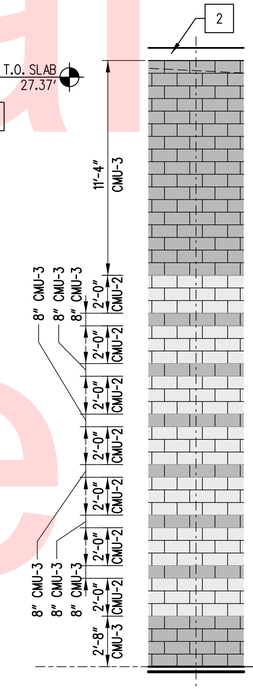
A–303
SHEET NO. 66
TOTAL SHTS. 189



A A-401 BUILDING SECTION
SCALE: 1/8"=1'-0"
REF: A-101, A-103, A-301, A-302



B A-401 BUILDING SECTION
SCALE: 1/8"=1'-0"
REF: A-102, A-104, A-301, A-302



1 A-401 EXTERIOR CMU - COLOR SCHEME
SCALE: 1/4"=1'-0"
REF: A-301, A-302, A-401

SOUTH BUILDING CMU COLOR SCHEME - SEE DETAIL 1/A-401

CONSTRUCTION NOTES

1. FINISHED GRADE - SEE CIVIL DRAWINGS
2. PRE-FINISHED ALUMINUM FASCIA
3. 1/2" CONTROL JOINT IN CMU VENEER
4. EPDM MEMBRANE ROOFING AND INSULATION ON METAL DECK - SEE WALL SECTIONS AND DETAILS
5. GROUND FACE CMU VENEER (CMU-2 AND CMU-3) - SEE 1/A-401 FOR PATTERN
6. PRE-FINISHED ALUMINUM EXTENDED FASCIA ON BUS LANE CANOPY
7. GROUND FACE MASONRY UNIT VENEER (CMU-1)
8. CONCRETE FILLED STEEL PIPE BOLLARDS - SEE CIVIL DRAWINGS
9. PRE-FINISHED ALUMINUM GUTTER
10. PRE-FINISHED ALUMINUM DOWNSPOUT TO BOOT - SEE PLUMBING FOR CONT. BELOW SIDEWALK
11. DASHED LINE REPRESENTS TOP OF ROOF BEYOND
12. EXPOSED EXTERIOR STRUCTURAL STEEL ROOF FRAMING AND DECK - PAINT PT-5
13. STRUCTURAL STEEL COLUMN THROUGH ROOF - PAINT PT-5
14. FUEL DISPENSING UNITS - SEE EQUIPMENT AND PLUMBING DRAWINGS
15. THROUGH WALL PARCEL DROP BOX
16. THROUGH WALL VAULT - OWNER FURNISHED / CONTRACTOR INSTALLED - SEE DETAIL 4/A-404
17. GROUND FACE MASONRY UNIT VENEER (CMU-3)
18. 1-HOUR FIRE RATING FOR THIS PORTION OF WALL - NO NON-STRUCTURAL PENETRATIONS PERMITTED. FIRESTOP STRUCTURAL PENETRATIONS.

EXTERIOR FINISH SCHEDULE

NO.	MATERIALS	MANUFACTURER - BASIS OF DESIGN	COLORS
CMU-1	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "PARCHMENT"
CMU-2	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "PUTTY"
CMU-3	EXTERIOR GROUND FACE CONCRETE MASONRY UNIT	YORK BUILDING PRODUCTS	GEMSTONE: "SILVER"
IG-1(s)	TINTED LOW-E INSULATING GLASS	PPG	SOLARBAN 60:"ATLANTICA"
PC-1	POLYCARBONATE PANEL	POLYGAL	11 MM MULTI-CELLED PANEL: CLEAR
PT-4	EXTERIOR PAINT	BENJAMIN MOORE	PAINT: COLOR PREVIEW SERIES; "READY-MIX BRIARWOOD"; PAINTED DOORS & FRAMES, LOUVERS, ENTRY CANOPY FRAMES

EXTERIOR FINISH SCHEDULE (CONT.)

NO.	MATERIALS	MANUFACTURER - BASIS OF DESIGN	COLORS
PT-5	EXTERIOR PAINT	BENJAMIN MOORE	PAINT: COLOR PREVIEW SERIES; #2134-70, "GENESIS WHITE";BUS CANOPY STRUCTURE
--	ALUMINUM STOREFRONT FRAMING/ENTRY DOOR FINISH	KAWNEER	ANNODIZED ALUMINUM; COLOR: "MEDIUM BRONZE"
--	METAL WALL PANEL	CENTRIA	METAL WALL PANEL; CONCEPT SERIES: CS-660-E ; COLOR: KYNAR 500, "GRANITE"
MTL-1	EXPOSED METAL FLASHING/GUTTERS & DOWNSPOUTS	PAC-CLAD	KYNAR 500 FLUOROPOLYMER; COLOR: "GRANITE"
MTL-2	EXPOSED METAL FLASHING	PAC-CLAD	KYNAR 500 FLUOROPOLYMER; COLOR: "SIERRA TAN"; CAP FLASHING AT CMU-1 ONLY
MTL-3	METAL FASCIA CANOPY PANEL	PAC-CLAD	KYNAR 500 FLUOROPOLYMER; COLOR: "STONE WHITE"
MTL-4	METAL FASCIA, TRIM, CURTAINWALL, POLYCARBONATE FRAME @ VISITORS CENTER ONLY	PPG	KYNAR 500 FLUOROPOLYMER; COLOR: #UC72638 "GRAHAM WHITE"

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004A-401.dgn
10/27/2017 3:01:12 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 2' 4' 8'
SCALE: 1/4" = 1'-0"
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: KDM/RJH	
CHECKED BY: EJ	

BUILDING SECTIONS

	A-401
SHEET NO.	67
TOTAL SHTS.	189

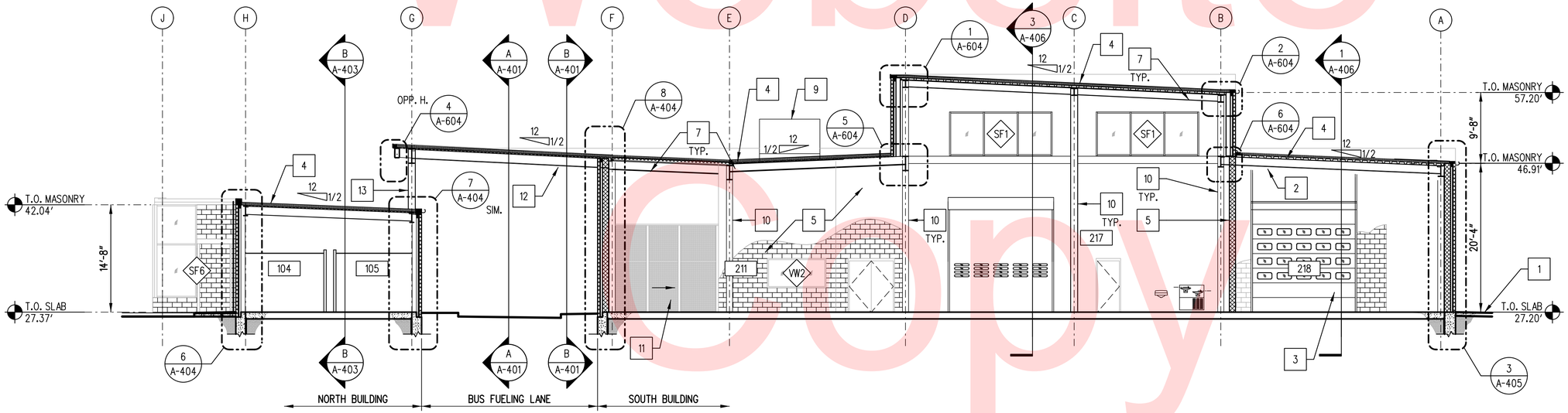
Unofficial Website Copy

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON BUILDING SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY BUILDING SECTION SHEET.

CONSTRUCTION NOTES

1. FINISHED GRADE - SEE CIVIL DRAWINGS
2. ALL EXPOSED STRUCTURE INCL. DECK IN WASH BAY PAINTED (PT-6)
3. MOTOR-OPERATED INSULATED OVERHEAD SECTIONAL DOOR
4. EPDM MEMBRANE ROOFING AND INSULATION ON METAL DECK - SEE WALL SECTIONS AND DETAILS
5. INTERIOR CMU PARTITIONS (TYPICAL)
6. 3-5/8" METAL PARTITION W/ 5/8" GWB ON ONE SIDE ONLY
7. EXPOSED STRUCTURE AND METAL DECK - PAINTED PT-1
8. ROOF ACCESS HATCH - SEE DETAIL 2/A-103
9. ROOFTOP MOUNTED MECHANICAL UNITS - SEE MECHANICAL
10. EXPOSED STRUCTURAL STEEL COLUMNS - PAINT TO MATCH ADJACENT WALL
11. WIRE MESH PARTITIONS TO 12'-0" AFF AND 4070 SLIDING DOOR
12. EXPOSED EXTERIOR STRUCTURAL STEEL ROOF FRAMING AND DECK - PAINT PT-5
13. STRUCTURAL STEEL COLUMN THROUGH ROOF - PAINT PT-5
14. METAL LADDER TO ROOF HATCH - SEE STRUCTURAL



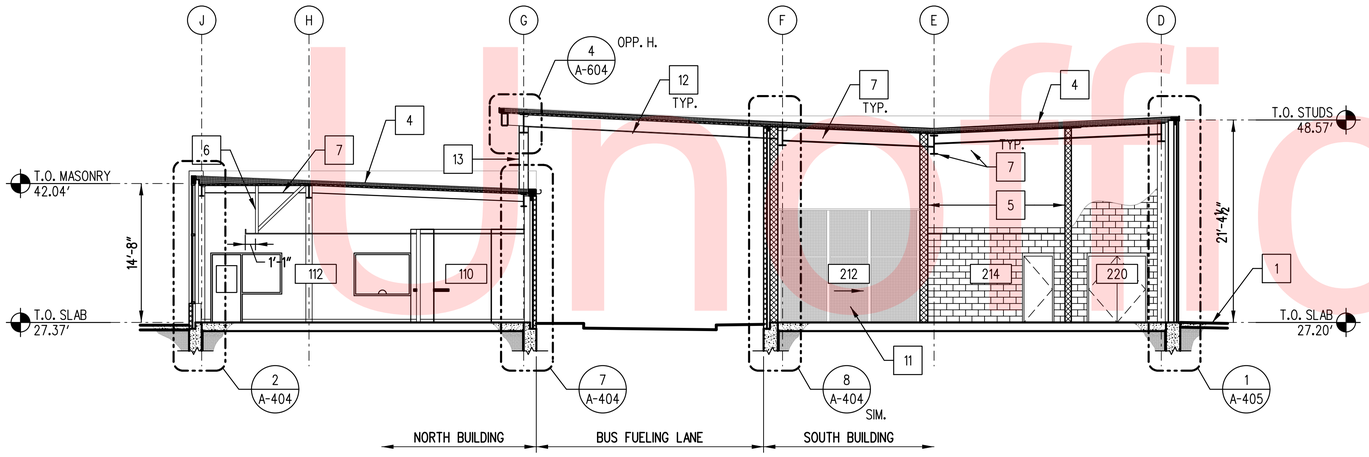
A / A-402 BUILDING SECTION
SCALE: 1/8"=1'-0"
REF: A-101, A-102, A-103, A-104, A-301, A-302, A-401

N:\90181-01\CADD\Phase II\Sheet Files\CP01-90181004A-402.dgn
10/27/2017 3:10:13 PM

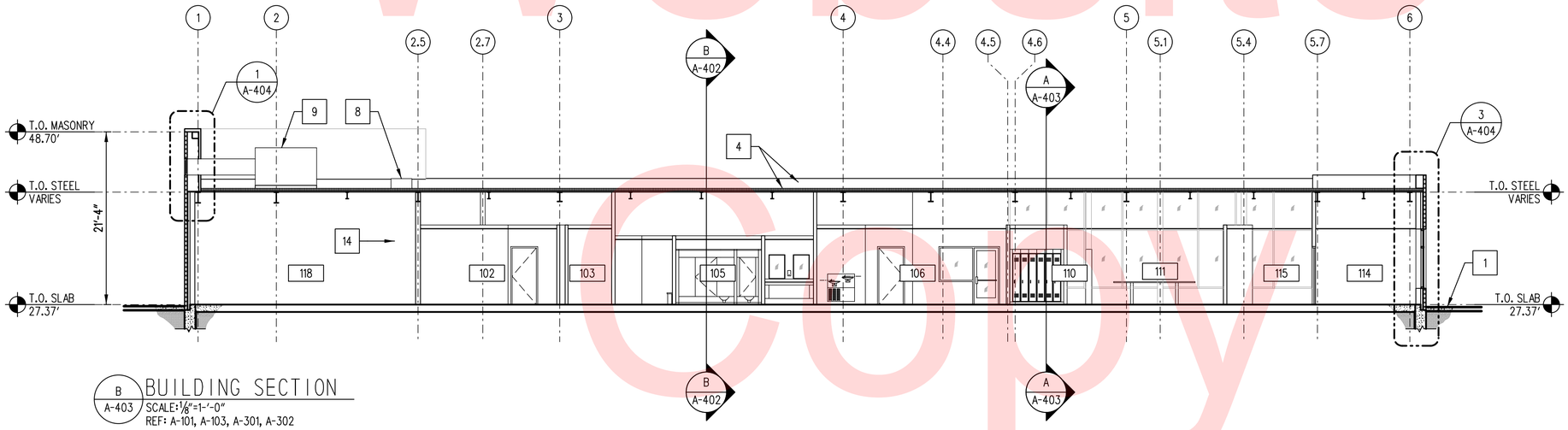
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109 / COUNTY SUSSEX	BRIDGE NO. / DESIGNED BY: KDM/RJH / CHECKED BY: EJ

BUILDING SECTIONS

A-402 | SHEET NO. 68 | TOTAL SHTS. 189



A
A-403
BUILDING SECTION
SCALE: 1/8"=1'-0"
REF: A-101, A-102, A-103, A-104, A-301, A-401



B
A-403
BUILDING SECTION
SCALE: 1/8"=1'-0"
REF: A-101, A-103, A-301, A-302

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON BUILDING SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY BUILDING SECTION SHEET.

CONSTRUCTION NOTES

1. FINISHED GRADE - SEE CIVIL DRAWINGS
2. ALL EXPOSED STRUCTURE INCL. DECK IN WASH BAY PAINTED (PT-6)
3. MOTOR-OPERATED INSULATED OVERHEAD SECTIONAL DOOR
4. EPDM MEMBRANE ROOFING AND INSULATION ON METAL DECK - SEE WALL SECTIONS AND DETAILS
5. INTERIOR CMU PARTITIONS (TYPICAL)
6. 3-5/8" METAL PARTITION W/ 5/8" GWB ON ONE SIDE ONLY
7. EXPOSED STRUCTURE AND METAL DECK - PAINTED PT-1
8. ROOF ACCESS HATCH - SEE DETAIL 2/A-103
9. ROOFTOP MOUNTED MECHANICAL UNITS - SEE MECHANICAL
10. EXPOSED STRUCTURAL STEEL COLUMNS - PAINT TO MATCH ADJACENT WALL
11. WIRE MESH PARTITIONS TO 12'-0" AFF AND 4070 SLIDING DOOR
12. EXPOSED EXTERIOR STRUCTURAL STEEL ROOF FRAMING AND DECK - PAINT PT-5
13. STRUCTURAL STEEL COLUMN THROUGH ROOF - PAINT PT-5
14. METAL LADDER TO ROOF HATCH - SEE STRUCTURAL

Unofficial Website Copy

N:\90181-01\CADD\Phase II Sheet Files\CP01-90181004A-403.dgn
10/27/2017 3:01:14 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

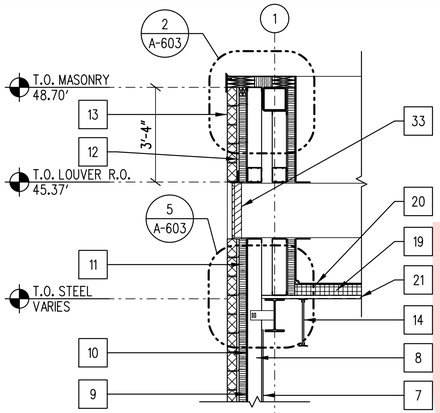
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

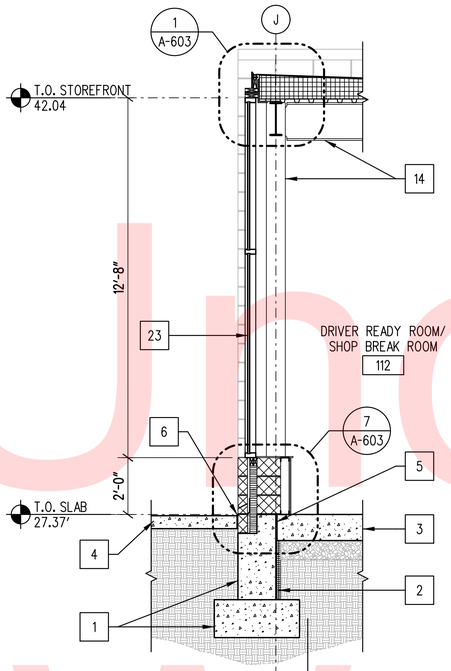
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: KDM/RJH	
COUNTY	CHECKED BY: EJ	
SUSSEX		

BUILDING SECTIONS

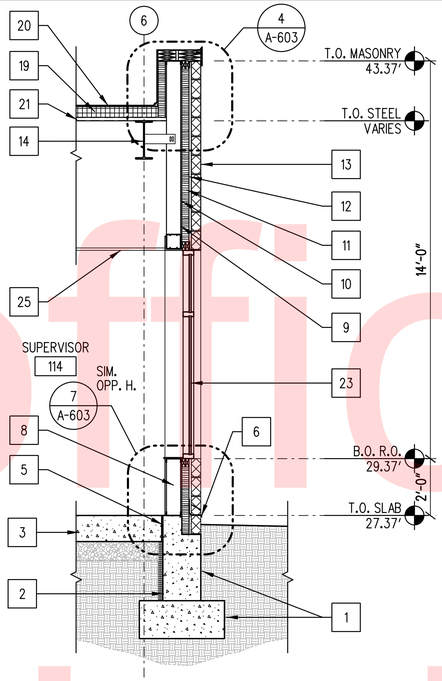
A-403
SHEET NO. 69
TOTAL SHTS. 189



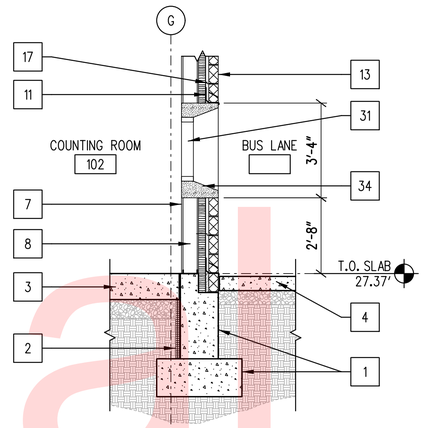
1 WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-403



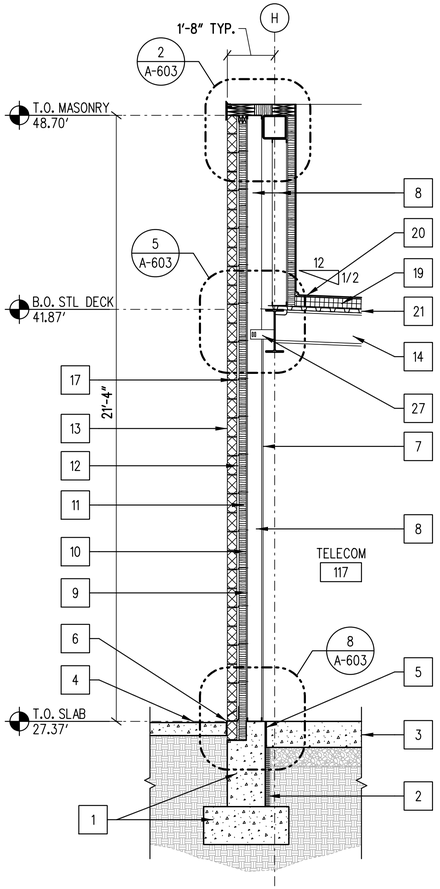
2 WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-301, A-403



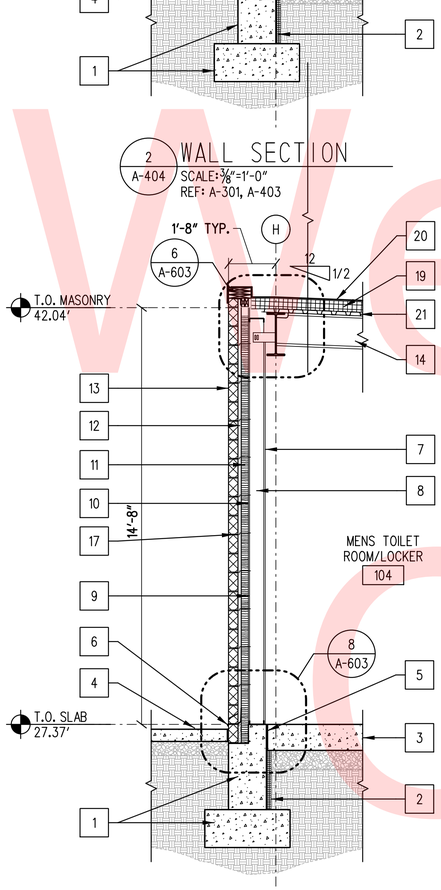
3 WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-302, A-401, A-403



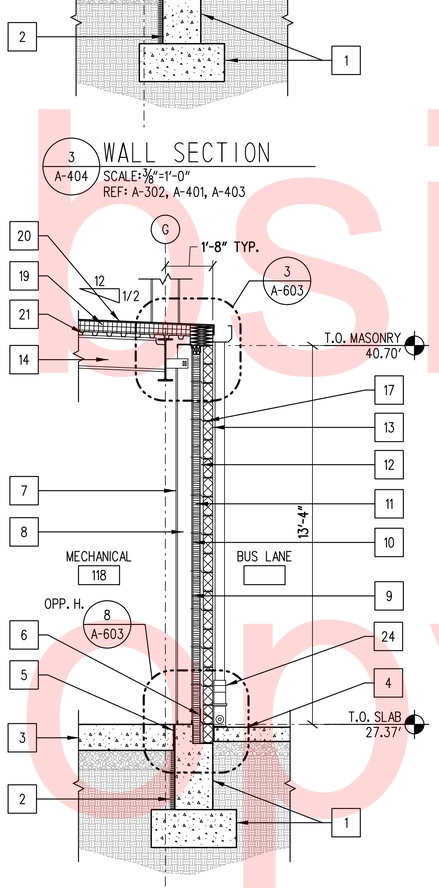
4 PARTIAL WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-404



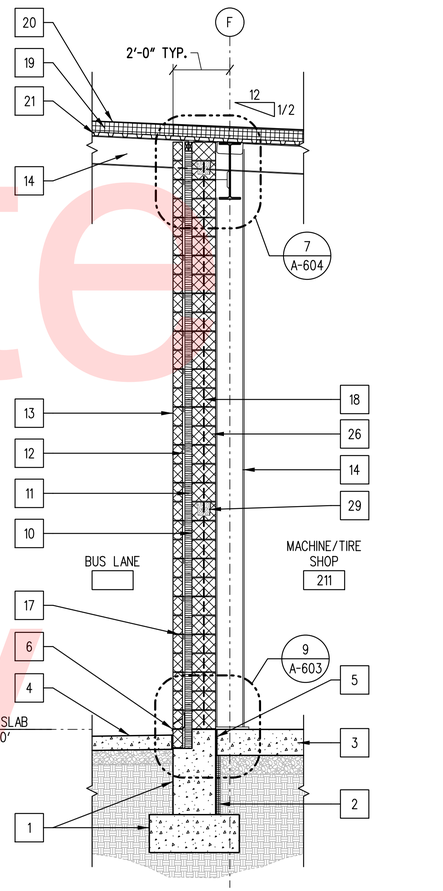
5 WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-301



6 WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-301, A-402



7 WALL SECTION
A-401 SCALE: 3/8"=1'-0"
REF: A-401, A-402, A-403



8 WALL SECTION
A-404 SCALE: 3/8"=1'-0"
REF: A-402, A-403

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON WALL SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY WALL SECTION SHEET.

CONSTRUCTION NOTES

1	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
2	2" RIGID PERIMETER INSULATION (INS-1)
3	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
4	EXTERIOR SIDEWALK \ PAVING - SEE CIVIL
5	CONCRETE SLAB CONTROL JOINT - SEE STRUCTURAL
6	MASONRY THROUGH-WALL FLASHING
7	5/8" GYPSUM BOARD
8	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
9	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
10	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER
11	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
12	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
13	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14	STEEL FRAMING - SEE STRUCTURAL
15	CORRUGATED METAL PANEL SIDING
16	CONCRETE FILLED STEEL PIPE BOLLARDS - SEE C-401
17	MASONRY VENEER TIES \ ANCHORS AT 16" O.C EACH WAY - TYPICAL
18	VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS AT 24" O.C.
19	RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
20	EPDM ROOFING MEMBRANE
21	STEEL DECK - SEE STRUCTURAL
22	NOT USED
23	ALUMINUM STOREFRONT WINDOW SYSTEM
24	PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH BLOCKS, PANS, OR BOOTS PER ROOF PLANS
25	ACOUSTICAL PANEL CEILING
26	10" NOMINAL CMU BACKUP WALL
27	DEFLECTION CLIP
28	EXTERIOR COLD-FORMED STEEL STUD FRAMING - (2) SSMA 600S162-97 BACK TO BACK AT 12" O.C.
29	CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
30	TRENCH DRAIN - SEE S-501, P-605
31	RECEPTOR FOR FARE PULL VAULT CAST IN WALL - COORDINATE WITH OWNER FURNISHED EQUIPMENT
32	INSULATED OVERHEAD SECTIONAL DOOR
33	ALUMINUM LOUVER - SEE ELEVATIONS AND SHEET A-807
34	CONCRETE SURROUND FOR FARE PULL VAULT WALL OPENING - COORDINATE WITH MANUFACTURER'S DETAILS FOR OWNER FURNISHED VAULT

Unofficial Website Copy

N:\90181-019\CADD\Rpse Sheet Files\CP01-90181004A-404.dgn
10/27/2017 3:01:15 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

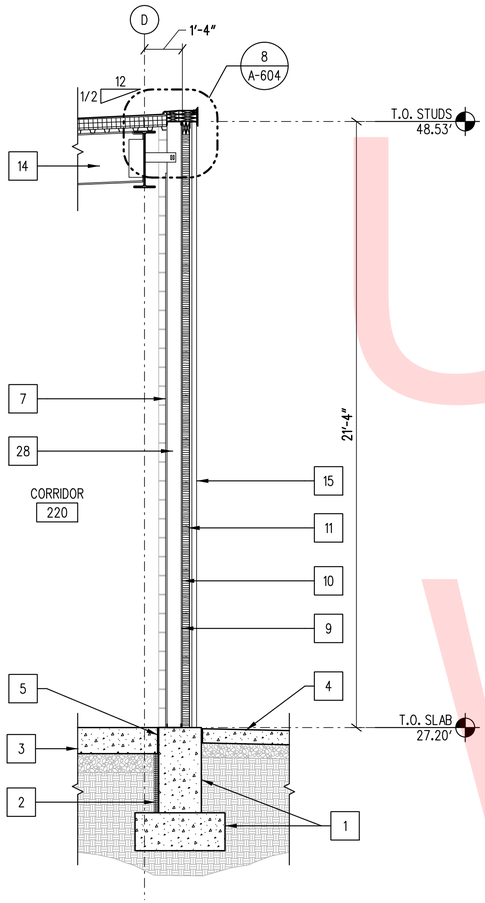
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

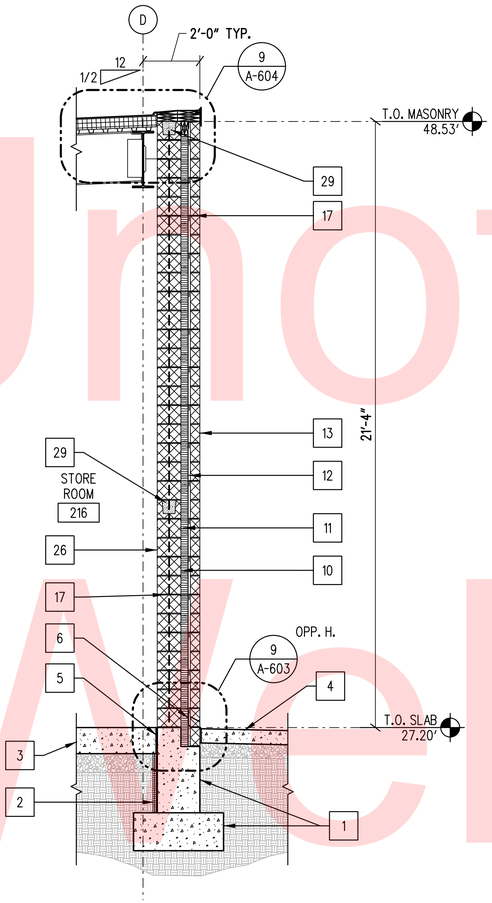
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	RJH
CHECKED BY:	EJ

WALL SECTIONS

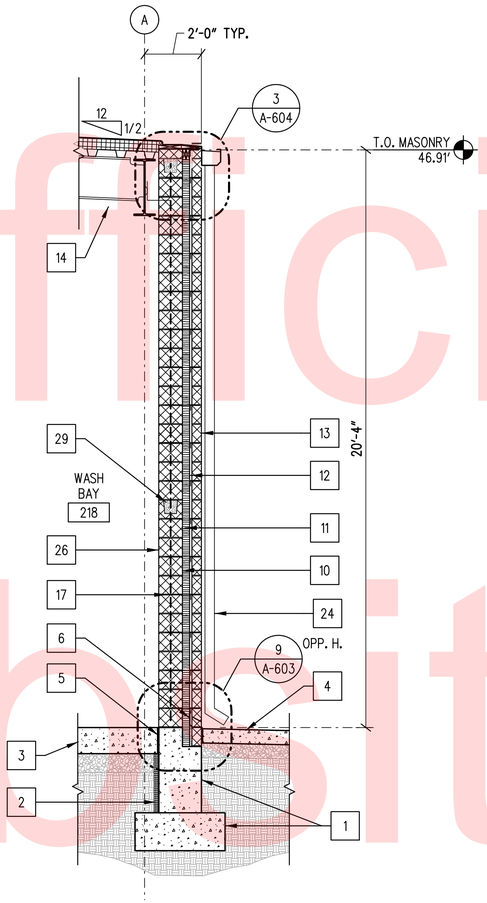
	A-404
SHEET NO.	70
TOTAL SHTS.	189



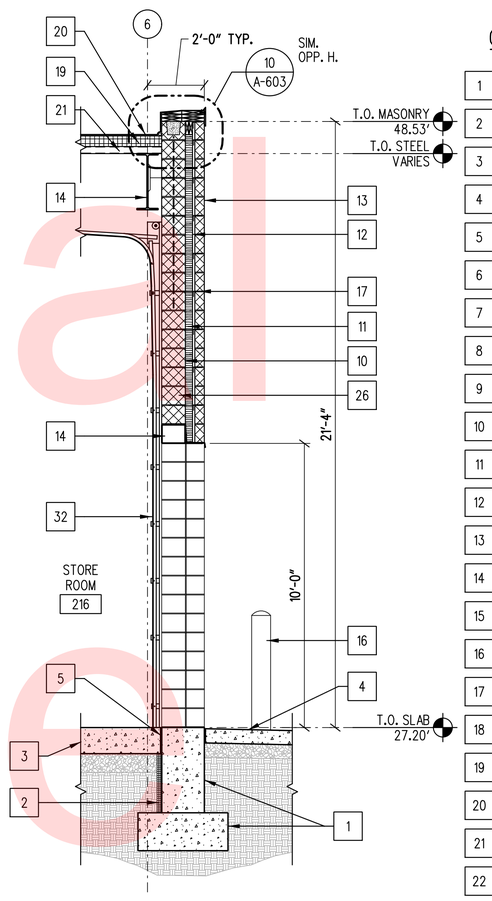
1 A-405 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-302, A-403



2 A-405 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-301, A-302



3 A-405 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-402



4 A-405 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-302

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON WALL SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY WALL SECTION SHEET.

CONSTRUCTION NOTES

1. CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
2. 2" RIGID PERIMETER INSULATION (INS-1)
3. CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
4. EXTERIOR SIDEWALK \ PAVING - SEE CIVIL
5. CONCRETE SLAB CONTROL JOINT - SEE STRUCTURAL
6. MASONRY THROUGH-WALL FLASHING
7. 5/8" GYPSUM BOARD
8. EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
9. 1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
10. FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER
11. 3" POLYISOCYANURATE BOARD INSULATION (INS-2)
12. AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
13. 4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14. STEEL FRAMING - SEE STRUCTURAL
15. CORRUGATED METAL PANEL SIDING
16. CONCRETE FILLED STEEL PIPE BOLLARDS - SEE C-401
17. MASONRY VENEER TIES \ ANCHORS AT 16" O.C EACH WAY - TYPICAL
18. VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS AT 24" O.C.
19. RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
20. EPDM ROOFING MEMBRANE
21. STEEL DECK - SEE STRUCTURAL
22. NOT USED
23. ALUMINUM STOREFRONT WINDOW SYSTEM
24. PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH BLOCKS, PANS, OR BOOTS PER ROOF PLANS
25. ACOUSTICAL PANEL CEILING
26. 10" NOMINAL CMU BACKUP WALL
27. DEFLECTION CLIP
28. EXTERIOR COLD-FORMED STEEL STUD FRAMING - (2) SSMA 600S162-97 BACK TO BACK AT 12" O.C.
29. CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
30. TRENCH DRAIN - SEE S-501, P-605
31. RECEPTOR FOR FARE PULL VAULT CAST IN WALL - COORDINATE WITH OWNER FURNISHED EQUIPMENT
32. INSULATED OVERHEAD SECTIONAL DOOR
33. ALUMINUM LOUVER - SEE ELEVATIONS AND SHEET A-807
34. CONCRETE SURROUND FOR FARE PULL VAULT WALL OPENING - COORDINATE WITH MANUFACTURER'S DETAILS FOR OWNER FURNISHED VAULT

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004A-405.dgn
10/27/2017 3:10:16 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

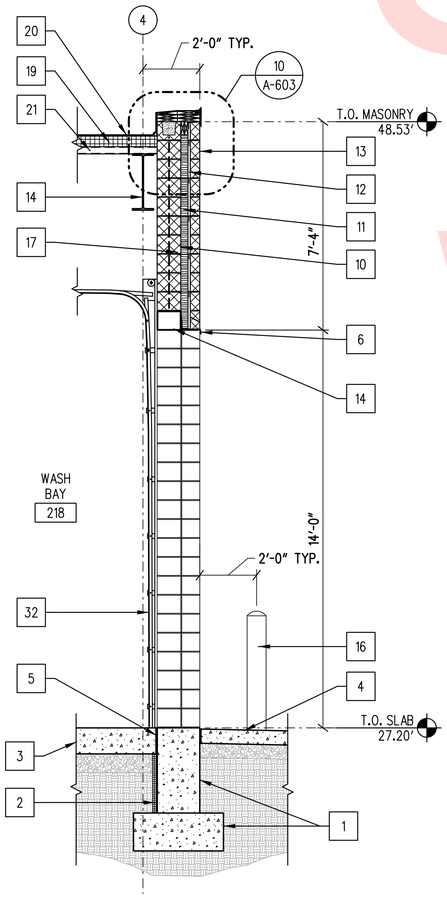
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: RJH	
COUNTY	CHECKED BY: EJ	
SUSSEX		

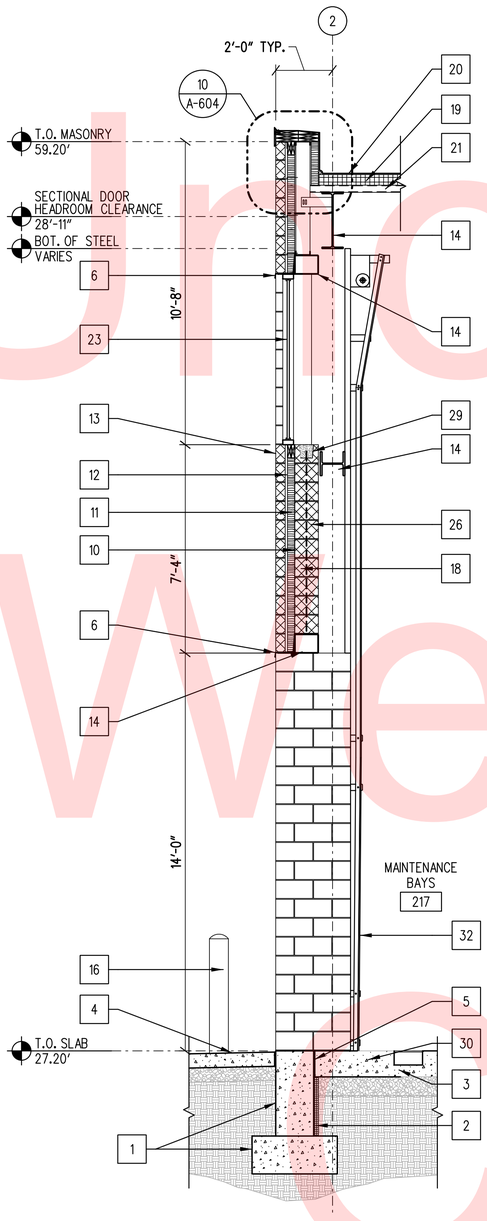
WALL SECTIONS

A-405
SHEET NO.
71
TOTAL SHTS.
189

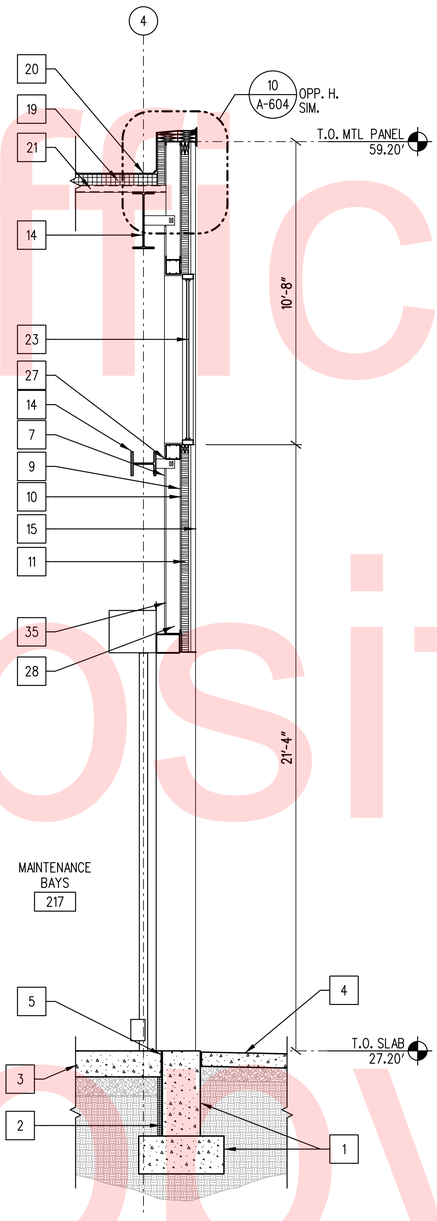
Unofficial Website Copy



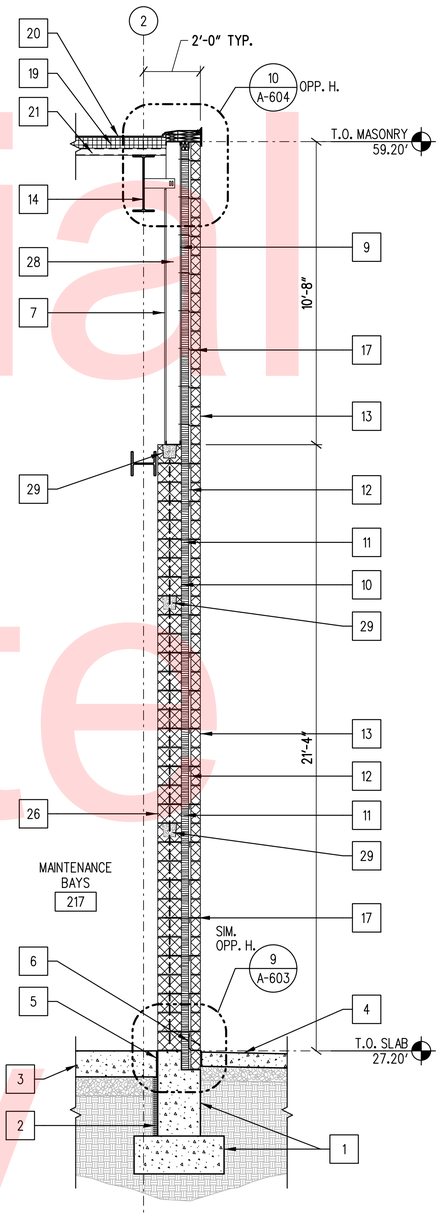
1 A-406 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-301, A-302



2 A-406 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-301



3 A-406 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-302, A-402



4 A-406 WALL SECTION
SCALE: 3/8"=1'-0"
REF: A-301

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON WALL SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY WALL SECTION SHEET.

CONSTRUCTION NOTES

1	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
2	2" RIGID PERIMETER INSULATION (INS-1)
3	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
4	EXTERIOR SIDEWALK \ PAVING - SEE CIVIL
5	CONCRETE SLAB CONTROL JOINT - SEE STRUCTURAL
6	MASONRY THROUGH-WALL FLASHING
7	5/8" GYPSUM BOARD
8	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
9	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
10	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER
11	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
12	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
13	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14	STEEL FRAMING - SEE STRUCTURAL
15	CORRUGATED METAL PANEL SIDING
16	CONCRETE FILLED STEEL PIPE BOLLARDS - SEE C-401
17	MASONRY VENEER TIES \ ANCHORS AT 16" O.C EACH WAY - TYPICAL
18	VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS AT 24" O.C.
19	RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
20	EPDM ROOFING MEMBRANE
21	STEEL DECK - SEE STRUCTURAL
22	NOT USED
23	ALUMINUM STOREFRONT WINDOW SYSTEM
24	PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH BLOCKS, PANS, OR BOOTS PER ROOF PLANS
25	ACOUSTICAL PANEL CEILING
26	10" NOMINAL CMU BACKUP WALL
27	DEFLECTION CLIP
28	EXTERIOR COLD-FORMED STEEL STUD FRAMING - (2) SSMA 600S162-97 BACK TO BACK AT 12" O.C.
29	CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
30	TRENCH DRAIN - SEE S-501, P-605
31	RECEPTOR FOR FARE PULL VAULT CAST IN WALL - COORDINATE WITH OWNER FURNISHED EQUIPMENT
32	INSULATED OVERHEAD SECTIONAL DOOR
33	ALUMINUM LOUVER - SEE ELEVATIONS AND SHEET A-807
34	CONCRETE SURROUND FOR FARE PULL VAULT WALL OPENING - COORDINATE WITH MANUFACTURER'S DETAILS FOR OWNER FURNISHED VAULT
35	CLIP ANGLE TO SUPPORT OVERHEAD DOOR HOOD

A-406

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004A-406.dgn
10/27/2017 3:01:17 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

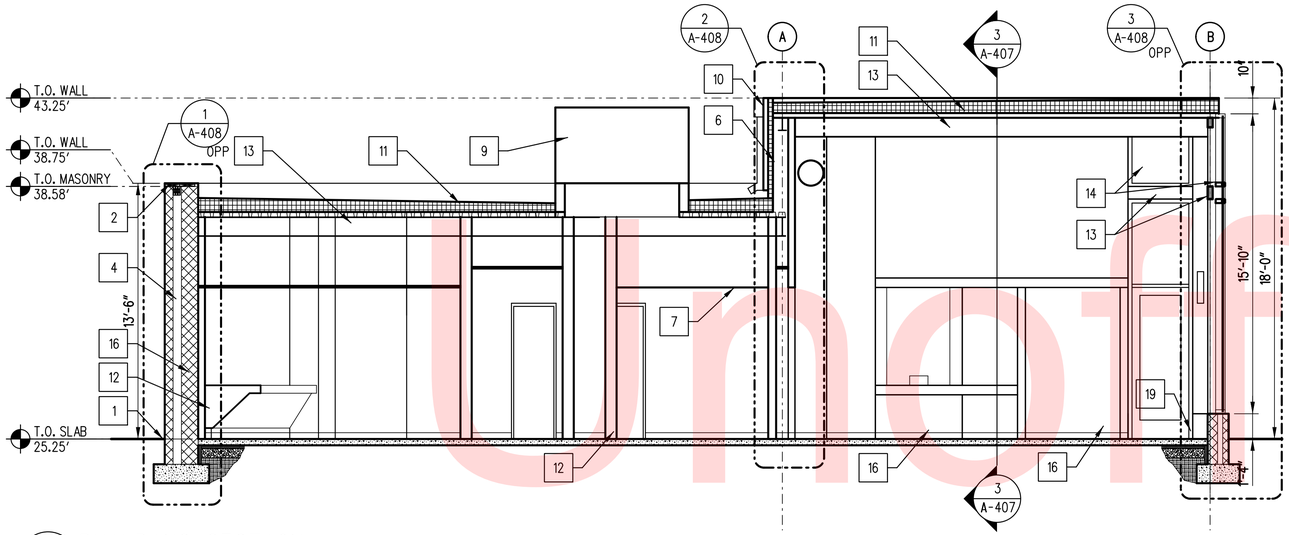
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	RJH
CHECKED BY:	EJ

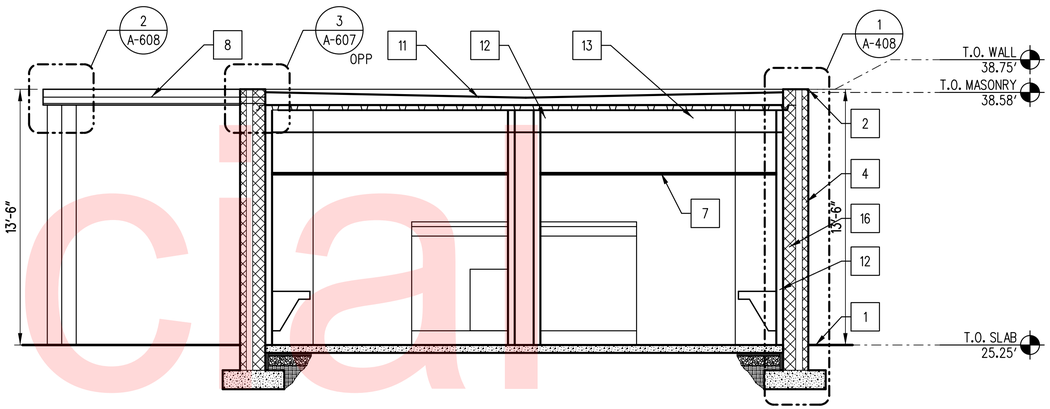
WALL SECTIONS

SHEET NO.	72
TOTAL SHTS.	189

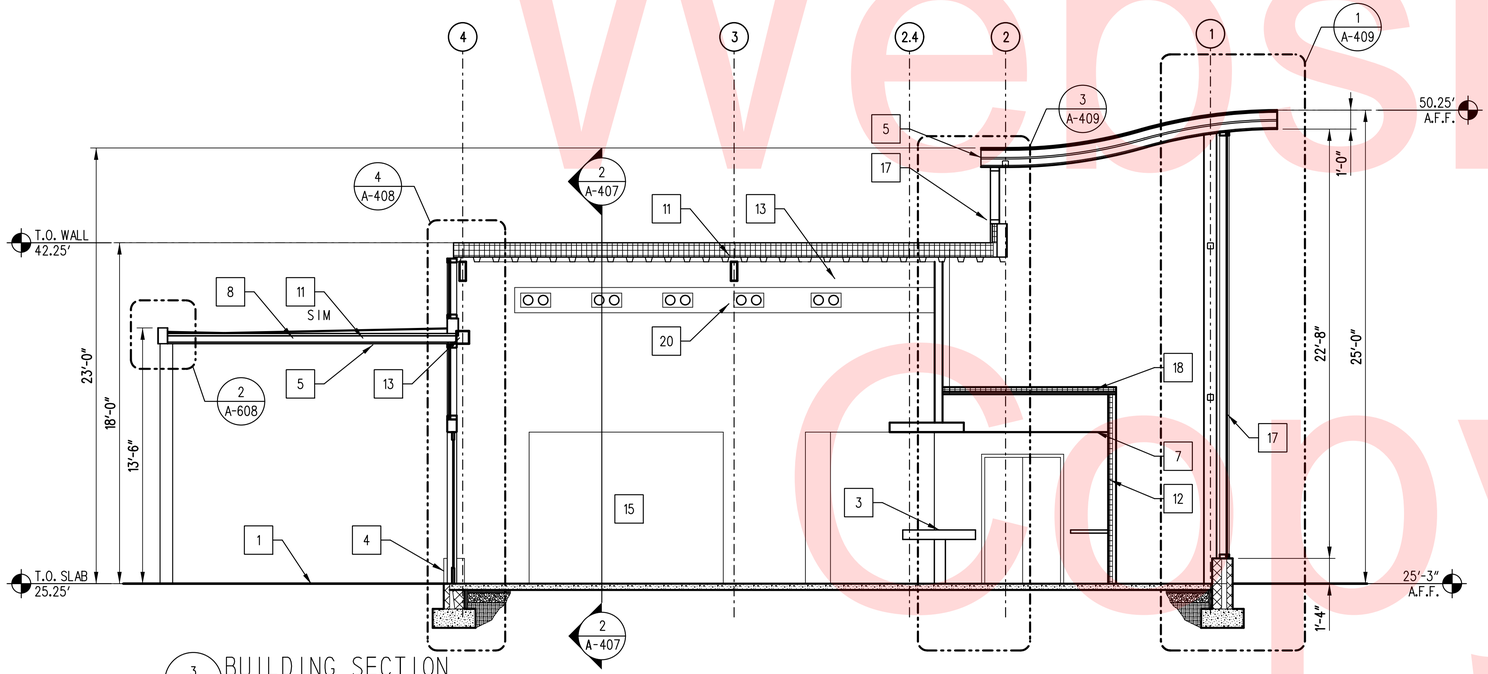
Unofficial Website Copy



2 A-407 BUILDING SECTION
SCALE: 1/4"=1'-0"



1 A-407 BUILDING SECTION
SCALE: 1/4"=1'-0"



3 A-407 BUILDING SECTION
SCALE: 1/4"=1'-0"

CONSTRUCTION NOTES

1	FINISHED GRADE - SEE CIVIL DRAWINGS
2	PRE-FINISHED ALUMINUM FASCIA
3	TRANSACTION COUNTER SEE SHEET A-507
4	GROUND FACE MASONRY UNIT VENEER (CMU-1)
5	INSULATED ALUMINUM COMPOSITE PANEL
6	PRE-FINISHED CORRUGATED METAL PANEL SIDING ON COLD FORMED FURRING
7	APC CEILING
8	ENTRANCE CANOPY WITH METAL FASCIA - SEE SHEETS A-608 AND A-811
9	ROOFTOP MECHANICAL UNIT - SEE MECH DWGS
10	PRE-FINISHED ALUMINUM COLLECTOR HEAD AND DOWNSPOUT TO SPLASH PAN ON LOWER ROOF
11	EPDM MEMBRANE ROOFING AND R30 INSULATION ON METAL DECK - SEE WALL SECTIONS AND DETAILS
12	INTERIOR METAL COLD-FORMED STEEL STUD FRAMING (TYPICAL)
13	EXPOSED STRUCTURE AND METAL DECK - PAINTED PT-1
14	ALUMINUM CURTAINWALL WINDOW SYSTEM
15	VIDEO SCREEN WALL - BY OWNER
16	CMU BACKUP WALL - SEE STRUCTURAL FOR SIZE
17	POLYCARBONATE WINDOW SYSTEM
18	3" POLYISO INSULATION OVER 1" METAL DECKING FASTENED TO WALL FRAMING. BOTTOM OF DECK @ 12'-0"
19	RADIANT HEATER - SEE MECHANICAL DRAWINGS
20	MECHANICAL DUCT
21	LIGHT FIXTURE

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-407.dgn
10/27/2017 3:04:15 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

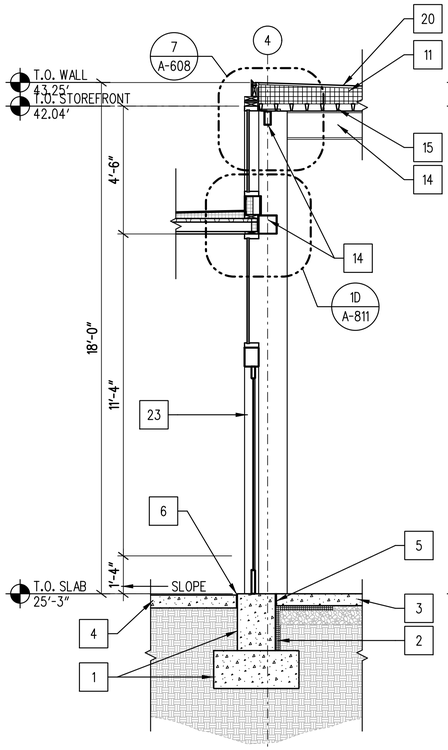
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	KDM/NCL
CHECKED BY:	EJ

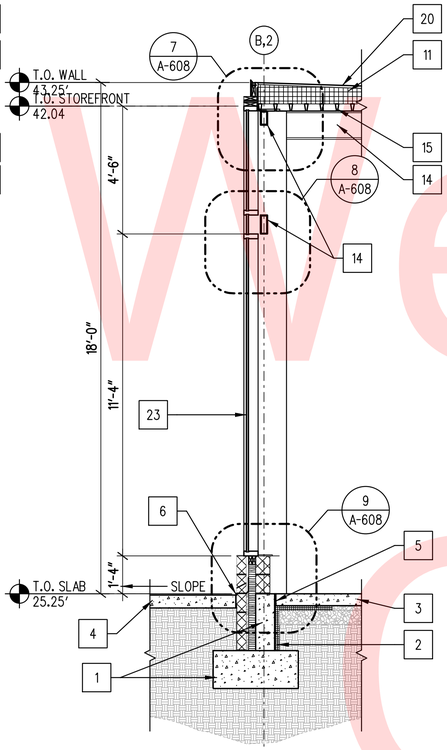
BUILDING SECTIONS - VISITOR CENTER

	A-407
SHEET NO.	73
TOTAL SHTS.	189

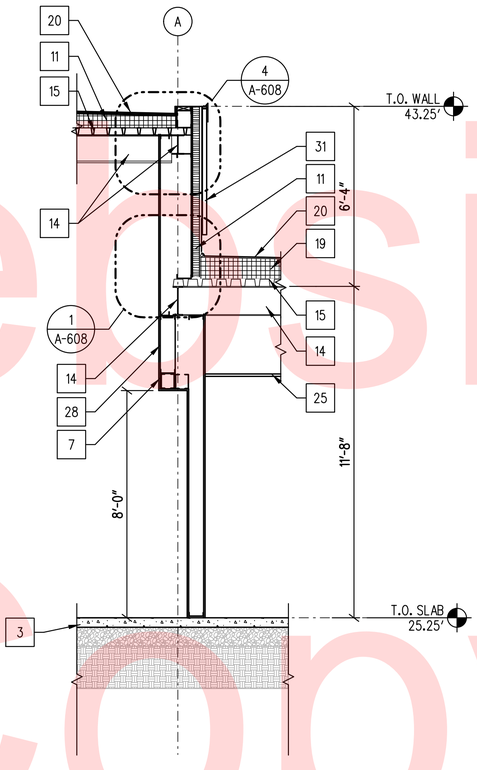
Unofficial Website Copy

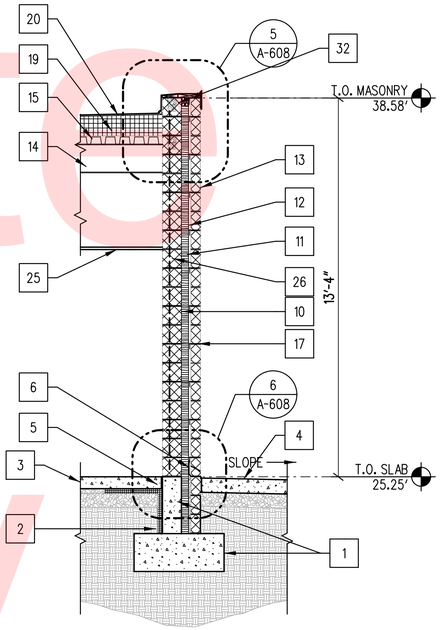


WALL SECTION



WALL SECTION





WALL SECTION

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON WALL SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY WALL SECTION SHEET.

CONSTRUCTION NOTES

1	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
2	2" RIGID PERIMETER INSULATION (INS-1)
3	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
4	EXTERIOR SIDEWALK \ PAVING - SEE CIVIL
5	CONCRETE SLAB CONTROL JOINT - SEE STRUCTURAL
6	MASONRY THROUGH-WALL FLASHING
7	5/8" GYPSUM BOARD
8	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
9	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
10	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER
11	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
12	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
13	4" NOM. GROUND FACE CMU VENEER - (CMU-3)
14	STEEL FRAMING - SEE STRUCTURAL
15	STEEL DECK - SEE STRUCTURAL
16	CONTINUOUS CMU BOND BEAM - SEE STRUCTURAL FOR LOCATIONS
17	MASONRY VENEER TIES \ ANCHORS AT 16" O.C EACH WAY - TYPICAL
18	VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS AT 24" O.C.
19	RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
20	EPDM ROOFING MEMBRANE
21	SCHEDULED ALUMINUM CURTAINWALL SYSTEM
22	SCHEDULED ALUMINUM STOREFRONT SYSTEM
23	SCHEDULED POLYCARBONATE WINDOW SYSTEM
24	PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH BLOCKS, PANS, OR BOOTS PER ROOF PLANS
25	SCHEDULED CEILING
26	8" NOMINAL CMU BACKUP WALL
27	DEFLECTION CLIP
28	INTERIOR COLD-FORMED STEEL STUD FRAMING SSMA 600S162-97 AT 16" O.C.
29	PRE-FINISHED BOX RIB METAL PANEL
30	ALUMINUM COMPOSITE PANEL
31	CORROGATED METAL PANEL SIDING VER 7/8" HAT CHANNEL FURRING
32	8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
33	4" MINERAL WOOL INSULATION

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-408.dgn
10/27/2017 3:04:14 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

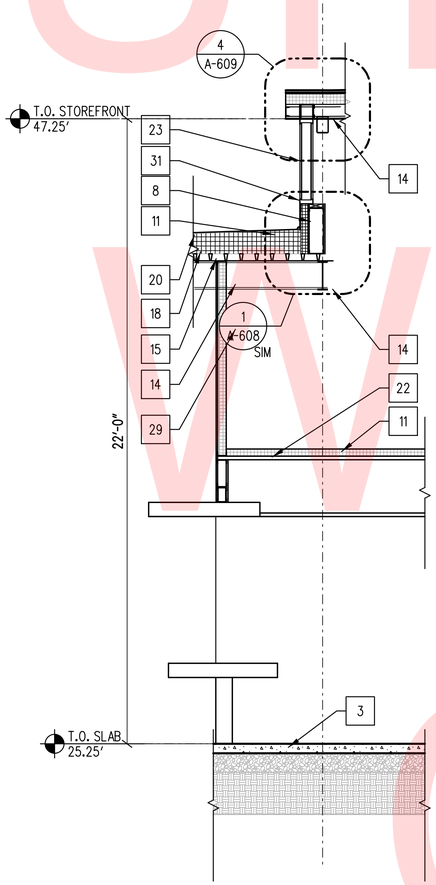
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	KDM/NCL
CHECKED BY:	EJ

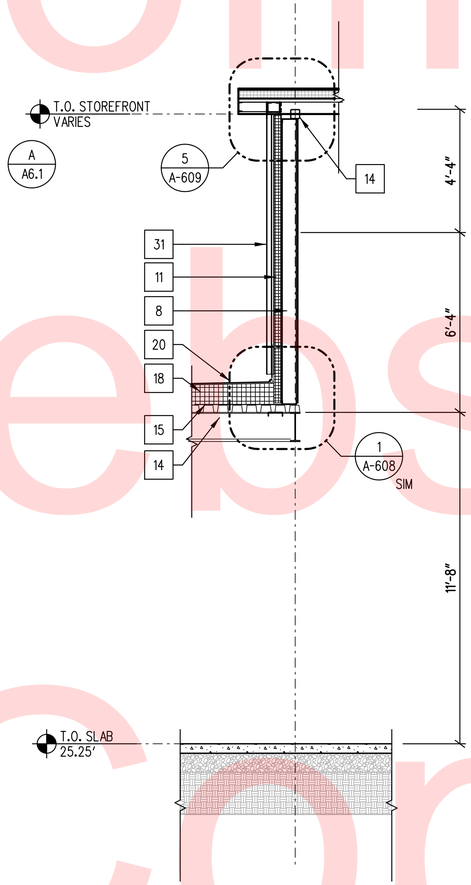
WALL SECTIONS - VISITOR CENTER

	A-408
SHEET NO.	74
TOTAL SHTS.	189

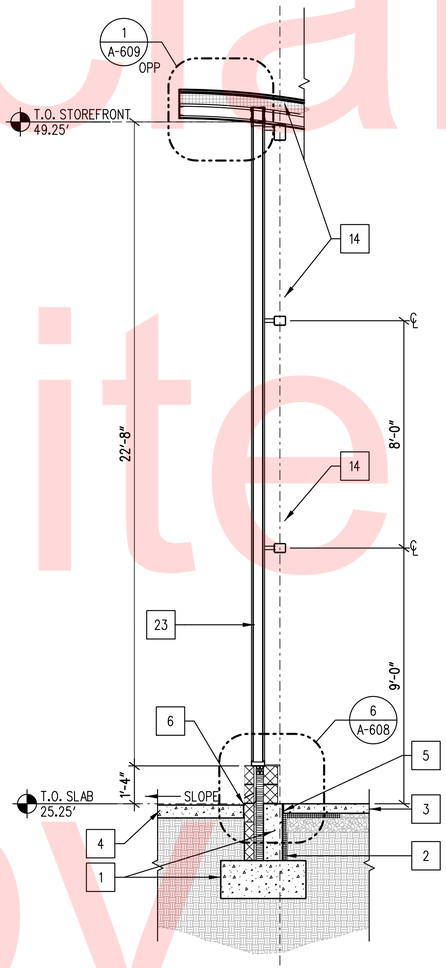
Unofficial Website Copy



3 WALL SECTION
3/A-409 SCALE: 3/8"=1'-0"
REF: A-407



2 WALL SECTION
2/A-409 SCALE: 3/8"=1'-0"
REF: A-407



1 WALL SECTION
1/A-409 SCALE: 3/8"=1'-0"
REF: A-407

GENERAL NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON WALL SECTION SHEETS DO NOT NECESSARILY APPLY TO EVERY WALL SECTION SHEET.

CONSTRUCTION NOTES

1. CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
2. 2" RIGID PERIMETER INSULATION (INS-1)
3. CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
4. EXTERIOR SIDEWALK \ PAVING - SEE CIVIL
5. CONCRETE SLAB CONTROL JOINT - SEE STRUCTURAL
6. MASONRY THROUGH-WALL FLASHING
7. 5/8" GYPSUM BOARD
8. EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
9. 1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
10. FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER
11. 3" POLYISOCYANURATE BOARD INSULATION (INS-2)
12. AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
13. 4" NOM. GROUND FACE CMU VENEER - (CMU-3)
14. STEEL FRAMING - SEE STRUCTURAL
15. STEEL DECK - SEE STRUCTURAL
16. CONTINUOUS CMU BOND BEAM - SEE STRUCTURAL FOR LOCATIONS
17. MASONRY VENEER TIES \ ANCHORS AT 16" O.C EACH WAY - TYPICAL
18. VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS AT 24" O.C.
19. RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
20. EPDM ROOFING MEMBRANE
21. SCHEDULED ALUMINUM CURTAINWALL SYSTEM
22. 3-9/32 (20) GA METAL DECK. FASTEN DECK TO STUD FRAMING AROUND ENTIRE PERIMETER WITH #12 SCREWS @ 12-1/2" O.C. AND #10 SCREWS @36-1/2" O.C. @ SIDELAPS. DECK SHOULD SPAN FROM COL .LINE A-B
23. SCHEDULED POLYCARBONATE WINDOW SYSTEM
24. PRE-FINISHED ALUMINUM DOWNSPOUT TO SPLASH BLOCKS, PANS, OR BOOTS PER ROOF PLANS
25. SCHEDULED CEILING
26. 8" NOMINAL CMU BACKUP WALL
27. DEFLECTION CLIP
28. INTERIOR COLD-FORMED STEEL STUD FRAMING SSMA 600S162-97 AT 16" O.C.
29. 4" MINERAL WOOL INSULATION
30. ALUMINUM COMPOSITE PANEL
31. CORROGATED METAL PANEL SIDING VER 7/8" HAT CHANNEL FURRING
32. 8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER

N:\90181-01P\CADD\Phase II Sheet Files\CP02-90181019A-409.dgn
10/27/2017 3:04:15 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

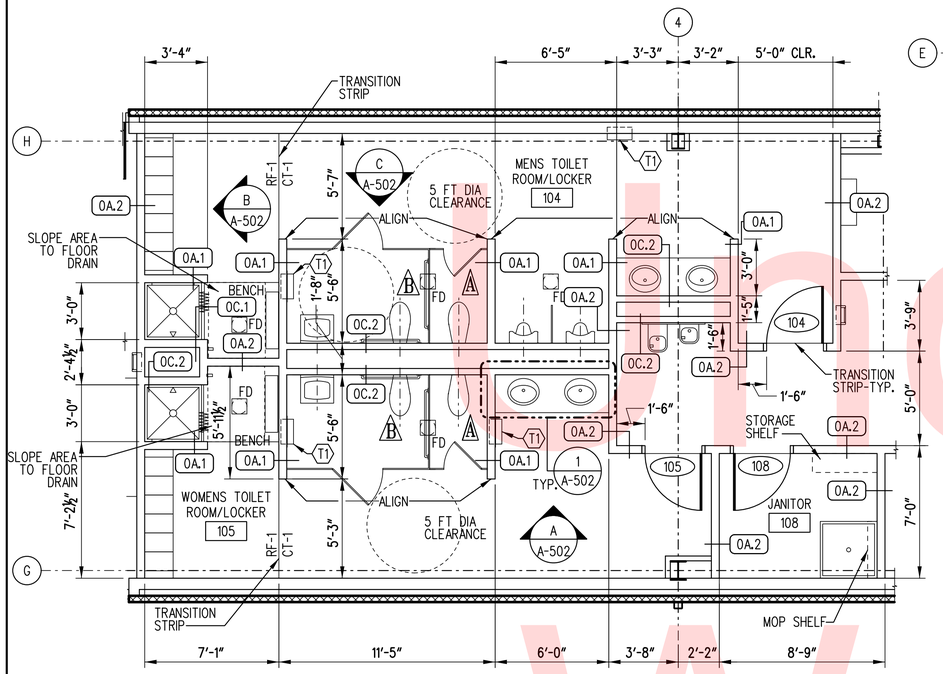
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

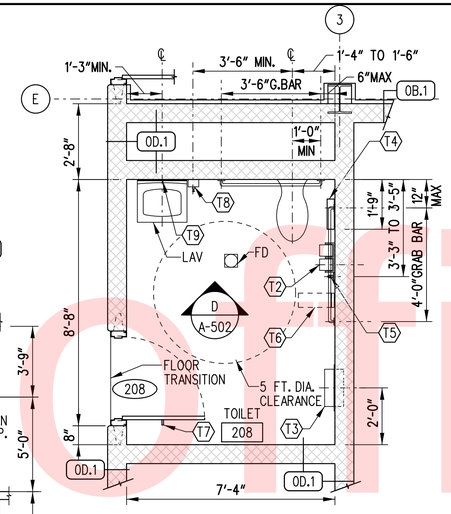
CONTRACT	BRIDGE NO.	
T201753109		
COUNTY	DESIGNED BY: KDM/NCL	
SUSSEX	CHECKED BY: EJ	

WALL SECTIONS - VISITOR CENTER

A-409	
SHEET NO.	75
TOTAL SHTS.	189



1 A-501 ENLARGED PLAN
SCALE: 1/4"=1'-0"
REF: A-101



2 A-501 ENLARGED TOILET 208
SCALE: 3/8"=1'-0"
REF: A-102 - FOR ACCESSORY MOUNTING HEIGHT: SEE A/A-501

ACCESSIBILITY NOTES

GENERAL:

1. ALL OPERATING CONTROLS, OPERATING DEVICES, AND HARDWARE ON CABINETS, PLUMBING FIXTURES AND STORAGE FACILITIES SHALL HAVE SUCH A SHAPE THAT SHALL PERMIT OPERATION BY WRIST OR ARM PRESSURE AND DOES NOT REQUIRE TIGHT GRASPING. PINCHING, OR TWISTING AT THE WRIST.
2. THE HIGHEST OPERABLE PART OF THE CONTROLS, DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE NO HIGHER THAN 42" ABOVE FINISHED FLOOR FOR FORWARD APPROACH. NOT HIGHER THAN 48" ABOVE FINISHED FLOOR FOR SIDE APPROACH, AND NOT LESS THAN 38" ABOVE FINISHED FLOOR FOR EITHER APPROACH.
3. ELECTRICAL AND COMMUNICATIONS SYSTEM RECEPTACLES SHALL BE MOUNTED A MINIMUM OF 18" TO THE BOTTOM.
4. SEE THE ENLARGED FLOOR PLANS FOR TOILET ACCESSORY LOCATIONS, QUANTITIES, AND MOUNTING REQUIREMENTS.

WATER CLOSETS:

1. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE APPROACH SIDE (WIDE) SIDE OF THE TOILET STALLROOM. NO GREATER THAN 44" ABOVE FINISHED FLOOR.
2. MAXIMUM FORCE TO OPERATE THE CONTROLS SHALL BE NO GREATER THAN FIVE (5) POUNDS.

GRAB BARS:

1. GRAB BARS SHALL HAVE AN OUTSIDE DIAMETER OF NO LESS THAN 1 1/4" OR NO MORE THAN 1 1/2", AND SHALL PROVIDE A CLEARANCE OF 1 1/2" BETWEEN THE GRAB BAR AND THE WALL.
2. ALL GRAB BARS AND ADJACENT SURFACES SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/4".
3. BENDING STRESS IN A GRAB BAR INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF 250 POUNDS SHALL BE LESS THAN THE ALLOWABLE FOR THE MATERIAL.
4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

URINALS:

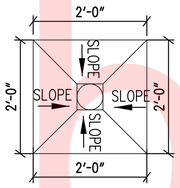
1. FLUSH CONTROLS SHALL BE HAND OPERATED AND SHALL BE MOUNTED WITHIN 44" ABOVE FINISHED FLOOR.
2. MAXIMUM FORCE TO OPERATE CONTROLS SHALL BE NO GREATER THAN FIVE (5) POUNDS.

LAVATORIES AND SINKS:

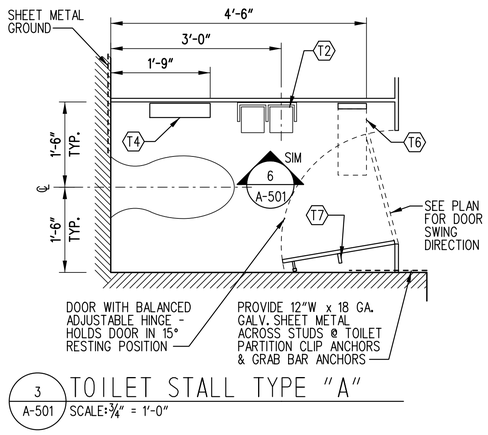
1. ALL HOT WATER SUPPLY AND DRAIN PIPES EXPOSED UNDER LAVATORIES OR SINK SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
2. THERE SHALL BE NO SHARP SURFACES UNDER LAVATORIES OR SINKS.
3. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRED TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.
4. THE OPERATING FORCE SHALL NOT EXCEED FIVE (5) POUNDS OF FORCE.
5. SELF CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST TEN (10) SECONDS.
6. ALL LAVATORY AND SINK FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NO MORE THAN 0.5 GALLONS PER MINUTE.

TOILET ROOM ACCESSORIES

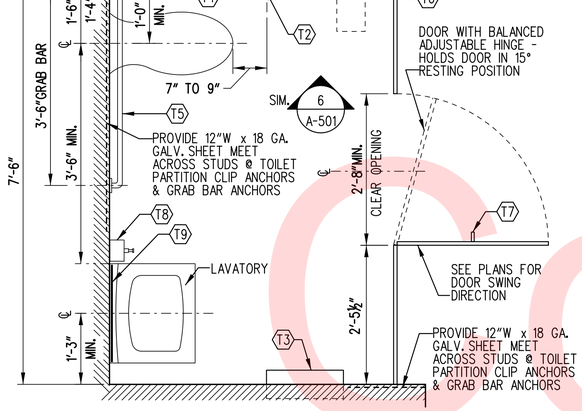
- T1 SEMI-RECESSED PAPER TOWEL DISPENSER
- T2 TOILET PAPER DISPENSER
- T3 SEMI-RECESSED PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
- T4 SANITARY NAPKIN DISPOSAL (WOMEN/UNISEX ONLY)
- T5 GRAB BAR
- T6 FOLDING SHELF (WOMEN/UNISEX ONLY)
- T7 COAT HOOK
- T8 SOAP DISPENSER
- T9 24"x36" MIRROR



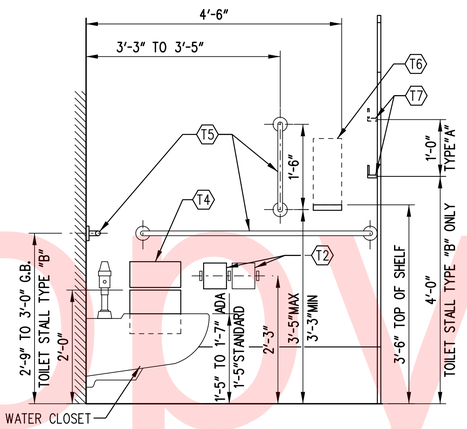
8 A-501 FLOOR DRAIN LAYOUT
SCALE: 3/4" = 1'-0"



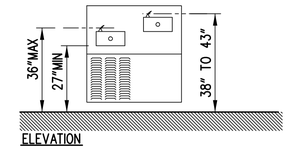
3 A-501 TOILET STALL TYPE "A"
SCALE: 3/4" = 1'-0"

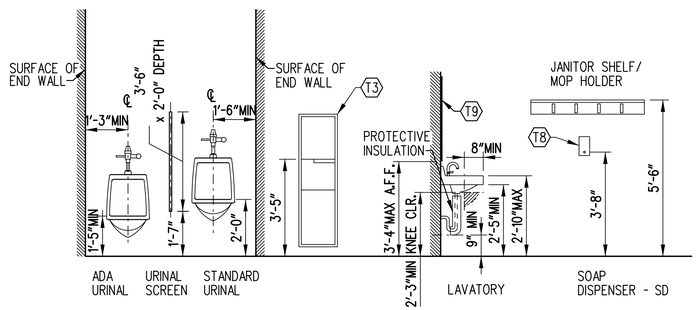


4 A-501 TOILET STALL TYPE "B"
SCALE: 3/4" = 1'-0"



6 A-501 TOILET STALL DETAILS
SCALE: 3/4" = 1'-0"
REF: A-501





7 A-501 TYPICAL ACCESSORY MOUNTING HEIGHT
SCALE: 3/8" = 1'-0"

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

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

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180044A-501.dgn
10/27/2017 3:01:18 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

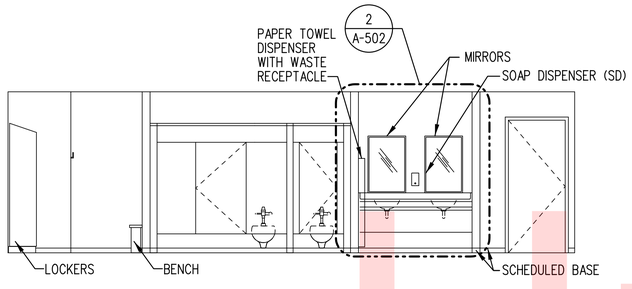
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: NCL
SUSSEX	CHECKED BY: EJ

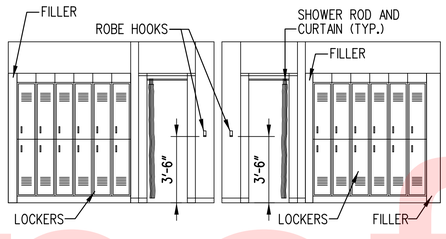
ENLARGED TOILET ROOM PLANS AND ELEVATIONS

A-501	
SHEET NO.	76
TOTAL SHTS.	189



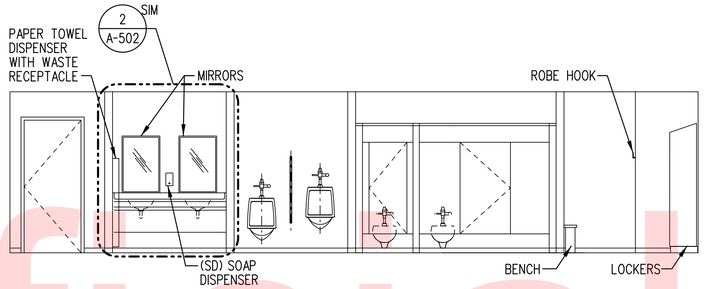
A A-502 ELEVATION - WOMENS TOILET ROOM/LOCKER 107

SCALE: 1/4" = 1'-0"
REF: A-501



B A-502 ELEVATION - LOCKER ROOMS

SCALE: 1/4" = 1'-0"
REF: A-501

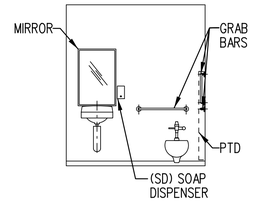


C A-502 ELEVATION - MENS TOILET ROOM/LOCKER 104

SCALE: 1/4" = 1'-0"
REF: A-501

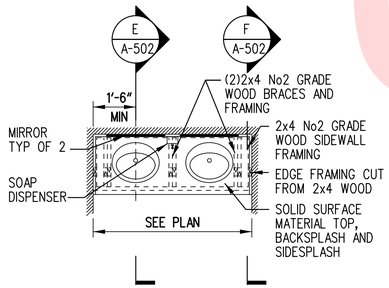
GENERAL NOTES

1. FOR TOILET ACCESSORIES MOUNTING HEIGHT SEE A-501.
2. FOR ACCESSIBILITY NOTES SEE A-501.



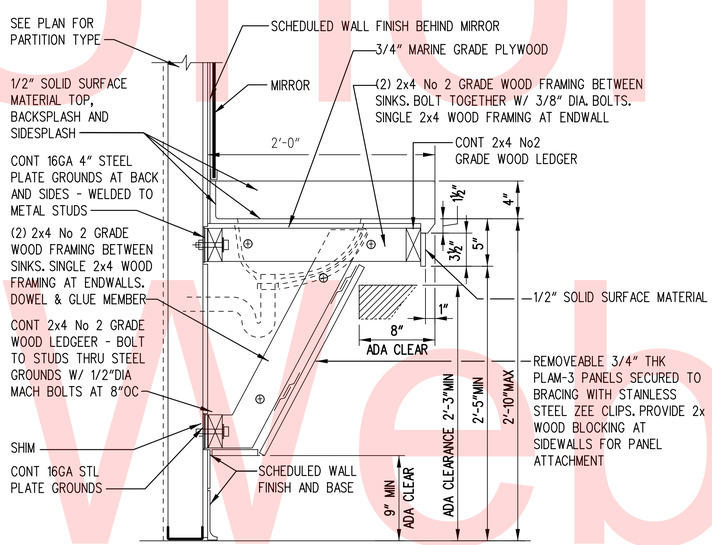
D A-502 ELEVATION - UNISEX TOILET 208

SCALE: 1/4" = 1'-0"
REF: A-501



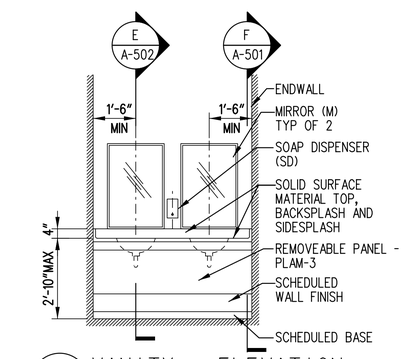
1 A-502 VANITY - PLAN

SCALE: 3/8" = 1'-0"
REF: A-101, A-501



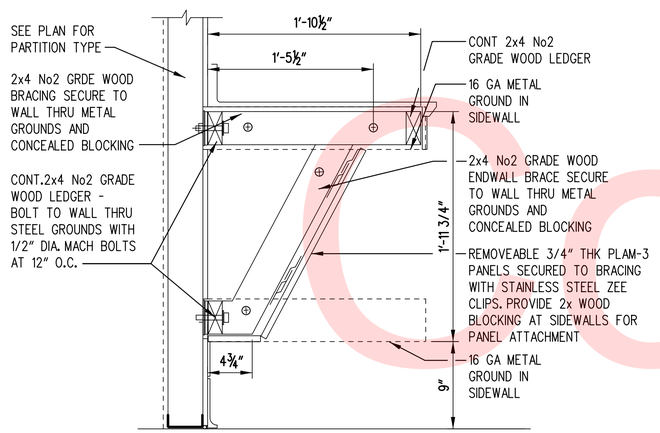
E A-502 VANITY - SECTION

SCALE: 1 1/2" = 1'-0"
REF: A-502



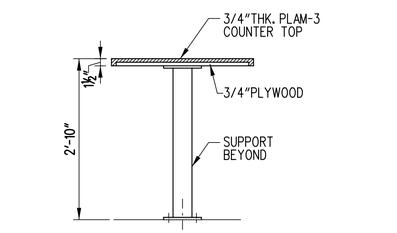
2 A-502 VANITY - ELEVATION

SCALE: 3/8" = 1'-0"
REF: A-502



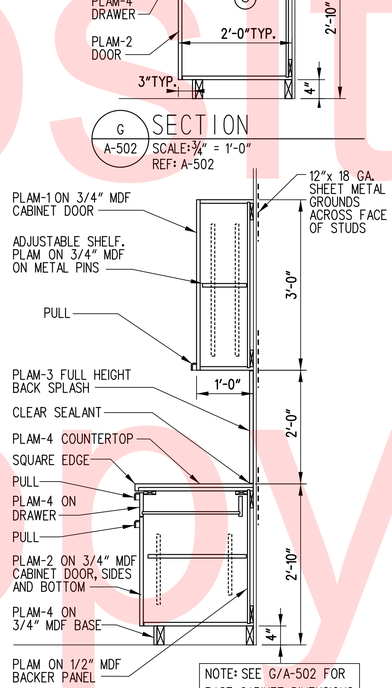
F A-502 VANITY - SECTION

SCALE: 1½" = 1'-0"
REF: A-502



3 A-502 COUNTER TOP - SECTION

SCALE: 3/4" = 1'-0"
REF: A-101



G A-502 SECTION

SCALE: 3/4" = 1'-0"
REF: A-502

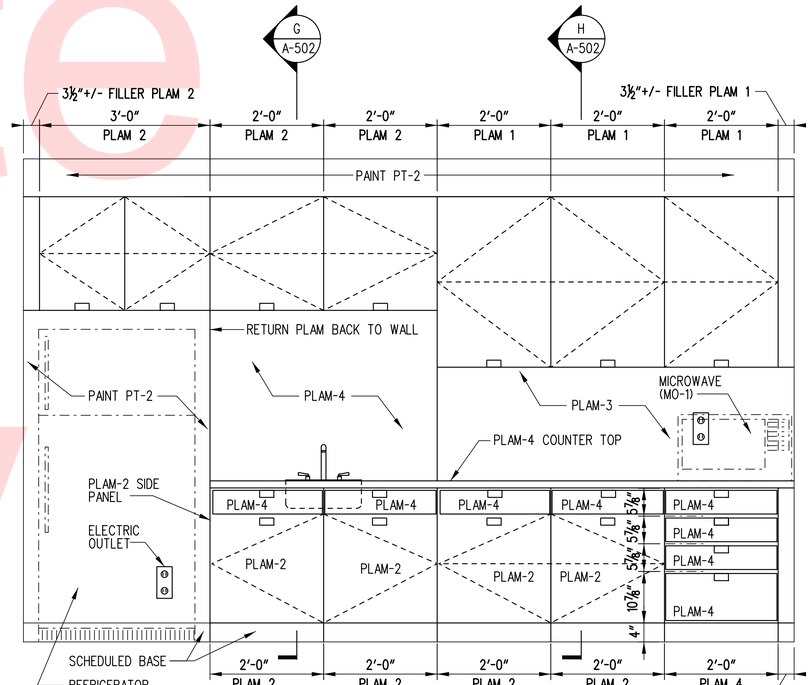
NOTE: SEE G/A-502 FOR BASE CABINET DIMENSIONS

H A-502 SECTION

SCALE: 3/4" = 1'-0"
REF: A-502

ARCHITECTURAL CASEWORK NOTES

1. ALL CABINET BODIES TO BE PLAM 5
2. ALL CABINET INTERIOR TO BE WHITE PLAM
3. ALL DOORS SHALL HAVE SPECIFIED PLAM ALL SURFACES
4. ALL OVERHEAD CABINETS SHALL HAVE ONE (1) ADJUSTABLE FULL SHELF
5. PROVIDE ONE (1) ADJUSTABLE FULL SHELF IN EACH BASE CABINET WITH DRAWER



J A-502 ELEVATION - KITCHENETTE 111

SCALE: 3/4" = 1'-0"
REF: A-101

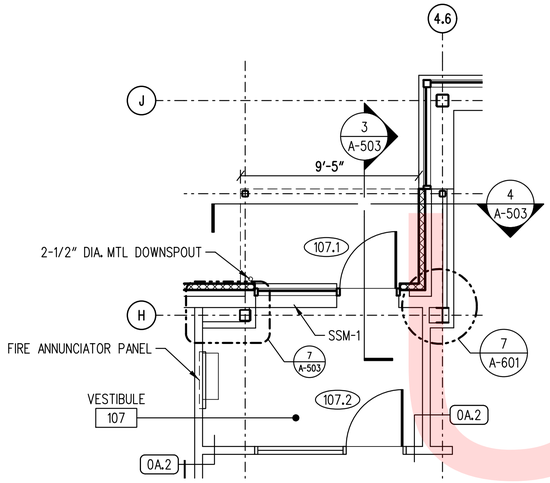
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

0 1' 2' 3'
SCALE: 3/4" = 1'-0"
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

Unofficial Website Copy

N:\90181-01\CADD\Phase II Sheet Files\CP01-90181004A-502.dgn
10/27/2017 3:10:19 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	INTERIOR ELEVATIONS AND DETAILS	A-502
			COUNTY SUSSEX	DESIGNED BY: NCL		SHEET NO. 77
				CHECKED BY: EJ		TOTAL SHTS. 189

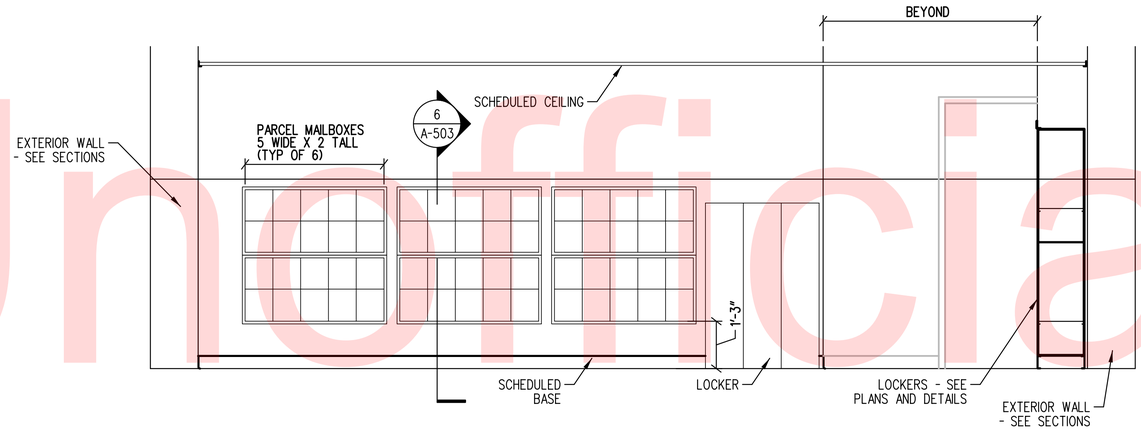


2 / A-503 ENLARGED PLAN - VESTIBULE 107

SCALE: 1/4"=1'-0"
REF: A-101

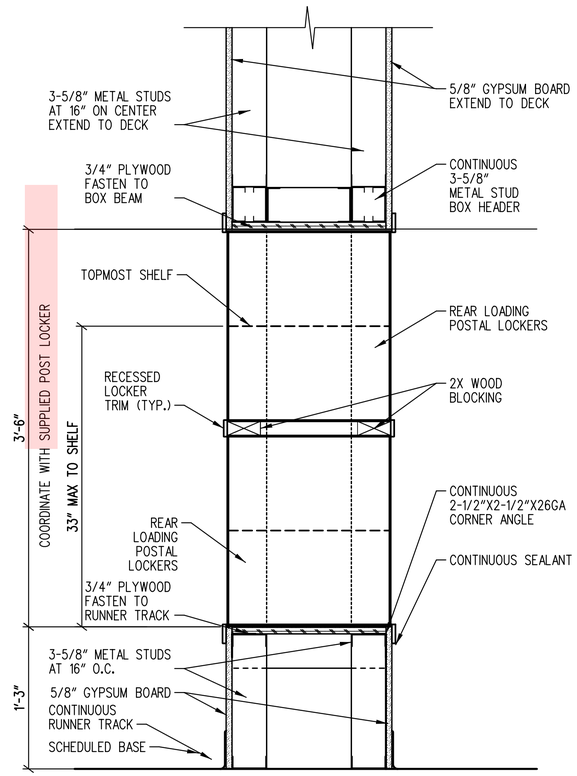
1 / A-503 NOT USED

SCALE:
REF:



5 / A-503 VESTIBULE INTERIOR ELEVATION

SCALE: 1/2" =1'-0"



6 / A-503 SECTION - MAILBOXES

SCALE: 1-1/2" = 1'-0"

3 / A-503 WALL SECTION - ENTRANCE CANOPY

SCALE: 3/8"=1'-0"
REF: A-503

4 / A-503 WALL SECTION - ENTRANCE CANOPY

SCALE: 3/8"=1'-0"
REF: A-503

7 / A-503 PLAN DETAIL AT COLUMN

SCALE: 1-1/2"=1'-0"
REF: A-101

0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

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

0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

Unofficial Website Copy

N:\90181-019\CAD\Phase II Sheet Files\CP01-90181004A-503.dgn
10/27/2017 3:01:20 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

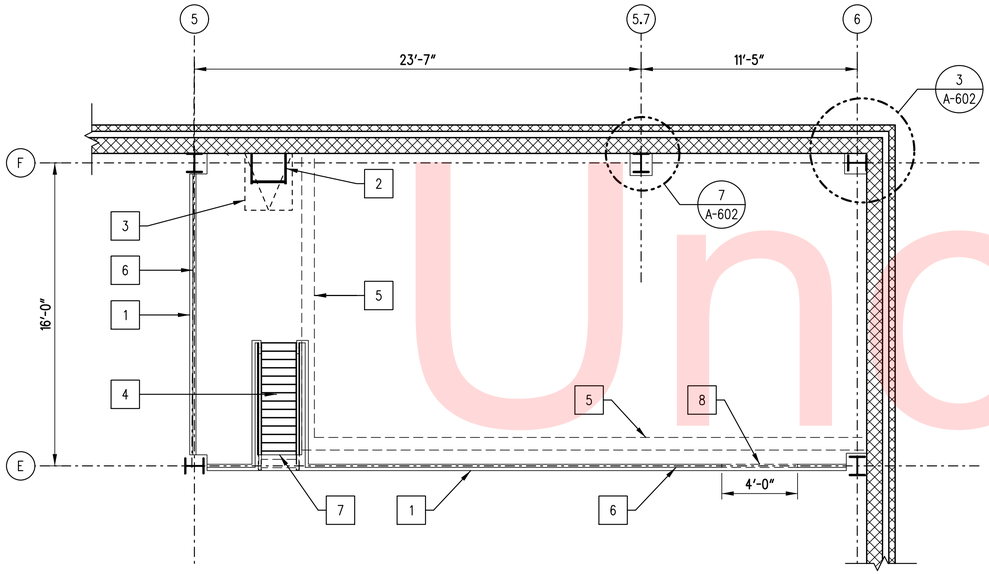
ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

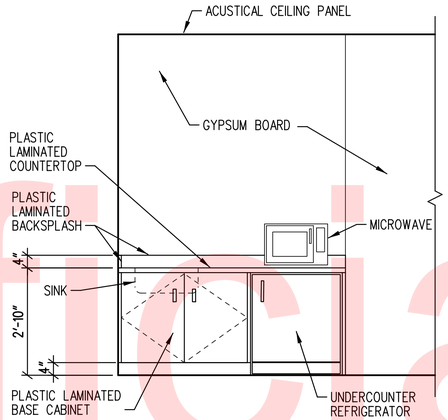
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: RJH	
COUNTY		
SUSSEX	CHECKED BY: EJ	

ENLARGED PLANS
AND DETAILS

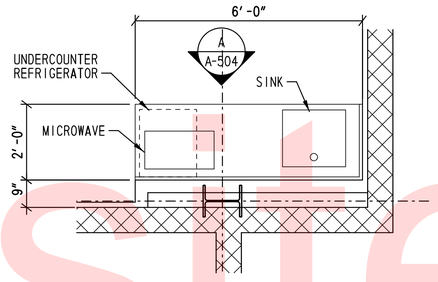
A-503	
SHEET NO.	78
TOTAL SHTS.	189



1 / A-504 ENLARGED PLAN - MEZZANINE
SCALE: 1/4"=1'-0"
REF: A-102



A / A-504 CASEWORK ELEVATION
SCALE: 1/2"=1'-0"
REF: A-504



ENLARGED PLAN-CASEWORK CONFERENCE ROOM
2 / A-504 SCALE: 1/2"=1'-0"
REF: A-102

CONSTRUCTION NOTES

1. EDGE OF MEZZANINE SLAB, SEE STRUCT.
2. METAL ROOF ACCESS LADDER.
3. ROOF HATCH ABOVE.
4. METAL SHIPS LADDER TO GROUND FLOOR. SEE S-006 FOR DETAILS.
5. LUBE/COMPRESSOR ROOM 215 WALL BELOW.
6. GUARDRAIL. SEE S-006 FOR DETAILS.
7. OPENING IN MEZZANINE SLAB FOR SHIPS LADDER, SEE SEE S-104 FOR DETAILS.
8. REMOVEABLE SECTION OF GUARDRAIL FOR LIFT ACCESS. SEE S-006 & S104 FOR DETAILS.

Unofficial Website Copy

N:\90181-019\C4D\Phase II Sheet Files\CP01-90181004A-504.dgn
10/27/2017 3:01:21 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

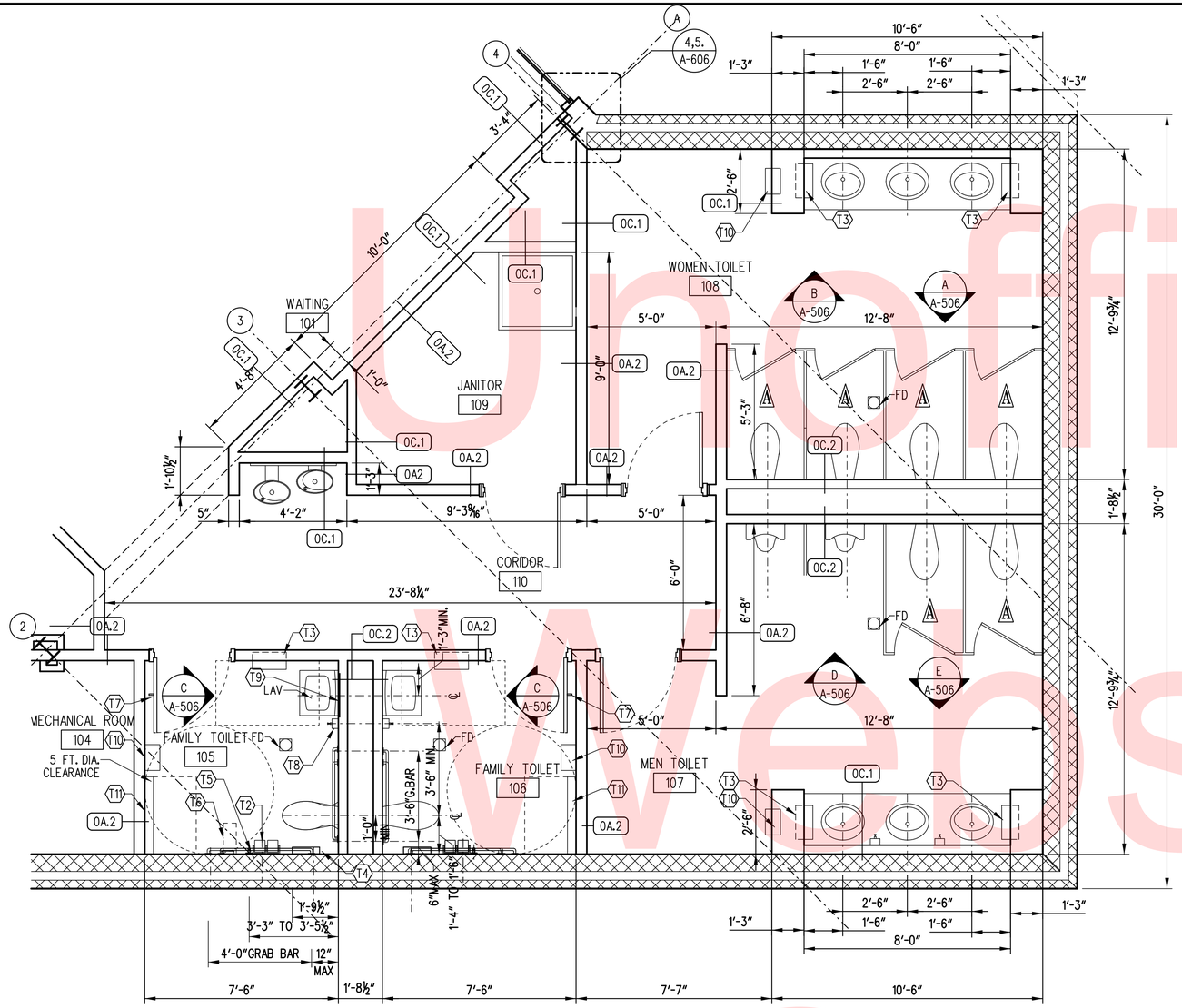
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: RJH
CHECKED BY: EJ

MEZZANINE ENLARGED
PLAN AND DETAILS

A-504
SHEET NO. 79
TOTAL SHTS. 189



ACCESSIBILITY NOTES

GENERAL:

1. ALL OPERATING CONTROLS, OPERATING DEVICES, AND HARDWARE ON CABINETS, PLUMBING FIXTURES AND STORAGE FACILITIES SHALL HAVE SUCH A SHAPE THAT SHALL PERMIT OPERATION BY WRIST OR ARM PRESSURE AND DOES NOT REQUIRE TIGHT GRASPING. PINCHING, OR TWISTING AT THE WRIST.
2. THE HIGHEST OPERABLE PART OF THE CONTROLS, DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE NO HIGHER THAN 42" ABOVE FINISHED FLOOR FOR FORWARD APPROACH. NOT HIGHER THAN 48" ABOVE FINISHED FLOOR FOR SIDE APPROACH, AND NOT LESS THAN 38" ABOVE FINISHED FLOOR FOR EITHER APPROACH.
3. ELECTRICAL AND COMMUNICATIONS SYSTEM RECEPTACLES SHALL BE MOUNTED A MINIMUM OF 18" TO THE BOTTOM.
4. SEE THE ENLARGED FLOOR PLANS FOR TOILET ACCESSORY LOCATIONS, QUANTITIES, AND MOUNTING REQUIREMENTS.

WATER CLOSETS:

1. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE APPROACH SIDE (WIDE) SIDE OF THE TOILET STALLROOM. NO GREATER THAN 44" ABOVE FINISHED FLOOR.
2. MAXIMUM FORCE TO OPERATE THE CONTROLS SHALL BE NO GREATER THAN FIVE (5) POUNDS.

GRAB BARS:

1. GRAB BARS SHALL HAVE AN OUTSIDE DIAMETER OF NO LESS THAN 1 1/4" OR NO MORE THAN 1 1/2", AND SHALL PROVIDE A CLEARANCE OF 1 1/2" BETWEEN THE GRAB BAR AND THE WALL.
2. ALL GRAB BARS AND ADJACENT SURFACES SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/4".
3. BENDING STRESS IN A GRAB BAR INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF 250 POUNDS SHALL BE LESS THAN THE ALLOWABLE FOR THE MATERIAL.
4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

URINALS:

1. FLUSH CONTROLS SHALL BE HAND OPERATED AND SHALL BE MOUNTED WITHIN 44" ABOVE FINISHED FLOOR.
2. MAXIMUM FORCE TO OPERATE CONTROLS SHALL BE NO GREATER THAN FIVE (5) POUNDS.

LAVATORIES AND SINKS:

1. ALL HOT WATER SUPPLY AND DRAIN PIPES EXPOSED UNDER LAVATORIES OR SINK SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
2. THERE SHALL BE NO SHARP SURFACES UNDER LAVATORIES OR SINKS.
3. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRED TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.
4. THE OPERATING FORCE SHALL NOT EXCEED FIVE (5) POUNDS OF FORCE.
5. SELF CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST TEN (10) SECONDS.
6. ALL LAVATORY AND SINK FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NO MORE THAN 0.5 GALLONS PER MINUTE.

TX TOILET ROOM ACCESSORIES

- T1 SEMI-RECESSED PAPER TOWEL DISPENSER
- T2 TOILET PAPER DISPENSER
- T3 SEMI-RECESSED PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
- T4 SANITARY NAPKIN DISPOSAL (WOMEN/UNISEX ONLY)
- T5 GRAB BAR
- T6 FOLDING SHELF (WOMEN/UNISEX ONLY)
- T7 COAT HOOK
- T8 SOAP DISPENSER
- T9 24"x36" MIRROR
- T10 HAND DRYER
- T11 BABY CHANGING TABLE

TOILET NOTES

GENERAL:

1. SEE DETAIL 3/A-501 FOR STANDARD TOILET STALL TYPE A DETAILS
2. SEE SHEET 7/A-501 FOR STANDARD TOILET ACCESSORY MOUNTING HEIGHTS

1 / A-505 ENLARGED TOILET 208

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

REF: A-105 - FOR ACCESSORY MOUNTING HEIGHT: SEE 7/A-501

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP02-90181019A-505.dgn
10/27/2017 3:04:16 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

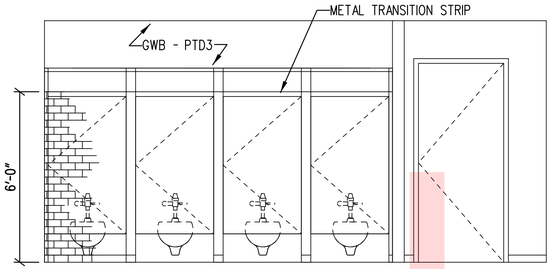
SCALE: 3/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

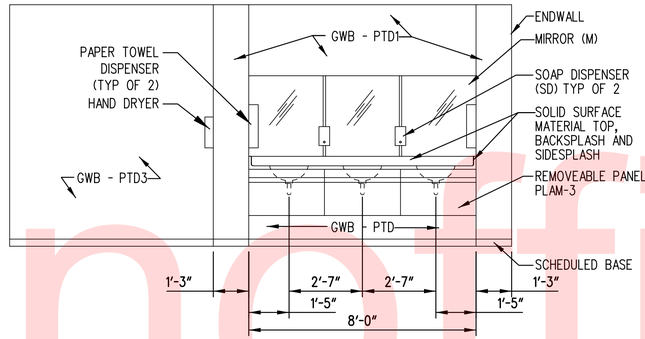
CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EJ

ENLARGED TOILET ROOM PLAN - VISITOR CENTER

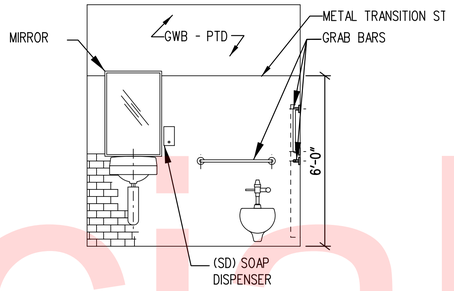
A-505
SHEET NO. 80
TOTAL SHTS. 189



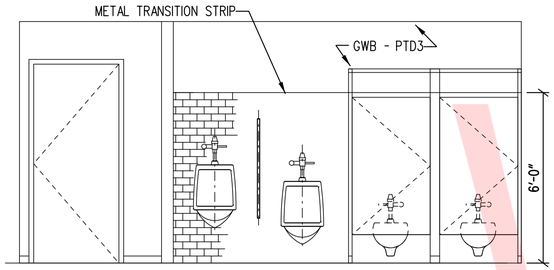
A A-506 ELEVATION - WOMENS TOILET
SCALE: 3/8" = 1'-0"
REF: A-505



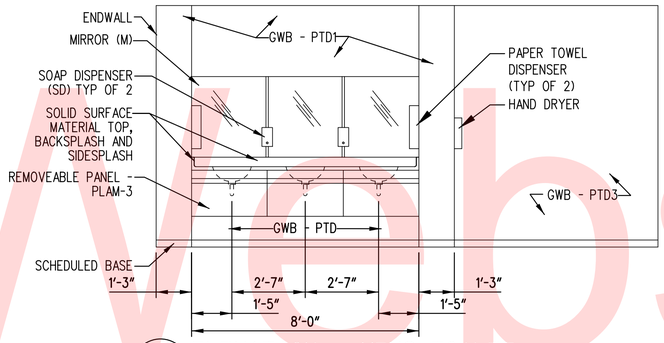
B A-506 ELEVATION - WOMENS TOILET
SCALE: 3/8" = 1'-0"
REF: A-505



C A-506 ELEVATION - FAMILY TOILET
SCALE: 3/8" = 1'-0"
REF: A-505



D A506 ELEVATION - MENS TOILET
SCALE: 3/8" = 1'-0"
A-505



E A-506 ELEVATION - MENS TOILET
SCALE: 3/8" = 1'-0"
REF: A-505

GENERAL NOTES

1. FOR TOILET ACCESSORIES MOUNTING HEIGHT SEE A-501.
2. FOR ACCESSIBILITY NOTES SEE A-501.

ARCHITECTURAL CASEWORK NOTES

1. ALL CABINET BODIES TO BE PLAM 5
2. ALL CABINET INTERIOR TO BE WHITE PLAM
3. ALL DOORS SHALL HAVE SPECIFIED PLAM ALL SURFACES
4. ALL OVERHEAD CABINETS SHALL HAVE ONE (1) ADJUSTABLE FULL SHELF
5. PROVIDE ONE (1) ADJUSTABLE FULL SHELF IN EACH BASE CABINET WITH DRAWER

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP02-90181019A-506.dgn
10/27/2017 3:04:16 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

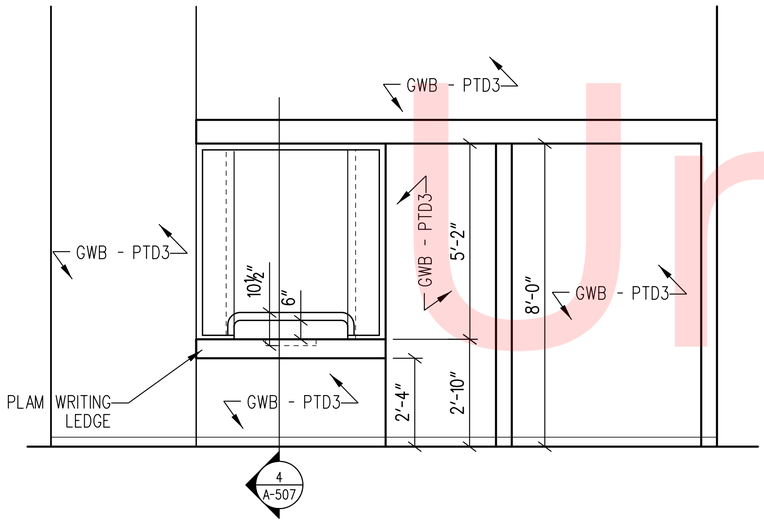
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

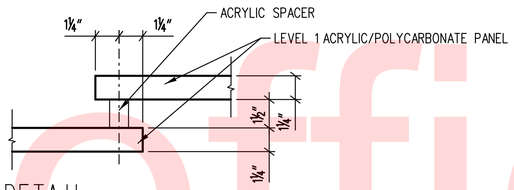
CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EJ

INTERIOR ELEVATIONS - VISITOR CENTER

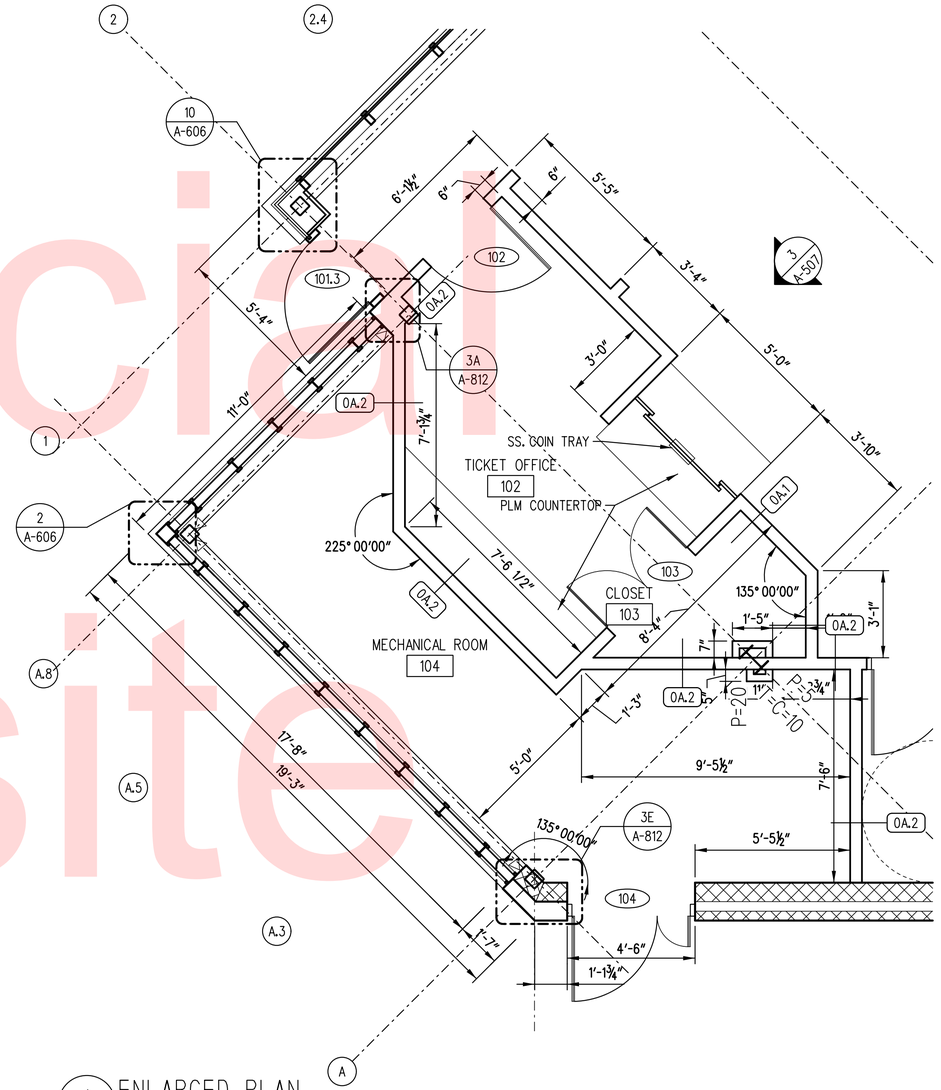
A-506
SHEET NO. 81
TOTAL SHTS. 189



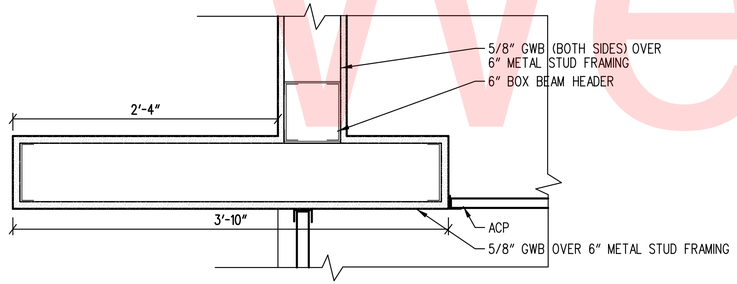
3 A507 INTERIOR ELEVATION
SCALE: ½"=1'-0"
REF: A-507

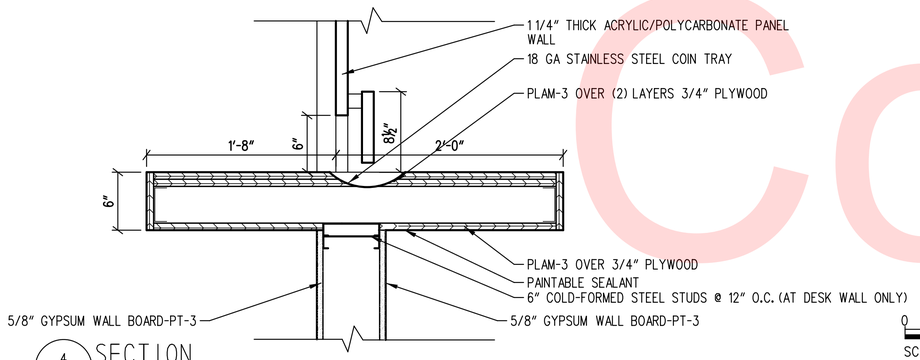


2 A507 DETAIL
SCALE: 3"=1'-0"
REF: A-507



1 A-507 ENLARGED PLAN
SCALE: ⅜"=1'-0"
REF: A-105





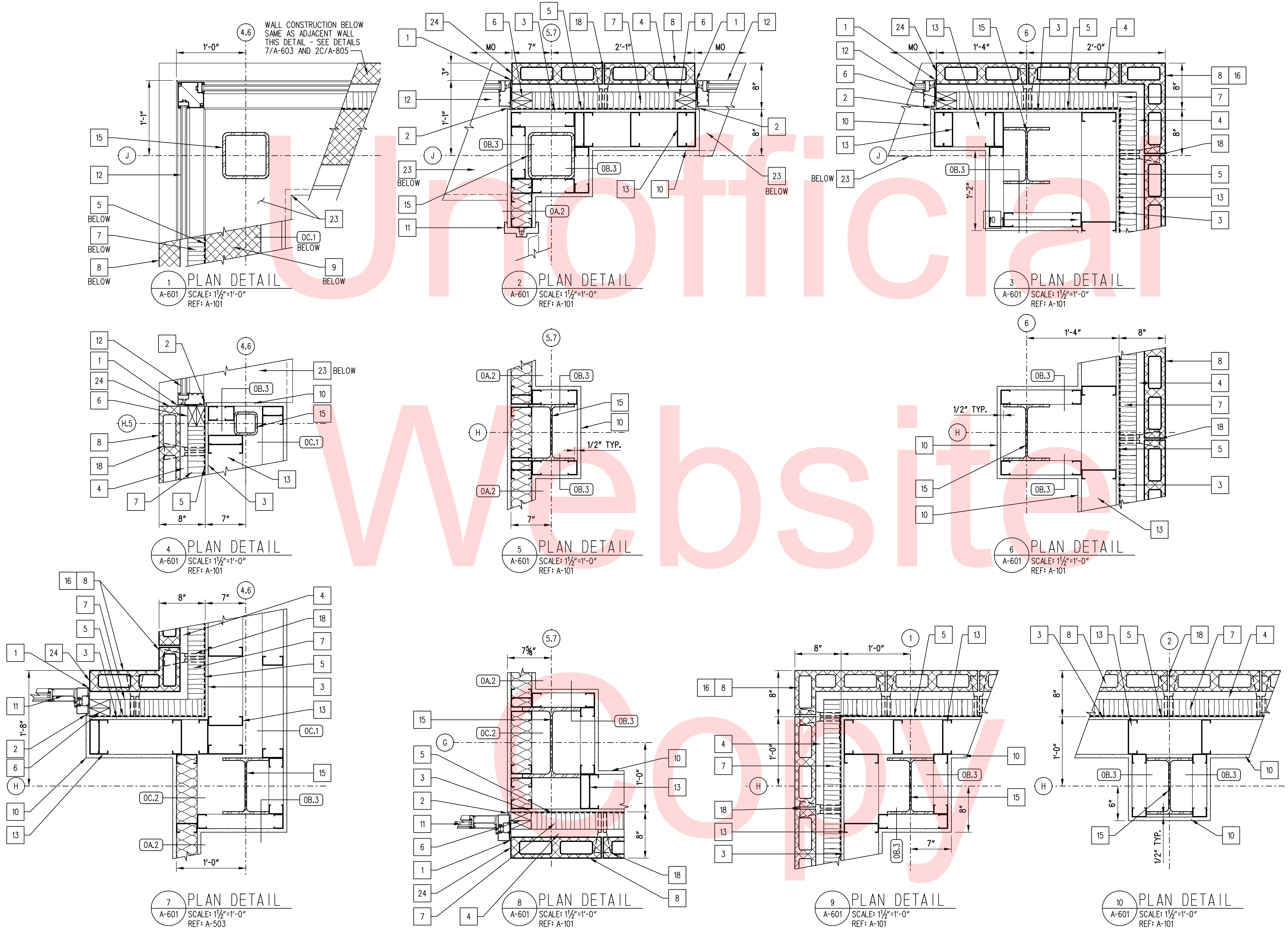
4 A507 SECTION
SCALE: 1-1/2 "=1'-0"
REF: A-507

0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"
0 2" 4" 8"
SCALE: 3" = 1'-0"
0 1' 2' 4'
SCALE: 1/2" = 1'-0"
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

Unofficial Website Copy

N:\90181-01\CADD\Phase II Sheet Files\CP02-90181019A-507.dgn
10/27/2017 3:04:17 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	TICKET OFFICE PLAN AND ELEVATIONS – VISITOR CENTER
			COUNTY SUSSEX	DESIGNED BY: NCL	SHEET NO. 82
				CHECKED BY: EJ	TOTAL SHTS. 189
					A-507



Unofficial Website Copy

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. SEE SHEETS A-901 THROUGH A-903 FOR COMPONENTS OF INTERIOR PARTITIONS DESIGNATED BY WALL TAGS THIS SHEET.

CONSTRUCTION NOTES

1	EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
2	INTERIOR SEALANT JOINT (JS-INT) AND BACKER ROD
3	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
5	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
6	TREATED WOOD BLOCKING
7	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
8	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
9	10" NOMINAL CMU BACKUP WALL
10	5/8" GYPSUM BOARD
11	SCHEDULED DOOR AND FRAME
12	SCHEDULED ALUMINUM STOREFRONT SYSTEM
13	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
14	MASONRY ANCHORS FOR CONNECTION TO STRUCTURAL STEEL FRAME
15	STRUCTURAL STEEL FRAMING - PAINT TO MATCH ADJACENT WALL IF EXPOSED
16	PROVIDE SPECIAL SHAPE (CORNER UNIT) FOR CMU VENEER
17	FIRE EXTINGUISHER CABINET - SEE PLAN NOTES FOR TYPE
18	MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
19	HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
20	VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS
21	CORRUGATED METAL PANEL SIDING
22	7/8" HAT CHANNEL FURRING
23	SOLID SURFACE MATERIAL WINDOW SILL
24	PROVIDE ADDITIONAL FINISHED FACE ON CMU RETURN
25	EXTERIOR COLD-FORMED STEEL STUD FRAMING - (2) SSMA 600S162-97 BACK TO BACK AT 12" O.C.

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

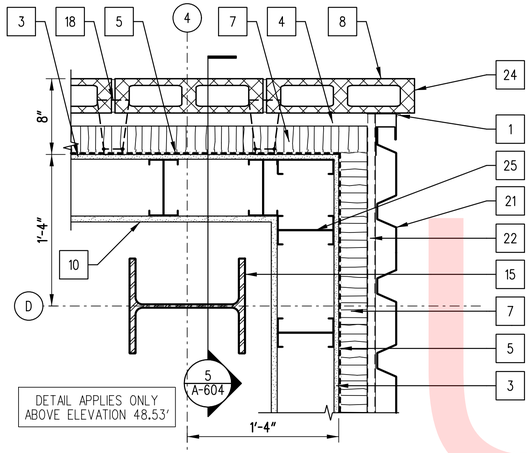
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	NCL
CHECKED BY:	EJ

PLAN DETAILS

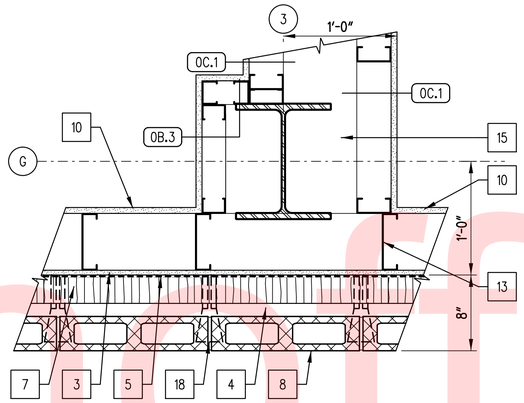
A-601

SHEET NO.	83
TOTAL SHTS.	189

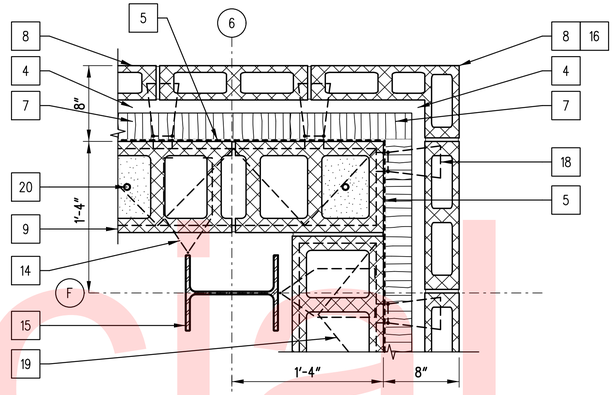
N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004A-601.dgn
10/27/2017 3:01:22 PM



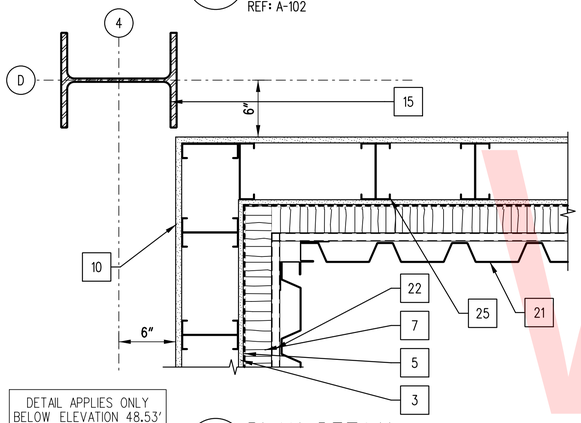
1A A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102



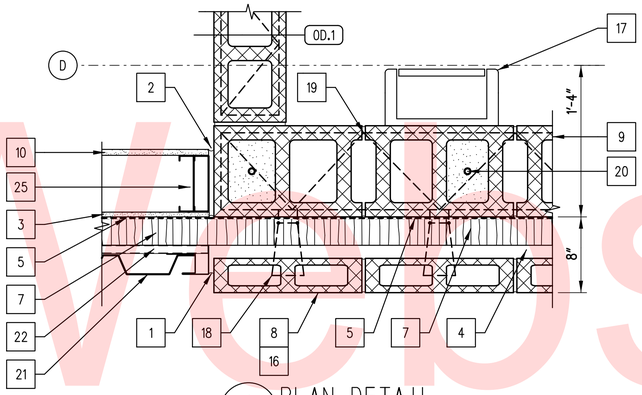
2 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-101



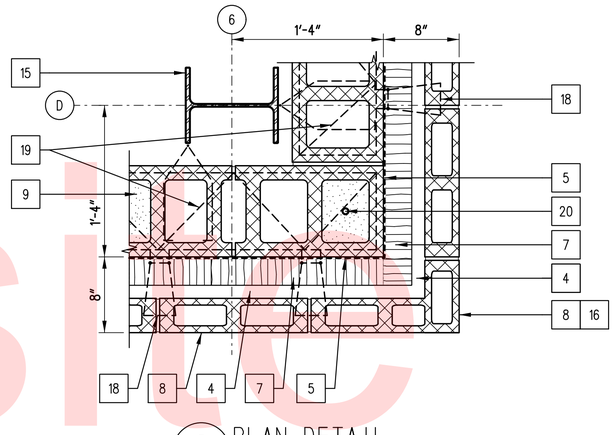
3 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102, A-504



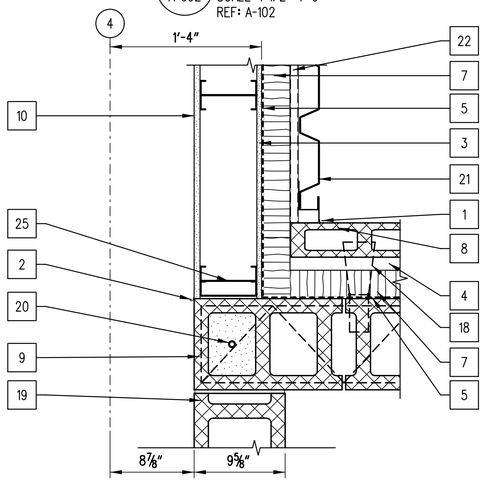
1B A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102



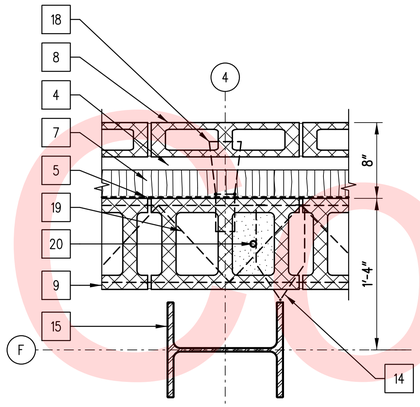
4 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102



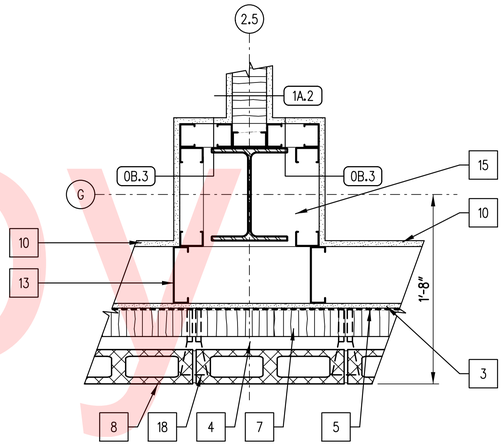
5 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102



6 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102



7 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-102, A-504



8 A-602 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-101

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. SEE SHEETS A-901 THROUGH A-903 FOR COMPONENTS OF INTERIOR PARTITIONS DESIGNATED BY WALL TAGS THIS SHEET.

CONSTRUCTION NOTES

1	EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
2	INTERIOR SEALANT JOINT (JS-INT) AND BACKER ROD
3	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
5	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
6	TREATED WOOD BLOCKING
7	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
8	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
9	10" NOMINAL CMU BACKUP WALL
10	5/8" GYPSUM BOARD
11	SCHEDULED DOOR AND FRAME
12	SCHEDULED ALUMINUM STOREFRONT SYSTEM
13	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
14	MASONRY ANCHORS FOR CONNECTION TO STRUCTURAL STEEL FRAME
15	STRUCTURAL STEEL FRAMING - PAINT TO MATCH ADJACENT WALL IF EXPOSED
16	PROVIDE SPECIAL SHAPE (CORNER UNIT) FOR CMU VENEER
17	FIRE EXTINGUISHER CABINET - SEE PLAN NOTES FOR TYPE
18	MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
19	HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
20	VERTICAL CMU REINFORCING - CONT. #5 BARS IN FULLY GROUTED CELLS
21	CORRUGATED METAL PANEL SIDING
22	7/8" HAT CHANNEL FURRING
23	SOLID SURFACE MATERIAL WINDOW SILL
24	PROVIDE ADDITIONAL FINISHED FACE ON CMU RETURN
25	EXTERIOR COLD-FORMED STEEL STUD FRAMING - (2) SSMA 600S162-97 BACK TO BACK AT 12" O.C.

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004A-602.dgn
10/27/2017 3:10:23 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

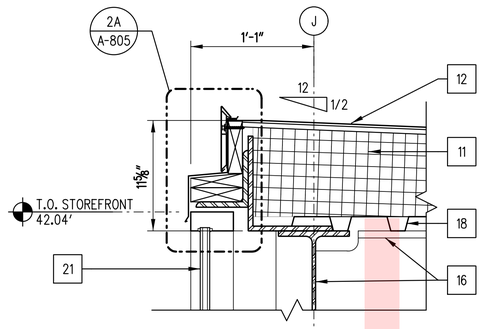
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

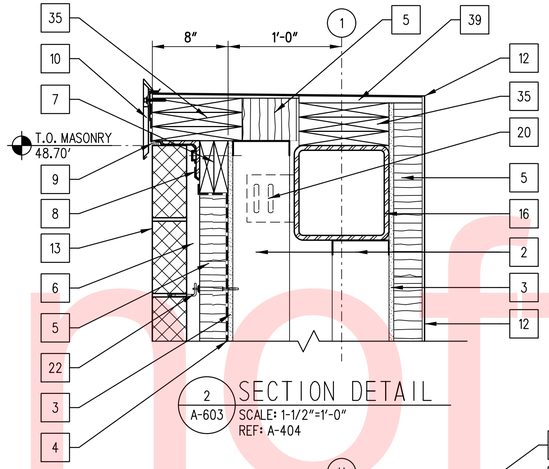
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	RJH
CHECKED BY:	EJ

PLAN DETAILS

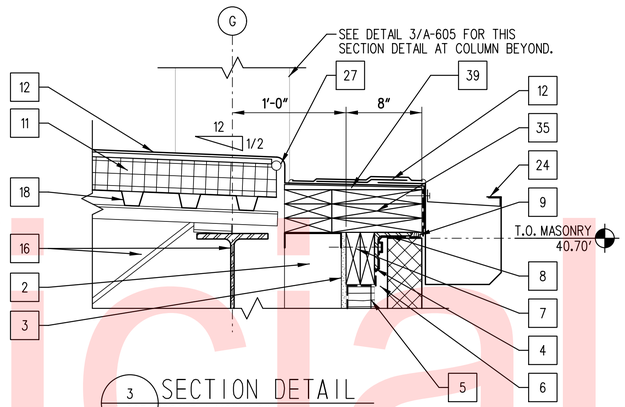
	A-602
SHEET NO.	84
TOTAL SHTS.	189



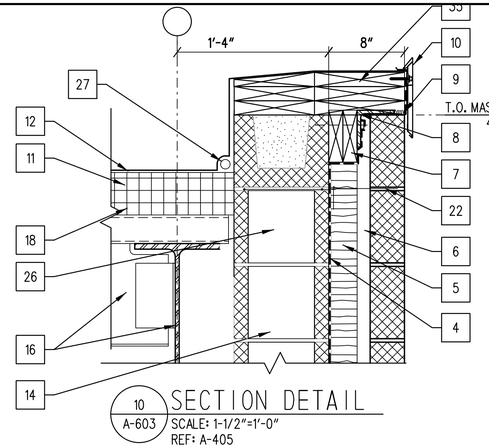
1 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



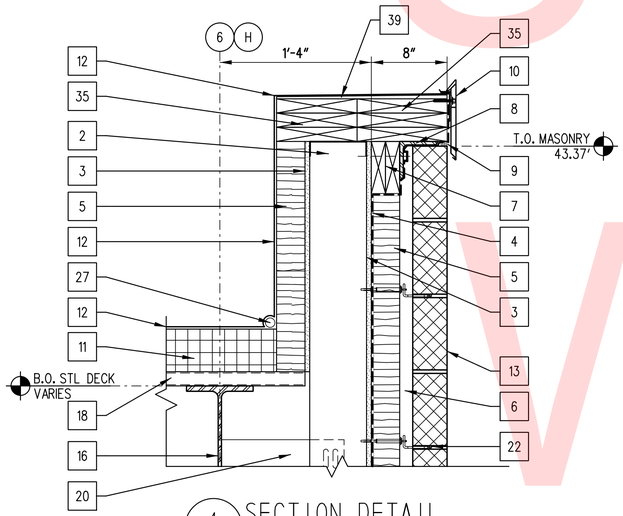
2 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



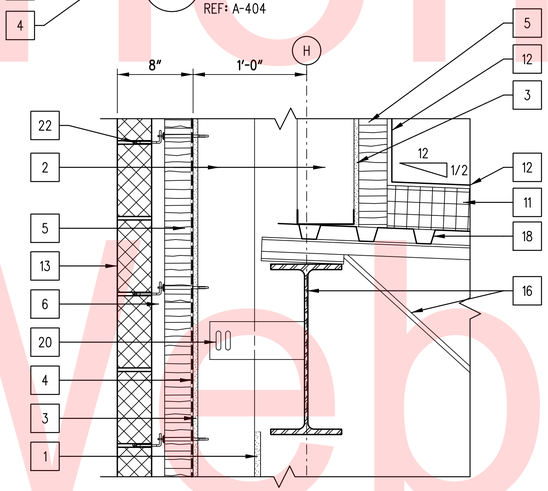
3 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



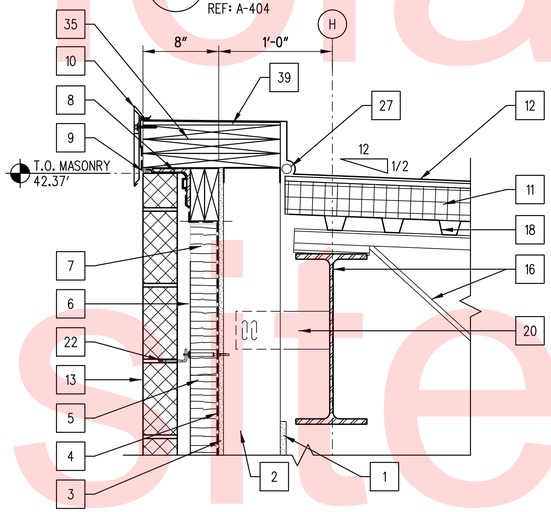
10 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-405



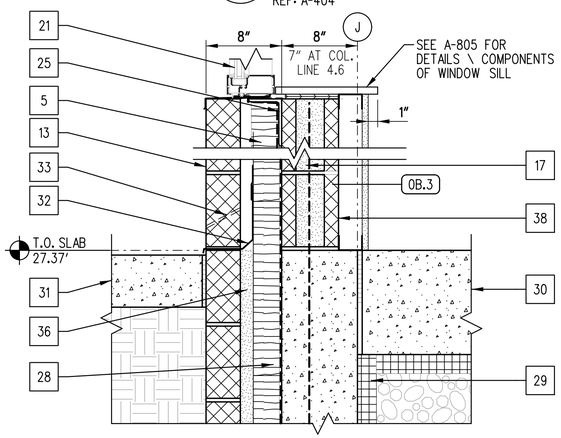
4 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



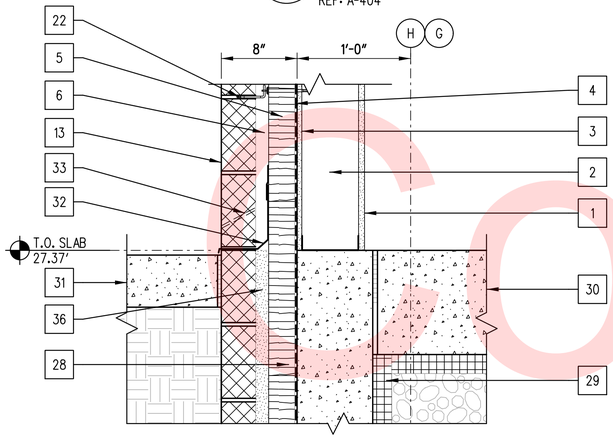
5 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



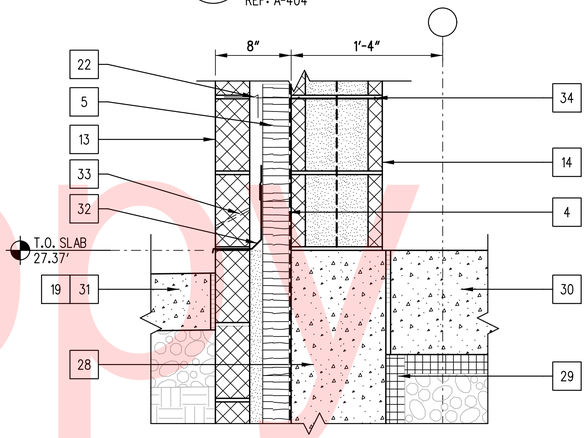
6 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



7 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



8 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



9 A-603 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404, A-406

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. TOP OF EXTERIOR CFS STUD FRAMING BEHIND MASONRY VENEER SHALL BE 1/2" HIGHER THAN T.O. MASONRY ELEVATION INDICATED.
4. BEHIND FASCIAS AND GUTTERS, EXTEND AIR BARRIER UP FACE OF BLOCKING AND EXTEND ROOF MEMBRANE DOWN FACE OF BLOCKING SO MEMBRANES OVERLAP.

CONSTRUCTION NOTES

1	5/8" GYPSUM BOARD
2	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SEE WALL SECTIONS
3	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
5	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
6	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
7	2x6 PRESSURE TREATED WOOD BLOCKING
8	4" x 4" x 3/8" CONTINUOUS STEEL ANGLE
9	EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
10	8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
11	RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
12	EPDM ROOFING MEMBRANE
13	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14	10" NOMINAL CMU BACKUP WALL
15	SPRAY FOAM INSULATION (INS-7)
16	STRUCTURAL FRAMING - PAINT EXPOSED STEEL AS INDICATED ON OTHER SHEETS
17	#4 @ 16", LAP WITH VERTICAL REBAR IN CONCRETE FOUNDATION WALL
18	STEEL DECK - SEE STRUCTURAL
19	EXTERIOR PAVING - SEE CIVIL
20	DEFLECTION CLIP
21	SCHEDULED ALUMINUM STOREFRONT SYSTEM - SEE A-805 FOR DETAILS
22	MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
23	SOLID CONCRETE MASONRY UNIT
24	8"x8" PRE-FINISHED ALUMINUM GUTTER
25	L5X3 1/2X1/4 LLV
26	CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
27	EPDM ROOF SYSTEM MOVEMENT CONTROL JOINT
28	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
29	2" RIGID PERIMETER INSULATION (INS-1)
30	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
31	CONCRETE SIDEWALK - SEE CIVIL
32	MASONRY THROUGH-WALL FLASHING
33	WEEPS @ 16" O.C.
34	HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
35	2x12 PRESSURE TREATED WOOD BLOCKING
36	FULLY GROUT CAVITY BETWEEN CMU VENEER AND INSULATION BELOW FLASHING
37	CORRUGATED METAL PANEL SIDING ON 7/8" HAT CHANNEL FURRING
38	6" NOMINAL CMU BACKUP WALL
39	TAPERED COVER BOARD OVER BLOCKING AS NECESSARY TO ACHIEVE POSITIVE DRAINAGE

Unofficial Website Copy

N:\30181-01P\CAD\Phase II Sheet Files\CP01-80181004A-603.dgn
10/27/2017 3:01:24 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

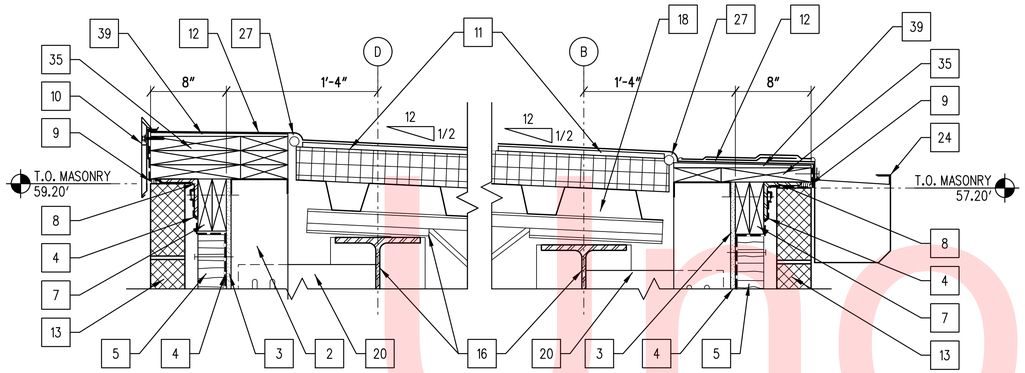
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	RJH
CHECKED BY:	EJ

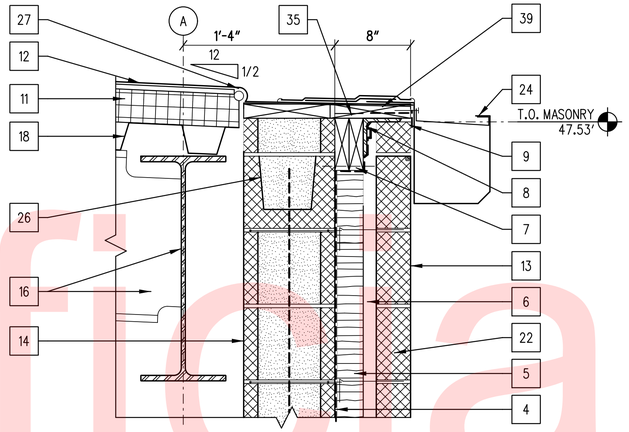
SECTION DETAILS

	A-603
SHEET NO.	85
TOTAL SHTS.	189

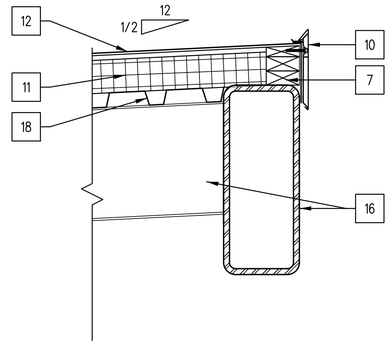


1 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-402

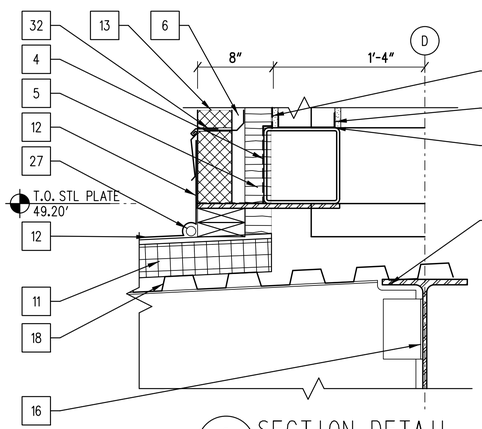
2 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-402



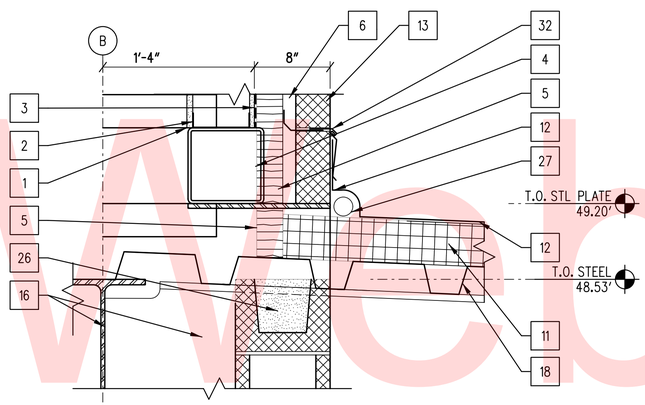
3 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-405



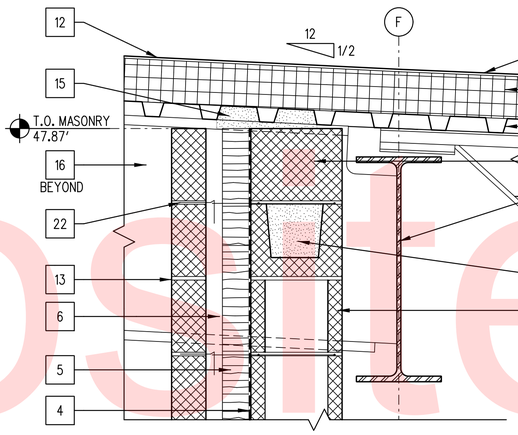
4 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-301, A-302, A-401, A-402, A-403



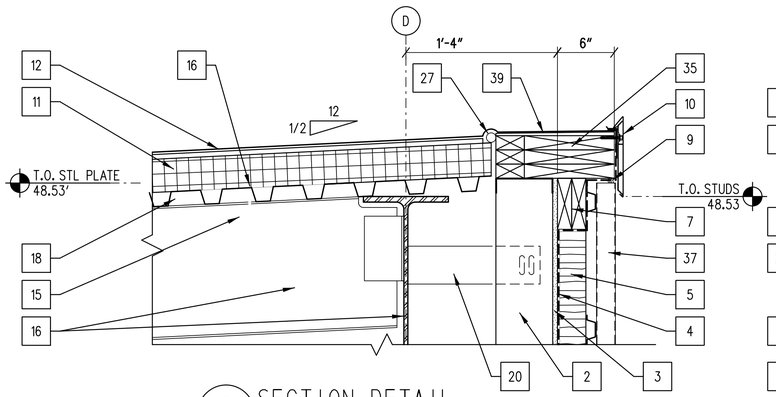
5 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-402



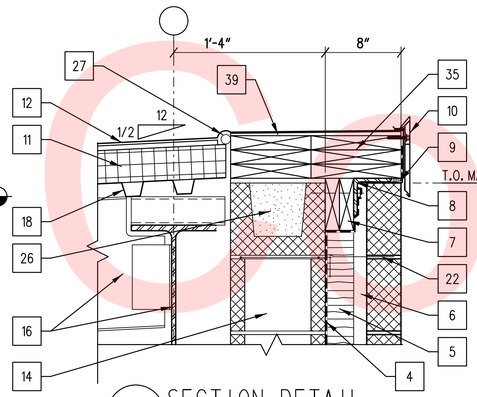
6 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-402



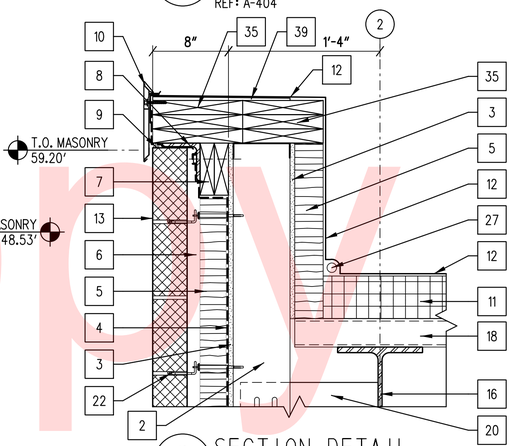
7 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-404



8 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-405



9 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-401, A-405



10 A-604 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF:A-405, A-406

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. TOP OF EXTERIOR CFS STUD FRAMING BEHIND MASONRY VENEER SHALL BE 1/2" HIGHER THAN T.O. MASONRY ELEVATION INDICATED.
4. BEHIND FASCIAS AND GUTTERS, EXTEND AIR BARRIER UP FACE OF BLOCKING AND EXTEND ROOF MEMBRANE DOWN FACE OF BLOCKING SO MEMBRANES OVERLAP.

CONSTRUCTION NOTES

1. 5/8" GYPSUM BOARD
2. EXTERIOR COLD-FORMED STEEL STUD FRAMING - SEE WALL SECTIONS
3. 1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4. FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
5. 3" POLYISOCYANURATE BOARD INSULATION (INS-2)
6. AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
7. 2x6 PRESSURE TREATED WOOD BLOCKING
8. 4" x 4" x 3/8" CONTINUOUS STEEL ANGLE
9. EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
10. 8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
11. RIGID ROOF INSULATION - R-25 MIN W/ COVER BOARD
12. EPDM ROOFING MEMBRANE
13. 4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14. 10" NOMINAL CMU BACKUP WALL
15. SPRAY FOAM INSULATION (INS-7)
16. STRUCTURAL FRAMING - PAINT EXPOSED STEEL AS INDICATED ON OTHER SHEETS
17. 8" x 8" x 3/8" CONTINUOUS STEEL ANGLE
18. STEEL DECK - SEE STRUCTURAL
19. EXTERIOR PAVING - SEE CIVIL
20. DEFLECTION CLIP
21. SCHEDULED ALUMINUM STOREFRONT SYSTEM - SEE A-805 FOR DETAILS
22. MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
23. SOLID CONCRETE MASONRY UNIT
24. 8"x8" PRE-FINISHED ALUMINUM GUTTER
25. NOT USED
26. CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
27. EPDM ROOF SYSTEM MOVEMENT CONTROL JOINT
28. CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
29. 2" RIGID PERIMETER INSULATION (INS-1)
30. CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
31. CONCRETE SIDEWALK - SEE CIVIL
32. MASONRY THROUGH-WALL FLASHING
33. WEEPS @ 16" O.C.
34. HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
35. 2x12 PRESSURE TREATED WOOD BLOCKING
36. FULLY GROUT CAVITY BETWEEN CMU VENEER AND INSULATION BELOW FLASHING
37. CORRUGATED METAL PANEL SIDING ON 7/8" HAT CHANNEL FURRING
38. STL CHANNEL - REF. STRUCT
39. TAPERED COVER BOARD OVER BLOCKING AS NECESSARY TO ACHIEVE POSITIVE DRAINAGE

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004A-604.dgn
10/27/2017 3:01:25 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

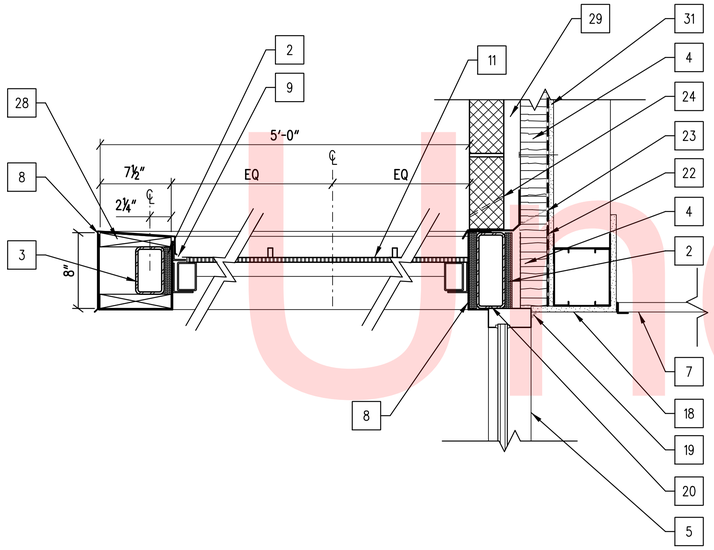
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

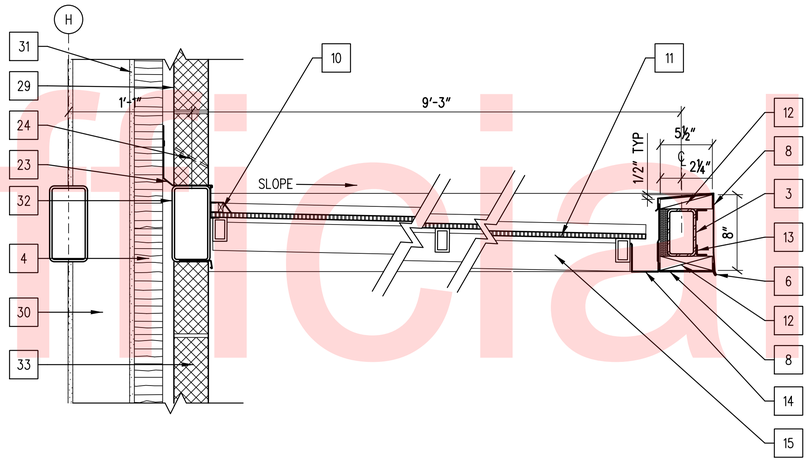
CONTRACT	BRIDGE NO.	
T201753109		
COUNTY	DESIGNED BY: RJH	
SUSSEX	CHECKED BY: EJ	

SECTION DETAILS

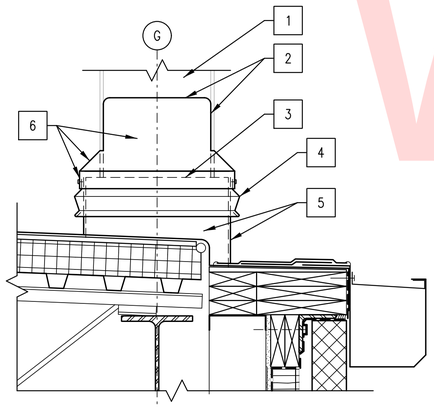
SHEET NO.
A-604
86
TOTAL SHTS.
189



1 A-605 SECTION DETAIL - ENTRANCE CANOPY
SCALE: 1-1/2"=1'-0"
REF: A-503



2 A-605 SECTION DETAIL - ENTRANCE CANOPY
SCALE: 1-1/2"=1'-0"
REF: A-503



3 A-605 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-603

DETAIL 3 NOTES

1. STEEL COLUMN THROUGH ROOF - SEE STRUCTURAL
2. CONTINUOUSLY WELD FLASHING TO COLUMN FACES
3. FIRE RETARDANT TREATED WOOD CURB AROUND COLUMN
4. STAINLESS STEEL COUNTERFLASHING
5. TURN EPDM ROOFING SYSTEM UP FACE OF CURB
6. GALVANIZED STEEL PLATE FLASHING - PAINT TO MATCH COLUMN

FOR ALL PORTIONS OF THIS DETAIL NOT IDENTIFIED, SEE DETAIL 3/A-603.

THIS DETAIL IS PROVIDED TO INDICATE DESIGN INTENT. CURB, BASE FLASHING, COUNTERFLASHINGS, STEEL PLATE FLASHINGS AND OTHER COMPONENTS NOT SHOWN SHALL CONFORM TO SMACNA OR NRCA STANDARD DETAILS FOR THIS TYPE OF PENETRATION FLASHING.

CONSTRUCTION NOTES

1. NOT USED
2. 3/4" MARINE PLYWOOD
3. 5"x3" TUBE STEEL
4. 3" POLYISOCYANURATE BOARD INSULATION (INS-2)
5. SCHEDULED ALUMINUM STOREFRONT SYSTEM
6. 1/2" FORMED ALUMINUM DRIP EDGE
7. SCHEDULED CEILING
8. MTL-3 .040 PT ALUM, TYP.
9. CANOPY SYSTEM CLAMPING BAR
10. ENDWALL FLASHING
11. POLYCARBONATE CANOPY SYSTEM
12. RIPPED 2x6 PRESSURE TREATED WOOD BLOCKING
13. CLIP ANGLE
14. 3" SQ ALUM GUTTER, MTL-3
15. ALUM FRAMING
16. NOT USED
17. NOT USED
18. 5/8" GYPSUM BOARD
19. INTERIOR SEALANT JOINT (JS-INT) AND BACKER ROD
20. STEEL TUBE LINTEL - SEE STRUCTURAL
21. MINERAL WOOL BATT INSULATION (INS-6)
22. FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER
23. MASONRY THROUGH-WALL FLASHING
24. WEEPS @ 16" O.C.
25. NOT USED
26. NOT USED
27. NOT USED
28. RIPPED 2x8 PRESSURE TREATED WOOD BLOCKING
29. AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
30. EXTERIOR COLD-FORMED STEEL STUD FRAMING - SSMA 600S162-97 AT 12" O.C.
31. 1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
32. 8"x4" TUBE STEEL
33. 4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES

Unofficial Website Copy

N:\90181-010\CADD\Phase II Sheet Files\CP01-90181004A-605.dgn
10/27/2017 3:01:26 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

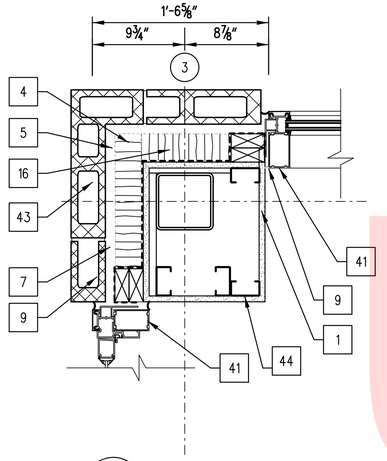
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

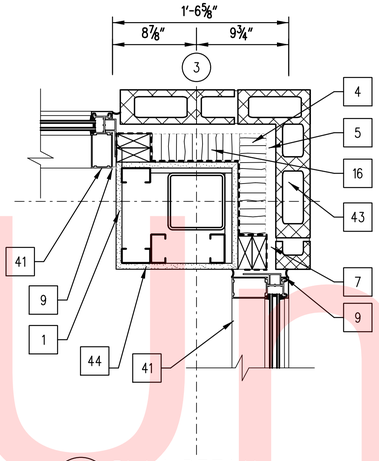
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: RJH	
CHECKED BY: EJ	

ENTRANCE CANOPY SECTION DETAILS

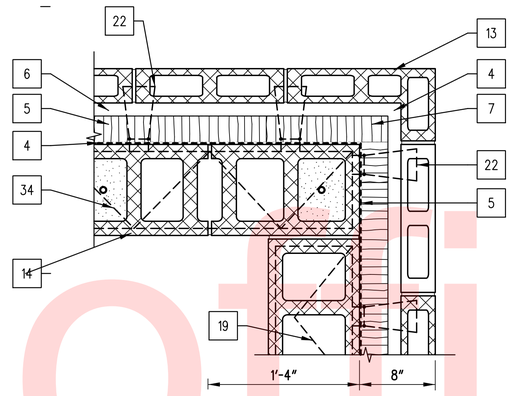
	A-605
SHEET NO.	87
TOTAL SHTS.	189



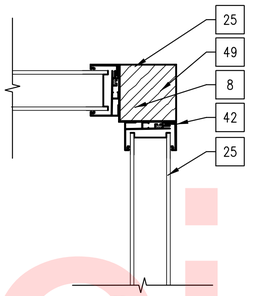
9 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-507



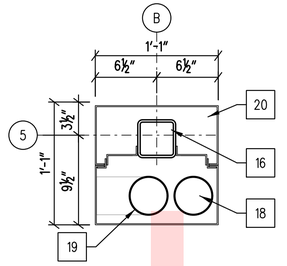
8 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-507



5 A-607 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-505



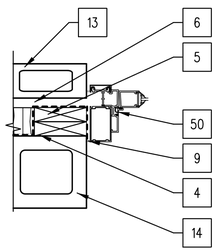
2 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"



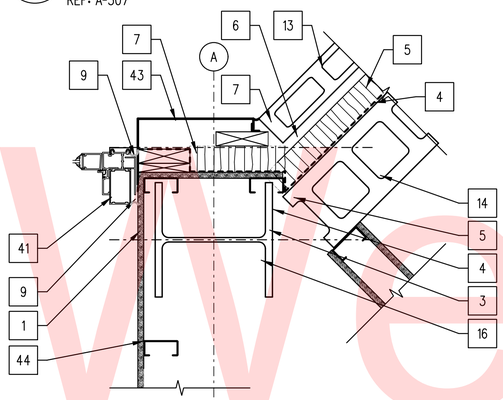
1 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-105

DRAWING NOTES

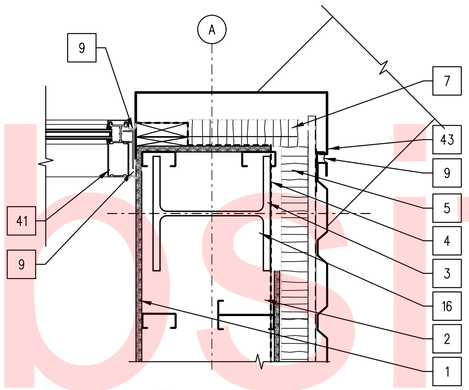
1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. TOP OF EXTERIOR CFS STUD FRAMING BEHIND MASONRY VENEER SHALL BE 1/2" HIGHER THAN T.O. MASONRY ELEVATION INDICATED.
4. BEHIND FASCIAS AND GUTTERS, EXTEND AIR BARRIER UP FACE OF BLOCKING AND EXTEND ROOF MEMBRANE DOWN FACE OF BLOCKING SO MEMBRANES OVERLAP.



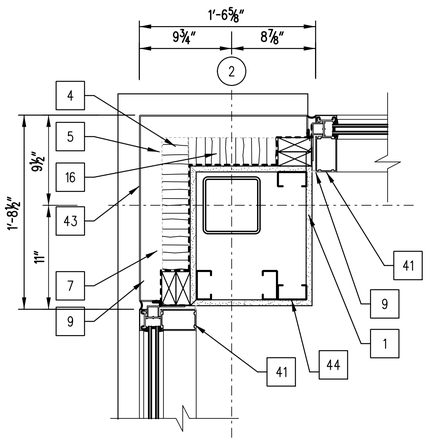
10 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"



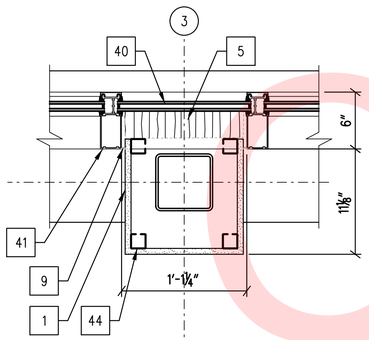
6 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-505



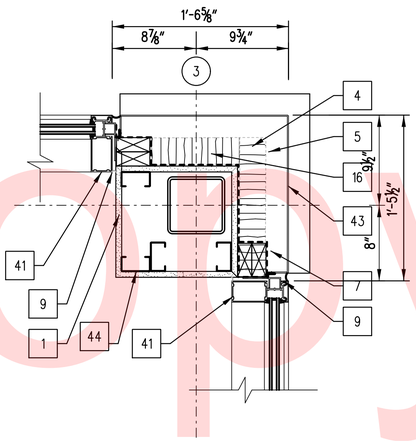
3 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-505



11 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-507



7 A-607 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-507



4 A-606 PLAN DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-105

CONSTRUCTION NOTES

1	5/8" GYPSUM BOARD
2	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SEE WALL SECTIONS
3	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
5	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
6	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
7	2x6 PRESSURE TREATED WOOD BLOCKING
8	CONTINUOUS STEEL ANGLE
9	EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
10	8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
11	RIGID ROOF INSULATION - R-30 MIN W/ COVER BOARD
12	EPDM ROOFING MEMBRANE
13	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14	8" NOMINAL CMU BACKUP WALL
15	SPRAY FOAM INSULATION (INS-7)
16	STRUCTURAL FRAMING - PAINT EXPOSED STEEL AS INDICATED ON OTHER SHEETS
17	PRE-FINISHED ALUMINUM DRIP FLASHING
18	STORM WATER DOWNSPOUT
19	OVERFLOW DOWNSPOUT
20	ALUMINUM COLUMN COVER
21	SCHEDULED ALUMINUM STOREFRONT SYSTEM - SEE A-805 FOR DETAILS
22	MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
23	SOLID CONCRETE MASONRY UNIT
24	8"x8" PRE-FINISHED ALUMINUM COLLECTOR HEAD AND DOWN SPOUT
25	POLYCARBONATE WINDOW SYSTEM
26	CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
27	EPDM ROOF SYSTEM MOVEMENT CONTROL JOINT
28	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
29	2" RIGID PERIMETER INSULATION (INS-1)
30	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
31	CONCRETE SIDEWALK - SEE CIVIL
32	MASONRY THROUGH-WALL FLASHING
33	WEEPS @ 16" O.C.
34	HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
35	2x10 PRESSURE TREATED WOOD BLOCKING
36	FULLY GROUT CAVITY BETWEEN CMU VENEER AND INSULATION BELOW FLASHING
37	CORRUGATED METAL PANEL SIDING ON 7/8" HAT CHANNEL FURRING
38	STL CHANNEL - REF. STRUCT
39	TAPERED COVER BOARD OVER BLOCKING AS NECESSARY TO ACHIEVE POSITIVE DRAINAGE
40	1" INSULATED COMPOSITE PANEL
41	SCHEDULED ALUMINUM CURTAINWALL SYSTEM - SEE A810 FOR DETAILS
42	EXTRUDED ALUMINUM CORNER TRIM
43	ALUMINUM COMPOSITE PANEL
44	INTERIOR COLD -FORMED STEEL STUD FRAMING - SEE WALL TYPES
45	STEEL SUPPORT ANGLE
46	PRE-FINISHED ALUMINUM FLASHING
47	PRE-FINISHED BOX-RIB METAL PANEL
48	1/2" PLYWOOD SHEATHING
49	CONTINUOUS STEEL PLATE
50	6" NOMINAL CMU BACKUP WALL
51	8" COLD-FORMED STEEL STUD FRAMING @ 16" O.C.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-606.dgn
10/27/2017 3:04:18 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

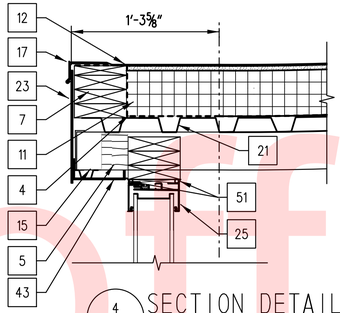
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	NCL
CHECKED BY:	EJ

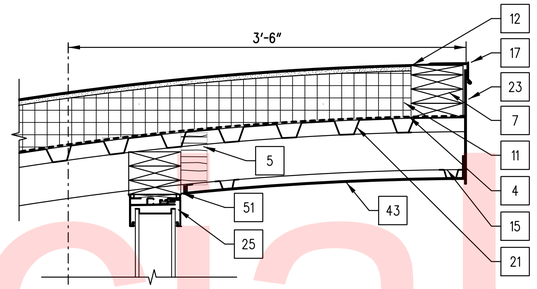
PLAN DETAILS
- VISITOR CENTER

	A-606
SHEET NO.	88
TOTAL SHTS.	189

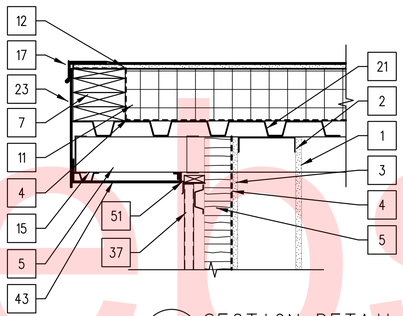
Unofficial Website Copy



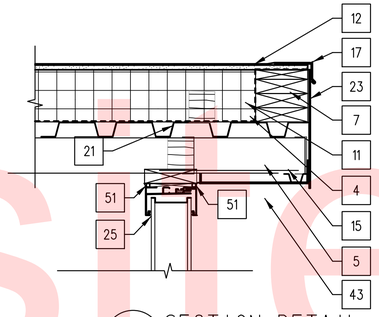
4 A-609 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-409



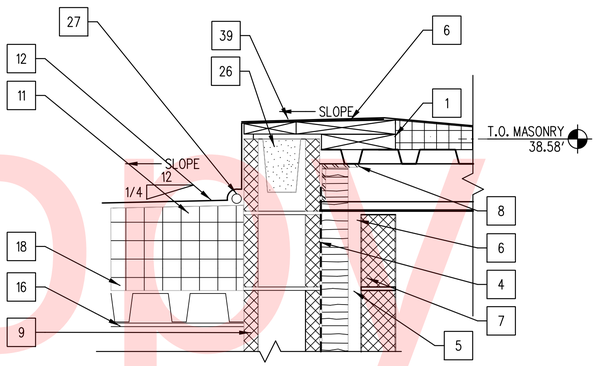
1 A-609 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-409



5 A-609 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-409



2 A-609 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-409



3 A-609 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. TOP OF EXTERIOR CFS STUD FRAMING BEHIND MASONRY VENEER SHALL BE 1/2" HIGHER THAN T.O. MASONRY ELEVATION INDICATED.
4. BEHIND FASCIAS AND GUTTERS, EXTEND AIR BARRIER UP FACE OF BLOCKING AND EXTEND ROOF MEMBRANE DOWN FACE OF BLOCKING SO MEMBRANES OVERLAP.

CONSTRUCTION NOTES

1	5/8" GYPSUM BOARD
2	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SEE WALL SECTIONS
3	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
5	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
6	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
7	2x6 PRESSURE TREATED WOOD BLOCKING
8	CONTINUOUS STEEL ANGLE
9	EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
10	8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
11	RIGID ROOF INSULATION - R-30 MIN W/ COVER BOARD
12	EPDM ROOFING MEMBRANE
13	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14	8" NOMINAL CMU BACKUP WALL
15	SPRAY FOAM INSULATION (INS-7)
16	STRUCTURAL FRAMING - PAINT EXPOSED STEEL AS INDICATED ON OTHER SHEETS
17	PRE-FINISHED ALUMINUM DRIP FLASHING
18	STEEL DECK - SEE STRUCTURAL
19	EXTERIOR PAVING - SEE CIVIL
20	PREFINISHED ALUMINUM Z- FLASHING
21	METAL DECKING
22	MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
23	1/8" PLATE ALUMINUM CUT TO ROOF PROFILE
24	8"x8" PRE-FINISHED ALUMINUM COLLECTOR HEAD AND DOWN SPOUT
25	POLYCARBONATE WINDOW SYSTEM
26	CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
27	EPDM ROOF SYSTEM MOVEMENT CONTROL JOINT
28	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
29	2" RIGID PERIMETER INSULATION (INS-1)
30	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
31	CONCRETE SIDEWALK - SEE CIVIL
32	MASONRY THROUGH-WALL FLASHING
33	WEEPS @ 16" O.C.
34	HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
35	2x10 PRESSURE TREATED WOOD BLOCKING
36	FULLY GROUT CAVITY BETWEEN CMU VENEER AND INSULATION BELOW FLASHING
37	CORRUGATED METAL PANEL SIDING ON 7/8" HAT CHANNEL FURRING
38	STL CHANNEL - REF. STRUCT
39	TAPERED COVER BOARD OVER BLOCKING AS NECESSARY TO ACHIEVE POSITIVE DRAINAGE
40	1" INSULATED COMPOSITE PANEL
41	SCHEDULED ALUMINUM CURTAINWALL SYSTEM - SEE A810 FOR DETAILS
42	EXTRUDED ALUMINUM CORNER TRIM
43	ALUMINUM COMPOSITE PANEL
44	INTERIOR COLD -FORMED STEEL STUD FRAMING - SEE WALL TYPES
45	STEEL SUPPORT ANGLE
46	PRE-FINISHED ALUMINUM FLASHING
47	PRE-FINISHED BOX-RIB METAL PANEL
48	1/2" PLYWOOD SHEATHING
49	CONTINUOUS STEEL PLATE
50	6" NOMINAL CMU BACKUP WALL
51	8" COLD-FORMED STEEL STUD FRAMING @ 16" O.C.

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-607.dgn
10/27/2017 3:04:19 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

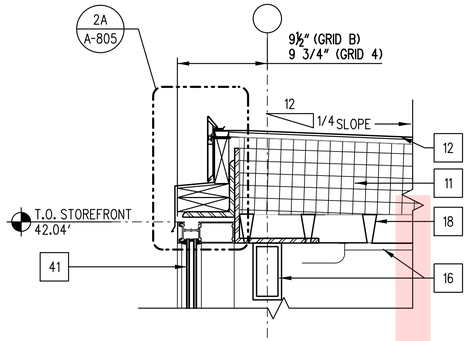
0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

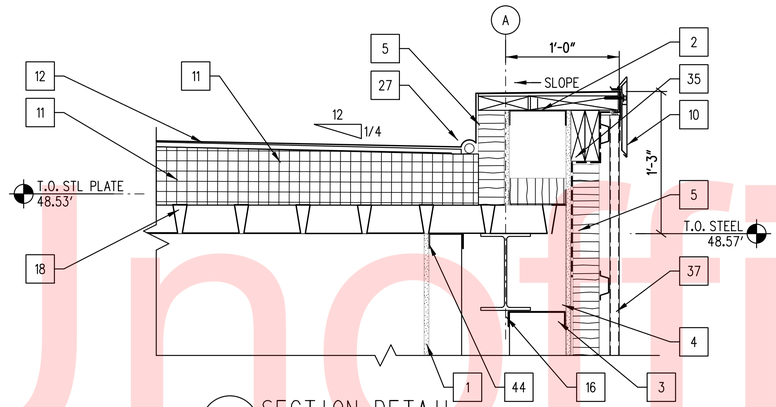
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	NCL
CHECKED BY:	EJ

SECTION DETAILS
- VISITOR CENTER

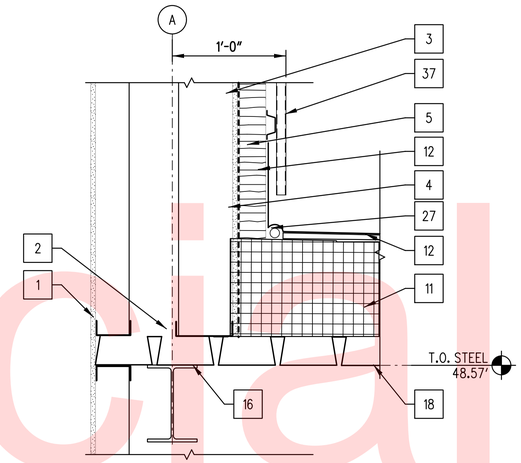
	A-607
SHEET NO.	89
TOTAL SHTS.	189



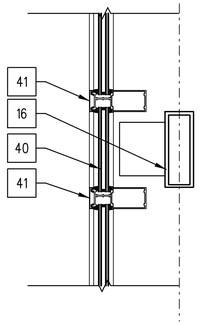
7 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408

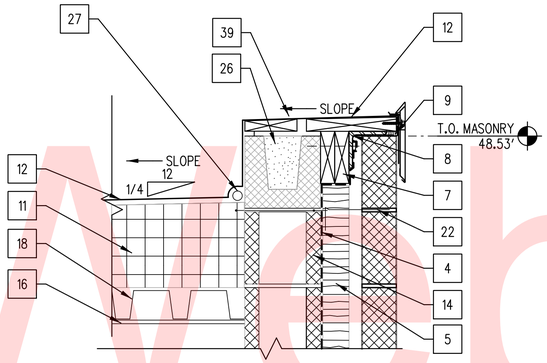


4 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408

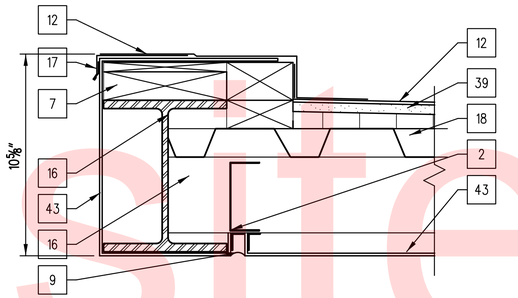


1 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408



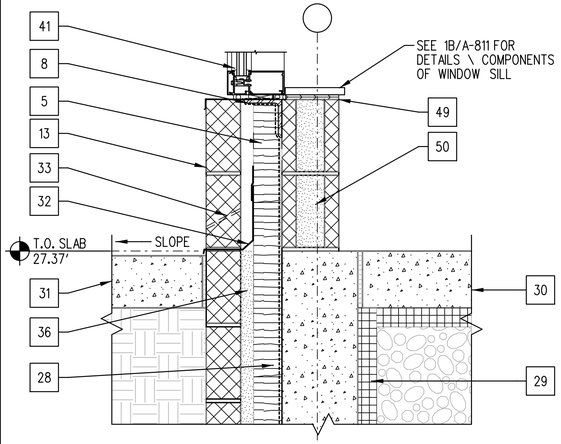


5 A-605 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408

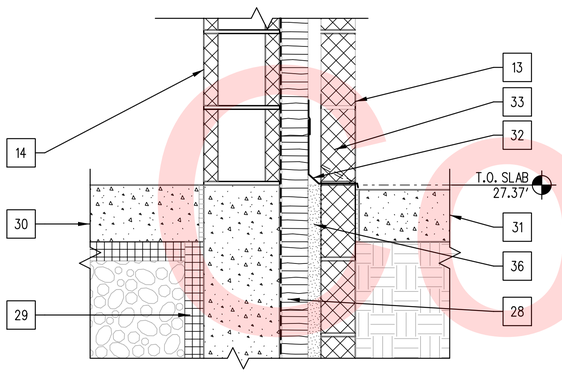


2 A-608 SECTION DETAIL
SCALE: 3"=1'-0"
REF: A-105, A-407

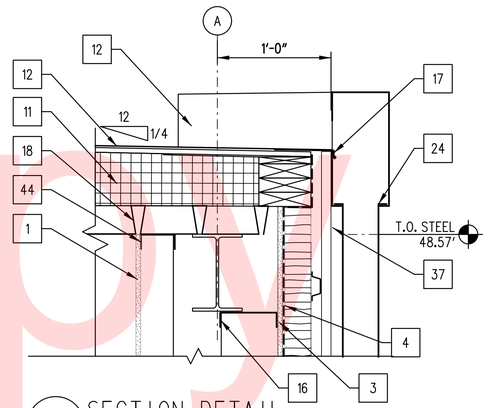
8 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408



9 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408



6 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408



3 A-608 SECTION DETAIL
SCALE: 1-1/2"=1'-0"
REF: A-408

DRAWING NOTES

1. SPECIFIC CONSTRUCTION NOTES LISTED ON DETAIL SHEETS DO NOT NECESSARILY APPLY TO EVERY DETAIL SHEET.
2. SEE SHEETS A-804 THROUGH A-807 FOR DETAILS AT DOOR AND STOREFRONT HEADS, SILLS, AND JAMBS INCLUDING BLOCKING AND AIR BARRIER RETURNS.
3. TOP OF EXTERIOR CFS STUD FRAMING BEHIND MASONRY VENEER SHALL BE 1/2" HIGHER THAN T.O. MASONRY ELEVATION INDICATED.
4. BEHIND FASCIAS AND GUTTERS, EXTEND AIR BARRIER UP FACE OF BLOCKING AND EXTEND ROOF MEMBRANE DOWN FACE OF BLOCKING SO MEMBRANES OVERLAP.

CONSTRUCTION NOTES

1	5/8" GYPSUM BOARD
2	EXTERIOR COLD-FORMED STEEL STUD FRAMING - SEE WALL SECTIONS
3	1/2" EXTERIOR GLASS-MAT GYPSUM SHEATHING
4	FLUID-APPLIED, VAPOR PREMEABLE AIR BARRIER (DASHED LINE)
5	3" POLYISOCYANURATE BOARD INSULATION (INS-2)
6	AIR SPACE - PROVIDE CAVITY DRAINAGE MATERIAL AT ALL FLASHING LOCATIONS
7	2x6 PRESSURE TREATED WOOD BLOCKING
8	CONTINUOUS STEEL ANGLE
9	EXTERIOR SEALANT JOINT (JS-ENT) AND BACKER ROD
10	8-1/2" EXTRUDED ALUMINUM FASCIA WITH PRE-FINISHED SNAP-ON ALUMINUM COVER
11	RIGID ROOF INSULATION - R-30 MIN W/ COVER BOARD
12	EPDM ROOFING MEMBRANE
13	4" NOM. GROUND FACE CMU VENEER - SEE ELEVATIONS FOR TYPES
14	8" NOMINAL CMU BACKUP WALL
15	SPRAY FOAM INSULATION (INS-7)
16	STRUCTURAL FRAMING - PAINT EXPOSED STEEL AS INDICATED ON OTHER SHEETS
17	PRE-FINISHED ALUMINUM DRIP FLASHING
18	STEEL DECK - SEE STRUCTURAL
19	EXTERIOR PAVING - SEE CIVIL
20	PREFINISHED ALUMINUM Z- FLASHING
21	SCHEDULED ALUMINUM STOREFRONT SYSTEM - SEE A-805 FOR DETAILS
22	MASONRY VENEER TIES AND ANCHORS AT 16" O.C EACH WAY - TYPICAL
23	SOLID CONCRETE MASONRY UNIT
24	8"x8" PRE-FINISHED ALUMINUM COLLECTOR HEAD AND DOWN SPOUT
25	POLYCARBONATE WINDOW SYSTEM
26	CONTINUOUS CMU BOND BEAM - (2) #5 BARS TYPICAL
27	EPDM ROOF SYSTEM MOVEMENT CONTROL JOINT
28	CAST-IN-PLACE CONCRETE FOUNDATION - SEE STRUCTURAL
29	2" RIGID PERIMETER INSULATION (INS-1)
30	CAST-IN-PLACE CONCRETE FLOOR SLAB - SEE STRUCTURAL
31	CONCRETE SIDEWALK - SEE CIVIL
32	MASONRY THROUGH-WALL FLASHING
33	WEEPS @ 16" O.C.
34	HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICALLY
35	2x10 PRESSURE TREATED WOOD BLOCKING
36	FULLY GROUT CAVITY BETWEEN CMU VENEER AND INSULATION BELOW FLASHING
37	CORRUGATED METAL PANEL SIDING ON 7/8" HAT CHANNEL FURRING
38	STL CHANNEL - REF. STRUCT
39	TAPERED COVER BOARD OVER BLOCKING AS NECESSARY TO ACHIEVE POSITIVE DRAINAGE
40	1" INSULATED COMPOSITE PANEL
41	SCHEDULED ALUMINUM CURTAINWALL SYSTEM - SEE A810 FOR DETAILS
42	EXTRUDED ALUMINUM CORNER TRIM
43	ALUMINUM COMPOSITE PANEL
44	INTERIOR COLD -FORMED STEEL STUD FRAMING - SEE WALL TYPES
45	STEEL SUPPORT ANGLE
46	PRE-FINISHED ALUMINUM FLASHING
47	PRE-FINISHED BOX-RIB METAL PANEL
48	1/2" PLYWOOD SHEATHING
49	CONTINUOUS STEEL PLATE
50	6" NOMINAL CMU BACKUP WALL
51	8" COLD-FORMED STEEL STUD FRAMING @ 16" O.C.

Unofficial Website
Copy

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-608.dgn
10/27/2017 3:04:20 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

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

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	NCL
CHECKED BY:	EJ

SECTION DETAILS
– VISITOR CENTER

	A-608
SHEET NO.	90
TOTAL SHTS.	189

ROOM FINISH SCHEDULE

LOCATION	ROOM NO.	DESCRIPTION	FLOOR	BASE	WALLS				CEILING		REMARKS
					NORTH	EAST	SOUTH	WEST	TYPE	HEIGHT	
SOUTH BUILDING	101	SECURITY / POOL OFFICE	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	8'-0"	
	102	COUNTING ROOM	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	8'-0"	
	103	VESTIBULE	RES-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	8'-0"	
	104	MENS TOILET ROOM / LOCKER	CT-1/ RF-1*	CBT-1	PT-2	CWT-1/ PT-2	CWT-1/ PT-2	CWT-1/ PT-2	APC-1 / GYPB-1**	8'-0"/ 7'-6"**	*SEE 1/A-501 FOR FLOORING **SEE RCP
	105	WOMENS TOILET ROOM / LOCKER	CT-1/ RF-1*	CBT-1	CWT-1/ PT-2	CWT-1/ PT-2	PT-2	CWT-1/ PT-2	APC-1 / GYPB-1**	8'-0"/ 7'-6"**	*SEE 1/A-501 FOR FLOORING **SEE RCP
	106	CORRIDOR	RES-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4"	
	107	VESTIBULE	WO-1	RB-1	PT-2	PT=2	PT-2	PT-2	APC-1	9'-4"	
	108	JANITOR	RF-1	RB-1	PT-1	PT-1	PT-1	PT-1	APC-1	8'-0"	
	109	UNIFORM CLOSET	RES-1	RB-1	PT-1	PT-1	PT-1	PT-1	APC-1	8'-0"	
	110	LOCKER ROOM	RES-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4	
	111	KITCHENETTE	RES-1	RB-1	N/A	PT-2	PT-2	PT-2	APC-1	9'-4"	
	112	DRIVER READY RM / SHOP BREAK RM	RES-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1 / EXP	9'-4"	SPECIFIED EDGE TRIM AT EDGE OF APC-1 - SEE RCP
	113	DISPATCH OPERATIONS	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4"	
	114	SUPERVISOR	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4"	
	115	VENDING	WO-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4"	
	116	ELECTRICAL	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	APC-1	8'-0"	
	117	TELECOM	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	APC-1	8'-0"	
	118	MECHANICAL	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	EXP	N/A	
	200	VESTIBULE	RES-1	RES-1	PT-1	PT-1	PT-1	PT-1	APC-1	9'-0"	
	202	ELECTRICAL	RES-1	RES-1	PT-1	PT-1	PT-1	PT-1	EXP	EXP	
	203	GFI SHOP	RES-1	RES-1	PT-1	PT-1	PT-1	PT-1	APC-1	9'-0"	
	204	MECHANICAL	RES-1	RES-1	PT-1	PT-1	PT-1	PT-1	EXP	EXP	
	205	FLOOR EQUIPMENT	RES-1	RES-1	PT-1,3*	PT-1,3*	N/A	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	206	CORRIDOR	RES-1	RES-1	PT-1,3*	PT-1,3*	N/A	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	207	CONFERENCE ROOM	RF-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-0"	
	208	UNISEX TOILET	RF-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	8'-0"	
	209	LAUNDRY	RES-1	RES-1	PT-1,3*	PT-1,3*	N/A	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	210	TOOL BOX STORAGE	RES-1	RES-1	PT-1,3*	PT-1,3*	PT-1,3*	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	210.1	LIBRARY	RES-1	RES-1	PT-1	PT-1	PT-1	PT-1	ACT-1	9'-0"	
	211	MACHINE / TIRE SHOP	RES-1	RES-1	PT-1,3*	PT-1,3*	N/A	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	212	TIRE STORAGE	RES-1	RES-1	PT-1,3*	PT-1,3*	PT-1,3*	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	213	MAINTENANCE SUPERVISOR	RF-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4"	
	214	STORAGE SUPERVISOR	RF-1	RB-1	PT-2	PT-2	PT-2	PT-2	APC-1	9'-4"	
	215	LUBE / COMPRESSOR	RES-1	RES-1	PT-1	PT-1	PT-1	PT-1	EXP	EXP	
	216	STORE ROOM	RES-1	RES-1	PT-1,3*	PT-1,3*	PT-1,3*	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	217	MAINTENANCE BAYS	RES-1	RES-1	PT-1,3*	PT-1,3*	PT-1,3*	PT-1,3*	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE
	218	WASH BAY	RES-1	RES-1	PT-6	PT-6	PT-6	PT-6	PT-6	PT-6	
	219	POWER WASH CLOSET	RES-1	RES-1	PT-3	PT-3	PT-3	PT-3	EXP	EXP	
	220	CORRIDOR	RES-1	RES-1	PT-1,3*	PT-1,3*	PT-1,3*	N/A	EXP	EXP	*PT-3 TO 12'-0" AFF, PT-1 ABOVE

INTERIOR FINISH LIST

LOCATION	DESIGNATION	MANUFACTURER - BASIS OF DESIGN	DESCRIPTION
FLOOR	SC-1	-	SEALED CONCRETE
	PC-1	-	POLISHED CONCRETE
	WO-1	SHAW COMMERCIAL	MODULAR WALK-OFF CARPET TILE: 24"X24"; ALL ACCESS; PATTERN: "PATH"; COLOR: *34761, "PORTABELLA"; MONOLITHIC PATTERN INSTALLATION
	CT-1	DALTILE	CERAMIC FLOOR TILE: EC1 PORCELAIN; 12" x 24"; COLOR: *J105, "BARBICAN"; UNPOLISHED FINISH
	CPT-1	J & J INVISION	MODULAR CARPET TILE: 24" x 24", "ENERGY MODULAR" *7997, COLOR: 1560, VARIABLE; BRICK INSTALLATION PATTERN
	RF-1	ECO SURFACES	RUBBER FLOORING; ECOSURFACE CLASSIC, 48" WIDE ROLL; COLOR: *810A, "ROLLIN' STONE"
	RES-1	ECONO-SURF	RESINOUS FLOORING SYSTEM; COLOR TO BE SELECTED FROM MANUFACTURER'S FULL RANGE
BASE	RB-1	JOHNSONITE	VINYL BASE: 4" BASE: *101, "SEAWEED"
	RB-2	JOHNSONITE	VINYL BASE: 4" BASE: *460, "COTTON"
	CBT-1	DALTILE	CERAMIC BASE TILE: RITTENHOUSE SQUARE; 3" x 6"; COLOR: *0190," ARCTIC WHITE"
	RES-1	ECONO-SURF	RESINOUS FLOORING SYSTEM TURNED 4" UP WALL TO FORM BASE
WALLS	CWT-1	DALTILE	CERAMIC WALL TILE: RITTENHOUSE SQUARE; COLOR: *0190, "ARCTIC WHITE"; 3" x 6" HORIZONTALLY ORIENTED; RUNNING BOND PATTERN
	PT-1	BENJAMIN MOORE	PAINT; SYSTEM BASED ON SUBSTRATES IDENTIFIED IN SPECIFICATIONS. COLOR; PREVIEW SERIES, READY-MIX "WHITE"
	PT-2	BENJAMIN MOORE	PAINT; SYSTEM BASED ON SUBSTRATES IDENTIFIED IN SPECIFICATIONS. COLOR; CLASSIC COLORS SERIES; *1072, "SAND DUNES"
	PT-3	BENJAMIN MOORE	PAINT; SYSTEM BASED ON SUBSTRATES IDENTIFIED IN SPECIFICATIONS. COLOR; PREVIEW SERIES; INTERIOR "READY-MIX CHARCOAL SLATE"
	PT-4 AND PT-5 ARE EXTERIOR FINISHES - SEE SHEETS A-301 THROUGH A-401		
	PT-6	--	PAINT; 2-COMPONENT EPOXY SYSTEM FOR CMU AND STEEL AS SPECIFIED COLOR TO MATCH PT-1
	PT-7	BENJAMIN MOORE	PAINT; SYSTEM BASED ON SUBSTRATES IDENTIFIED IN SPECIFICATIONS. COLOR; CLASSIC COLORS SERIES; *803, "LAZY SUNDAY"
CEILING	APC-1	ARMSTRONG	ACOUSTICAL PANEL CEILING: "ULTIMA"; 24" x 48"; NON-TEGULAR; 15/16" WHITE GRID
	GYPB-1	--	SUSPENDED GYPSUM BOARD - PAINTED PT-1
	EXP	--	EXPOSED STRUCTURE INCLUDING FRAMING AND DECK - PAINT AS INDICATED ON CEILING PLANS
MILLWORK	SSM-1	3FORM	SOLID SURFACE: 100 PERCENT BASE; COLOR: "NORDIC"; WINDOW SILLS
	PLAM-1	FORMICA	PLASTIC LAMINATE: SCULPTED COLLECTION; "WHITE", *949-SP; UPPER CABINET DOORS
	PLAM-2	FORMICA	PLASTIC LAMINATE: "PECAN WOODLINE", *5883-58; MATTE FINISH; UPPER & BASE CABINET DOORS
	PLAM-3	FORMICA	PLASTIC LAMINATE: "FOSSIL", *5349-58; MATTE FINSIH; BACKSPLASH, COUNTERTOP, RESTROOM KNEE PANEL
	PLAM-4	FORMICA	PLASTIC LAMINATE: "JUST BLUE", *8821-58, MATTE FINSIH; BACKSPLASH, COUNTERTOP, RESTROOM KNEE PANEL
	PLAM-5	FORMICA	PLASTIC LAMINATE: "NEUTRAL WHITE" *918-58; MATTE FINISH; CABINET SHELLS

FINISH SCHEDULE ABBREVIATIONS

SC	SEALED CONCRETE	PT	PAINT
WO	WALK-OFF CARPET	RES	RESINOUS FLOORING SYSTEM
CT	CERAMIC TILE	APC	ACCOUSTICAL PANEL CEILING
CPT	CARPET	GYPB	GYPSUM BOARD
RF	RUBBER FLOORING	PLAM	PLASTIC LAMINATE
RB	RESILIENT BASE	SSM	SOLID SURFACE MATERIAL
CBT	CERAMIC BASE TILE	EXP	EXPOSED STRUCTURAL FRAMING AND DECK
CWT	CERAMIC WALL TILE		

unofficial website copy

N:\90181-010\CADD\Phase II Sheet Files\CP01-90181004A-801.dgn
10/27/2017 3:01:26 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: RJH
CHECKED BY: EJ

FINISH SCHEDULE
AND FINISHES LIST

A-801
SHEET NO. 92
TOTAL SHTS. 189

DOOR SCHEDULE / HARDWARE SCHEDULE

DOOR NO.	LOCATION (ROOM No)	OPENING DETAILS	FIRE RATING	DOOR					FRAMES			REMARKS	HINGES			DOOR CLOSERS		LOCKSETS			PUSH / PULL SET	DOOR STOP		KICK PLATES	FLUSH BOLTS	COORD-INATOR	WEATHER STRIP (SET)	THRESHOLD	COMMENTS
				TYPE	SIZE	THICK-NESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		CONT	HEAVY	NRP	PAR.	REG.	PASS	CLASS	CARD		WALL	FLOOR						
101	SECURITY/ POOL OFFICE	1	NOT RATED	D2	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	Y	0	1	0	0	0	0	1	0	0	0	0	0		
102	COUNTING ROOM	1	NOT RATED	D1	3070	1 3/4"	HM	PT-2	A.1	HM	PT-2		0	1.5 PR.	Y	1	0	0	0	1	0	1	0	0	0	0	0		SEE NOTE 9
103	VESTIBULE	3	NOT RATED	D1	3070	1 3/4"	HM	PT-2	C.2	HM	PT-2		0	1.5 PR.	Y	0	1	0	0	1	0	1	0	0	0	0	1		
103.1	VESTIBULE	3	NOT RATED	D1	3070	1 3/4"	HM	PT-2	C.2	HM	PT-2		0	1.5 PR.	Y	0	1	0	0	1	0	1	0	0	0	0	1		PROVIDE CARD ACCESS / NOTE 9
104	MENS TOILET ROOM / LOCKER	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	1	0	0	0	1	0	0	0	0	0		
105	WOMEN'S TOILET ROOM / LOCKER	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	1	0	0	0	1	0	0	0	0	0		
107.1	VESTIBULE	4	NOT RATED	D4	3070	1 3/4"	ALUM	PREFIN.	--	ALUM	PREFIN.		1	0	N/A	1	0	0	0	1	0	0	1	0	0	0	1		SEE NOTES 6 AND 8
107.2	VESTIBULE	1	NOT RATED	D4	3070	1 3/4"	ALUM	PREFIN.	--	ALUM	PREFIN.		1	0	N/A	1	0	0	0	1	0	1	0	0	0	0	0		SEE NOTE 7
108	JANITOR	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	0	1	0	0	1	0	0	0	0	0		
109	UNIFORM CLOSET	1	NOT RATED	D2	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	1	0	1	0	0	0	0	0	0	0	0	0		
113	DISPATCH OPERATIONS	1	NOT RATED	D3	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	0	0	1	0	1	0	0	0	0	0		
114	SUPERVISOR	1	NOT RATED	D2	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	0	1	0	0	1	0	0	0	0	0		
115	VENDING	3	NOT RATED	D4	3070	1 3/4"	ALUM	PREFIN.	--	ALUM	PREFIN.		1	0	N/A	1	0	0	0	1	0	0	1	0	0	0	1		
116	ELECTRICAL ROOM	3	NOT RATED	D1	3070	1 3/4"	HM	PT-2	C.2	HM	PT-2	SEE NOTE 4	0	1.5 PR.	Y	1	0	0	1	0	0	0	0	1	0	0	1		
117	TELECOM	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	Y	0	1	0	1	0	0	1	0	0	0	0	0		
118	MECHANICAL ROOM	3	NOT RATED	D5	6070	1 3/4"	HM	PT-2	D.2	HM	PT-2		0	3 PR.	Y	1	0	0	1	0	0	0	2	2	1 SET	1	2		
200	VESTIBULE	5	NOT RATED	D3	3070	1 3/4"	HM	PT-2/PT-1	C.2	HM	PT-2/PT-1	SEE NOTE 3	0	1.5 PR.	Y	1	0	0	0	1	0	0	1	1	0	0	1		
202	ELECTRICAL ROOM	5	NOT RATED	D1	3070	1 3/4"	HM	PT-2/PT-1	C.2	HM	PT-2/PT-1	SEE NOTES 3 AND 4	0	1.5 PR.	Y	1	0	0	1	0	0	0	0	1	0	0	1		
203	GFI SHOP	2	NOT RATED	D1	3070	1 3/4"	HM	PT-1	C.2	HM	PT-1		0	1.5 PR.	Y	0	1	0	0	1	0	1	0	1	0	0	0		
204	MECHANICAL ROOM	5	NOT RATED	D1	3070	1 3/4"	HM	PT-2/PT-1	C.2	HM	PT-2/PT-1	SEE NOTES 3 AND 4	0	1.5 PR.	Y	1	0	0	1	0	0	0	0	1	0	0	1		
206	CORRIDOR	2	NOT RATED	D3	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	N	1	0	1	0	0	0	1	0	1	0	0	0		
207	CONFERENCE ROOM	2	NOT RATED	D2	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	N	0	1	0	1	0	0	1	0	0	0	0	0		PROVIDE SMOKE SEALS
208	UNISEX TOILET	2	NOT RATED	D1	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	N	0	1	0	1	0	0	1	0	1	0	0	0		
210	TOOL BOX STORAGE	--	N / A	--	4070	--	STL.	PT-3	--	--	PT-3	SLIDING GATE IN WIRE MESH PARTITION	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SLIDING GATE
210.1	LIBRARY	2	NOT RATED	D1	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	N	0	1	0	1	0	0	1	0	1	0	0	0		
212.1	TIRE STORAGE	--	N / A	--	4070	--	STL.	PT-3	--	--	PT-3	SLIDING GATE IN WIRE MESH PARTITION	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	SLIDING GATE
212.2	TIRE STORAGE	--	N / A	--	4070	--	STL.	PT-3	--	--	PT-3	SLIDING GATE IN WIRE MESH PARTITION	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SLIDING GATE
213	MAINTENANCE SUPERVISOR	2	NOT RATED	D2	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	N	1	0	0	1	0	0	0	0	0	0	0	0		PROVIDE SMOKE SEALS
214	STORAGE SUPERVISOR	2	NOT RATED	D2	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	N	1	0	0	1	0	0	0	0	0	0	0	0		PROVIDE SMOKE SEALS
215.1	LUBE/COMPRESSOR	2	NOT RATED	D1	3070	1 3/4"	HM	PT-3	C.2	HM	PT-3		0	1.5 PR.	Y	0	1	1	0	0	0	1	1	1	0	0	0		
215.2	LUBE/COMPRESSOR	5	NOT RATED	D5	6070	1 3/4"	HM	PT-2/PT-3	D.2	HM	PT-2/PT-3	SEE NOTE 3	0	3 PR.	Y	1	0	0	1	0	0	0	0	2	1 SET	1	2		
216.1	STORE ROOM	2	NOT RATED	D5.1	6070	1 3/4"	HM	PT-3	D.2	HM	PT-3		0	3 PR.	Y	0	0	0	0	1	0	0	0	2	1 SET	1	0		SEE NOTE 5
216.2	STORE ROOM	5	NOT RATED	D1	3070	1 3/4"	HM	PT-2/PT-3	C.2	HM	PT-2/PT-3	SEE NOTE 3	0	1.5 PR.	N	1	0	0	0	1	0	0	0	1	0	0	1		SEE NOTE 8
216.3	STORE ROOM		N / A	--	10' x 12'	--	STL.	PREFIN.	--	--	NONE	OVERHEAD SECTIONAL DOOR (OHD-1)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	OVERHEAD DOOR (OHD-1)
217.1	MAINTENCE BAYS	5	NOT RATED	D1	3070	1 3/4"	HM	PT-2/PT-3	C.2	HM	PT-2/PT-3	SEE NOTE 3	0	1.5 PR.	Y	1	0	0	0	1	0	0	0	1	0	0	1		
217.2	MAINTENCE BAYS	3	NOT RATED	D1	3070	1 3/4"	HM	PT-2/PT-3	C.2	HM	PT-2/PT-3	SEE NOTE 3	0	1.5 PR.	Y	1	0	0	0	1	0	0	0	1	0	0	1		
217.3	MAINTENCE BAYS		N / A	--	14' x 14'	--	STL.	PREFIN.	--	--	NONE	OVERHEAD SECTIONAL DOOR (OHD-1)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	OVERHEAD DOOR (OHD-1)
217.4	MAINTENCE BAYS		N / A	--	14' x 14'	--	STL.	PREFIN.	--	--	NONE	OVERHEAD SECTIONAL DOOR (OHD-1)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	OVERHEAD DOOR (OHD-1)
217.5	MAINTENCE BAYS		N / A	--	14' x 14'	--	STL.	PREFIN.	--	--	NONE	OVERHEAD COILING DOOR (OHD-2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	OVERHEAD DOOR (OHD-2)
218.1	WASH BAY	2	NOT RATED	D2	3070	1 3/4"	HM	PT-3/PT-6	C.2	HM	PT-3/PT-6	PT-6 ON WASH BAY SIDE OF DOOR	0	1.5 PR.	N	1	0	1	0	0	0	0	0	1	0	0	1		
218.2	WASH BAY	5	NOT RATED	D2	5070	1 3/4"	HM	PT-2/PT-3	C.2	HM	PT-2/PT-3	SEE NOTE 3	0	1.5 PR.	Y	1	0	1	1	0	0	0	0	2	1 SET	0	1		
218.3	WASH BAY	5	NOT RATED	D2	3070	1 3/4"	HM	PT-2/PT-3	C.2	HM	PT-2/PT-3	SEE NOTE 3	0	1.5 PR.	Y	1	0	0	0	1	0	0	0	1	0	0	1		
218.4	WASH BAY		N / A	--	14' x 14'	--	STL.	PREFIN.	--	--	NONE	OVERHEAD SECTIONAL DOOR (OHD-1)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	OVERHEAD DOOR (OHD-1)
218.5	WASH BAY		N / A	--	14' x 14'	--	STL.	PREFIN.	--	--	NONE	OVERHEAD SECTIONAL DOOR (OHD-1)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	OVERHEAD DOOR (OHD-1)
219	POWER WASH CLOSET	2	NOT RATED	D5	6070	1 3/4"	HM	PT-6	D.2	HM	PT-6		0	3 PR.	N	0	0	1	0	0	0	0	1	2	1 SET	0	0		

DOOR SCHEDULE NOTES:

1. ALL DOOR AND FRAMES TYPES LISTED IN THE SCHEDULE ARE LOCATED ON SHEET A-803
2. ALL OPENING DETAILS LISTED IN THE SCHEDULE ARE LOCATED ON SHEET A-803
3. PAINT EXTERIOR SIDES PT-2 AND INTERIOR SIDES PT-3 OR PT-1 AS SCHEDULED
4. PROVIDE SCHEDULED FRAME TYPE WITH TRANSOM OPTION FOR LOUVER - SEE BUILDING ELEVATIONS.
5. PROVIDE SURFACE BOLTS BETWEEN UPPER AND LOWER PORTIONS OF BOTH LEAVES OF DUTCH DOOR IN ADDITION TO FLUSH BOLTS AT HEAD AND SILL OF INACTIVE LEAF.
6. PROVIDE AUTOMATIC DOOR OPERATOR: PROGRAM TO ALLOW EXIT AT ANY TIME BUT ENTRY ONLY BY CARD READER.
7. COORDINATE FUNCTION OF ELECTRIC STRIKE WITH DOOR 107.1 AUTOMATIC OPERATOR TO MAINTAIN BUILDING SECURITY. VERIFY FUNCTION OF BOTH DOORS WITH OWNER.
8. IN ADDITION TO THOSE INDICATED IN THE SCHEDULE, PROVIDE (2) LOCK BOXES FOR MANUAL PERSONNEL GATES IN SITE FENCE, AND (2) LOCK BOXES IN MOTORIZED VEHICULAR GATES. FOR MODEL NO. CONTACT THE KNOX CO FOR THE LEWES FIRE DEPATMENT APPRIOVED MODEL.
9. PROVIDE PEEP HOLES IN DOORS 102 AND 103.1. PROVIDE A DOORBELL ON EXTERIOR SIDE OF DOOR 103.1. DOORBELL SHALL SOUND IN COUNTING ROOM 102.

Copy

N:\90181-019\C400\Phase II Sheet Files\CP01-90181004A-802.dgn
11/10/2017 2:10:32 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

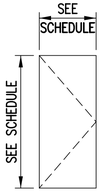
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EBL

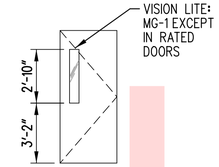
DOOR AND HARDWARE SCHEDULE

A-802
SHEET NO. 93
TOTAL SHTS. 189

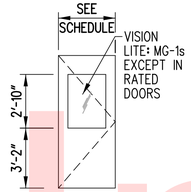
SCHEDULED DOOR TYPES



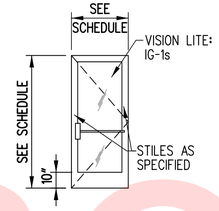
TYPE D1



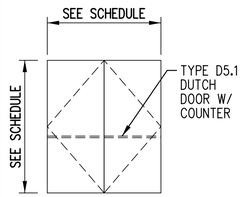
TYPE D2



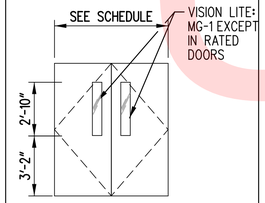
TYPE D3



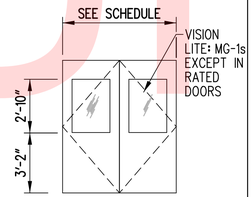
TYPE D4



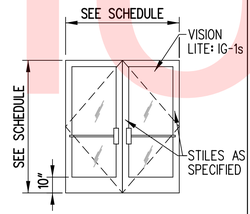
TYPE D5 / D5.1



TYPE D6

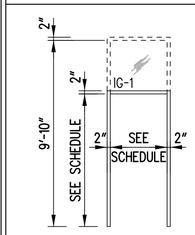


TYPE D7

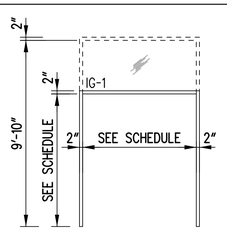


TYPE D8

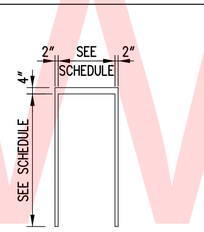
SCHEDULED FRAME TYPES



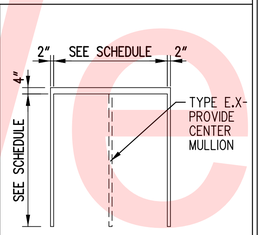
TYPE A.X



TYPE B.X

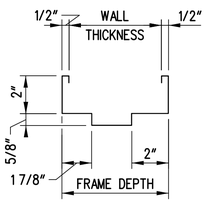


TYPE C.X

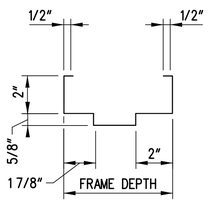


TYPE D.X/E.X

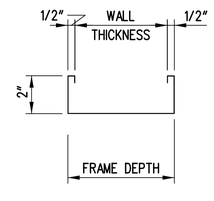
SCHEDULED FRAME PROFILES



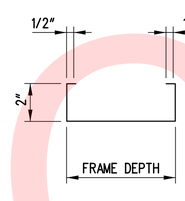
TYPE x.1



TYPE x.2



TYPE x.3



TYPE x.4

GLAZING LEGEND

MG-1: MONOLITHIC CLEAR FLOAT GLASS

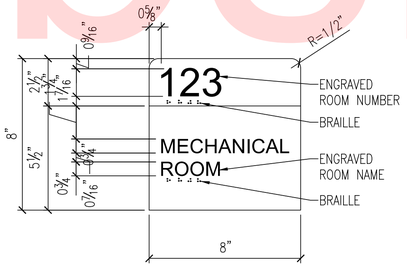
IG-1: TINTED LOW-E INSULATING GLASS

MG-1s / IG-1s: SAFETY GLAZING REQUIRED

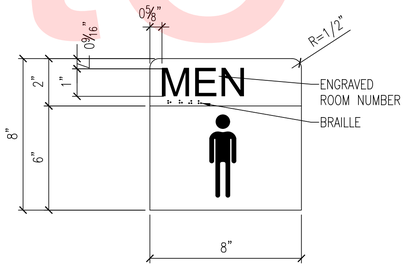
HARDWARE LIST

DESIGNATION		MANUFACTURER	DESCRIPTION	FINISH	BHMA NUMBER
HINGES	CONT.	MCKINNEY	GEARED CONTINUOUS HINGE; MCK-12HD	US28	A31021G
	HEAVY	HAGER	HEAVY DUTY BALL BEARING HINGES, 4-1/2" X 4-1/2"; BB1199	US32D	A5111
	NRP	N/A	NON-REMOVEABLE PINS	--	--
DOOR CLOSER	PAR.	CORBIN RUSSWIN	PARALLEL ARM CLOSER: DC3210	SILVER ALUM. PAINTED	C02021
	REG.	CORBIN RUSSWIN	REGULAR ARM CLOSER: DC3200	SILVER ALUM. PAINTED	C02011
LOCKSET	PASS	SARGENT	MORTISE LOCKSET, PASSAGE FUNCTION; 8200 SERIES "L" LEVER	US32D	F01
	CLASS		MORTISE LOCKSET, CLASSROOM FUNCTION: 8200 SERIES "L" LEVER	US32D	F05
	CARD		MORTISE LOCKSET COMPATIBLE WITH ELECTRIC STRIKE SPECIFIED IN SECURITY SYSTEM SPECIFICATIONS. LEVER TO MATCH OTHER LOCKSETS	US32D	F07
PUSH / PULL SET		BY DOOR MANUF.	SINGLE STRAIGHT PUSH AND PULL BAR SET	MATCH DOORS	J504
DOOR STOP	WALL	ROCKWOOD	WALL TYPE BUMPER WITH CONCAVE PAD	US32D	L02261
	FLOOR	ROCKWOOD	LOW DOME / HIGH DOME (AS APPROPRIATE) TYPE FLOOR BUMPER	US32D	L02141 / L02161
KICK PLATES		ROCKWOOD	METAL KICK PLATE, .062" THICK STAINLESS STEEL, 12" HIGH	US32D	J102
FLUSH BOLTS		ROCKWOOD	SELF LATCHING FLUSH BOLT SET (TOP AND BOTTOM); 1845	US32D	TYPE 27
COORDINATOR		ROCKWOOD	BAR TYPE HEAD STOP MOUNTED COORDINATOR: 1600 SERIES	PAINT TO MATCH FRAME	TYPE 21
WEATHERSTRIP (SET)		NATIONAL GUARD	HEAD AND JAMBS - SILICONE BULB FIRE AND SMOKE SEAL; SERIES 5050	FROM MFR. STANDARD	R0E195
		NATIONAL GUARD	DOOR BOTTOM SWEEP, SILICONE WITH STAINLESS RETAINER; 200SSS	US32D	R5E435
		NATIONAL GUARD	OVERLAPPING ASTRAGAL, SILICONE WITH STAINLESS RETAINER, 114SA	US32D	R5E635
SMOKE SEAL (SET)		NATIONAL GUARD	HEAD AND JAMBS - SILICONE BULB FIRE AND SMOKE SEAL; SERIES 5050	FROM MFR. STANDARD	R0E194
		NATIONAL GUARD	DOOR BOTTOM SWEEP, SILICONE WITH STAINLESS RETAINER; 200SSS	US32D	R5E434
THRESHOLD		NATIONAL GUARD	THERMALLY BROKEN SADDLE TYPE	US32D	J52290

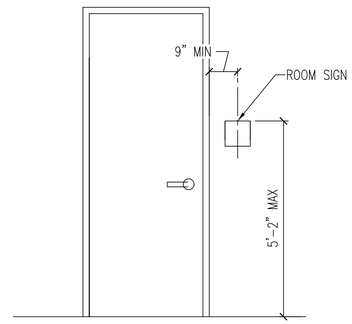
NOTE 1: IN ACCORDANCE WITH THE SPECIFICATIONS OTHER PRODUCTS BY OTHER MANUFACTURERS EQUAL TO THOSE LISTED WILL BE CONSIDERED.



TYPE A - ROOM



TYPE B - RESTROOM



1 A-803 ROOM SIGNAGE TYPES
SCALE: 3"= 1'-0"

2 A-803 TYPICAL SIGNAGE MOUNTING LOCATION
SCALE: 1½"= 1'-0"

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180044A-803.dgn
10/27/2017 3:01:28 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

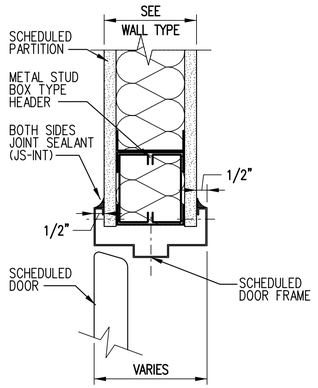
SCALE: 3" = 1'-0"
SCALE: 1/2" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

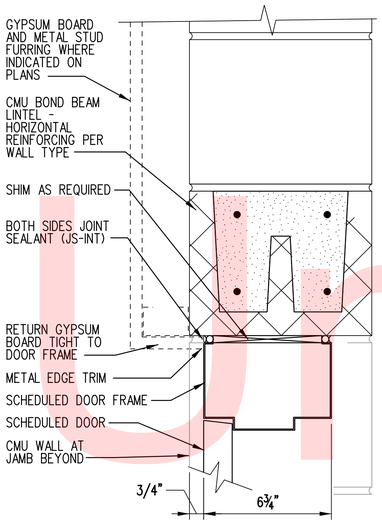
CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: RJH
CHECKED BY: EJ

DOOR AND FRAME TYPES AND HARDWARE LIST

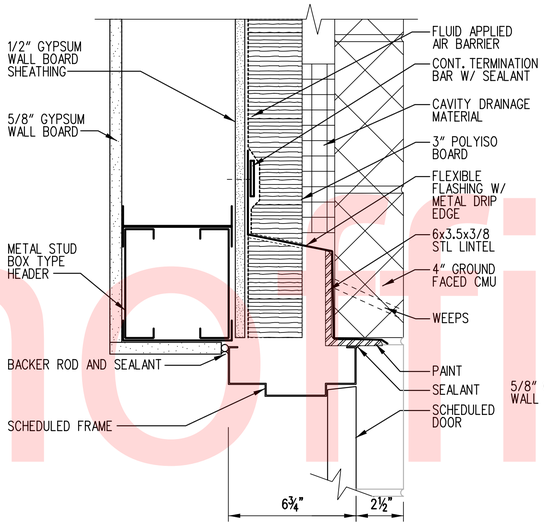
A-803
SHEET NO. 94
TOTAL SHTS. 189



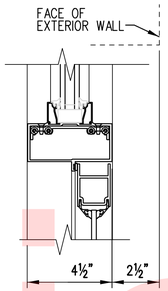
1A-DOOR HEAD
SCALE: 3 " = 1'-0"



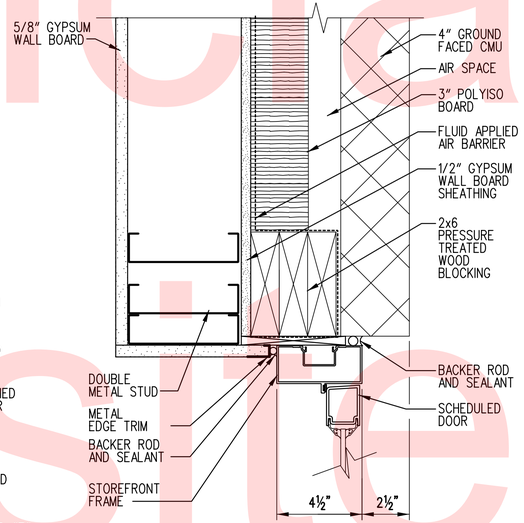
2A-DOOR HEAD
SCALE: 3 " = 1'-0"

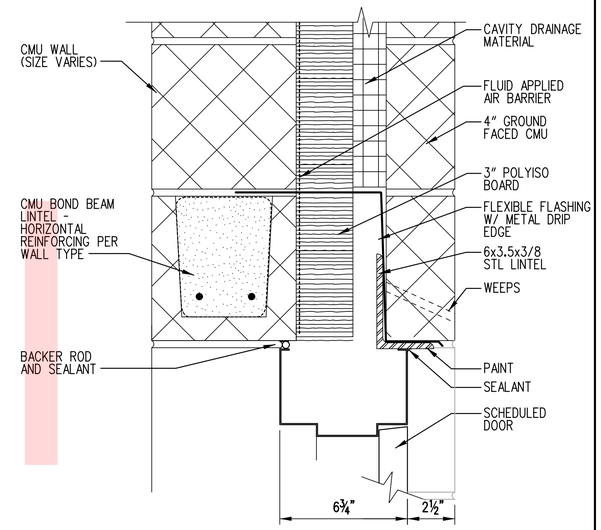


3A-DOOR HEAD
SCALE: 3 " = 1'-0"

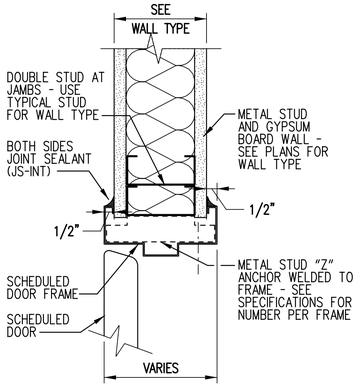


4A-DOOR HEAD
SCALE: 3 " = 1'-0"



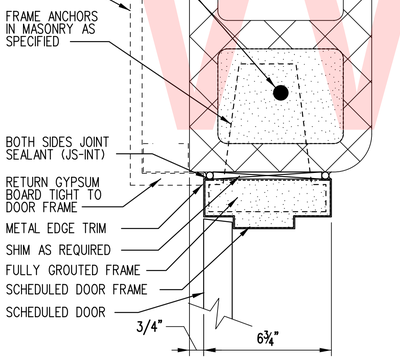


5A-DOOR HEAD
SCALE: 3 " = 1'-0"



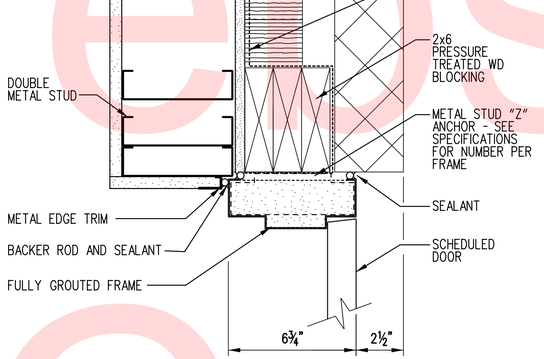
1B-DOOR JAMB
SCALE: 3 " = 1'-0"

1 / A-804 — INTERIOR HM FRAME
SCALE 3" = 1'-0"
REF: A-802



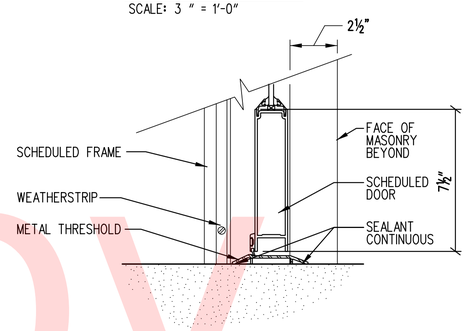
2B-DOOR JAMB
SCALE: 3 " = 1'-0"

2 / A-804 — INTERIOR HM FRAME
SCALE 1" = 1'-0"
REF: A-802, A-803



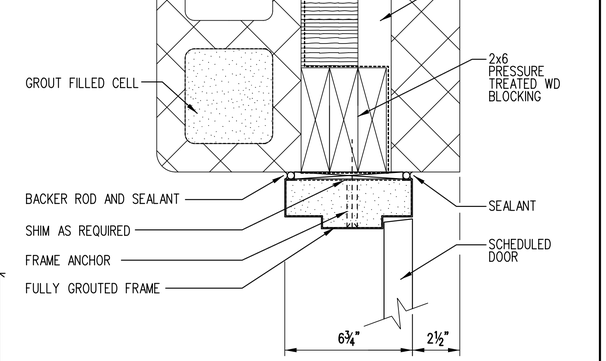
3B-DOOR JAMB
SCALE: 3 " = 1'-0"

3 / A-804 — EXTERIOR HM FRAME
SCALE 1" = 1'-0"
REF: A-802



4C-DOOR SILL
SCALE: 3 " = 1'-0"

4 / A-804 — EXTERIOR STOREFRONT FRAME
SCALE 1" = 1'-0"
REF: A-802



5B-DOOR JAMB
SCALE: 3 " = 1'-0"

5 / A-804 — EXTERIOR HM FRAME
SCALE 1" = 1'-0"
REF: A-802

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004A-804.dgn
10/27/2017 3:01:28 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: 0 2" 4" 8" — 3" = 1'-0"

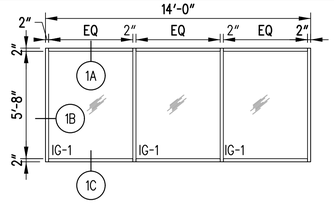
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EBL

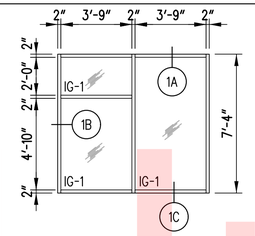
DOOR DETAILS

A-804
SHEET NO. 95
TOTAL SHTS. 189

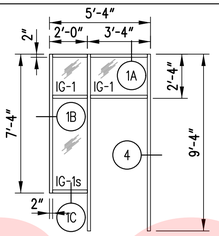
SCHEDULED ALUMINUM STOREFRONT TYPES



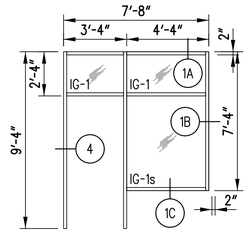
TYPE SF1



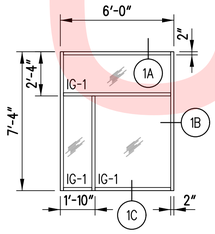
TYPE SF2



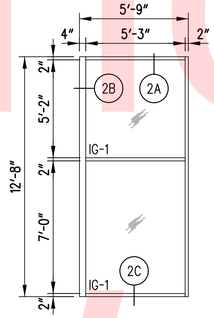
TYPE SF3



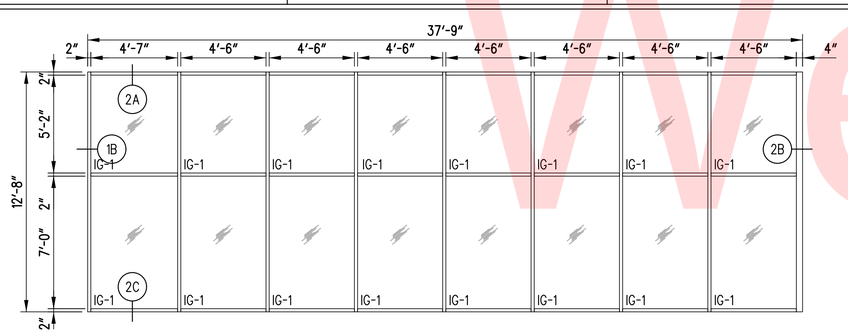
TYPE SF4



TYPE SF5A (SF5B = OPP. HAND)



TYPE SF6



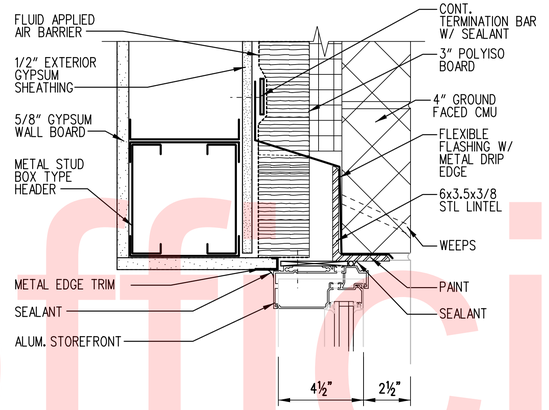
TYPE SF7

EXTERIOR WINDOW AND STOREFRONT DETAILS

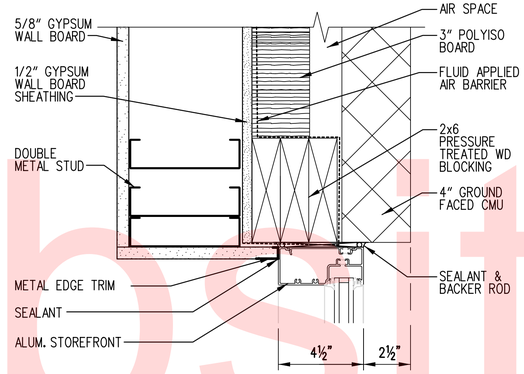
- (1A) DETAIL 1A DRAWING A-805
- (1B) DETAIL 1B DRAWING A-805
- (1C) DETAIL 1C DRAWING A-805
- (2A) DETAIL 2A DRAWING A-805
- (2B) DETAIL 7/A-601
- (2C) DETAIL 2C DRAWING A-805
- (3A) DETAIL 3A DRAWING A-805
- (3B) DETAIL 3B DRAWING A-805
- (4) DETAIL 4B DRAWING A-804

GLAZING LEGEND

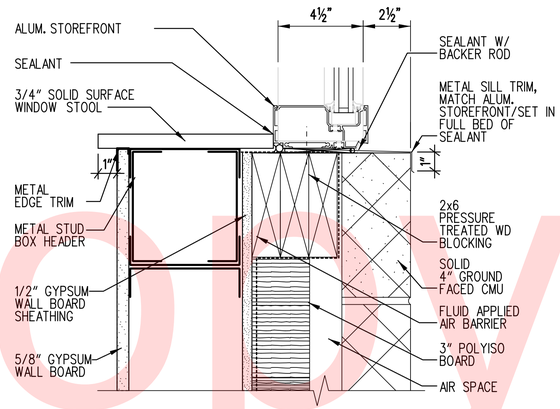
- MG-1: MONOLITHIC CLEAR FLOAT GLASS
- IG-1: TINTED LOW-E INSULATING GLASS
- MG-1s / IG-1s: SAFETY GLAZING REQUIRED



1A-HEAD
SCALE: 3" = 1'-0"

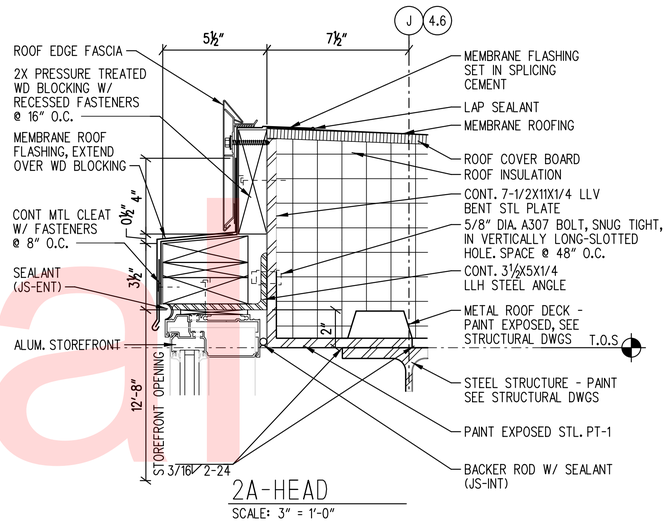


1B-JAMB
SCALE: 3" = 1'-0"

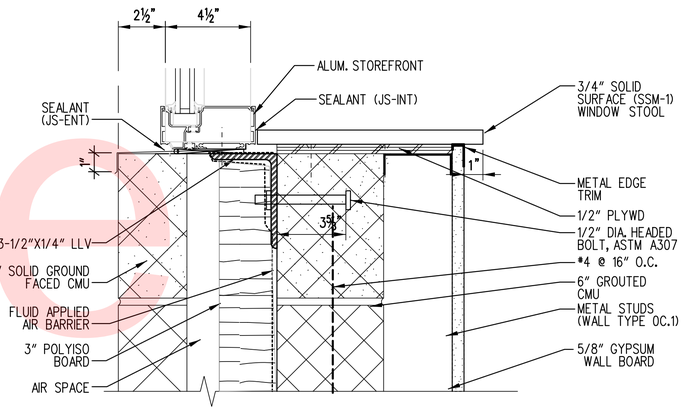


1C-SILL
SCALE: 3" = 1'-0"

1 A-805 DETAIL
SCALE 3" = 1'-0"
REF: A-805



2A-HEAD
SCALE: 3" = 1'-0"



2C-SILL (2B-JAMB (SIM.))
SCALE: 3" = 1'-0"

2 A-805 DETAIL
SCALE 3" = 1'-0"
REF: a-603, A-805

Unofficial Website Copy

N:\90181-019\C4D\Phase II Sheet Files\CP01-90181004A-805.dgn
10/27/2017 3:01:29 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: 0 2" 4" 8" 3" = 1'-0"

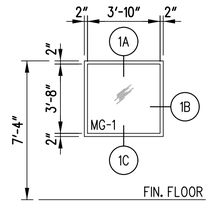
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EBL

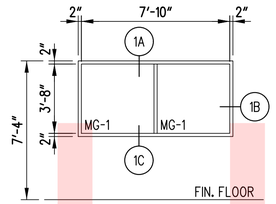
STOREFRONT TYPES AND DETAILS

A-805
SHEET NO. 96
TOTAL SHTS. 189

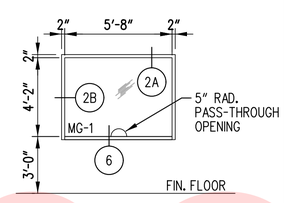
SCHEDULED INTERIOR WINDOW TYPES



TYPE VW1



TYPE VW2



TYPE VW3

SCHEDULED INTERIOR WINDOW TYPES

TYPE VW4

TYPE VW5

TYPE VW6

INTERIOR WINDOW AND HOLLOW METAL FRAME DETAILS

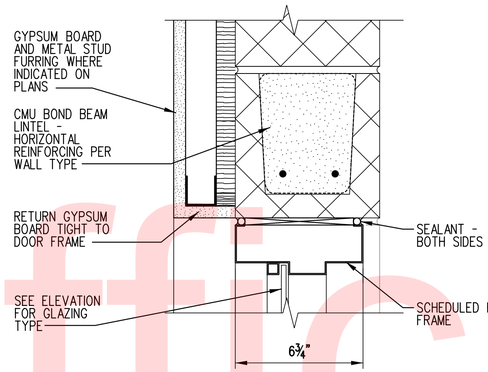
1A DETAIL 1A DRAWING A-806	2B DETAIL 2B DRAWING A-806	3C DETAIL 3C DRAWING A-806
1B DETAIL 1B DRAWING A-806	2C DETAIL 2C DRAWING A-806	4 DETAIL 1A DRAWING A-804
1C DETAIL 1C DRAWING A-806	3A DETAIL 3A DRAWING A-806	5 DETAIL 1B DRAWING A-804
2A DETAIL 2A DRAWING A-806	3B DETAIL 3B DRAWING A-806	6 DETAIL 4 DRAWING A-806

GLAZING LEGEND

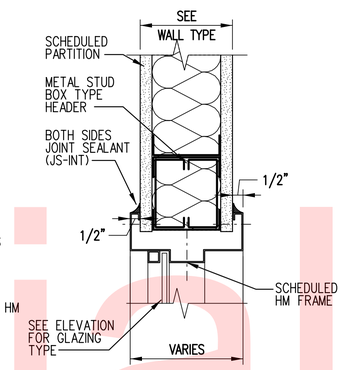
MG-1: MONOLITHIC CLEAR FLOAT GLASS

IG-1: TINTED LOW-E INSULATING GLASS

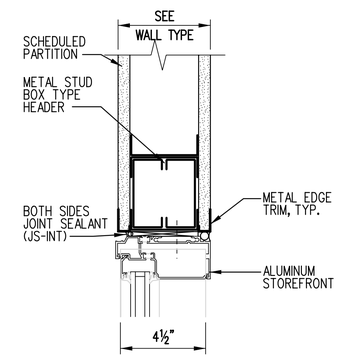
MG-1s / IG-1s: SAFETY GLAZING REQUIRED



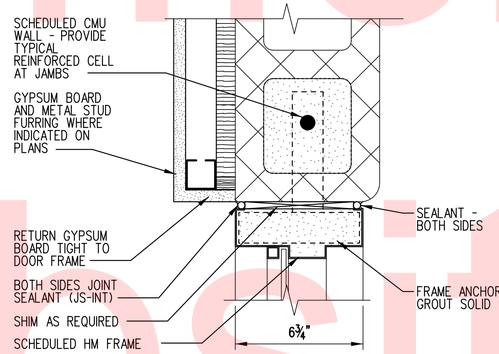
1A-HEAD
SCALE: 3" = 1'-0"



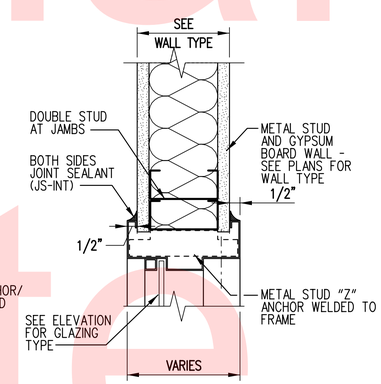
2A-HEAD
SCALE: 3"= 1'-0"



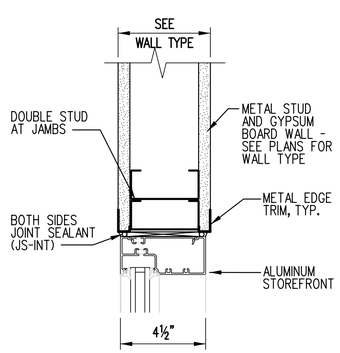
3A-HEAD
SCALE: 3"= 1'-0"



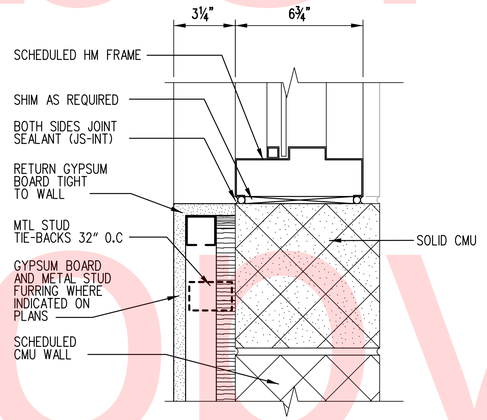
1B-JAMB
SCALE: 3"= 1'-0"



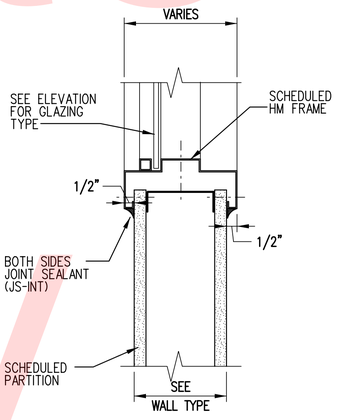
2B-JAMB
SCALE: 3"= 1'-0"



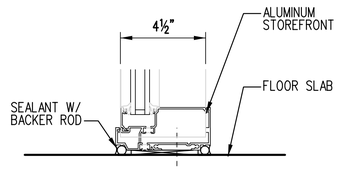
3B-JAMB
SCALE: 3"= 1'-0"



1C-SILL
SCALE: 3"= 1'-0"



2C-SILL
SCALE: 3"= 1'-0"



3C-SILL
SCALE: 3"= 1'-0"

1 / A-806 DETAIL
SCALE: 3"= 1'-0"
REF: A-806

2 / A-806 DETAIL
SCALE: 3"= 1'-0"
REF: A-806

3 / A-806 DETAIL
SCALE: 3"= 1'-0"
REF: A-806

Unofficial Website Copy

N:\90181-09\CADD\Phase II Sheet Files\CP01-90181004A-806.dgn
10/27/2017 3:01:30 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: 0 2" 4" 8" — 3" = 1'-0"

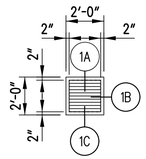
LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	NCL
CHECKED BY:	EBL

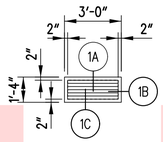
INTERIOR HOLLOW METAL FRAME & STOREFRONT DETAILS

	A-806
SHEET NO.	97
TOTAL SHTS.	189

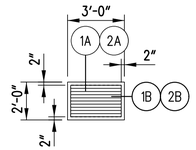
SCHEDULED EXTERIOR LOUVER TYPES



TYPE LV1

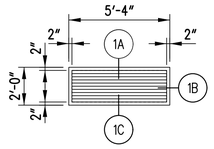


TYPE LV2



TYPE LV3

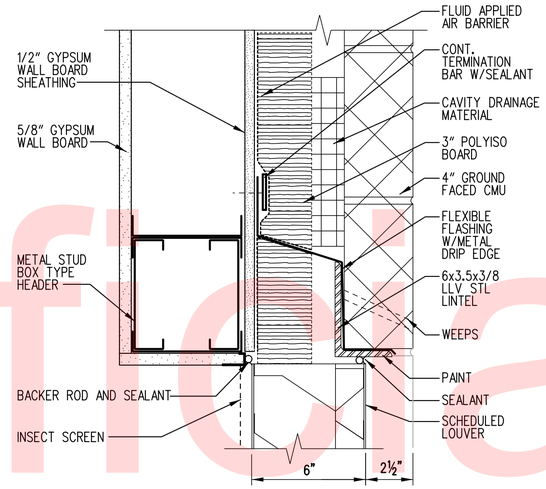
SCHEDULED EXTERIOR LOUVER TYPES



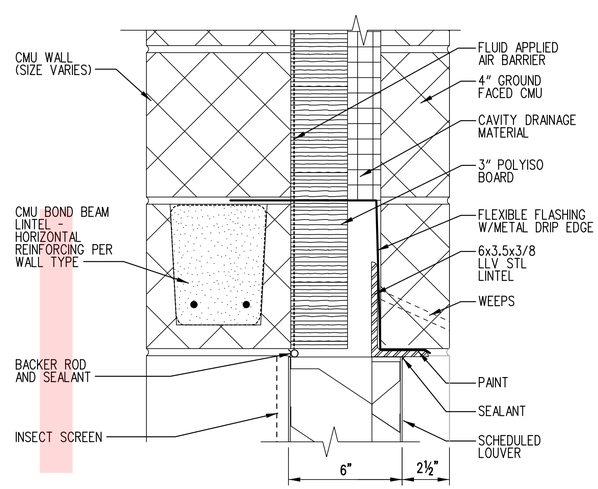
TYPE LV4

LOUVER DETAILS

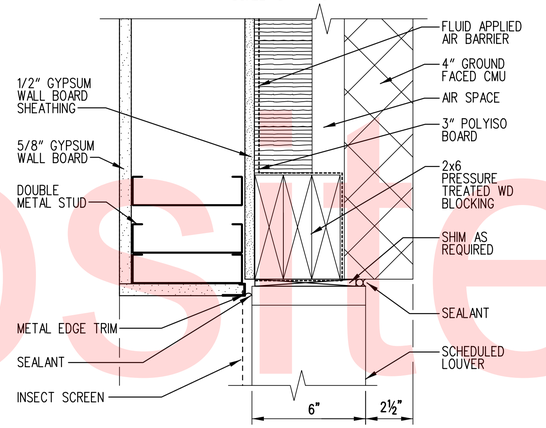
- (LV1) DETAIL 1A DRAWING A-807
- (LV2) DETAIL 1A DRAWING A-807
- (LV3) DETAIL 1A AND 2A DRAWING A-807
  1. WALL TYPE VARIES,REF WALL SECTIONS
  2. INTEGRAL LOUVER & DOOR FRAME
- (LV4) DETAIL 1A DRAWING A-807
- (LV5) DETAIL 2A DRAWING A-807



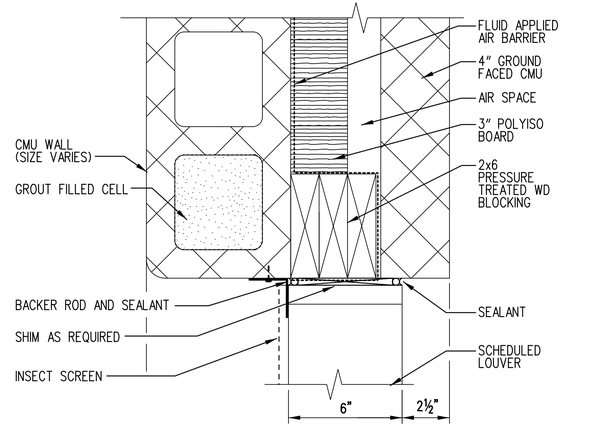
1A-HEAD
SCALE: 3" = 1'-0"



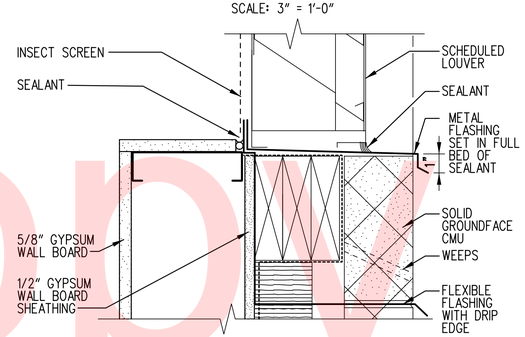
2A-HEAD
SCALE: 3" = 1'-0"



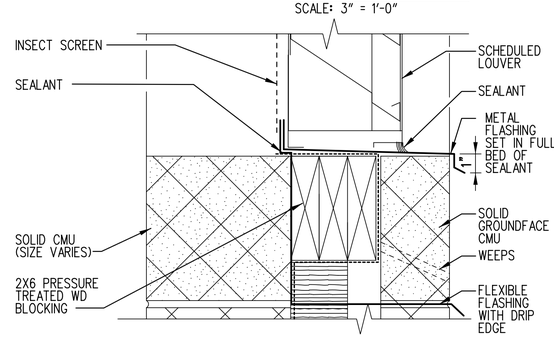
1B-JAMB
SCALE: 3" = 1'-0"



2B-JAMB
SCALE: 3" = 1'-0"



1C-SILL
SCALE: 3" = 1'-0"



2C-SILL
SCALE: 3" = 1'-0"

1 / A-807 DETAIL
SCALE: 3" = 1'-0"
REF: A-807

2 / A-807 DETAIL
SCALE: 3" = 1'-0"
REF: A-807

Unofficial Website Copy

N:\9018\c01\C40\Phase II Sheet Files\CP01-90181004A-807.dgn
10/27/2017 3:01:33 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

0 2" 4" 8"
SCALE: 3" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109		
COUNTY	DESIGNED BY: NCL	
SUSSEX	CHECKED BY: EBL	

LOUVER TYPES & DETAILS

A-807	
SHEET NO.	98
TOTAL SHTS.	189

Unofficial Website Copy

DOOR SCHEDULE

HARDWARE SCHEDULE

DOOR NO.	LOCATION (ROOM No)	OPENING DETAILS	FIRE RATING	DOOR					FRAMES			REMARKS	HINGES			DOOR CLOSERS		LOCKSETS			PUSH / PULL SET	DOOR STOP		KICK PLATES	FLUSH BOLTS	COORD-INATOR	WEATHER STRIP (SET)	THRESHOLD	COMMENTS
				TYPE	SIZE	THICK-NESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		CONT	HEAVY	NRP	PAR.	REG.	PASS	CLASS	CARD		WALL	FLOOR						
101.1	WAITING AREA	1	NOT RATED	D8	(2) 3070	1 3/4"	ALUM	PREFIN.	--	ALUM	PREFIN.		1	0	N/A	1	0	0	1	0	0	0	0	0	0	0	1		SEE NOTE 6
101.2	WAITING AREA	1	NOT RATED	D4	3070	1 3/4"	ALUM	PREFIN.	--	ALUM	PREFIN.		1	0	N/A	1	0	0	1	0	0	0	0	0	0	0	1		SEE NOTE 7
102	TICKET BOOTH	3	NOT RATED	D2	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2/3	PAINT DOOR & FRAME TO MATCH ADJACENT WALL	0	1.5 PR.	Y	0	1	0	1	0	0	1	0	1	0	0	0		
103	CLOSET	1	NOT RATED	D5	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	1	0	0	0	1	0	0	0	0	0		
104	MECHANICAL ROOM	1	NOT RATED	D1	3070	1 3/4"	HM	PT-2	DF1	HM	PT-2		0	1.5 PR.	N	0	1	0	1	0	0	0	0	0	0	0	1		
				D1	1270	1 3/4"	HM	PT-2	DF1	HM	PT-2		0	1.5 PR.	N	0	1	0	0	0	0	0	0	1	0	0	1		
105	FAMILY TOILET ROOM	4	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	0	1	0	1	1	0	1	0	0	0		
106	FAMILY TOILET ROOM	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	0	1	0	1	1	0	1	0	0	0		
107	WOMENS TOILET ROOM	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	1	1	0	0	1	0	1	0	0	0		
108	MENS TOILET ROOM	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	0	1	1	0	0	1	0	1	0	0	0		
109	JANITOR ROOM	1	NOT RATED	D1	3070	1 3/4"	WD	PREFIN.	A.1	HM	PT-2		0	1.5 PR.	N	0	1	0	0	0	0	1	0	1	0	0	0		

DOOR SCHEDULE NOTES:

1. ALL DOOR AND FRAMES TYPES LISTED IN THE SCHEDULE ARE LOCATED ON SHEET A-803
2. ALL OPENING DETAILS LISTED IN THE SCHEDULE ARE LOCATED ON SHEET A-803
3. PAINT EXTERIOR SIDES PT-2 AND INTERIOR SIDES PT-3 OR PT-1 AS SCHEDULED
4. PROVIDE SCHEDULED FRAME TYPE WITH TRANSOM OPTION FOR LOUVER - SEE BUILDING ELEVATIONS.
5. PROVIDE SURFACE BOLTS BETWEEN UPPER AND LOWER PORTIONS OF BOTH LEAVES OF DUTCH DOOR IN ADDITION TO FLUSH BOLTS AT HEAD AND SILL OF INACTIVE LEAF.
6. PROVIDE AUTOMATIC DOOR OPERATOR: PROGRAM TO ALLOW EXIT AT ANY TIME BUT ENTRY ONLY BY CARD READER.
7. COORDINATE FUNCTION OF ELECTRIC STRIKE WITH DOOR 107.1 AUTOMATIC OPERATOR TO MAINTAIN BUILDING SECURITY. VERIFY FUNCTION OF BOTH DOORS WITH OWNER.
8. DOOR HARDWARE LIST AREA ON SHEET CP02-A803

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-808.dgn
10/27/2017 3:04:22 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: RJH
SUSSEX	CHECKED BY: EJ

DOOR AND HARDWARE SCHEDULE - VISITOR CENTER

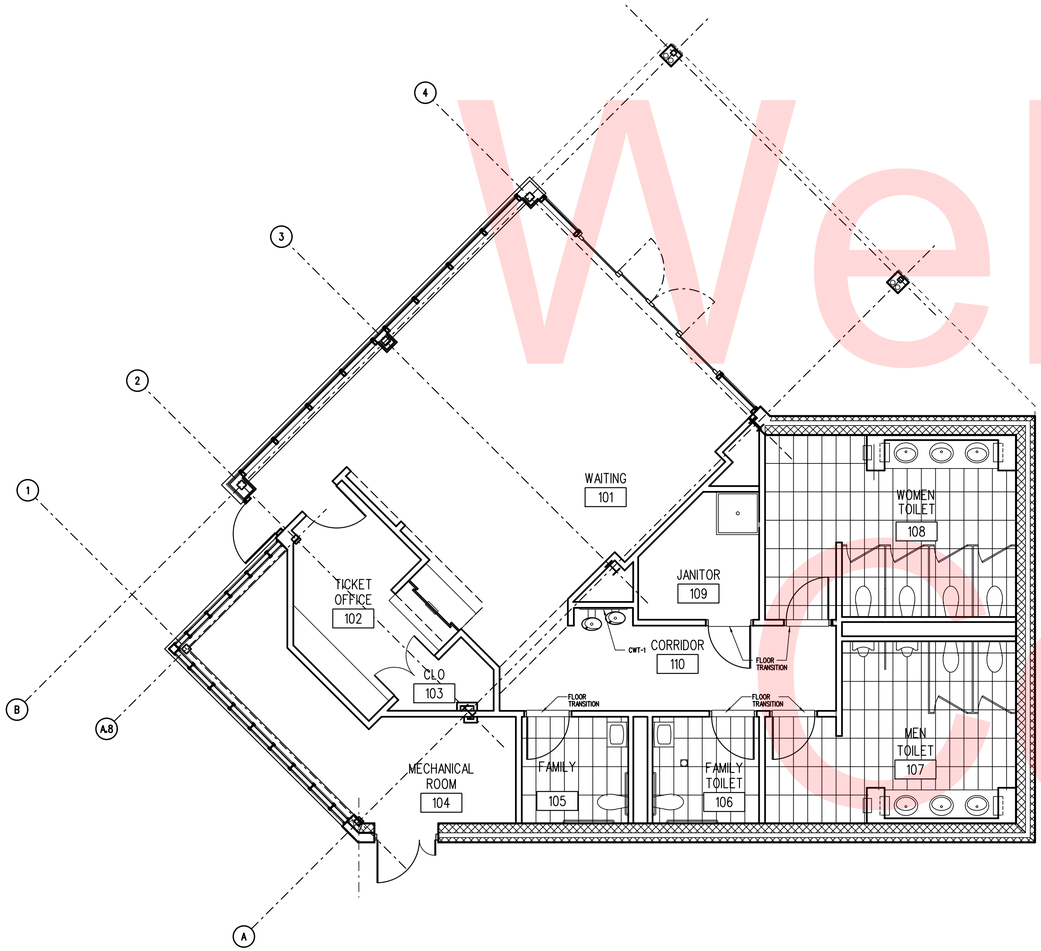
A-808
SHEET NO. 99
TOTAL SHTS. 189

ROOM FINISH SCHEDULE

LOCATION	ROOM NO.	DESCRIPTION	FLOOR	BASE	WALLS				CEILING		REMARKS
					NORTH	EAST	SOUTH	WEST	TYPE	HEIGHT	
BUS TERMINAL	101	WAITING AREA	CPT-1	RB-2	PT-1	PT-1	PT-2	PT-1	APC-1	12'-0"	
	102	TICKET OFFICE	CPT-1	RB-2	PT-1	PT-1	PT-1	PT-7	APC-1	9'-0"	
	103	CLOSET	SC	RB-2	PT-1	PT-1	PT-1	PT-1	APC-1	9'-0"	
	104	MECHANICAL ROOM	SC	RB-2	PT-1	PT-1	PT-1	PT-1	EXP	12'-0"	
	105	FAMILY TOILET	CT-1	CBT-1	PT-1	CWT-1/ PT-1	PT-1	PT-1	APC-1	8'-0"	
	106	FAMILY TOILET	CT-1	CBT-1	PT-1	PT-1	PT-1	CWT-1/ PT-1	APC-1	8'-0"	
	107	MENS TOILET ROOM	CT-1	CBT-1	CWT-1/ PT-3	PT-3	PT-1	PT-3	APC-1	8'-0"	
	108	WOMENS TOILET ROOM	CT-1	CBT-1	PT-1	PT-3	CWT-1/ PT-3	PT-3	APC-1	8'-0"	
	109	JANITORS CLOSET	SC	RB-2	PT-1	PT-1	PT-1	PT-1	APC-1	8'-0"	
	110	CORRIDOR	CT-1	CTB-1	* CWT-1/ PT-3	PT-3	PT-2	PT-2	APC-1	9'-4	*SEE FINISH PLAN FOR LOCATION

FINISH SCHEDULE ABBREVIATIONS

SC	SEALED CONCRETE
WO	WALK-OFF CARPET
CT	CERAMIC TILE
CPT	CARPET
RB	RESILIENT BASE
CBT	CERAMIC BASE TILE
CWT	CERAMIC WALL TILE
PT	PAINT
APC	ACCOUSTICAL PANEL CEILING
GYPB	GYPSUM BOARD
SSM	SOLID SURFACE MATERIAL
PLAM	PLASTIC LAMINATE
EXP	EXPOSED STRUCTURAL FRAMING AND DECK



Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-809.dgn
10/27/2017 3:04:22 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

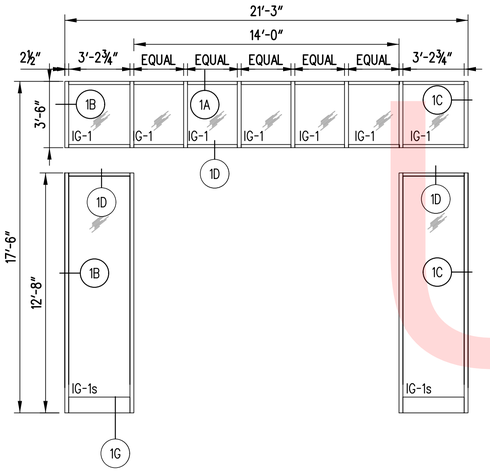
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: RJH
CHECKED BY: EJ

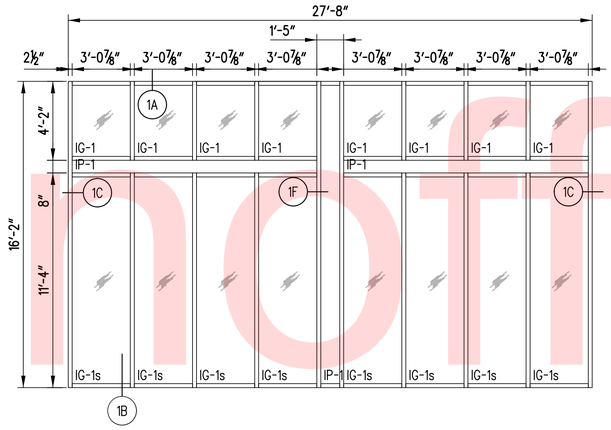
FINISH PLAN & SCHEDULE
– VISITOR CENTER

A-809
SHEET NO. 100
TOTAL SHTS. 189

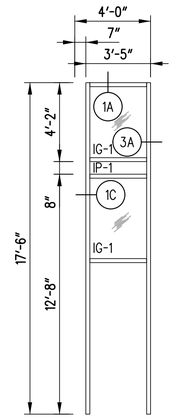
SCHEDULED ALUMINUM CURTAINWALL TYPES



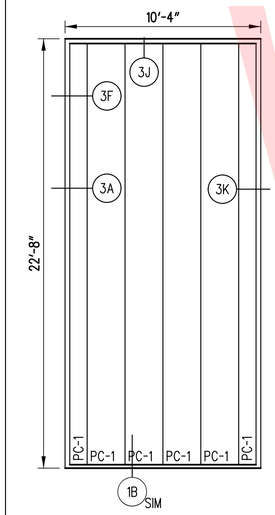
TYPE SF1



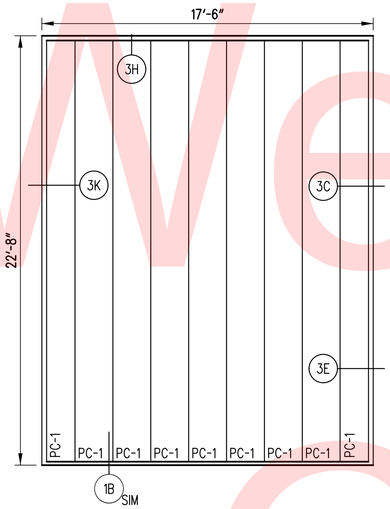
TYPE SF2



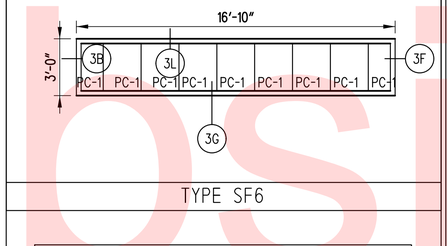
TYPE SF3



TYPE SF4

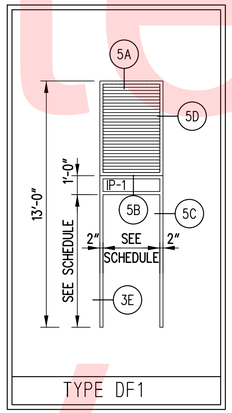


TYPE SF5



TYPE SF6

ALL POLYCARBONATE PANELS AND FRAMING BY OWNER.



TYPE DF1

EXTERIOR WINDOW AND STOREFRONT DETAILS

1A DETAIL 1A DRAWING A-811	3A DETAIL 3A DRAWING A-812	4A DETAIL 4A DRAWING A-813
1B DETAIL 1B DRAWING A-811	3B DETAIL 3B DRAWING A-812	4B DETAIL 4B DRAWING A-813
1C DETAIL 1C DRAWING A-811	3C DETAIL 3C DRAWING A-812	5A DETAIL 5A DRAWING A-813
1D DETAIL 1D DRAWING A-811	3D DETAIL 3D DRAWING A-812	5B DETAIL 5B DRAWING A-813
1E DETAIL 1E DRAWING A-811	3E DETAIL 3E DRAWING A-812	5C DETAIL 5C DRAWING A-813
1F DETAIL 1F DRAWING A-811	3F DETAIL 3F DRAWING A-812	5D DETAIL 5D DRAWING A-813
2A DETAIL 2A DRAWING A-811	3G DETAIL 3G DRAWING A-812	
2B DETAIL 2B DRAWING A-811	3H DETAIL 3H DRAWING 1/A-607	
2C DETAIL 2C DRAWING A-811	3J DETAIL 3J DRAWING 3/A-607	
	3K DETAIL 3K DRAWING 2/A-606	
	3L DETAIL 3L DRAWING 4/A-607	

GLAZING LEGEND

PC-1: POLYCARBONATE PANEL

IG-1: TINTED LOW-E INSULATING GLASS

IG-1s: SAFETY GLAZING REQUIRED

IP-1: INSULATED METAL PANEL

NOTE: ALL VISITOR CENTER GLASS SHALL BE OWNER FURNISHED, CONTRACTOR INSTALLED.

Unofficial Website Copy

N:\90181-019\C40\Phase II Sheet Files\CP02-90181019A-810.dgn
1/31/2018 10:37:05 AM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

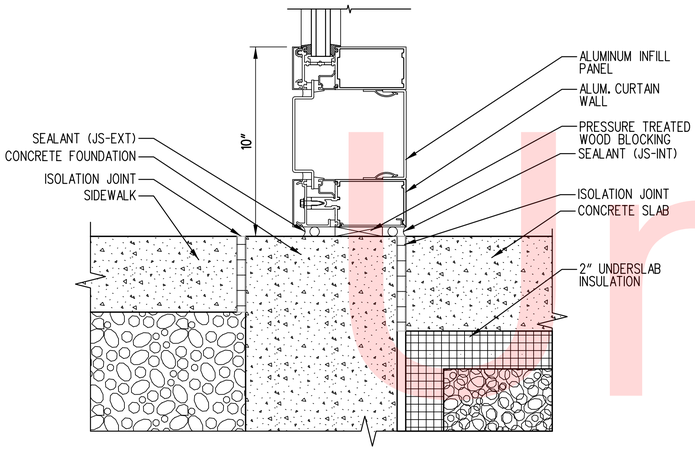
0 2" 4" 8"
SCALE: 3" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: NCL	
CHECKED BY: EBL	

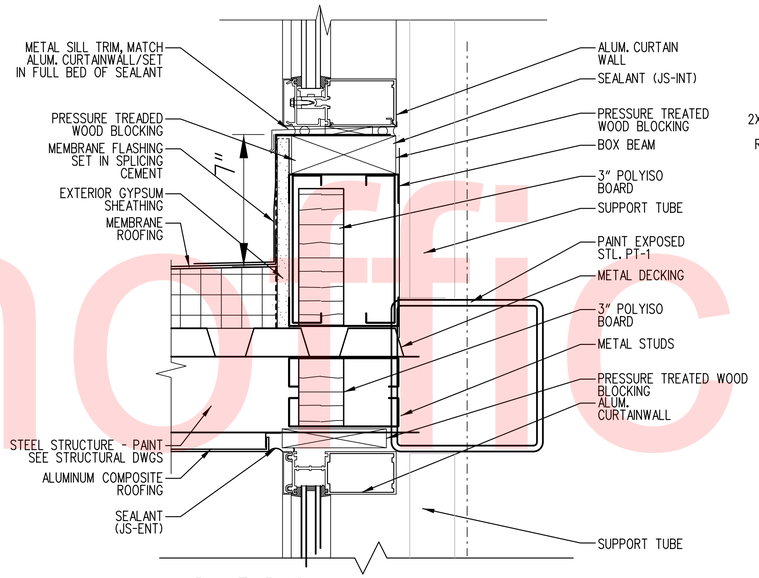
WINDOW, DOOR FRAMES & LOUVER TYPES – VISITOR CENTER

	A–810
SHEET NO.	101
TOTAL SHTS.	189



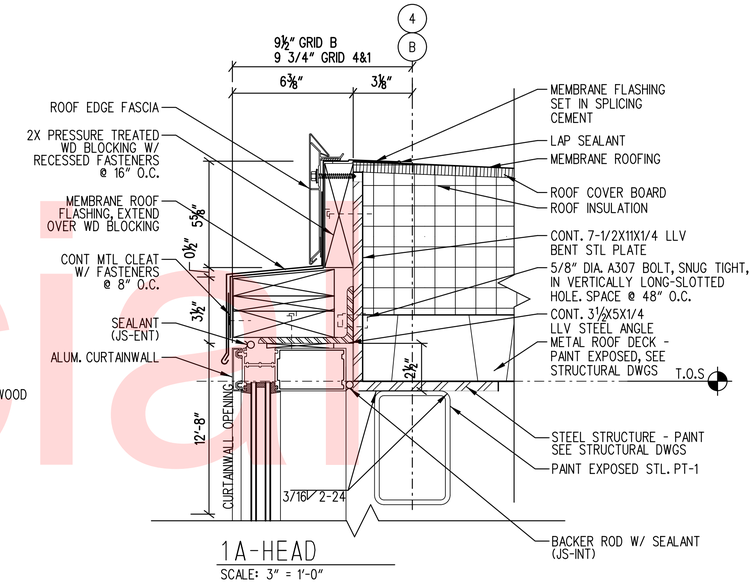
1G-SILL

SCALE: 3" = 1'-0"



1D-HEAD/SILL

SCALE: 3" = 1'-0"



1A-HEAD

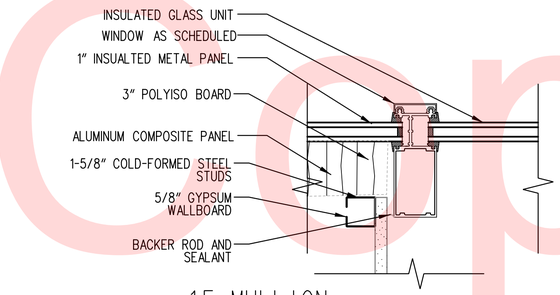
SCALE: 3" = 1'-0"

1E-JAMB

SCALE: 3" = 1'-0"

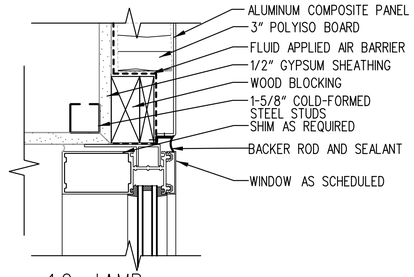
1B SILL

SCALE: 3" = 1'-0"



1F-MULLION

SCALE: 3" = 1'-0"



1C JAMB

SCALE: 3" = 1'-0"

1 / A-811 DETAIL

SCALE 3" = 1'-0"

REF: a-603, A-805

Unofficial Website Copy

N:\90181-019-CADD\Phase II Sheet Files\CP02-90181019A-811.dgn
10/27/2017 3:04:24 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

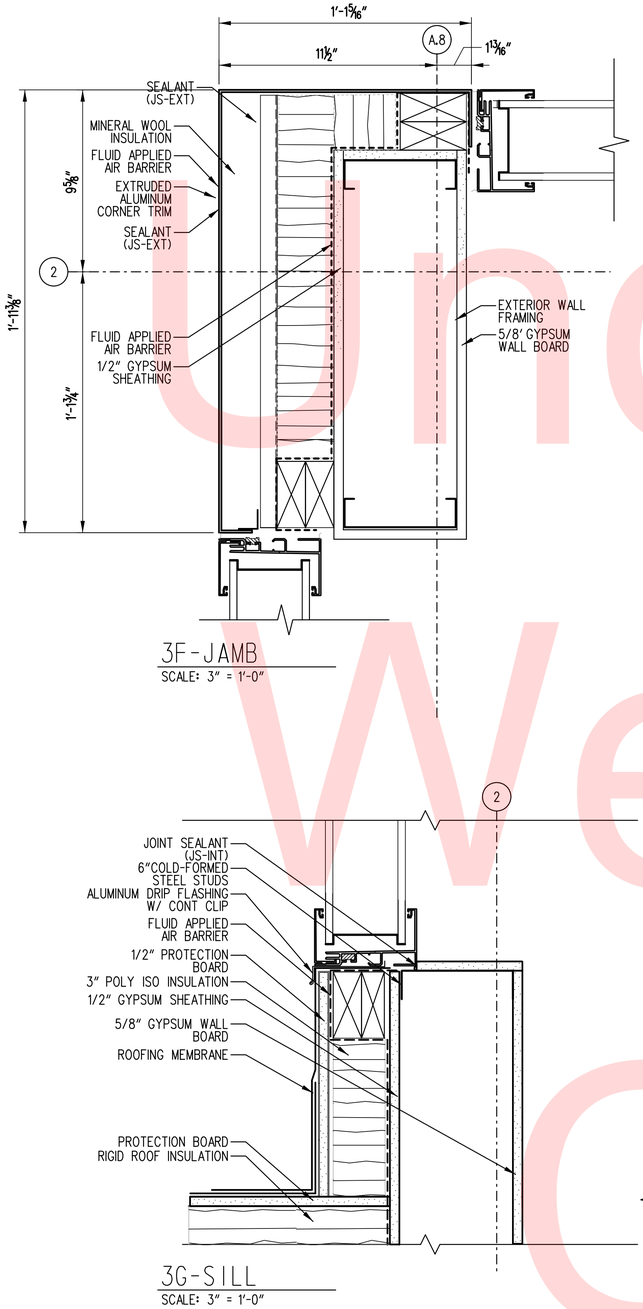
0 2" 4" 8"
SCALE: 3" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: NCL
SUSSEX	CHECKED BY: EBL

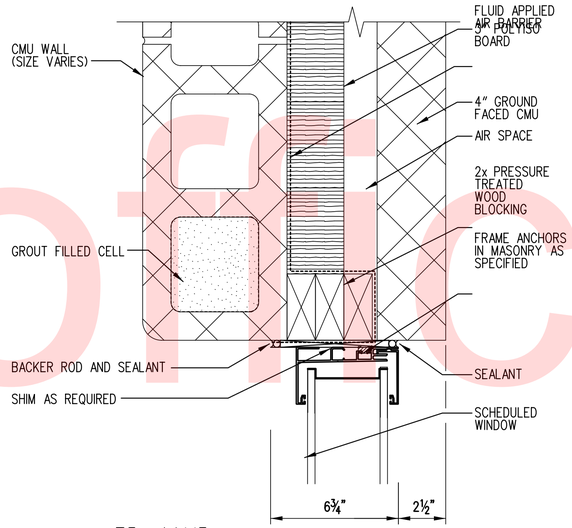
CURTAIN WALL AND WINDOW DETAILS - VISITOR CENTER

A-811
SHEET NO.
102
TOTAL SHTS.
189



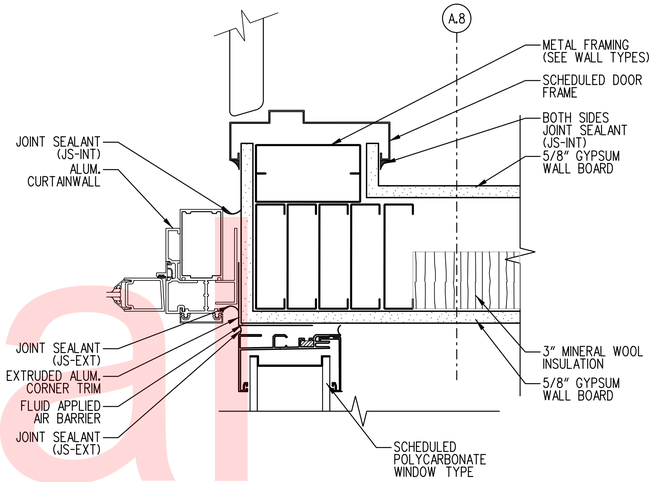
3F-JAMB

SCALE: 3" = 1'-0"



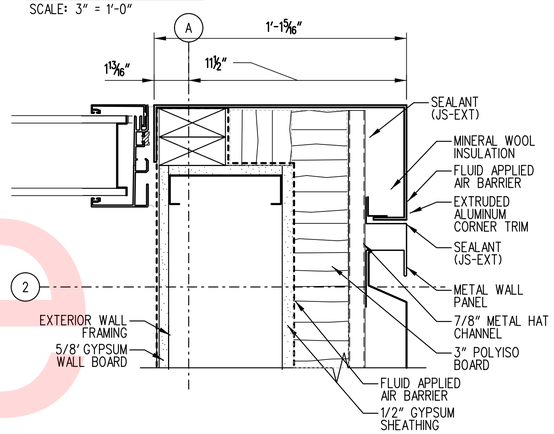
3D-JAMB

SCALE: 3" = 1'-0"



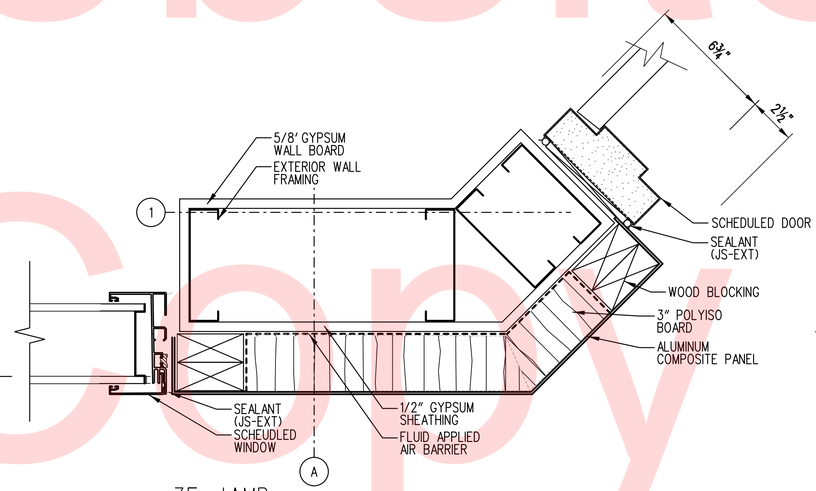
3A-JAMB

SCALE: 3" = 1'-0"



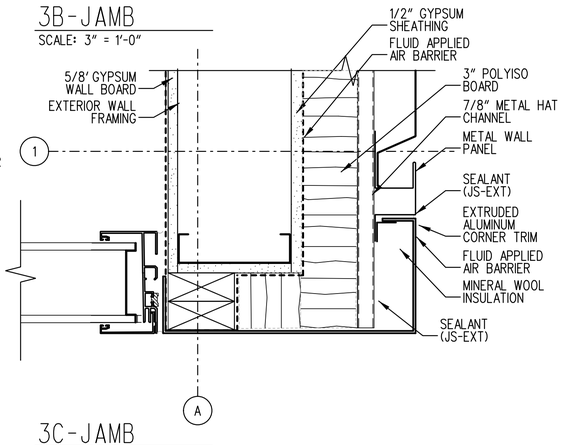
3G-SILL

SCALE: 3" = 1'-0"



3E-JAMB

SCALE: 3" = 1'-0"



3B-JAMB

SCALE: 3" = 1'-0"

3C-JAMB

SCALE: 3" = 1'-0"

2 / A-805 DETAIL

SCALE 3" = 1'-0"

REF: a-603, A-805

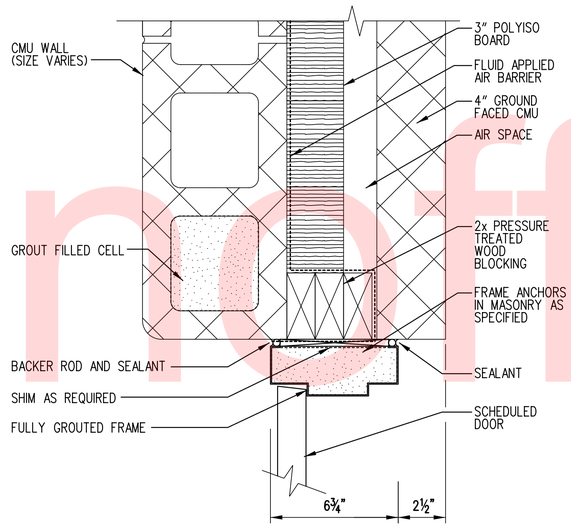
Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP02-90181019A-812.dgn
10/27/2017 3:04:25 PM

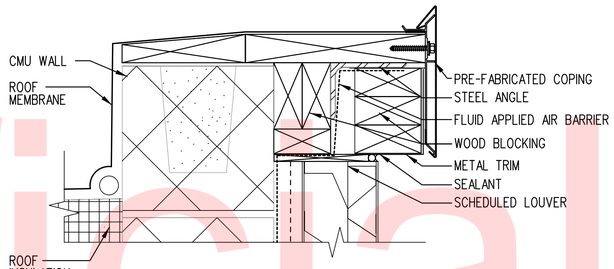
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2" 4" 8" SCALE: 3" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	CURTAIN WALL AND WINDOW DETAILS – VISITOR CENTER
				COUNTY SUSSEX	DESIGNED BY: NCL	
					CHECKED BY: EBL	

A–812
SHEET NO. 103
TOTAL SHTS. 189

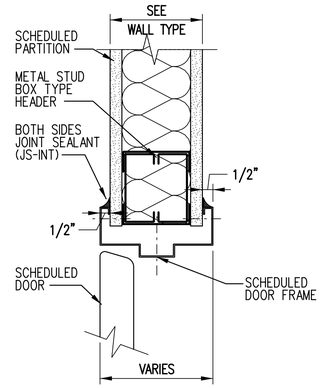
Unofficial Website Copy



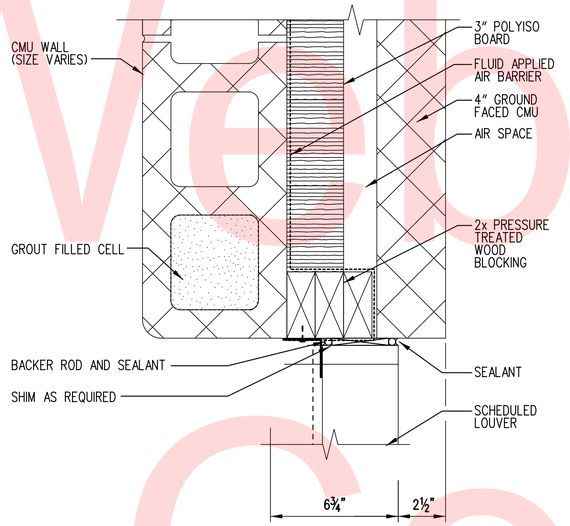
5C-JAMB
SCALE: 3" = 1'-0"



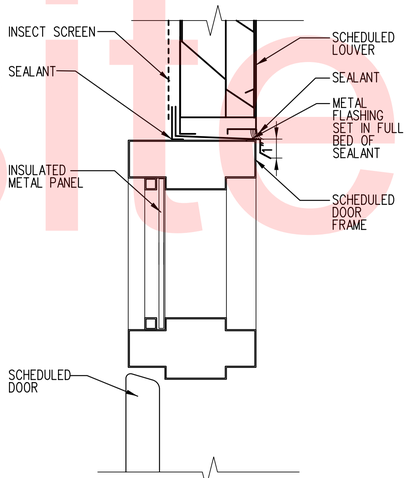
5A-HEAD
SCALE: 3" = 1'-0"



4A-HEAD
SCALE: 3" = 1'-0"

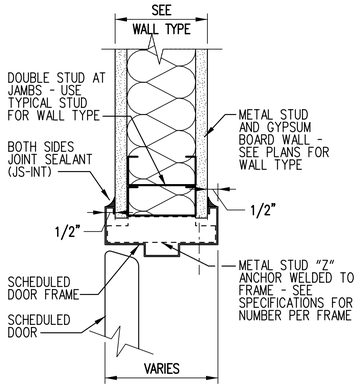


5D-JAMB
SCALE: 3" = 1'-0"



5B-MULLION
SCALE: 3" = 1'-0"

5 / A-813 DETAIL
SCALE 3" = 1'-0"
REF: a-603, A-805



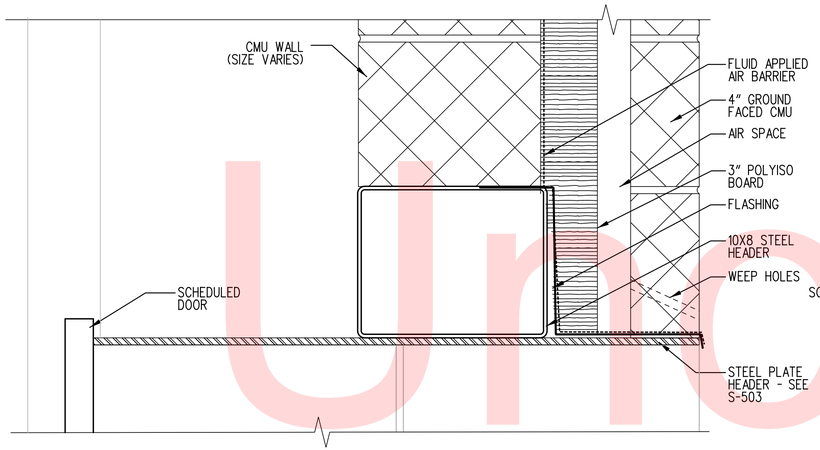
4B-JAMB
SCALE: 3" = 1'-0"

4 / A-813 DETAIL
SCALE 3" = 1'-0"
REF: a-603, A-805

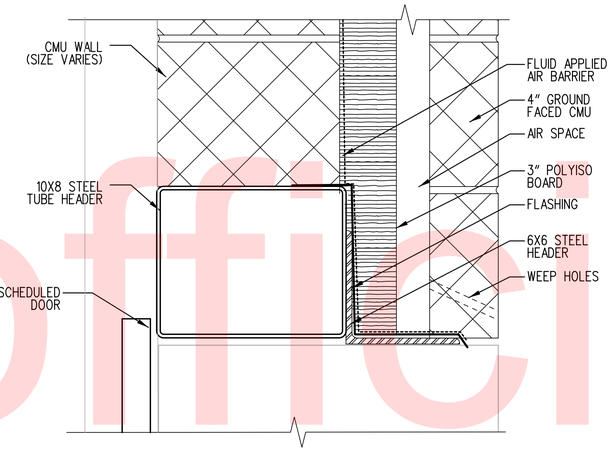
N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019A-813.dgn
10/27/2017 3:04:25 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2" 4" 8" SCALE: 3" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	DOOR AND LOUVER DETAILS - VISITOR CENTER
				COUNTY SUSSEX	DESIGNED BY: NCL	
					CHECKED BY: EBL	

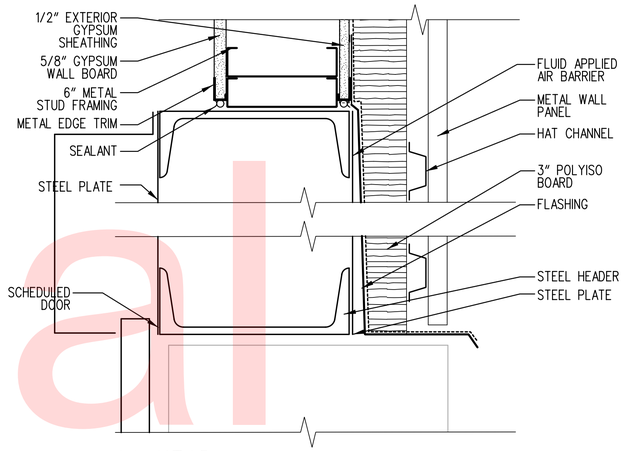
A-813
SHEET NO. 104
TOTAL SHTS. 189



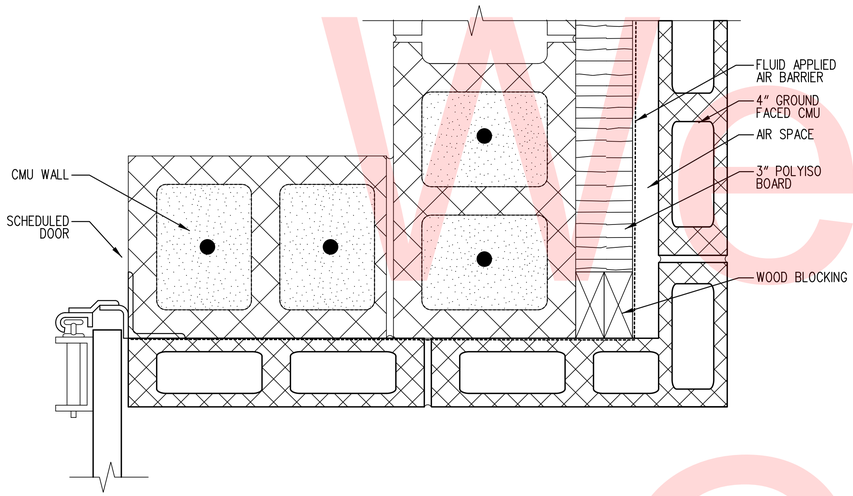
3A-HEAD
SCALE: 3" = 1'-0"



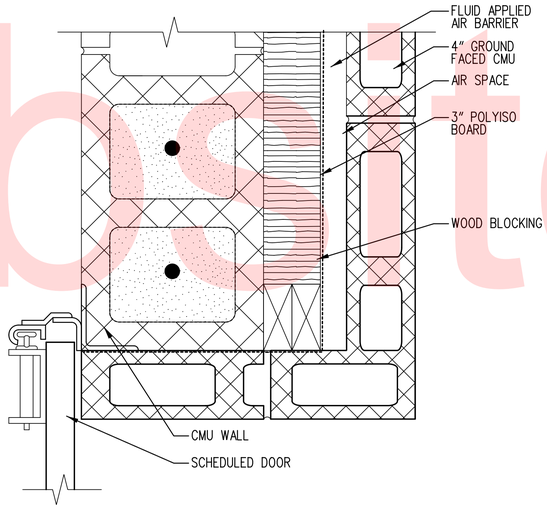
2A-HEAD
SCALE: 3" = 1'-0"



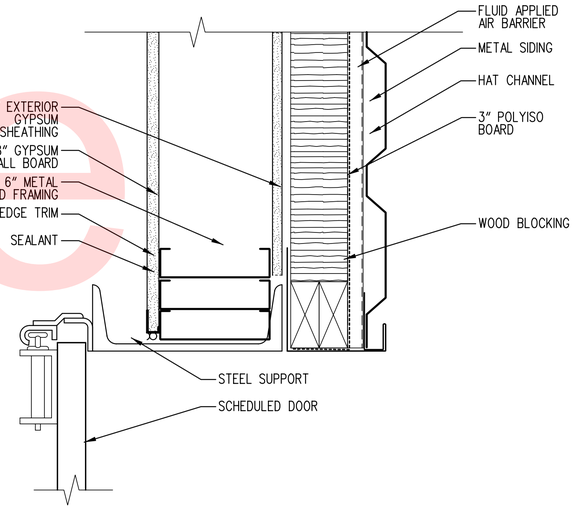
1A-HEAD
SCALE: 3" = 1'-0"



3B-JAMB
SCALE: 3" = 1'-0"



2B-JAMB
SCALE: 3" = 1'-0"



1B-JAMB
SCALE: 3" = 1'-0"

2 / A-814 DETAIL
SCALE: 3" = 1'-0"
REF: A-807

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004A-814.dgn
2/6/2018 3:45:58 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

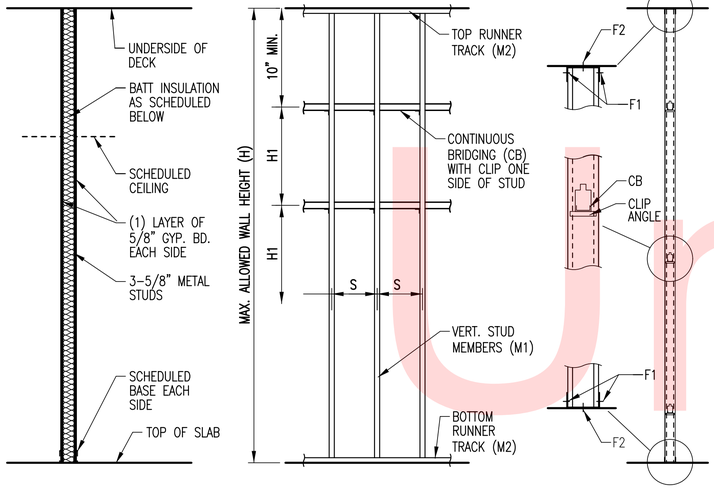
0 2" 4" 8"
SCALE: 3" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EBL

OVERHEAD DOOR DETAILS

A-814
SHEET NO. 105
TOTAL SHTS. 189

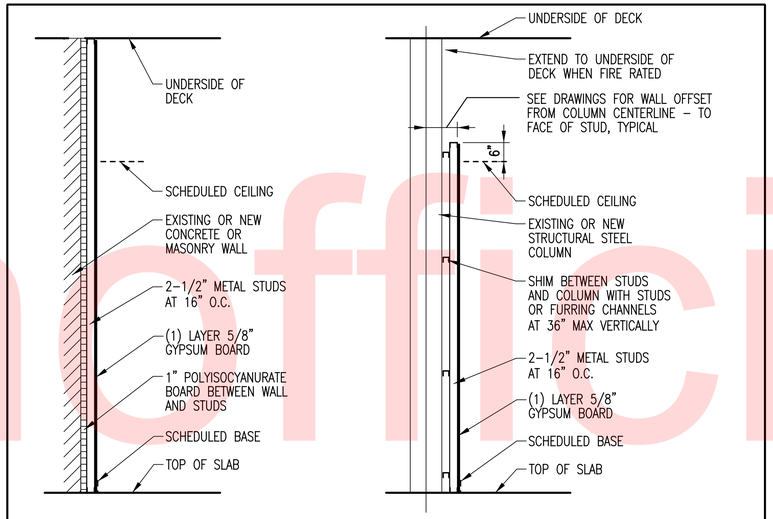


TYPE MARK	PARTITION PROPERTIES				
	INSULATION	FIRE-RATING	UL NUMBER	STC RATING	COMMENTS
0A.1	NONE	NOT RATED	N/A	NONE	
0A.2	3.5" UFB	NOT RATED	N/A	STC 45 (MINIMUM)	

STRUCTURAL ARRANGEMENT

H	H1	S	M1	M2	F1	F2	F3	CB
18'-6"	48"	16"	362S162-43	362T125-43	(1) #8 SELF TAPPING SCREW EACH FLANGE	X-U UNIVERSAL FASTENER X D.145 DIA. W/ 1" EMBED @ 12" O.C. STAGGERED		CHANNEL: 150U50-54 CLIP: 3 ⅛" CLIP - SAME GAUGE AS CHANNEL

A INTERIOR PARTITION TYPE



TYPE MARK	PARTITION PROPERTIES				
	INSULATION	FIRE RATING	UL NUMBER	STC RATING	COMMENTS
0B.1	NONE				
0B.3	NONE				OMIT 1" BOARD INSULATION

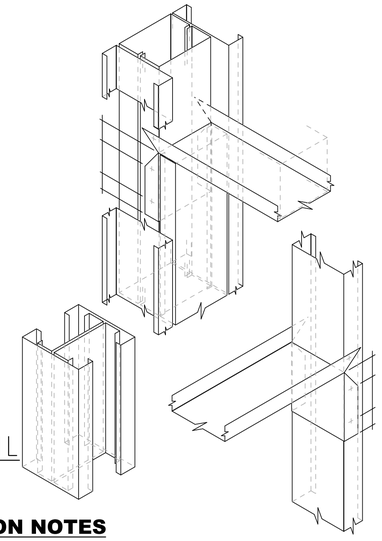
STRUCTURAL ARRANGEMENT

STRUCTURAL ARRANGEMENT DATA NOT PROVIDED
THE DESIGNATED PARTITION TYPE IS NOT AN ENGINEERED PARTITION MEETING THE BUILDING CODE REQUIREMENTS FOR INDEPENDANTLY WITHSTANDING 5 LBS OF LATERAL LOADING AND IS ONLY INTENDED TO PROVIDE A GYPSUM BOARD FINISHED FACE COVERING A MASONRY OR CONCRETE WALL OR STEEL COLUMN. THE WALL OR COLUMN SHALL RESIST ALL REQUIRED LATERAL LOADS TRANSFERRED FROM THE STUD AND GYPSUM PARTITION. ALL FASTENER REQUIREMENTS FOR THIS PARTITION SHALL BE AS DESCRIBED FOR PARTITION TYPE "B".

B INTERIOR PARTITION TYPE

LEGEND

MW	MINERAL WOOL INSULATION
UFB	UNFACED BATT INSULATION



PARTITION ASSEMBLY DETAIL
SCALE: N.T.S.

GENERAL INTERIOR PARTITION NOTES

1. SEE SHEET A-903 FOR DETAILS TYPICAL OF ALL PARTITION TYPES INCLUDING HEAD AND BASE OF WALL AND CONTROL JOINTS.
2. PARTITION TYPES SHOWN ARE DESIGNED TO MEET MINIMUM 5 PSF LATERAL LOADING PER THE INTERNATIONAL BUILDING CODE. NO VARIATION FROM THE ARRANGEMENT OR SIZES OF COMPONENTS FROM THOSE SHOWN SHALL BE PERMITTED WITHOUT PRIOR WRITTEN ACCEPTANCE OF THE CHANGE BY THE STRUCTURAL ENGINEER.
3. INTERIOR METAL STUD FRAMING SHALL EXTEND FROM FLOOR TO UNDERSIDE OF ROOF DECK ABOVE. UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR BY SPECIFIC WALL TYPE, STUDS SHALL NOT BE CUT OFF JUST ABOVE THE CEILING.
4. PARTITION TYPES SHOWN MAY BE REFERENCED BY BULKHEAD DETAILS. IN SUCH CASES, THE STRUCTURAL ARRANGEMENT SHOWN ON THESE PARTITION TYPES SHALL APPLY TO THE CONSTRUCTION OF THE BULKHEADS.
5. ALL PARTITIONS OR SIDES OF PARTITIONS FACING A "WET" AREA, INCLUDING SHOWERS, SINKS, AND TOILETS SHALL HAVE MOISTURE RESISTANT GYPSUM BOARD IN COMPLIANCE WITH THE SPECIFICATIONS. PARTITIONS TO RECEIVE TILE SHALL HAVE BACKER BOARD IN COMPLIANCE WITH THE SPECIFICATIONS. PARTITIONS TO RECEIVE OTHER BOARD MATERIALS SUCH AS ABUSE RESISTANT BOARD MAY BE NOTED ON FLOOR PLANS OR DETAILS.

COLD-FORMED INTERIOR FRAMING NOTES

1. FOR ALL METAL STUD PARTITION TYPES GYPSUM BOARD SHALL BE PLACED WITH THE LONGER SIDE HORIZONTAL TO PROVIDE MAXIMUM LATERAL BRACING FOR THE FRAMING.
2. DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH THE 2007 AMERICAN IRON AND STEEL INSTITUTE (AISI), SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
3. ALTERNATE TYPES OF FASTENERS MAY BE USED FOR F2 AND F3 IN THE INTERIOR PARTITION TYPE TABLES. APPROVED FASTENERS SHALL HAVE A MINIMUM 1 INCH EMBEDMENT, SHEAR STRENGTH OF 225 LBS PER FASTENER, AND A TENSILE STRENGTH OF 170 LBS PER FASTENER. THE FASTENER SHOULD BE RATED FOR APPLICATIONS IN CONCRETE AND STEEL.
4. FASTENERS SHALL BE INSTALLED FOLLOWING THE MANUFACTURERS INSTALLATION PROCEDURE.
5. FABRICATION AND CONSTRUCTION OF COLD FORMED STEEL FRAMING SHALL CONFORM TO THE AISI, SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
6. ALL STUDS AND JOIST MEMBERS 54 MILS AND THICKER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI. ALL STUDS AND JOISTS MEMBERS 43 MILS OR THINNER SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI.
7. WHEN COLD FORMED STEEL STUDS ARE TO BE USED FOR TRUSS, MANSARD OR HEADER APPLICATIONS, STUDS SHALL BE UNPUNCHED THROUGH THE STUD WEB. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SPECIFY UNPUNCHED STUDS WHEN ORDERING MATERIALS.
8. ALL SUPPORT CLIPS, SLIDE CLIPS, AND CLIP ANGLES SHALL BE 50 KSI.
9. IF ADDITIONAL HOLES ARE REQUIRED IN THE METAL STUDS OR JOISTS, CONTACT A LICENSE PROFESSIONAL ENGINEER FOR GUIDANCE BEFORE CUTTING HOLES.
10. WHERE SPLICING OF WALL TRACK IS NECESSARY BETWEEN STUD SPACING. A PIECE OF STUD SHALL BE PLACED IN THE ADJOINING TRACK SECTIONS AND FASTENED TO THE TRACK FLANGES AT BOTH SIDES OF THE PARTITION.
11. ALL BRIDGING, BRACING, BLOCKING AND REINFORCING SHALL BE IN PLACE PRIOR TO INSTALLATION OF SHEATHING OR FACING MATERIAL.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004A-901.dgn
10/27/2017 3:01:36 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

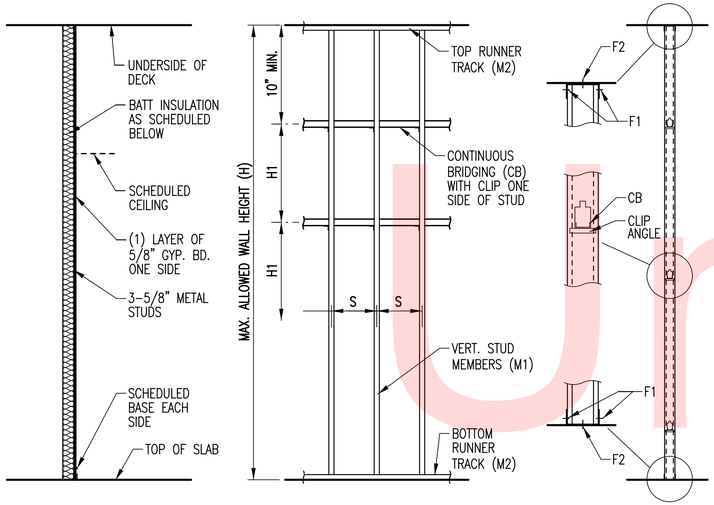
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EBL

PARTITION TYPES

A-901
SHEET NO. 106
TOTAL SHTS. 189

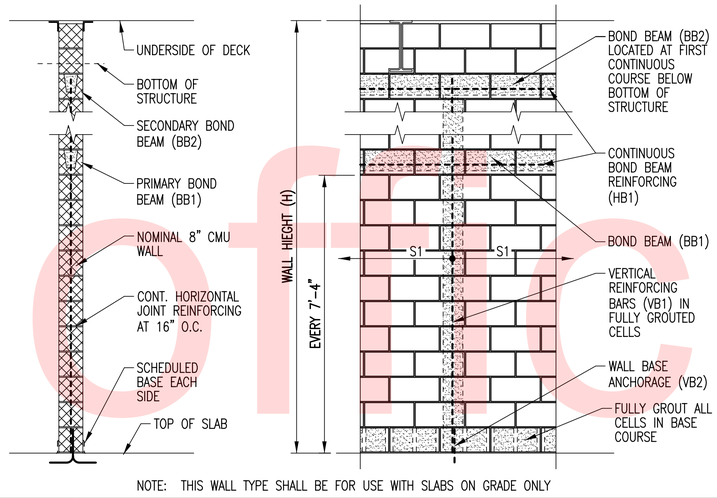


TYPE MARK	PARTITION PROPERTIES				
	INSULATION	FIRE-RATING	UL NUMBER	STC RATING	COMMENTS
0C.1	NONE	NOT RATED	N/A	N/A	
0C.2	3.5" UFB	NOT RATED	N/A	N/A	

STRUCTURAL ARRANGEMENT

H	H1	S	M1	M2	F1	F2	F3	CB
18'-6"	48"	16"	362S162-43	362T125-43	(1) #8 SELF TAPPING SCREW EACH FLANGE	X-U UNIVERSAL FASTENER X D.157 DIA. W/ 1" EMBED @ 12" O.C. STAGGERED	X-U UNIVERSAL FASTENER X D.157 DIA. W/ 1" EMBED @ 12" O.C. STAGGERED	CHANNEL: 150U50-54 CLIP: 3 1/8" CLIP - SAME GAUGE AS CHANNEL

C INTERIOR PARTITION TYPE



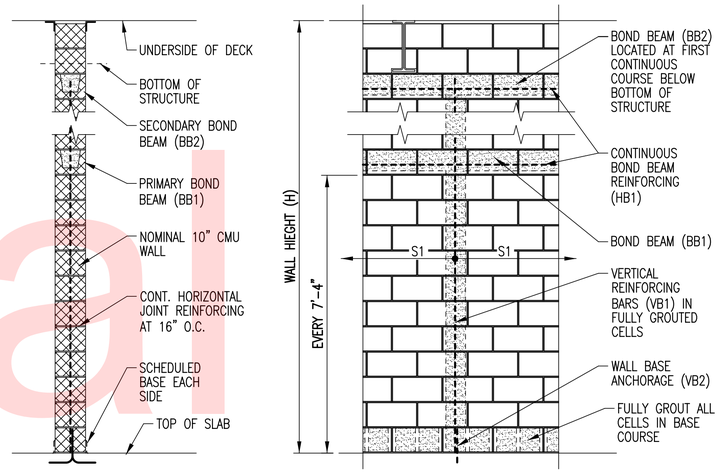
NOTE: THIS WALL TYPE SHALL BE FOR USE WITH SLABS ON GRADE ONLY

TYPE MARK	PARTITION PROPERTIES				
	FIRE-RATING	UL NUMBER	STC RATING	FILLED CELLS	COMMENTS
0D.1	NOT RATED	N/A	N/A	N/A	

STRUCTURAL ARRANGEMENT

H	VB1	S1	BB1	BB2	HB1	VB2	VB1/VB2 LAP LENGTH	-
20'-0"	(1)#4	48" O.C.	REQD	REQD	(2)#3	#4	18"	

D INTERIOR PARTITION TYPE



NOTE: THIS WALL TYPE SHALL BE FOR USE WITH SLABS ON GRADE ONLY

TYPE MARK	PARTITION PROPERTIES				
	FIRE-RATING	UL NUMBER	STC RATING	FILLED CELLS	COMMENTS
0E.1	NOT RATED	N/A	N/A	N/A	
0E.2	NOT RATED	N/A	N/A	N/A	

STRUCTURAL ARRANGEMENT

H	VB1	S1	BB1	BB2	HB1	VB2	VB1/VB2 LAP LENGTH	-
21'-4"	(1)#4	48" O.C.	REQD	REQD	(2)#4	#4	18"	

E INTERIOR PARTITION TYPE

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004A-902.dgn
10/27/2017 3:07:37 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

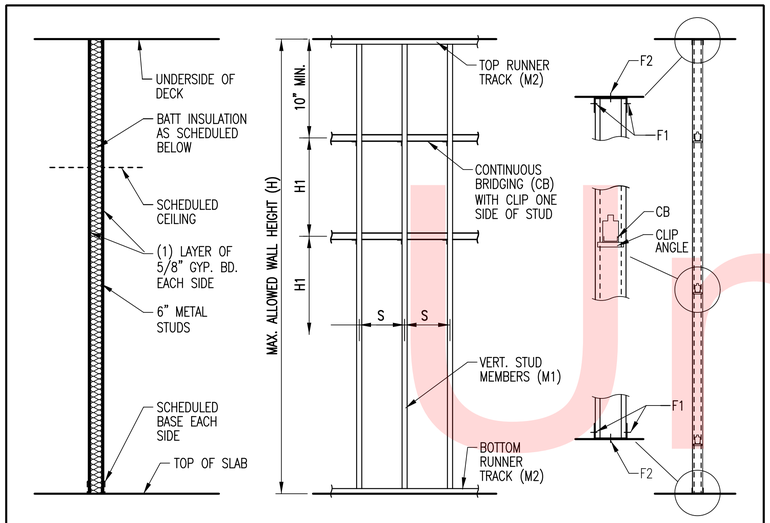
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: NCL
SUSSEX	CHECKED BY: EBL

PARTITION TYPES

A-902
SHEET NO. 107
TOTAL SHTS. 189



TYPE MARK	PARTITION PROPERTIES				
	INSULATION	FIRE-RATING	UL NUMBER	STC RATING	COMMENTS
0F.1	NONE	NOT RATED	N/A	NONE	
0F.2	3.5" UFB	NOT RATED	N/A	STC 45 (MINIMUM)	

STRUCTURAL ARRANGEMENT

H	H1	S	M1	M2	F1	F2	F3	CB
18'-6"	48"	16"	362S162-43	362T125-43	(1) #8 SELF TAPPING SCREW EACH FLANGE	X-U UNIVERSAL FASTENER X D.145 DIA. W/ 1" EMBED @ 12" O.C. STAGGERED	X	CHANNEL: 150U50-54 CLIP: 3 1/8" CLIP - SAME GAUGE AS CHANNEL

F | INTERIOR PARTITION TYPE

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004A-903.dgn
10/27/2017 3:01:38 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

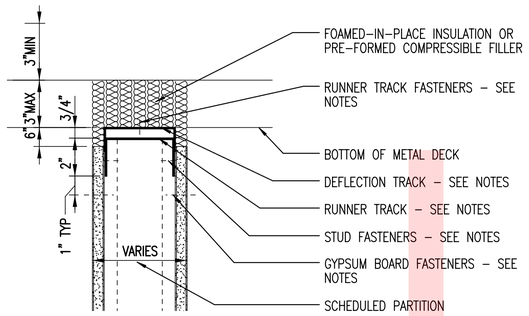
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EBL

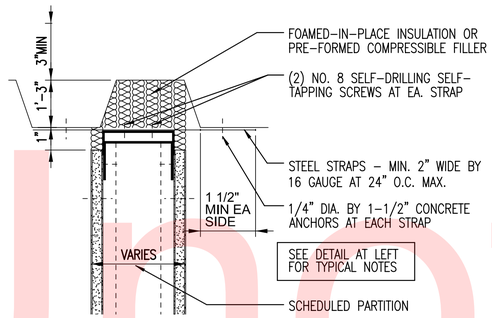
PARTITION TYPES

A-903
SHEET NO. 108
TOTAL SHTS. 189

INTERIOR PARTITION TYPICAL DETAILS (NON-RATED CONSTRUCTION)

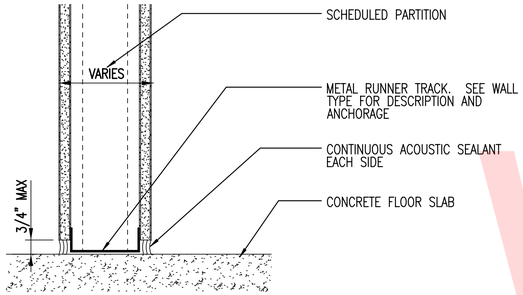


PERPENDICULAR TO DECK FLUTES

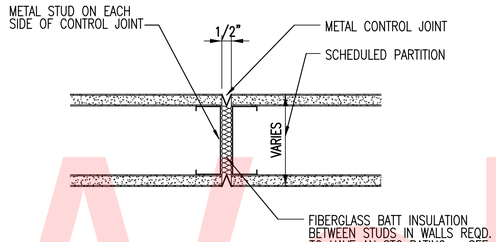


PARALLEL TO DECK FLUTES

1 TYPICAL METAL STUD AND GYPSUM WALL HEAD CONDITIONS



2 TYPICAL METAL STUD AND GYPSUM WALL BASE CONDITIONS



3 TYPICAL METAL STUD AND GYPSUM WALL CONTROL JOINT

INTERIOR PARTITION TYPICAL DETAIL NOTES

GENERAL NOTES:

REFER TO FLOOR PLANS OR ENLARGED PLANS FOR LOCATIONS OF EACH PARTITION TYPE. PARTITION TYPE DETAILS ARE LOCATED ON SHEETS A-901 AND A-902.

TYPICAL CLEARANCE BETWEEN TOP OF STUDS AND FLANGE OF RUNNER TRACK SHALL BE 1/2" MINIMUM AND 3/4" MAXIMUM.

GYPSUM BOARD SHALL TYPICALLY BE FASTENED TO STUDS AT 1" BELOW THE BOTTOM OF THE TOP RUNNER TRACK. GYPSUM BOARD SHALL NOT BE ATTACHED TO THE TOP RUNNER TRACK. SEE WALL TYPES FOR ALL OTHER GYPSUM-TO-STUD ATTACHMENT REQUIREMENTS.

ALL DETAILS ON THIS SHEET ARE SHOWN WITHOUT BATT INSULATION BETWEEN STUDS FOR CLARITY. SEE WALL TYPES FOR WALLS THAT REQUIRE INSULATION.

DEFLECTION TRACKS – PROVIDE DEFLECTION TRACKS SPECIFICALLY DESIGNED TO FIT SNUGLY AROUND RUNNER TRACK AT WALL HEAD. ATTACH DEFLECTION TRACK TO FLOOR OR ROOF ASSEMBLY AS INDICATED FOR SCHEDULED WALL TYPE.

THE CONTRACT DOCUMENTS INDICATE THE USE OF NESTING DEFLECTION TRACKS FOR WALL HEADS. OTHER PRODUCTS TO ALLOW FOR DEFLECTION OF THE FLOOR OR STRUCTURE ABOVE EXIST AND MAY BE USED PROVIDING THEY DO NOT COMPROMISE THE LATERAL LOADING CAPACITY OR ASSEMBLY RATINGS REQUIRED. RUNNER TRACKS WITH CRIMPED VERTICAL LEGS SHALL NOT BE ACCEPTED.

STUD FASTENERS – FASTEN STUDS TO RUNNERS USING FASTENER SIZE AND SPACING INDICATED FOR SCHEDULED WALL TYPE.

INTERIOR CMU PARTITION TYPICAL DETAIL NOTES

GENERAL NOTES:

DETAILS SHOWN ON THIS SHEET FOR CMU WALL HEADS, BASES, AND PENETRATIONS SHALL ALSO BE APPLICABLE FOR INTERIOR CAST-IN-PLACE CONCRETE PARTITIONS NOT SPECIFICALLY DETAILED ON OTHER DRAWING SHEETS.

OTHER DRAWING SHEETS MAY INCLUDE CONCRETE AND/OR MASONRY CONSTRUCTION DETAILS DIFFERING FROM THE TYPICALS INDICATED HERE AND SHOULD ONLY BE USED WHERE INDICATED.

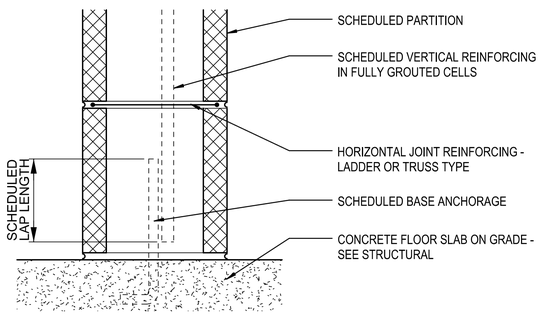
CONCRETE OR MASONRY WALLS NOT EXTENDING TO FLOORS OR ROOFS ABOVE ARE SPECIFICALLY DETAILED ON OTHER DRAWINGS.

REFER TO FLOOR PLANS OR ENLARGED PLANS FOR LOCATIONS OF EACH PARTITION TYPE. CMU PARTITION TYPES ARE LOCATED ON SHEET A-902.

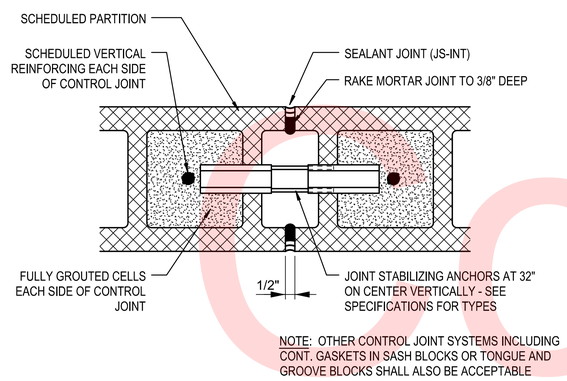
INTERIOR MASONRY PARTITIONS SHALL BE ANCHORED AT THE FLOOR AS INDICATED IN THE DETAILS AND BRACED AT THE FLOOR OR ROOF ABOVE AS INDICATED IN THE DETAILS. OTHER MEANS OF ANCHORING OR BRACING THE WALLS ARE NOT PERMITTED WITHOUT PRIOR APPROVAL.

LIGHT GUAGE ANGLES SHOWN IN THESE DETAILS SHALL COMPLY WITH THE "COLD FORMED STEEL NOTES" FOUND ON THE STRUCTURAL DRAWINGS.

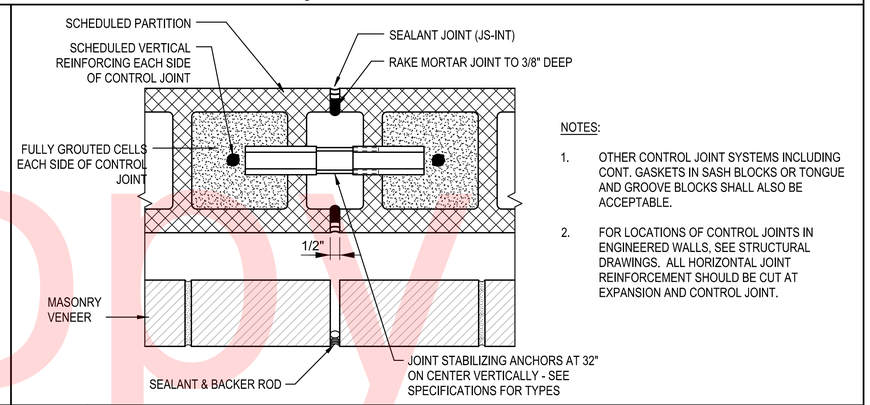
INTERIOR CMU PARTITION TYPICAL DETAIL (NON-RATED CONSTRUCTION)



4 INTERIOR CONCRETE MASONRY PARTITION BASE AT SLABS ON GRADE



5 TYPICAL INTERIOR CONCRETE MASONRY PARTITION CONTROL JOINT



NOTES:

1. OTHER CONTROL JOINT SYSTEMS INCLUDING CONT. GASKETS IN SASH BLOCKS OR TONGUE AND GROOVE BLOCKS SHALL ALSO BE ACCEPTABLE.
2. FOR LOCATIONS OF CONTROL JOINTS IN ENGINEERED WALLS, SEE STRUCTURAL DRAWINGS. ALL HORIZONTAL JOINT REINFORCEMENT SHOULD BE CUT AT EXPANSION AND CONTROL JOINT.

6 TYPICAL CONTROL JOINT DETAIL IN CAVITY WALL

Unofficial Website Copy

N:\99181-019\CADD\Phase II\Sheet Files\CP01-99181004A-904.dgn
10/27/2017 3:05:38 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: NCL	
COUNTY		
SUSSEX	CHECKED BY: EBL	

PARTITION DETAILS

A–904
SHEET NO. 109
TOTAL SHTS. 189

Unofficial Website Copy

GENERAL NOTES

A. EQUIPMENT LAYOUTS INDICATE GENERAL LOCATION OF EQUIPMENT. UNLESS SPECIFICALLY DIMENSIONED, EQUIPMENT SHALL BE INSTALLED IN GENERAL LOCATION INDICATED IN A MANNER WHICH AVOIDS CONFLICTS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL (HVAC M-SERIES), PLUMBING, AND ELECTRICAL FIXTURES.

B. ALL EQUIPMENT SHOWN ON THESE DRAWINGS ARE BASED ON SPECIFICATIONS. MODIFICATIONS AND/OR SUBSTITUTIONS OF SAID EQUIPMENT IS SUBJECT TO COMPLETE COORDINATION BY CONTRACTOR OF ALL CONNECTIONS, SERVICES, OPENING SIZES, AND ANY OTHER CONSTRUCTION RELATED REQUIREMENTS AT THE CONTRACTOR'S COST.

C. VERIFY AND COORDINATE ALL STRUCTURAL, MECHANICAL (HVAC M-SERIES), ELECTRICAL, PLUMBING, AND HVAC REQUIREMENTS OF EQUIPMENT WITH APPROVED MANUFACTURER PRIOR TO INSTALLATION.

D. SEISMIC BRACE AND ANCHOR ALL EQUIPMENT, STORAGE, AND SHELVING AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS OR CODES AND PER SPECIFICATIONS.

E. DO NOT INSTALL EQUIPMENT WITHOUT APPROVED SHOP DRAWINGS.

EQUIPMENT ABBREVIATIONS

LC	LUBE COMPRESSOR
SH	SHOP EQUIPMENT
ST	STORAGE EQUIPMENT
TS	TIRE SHOP EQUIPMENT
VL	VEHICLE LIFT EQUIPMENT
VW	VEHICLE WASH EQUIPMENT

EQUIPMENT SCHEDULE

Mark #	Description	Spec Section	Remarks
CC308	Washer, parts, automatic, front loading	111100	
LC113	Press, oil filter	111100	
SH213	Buffer/grinder, 10", w/dust collector	111100	
SH237	Drill press, 20 inch, variable speed	111100	
SH255	Press, 50 ton, electric/hydraulic	111100	
TS201	Mounter/ demounter, tire, auto	111100	
TS205	Mounter/ demounter, truck tire	111100	
TS303	Wheel Balancer, Electronic, Fixed	111100	
LC251	Drop, utility, trapeze, with data	119010	
ST100	Rack, body panel, large	119010	
ST101	Rack, body panel, small	119010	
ST115	Rack, body glass	119010	
ST350	Workbench, heavy duty	119010	
VL806	Lift, vehicle, 4 post, mobile column, wireless	144500	
VL850	Lift, axle, scissor, 2 carriage, 60,000 lbs.	144500	
BR205	Charger, battery, portable	111100	Not shown on drawings
ES110	Workbench, electronics, anti-static top	111100	
SH101	Vise, combination, swivel base, 6"	111100	
SH221	Crimper, hydraulic hose	NIC	
SH291	Tank, parts cleaning, medium	111100	
SH332	Saw, cut-off, hydraulic hose	NIC	
SH580	Stand, engine/transmission, rolling	111100	Not shown on drawings
SH990	Scrubber, floor, riding	111100	Not shown on drawings
SI171	Dispenser, DEF, drum, portable	111100	Not shown on drawings
ST010	Bin unit, common, 66 opening	111100	
ST035	Cabinet, drawer, 59"	111100	
ST057	Cabinet, flammable materials, large	111100	
ST062	Cabinet, storage, shop	111100	
ST088	Ladder, safety, rolling, 10 step	111100	Not shown on drawings
ST110	Rack, gas cylinder, portable	111100	
ST120	Rack, pallet, w/ deck, 8'	111100	
ST156	Rack, tire, paratransit	111100	
ST165	Shelving unit, 18"	111100	
ST991	Pallet, containment	111100	
TS100	Cage, inflation, tire	111100	
TS215	Spreader, tire	111100	
WF030	Screen, welding	111100	Not shown on drawings
WF331	Welder, MIG, w/wire feed	111100	Not shown on drawings
WF400	Extractor, fume, portable	111100	Not shown on drawings
VW400	Washer, Vehicle, 4 Brush w/ Reclaim	115500	

SCHEDULE NOTES:

1. FOR ITEMS NOTED IN SCHEDULE AS "NOT SHOWN ON DRAWINGS" CONTRACTOR SHALL PROVIDE (1) EACH.

2. A COMPLETE LISTING OF ALL EQUIPMENT TO BE PROVIDED IS INCLUDED IN THE SPECIFICATIONS.

EI–001

$SIGNNAME$
$SIGDATE$ $TIME$

DELAWARE
DEPARTMENT OF TRANSPORTATION

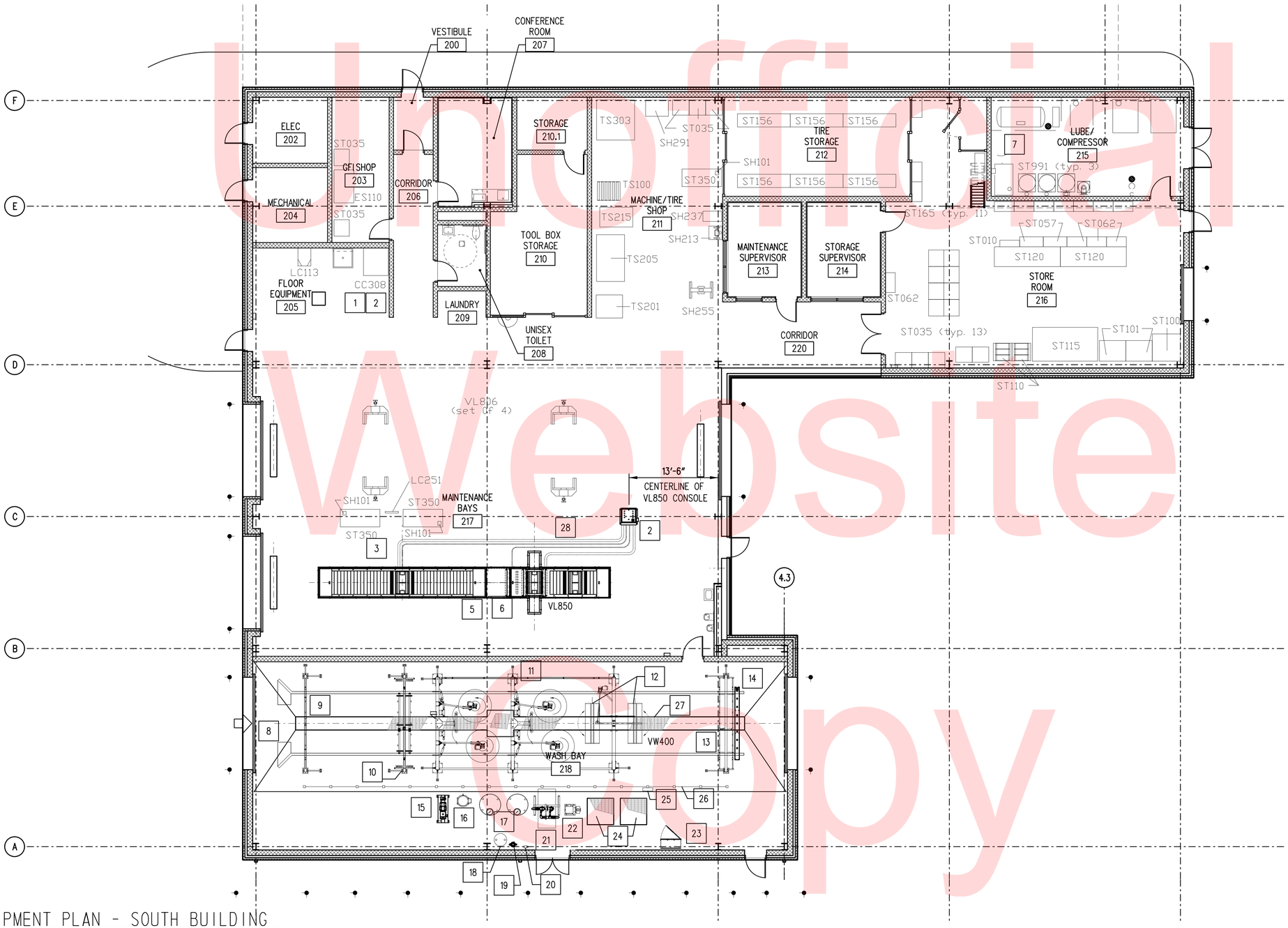
ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: NCL
CHECKED BY: EJ

EQUIPMENT
ABBREVIATIONS
AND NOTES

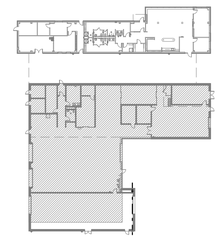
SHEET NO. 110
TOTAL SHTS. 189



CONSTRUCTION NOTES

1. SEE MECH AND ARCH FOR EXHAUST STACK DETAILS.
2. SEE STRUCT TYPICAL INTERIOR EQUIPMENT SUPPORT FOR HOUSEKEEPING PAD DETAILS.
3. SEE 5/E1-102 FOR LC251 MOUNTING DETAILS.
4. SEE STRUCT FOR VL850 PIT DETAILS.
5. DO NOT FORM VL850 PITS WITHOUT APPROVED SHOP DRAWINGS.
6. COORDINATE FINAL PIT DIMENSIONS AND LOCATION WITH OWNER AND APPROVED SHOP DRAWINGS.
7. SEE SHEET P-104 FOR ALL EQUIPMENT LOCATED IN LUBE/COMPRESSOR ROOM 215.
8. ONE PAIR TIRE GUIDES.
9. DETERGENT ARCH.
10. HIGH PRESSURE ARCH AND WHEEL WASHER.
11. 4-BRUSH CLEANING UNIT.
12. DUAL OSCILLATING SCRUBBERS.
13. DUAL FINAL RINSE SPRAY ARCH.
14. UNDERCARRIAGE WASH SYSTEM.
15. BRUSH MODULE WATER PUMP.
16. HIGH PRESSUE WATER PUMP.
17. TWO 750 GALLON RECLAIM WATER TANKS.
18. DETERGENT DRUM (OWNER FURNISHED)
19. DETERGENT ARCH PUMP.
20. BRUSH MODULE SOAP PUMP.
21. CYCLONIC FILTER AND SLUDGE CART.
22. SUMP PUMP.
23. CONTROL PANEL.
24. RECOVERY PITS, SEE STRUCT FOR DETAILS.
25. OZONE ODOR-CONTROL SYSTEM.
26. SPLASH WALL.
27. TRENCH DRAIN, SEE STRUCT FOR DETAILS.
28. PLACEMENT OF SERVICE CONDUITS SHALL BE BY OTHERS AND COORDINATED WITH REQUIREMENTS OF LIFT MANUFACTURER.

1 / EI-101 EQUIPMENT PLAN - SOUTH BUILDING
SCALE: 1/8" = 1'-0"



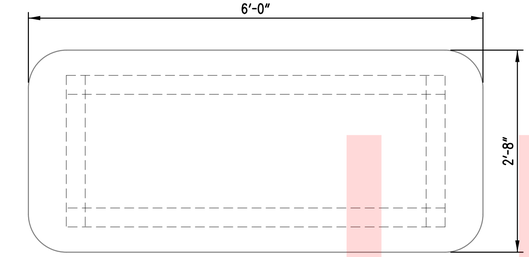
KEY PLAN
SCALE: N.T.S.

EI-101

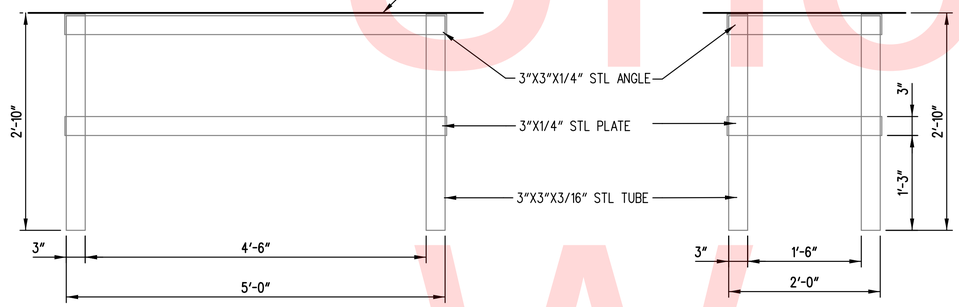
Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004EI-101.dgn
10/27/2017 3:08:47 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	EQUIPMENT PLAN SOUTH BUILDING
				COUNTY SUSSEX	DESIGNED BY: KDM/NCL	SHEET NO. 111
					CHECKED BY: EJ	TOTAL SHTS. 189



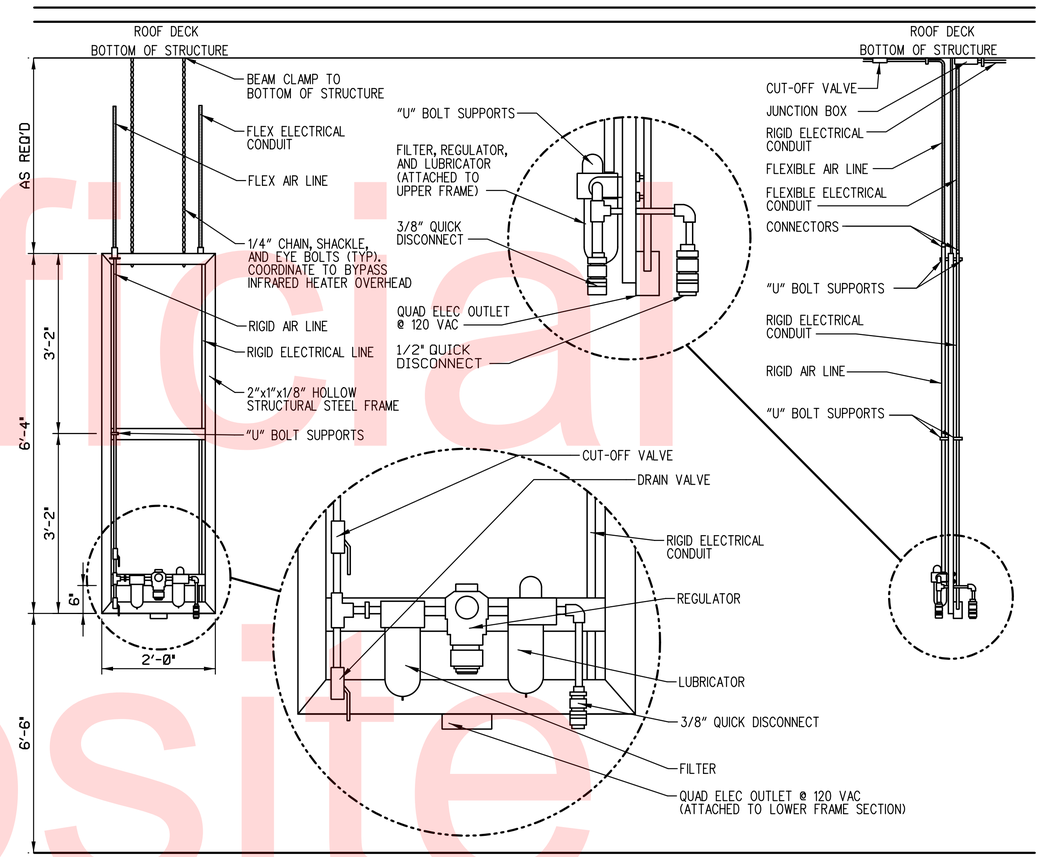
TOP VIEW



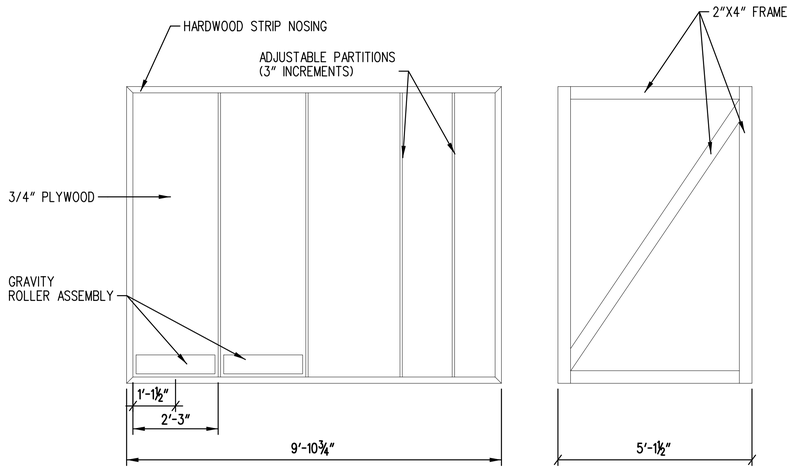
SIDE VIEW

END VIEW

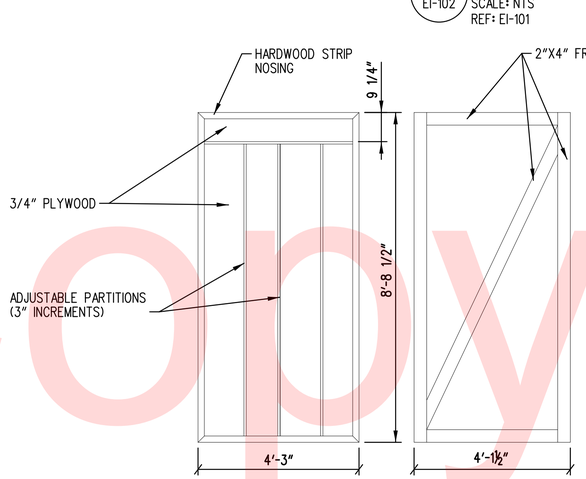
1 / EI-102 DETAIL - ST350
SCALE: NTS
REF: EI-101



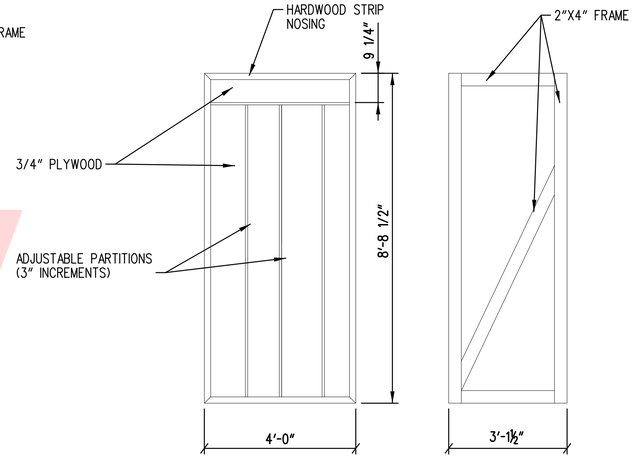
5 / EI-102 DETAIL - LC251
SCALE: NTS
REF: EI-101



2 / EI-102 DETAIL - ST115
SCALE: NTS
REF: EI-101



3 / EI-102 DETAIL - ST100
SCALE: NTS
REF: EI-101



4 / EI-102 DETAIL - ST101
SCALE: NTS
REF: EI-101

Unofficial Website Copy

N:\90181-01\CADD\Phase II Sheet Files\CP01-90181004EI-102.dgn
10/27/2017 3:09:16 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: KDM/NCL	
COUNTY	CHECKED BY: EL	
SUSSEX		

EQUIPMENT DETAILS

EI-102

SHEET NO.	TOTAL SHTS.
112	189

MECHANICAL AND PLUMBING ABBREVIATIONS

@	AT
&	AND
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
AHU	AIR HANDLING UNIT
ATC	AUTOMATIC TEMERATURE CONTROL
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
B	BOILER
BDD	BACK DRAFT DAMPER
BOD	BOTTOM OF DUCT
BTUH	BRITISH THERMAL UNIT PER HOUR
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CNG	COMPRESSED NATURAL GAS
CO	CARBON MONOXIDE
CO	CLEANOUT
CUH	CABINET UNIT HEATER
CW	COLD WATER, POTABLE
D	DAMPER
D	DEPTH
DB	DRY BULB
dB	DECIBELS
DDC	DIRECT DIGITAL CONTROLS
DEG F, °F	DEGREE FAHRENHEIT
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DN	DOWN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DX	DIRECT EXPANSION
DWBP	DOMESTIC WATER BOOSTER PUMP
EAT, LAT	ENTERING/LEAVING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
EL	ELEVATION
ER	EXHAUST REGISTER
ESP, TSP	EXTERNAL/TOTAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWT, LWT	ENTERING/LEAVING WATER TEMPERATURE
EX, EXIST	EXISTING
EXH	EXHAUST
F	FIREPROTECTION
FD	FLOOR DRAIN
FLA	FULL LOAD AMPERES
FM	FACTORY MUTUAL
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FT	FEET
G	NATURAL GAS
GAL	GALLONS
GPM	GALLONS PER MINUTE
H	HUMIDIFIER
HB	HOSE BIBB
HC	HEATING COIL
HP	HORSEPOWER
HWR, HWS	HEATING WATER RETURN, SUPPLY
HW	HOT WATER, POTABLE
HWC	HOT WATER CIRCULATING, POTABLE
HZ	HERTZ
IN	INCH
INV	INVERT
KW	KILOWATT
LFL	LOW FLAMMABLE LIQUID
MAX	MAXIMUM
MBH	1,000 BRITISH THERMAL UNITS (BTU) PER HOUR
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
N	NORTH
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
No	NUMBER
NOx	NITROUS OXIDE
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OED	OPEN ENDED DUCT
OS&Y	OUTSIDE SCREW & YOKE
P	PUMP
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
PH	PHASE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH (GAGE)
RA	RETURN AIR
RF	RETURN AIR FAN
RAR	RETURN AIR REGISTER
RPM	REVOLUTIONS PER MINUTE
RX	REMOVE EXISTING
SA	SUPPLY AIR
SD	SUPPLY AIR DIFFUSER
SF	SUPPLY AIR FAN
SENS	SENSIBLE COOLING
S/M	SHEET METAL
SP	STATIC PRESSURE
SW	STORM WATER
SSW	SECONDARY STORM WATER
TG	TRANSFER GRILLE
TEMP	TEMPERATURE
TOD	TOP OF DUCT
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VENT
VEL	VELOCITY
VR3	STAGE 3 VAPOR RECOVERY
VTR	VENT THROUGH ROOF
WB	WET BULB
W.C.	WATER COLUMN
WG	WATER GAUGE
WH	WALL HYDRANT
WPD	WATER PRESSURE DROP
LBS/HR	POUNDS PER HOUR

GENERAL NOTES:

1. GENERAL NOTES ARE DISCIPLINE SPECIFIC, AND APPLY TO EVERYDRAWING IN THAT DISCIPLINE. DRAWING NOTES APPLY TO ALL WORK SHOWN ON A DRAWING. CONSTRUCTION/DEMOLITION NOTES APPLY TO INDIVIDUAL SITUATIONS AND EQUIPMENT.
2. SLOPES AND INVERT ELEVATIONS SHALL BE ESTABLISHED BEFORE ANY PIPING IS INSTALLED IN ORDER TO MAINTAIN PROPER SLOPES.
3. MAKE PROPER CONNECTION TO FIXTURES AND EQUIPMENT. DRAWINGS ARE SCHEMATIC AND ALL BRANCH MAINS, ELBOWS, AND CONNECTIONS ARE NOT SHOWN.
4. COORDINATE LOCATION OF PIPING AND DUCTWORK WITH LIGHTING FIXTURES, OTHER PIPING AND DUCTWORK, EQUIPMENT AND BUILDING STRUCTURE. PIPING AND DUCTWORK SHALL BE RUN TO AVOID CONFLICTS WITH OTHER TRADES.
5. DO NOT RUN HYDRONIC PIPING OR LOCATE MECHANICAL EQUIPMENT DIRECTLY ABOVE ELECTRICAL SUBSTATIONS, CABLE TRAYS, TRANSFORMERS, PANEL BOARDS, OR SWITCHGEAR.
6. DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
7. UNLESS OTHERWISE NOTED, PIPING AND DUCTWORK IS OVERHEAD, TIGHT TO UNDERSIDE OF SLAB, WITH SPACE FOR INSULATION IF REQUIRED.
8. INSTALL PIPING AND DUCTWORK SO THAT VALVES AND DAMPERS ARE ACCESSIBLE.
9. CERTAIN ITEMS SUCH AS ACCESS DOORS, RISE AND DROPS IN DUCTWORK AND PIPING, ETC., ARE INDICATED ON THE DRAWINGS FOR CLARITY OR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE ITEMS AS REQUIRED IN THE CONTRACT DRAWINGS AND SPECIFICATIONS.
10. SCHEMATIC AND RISER DIAGRAMS INDICATE FLOW AND OPERATIONAL CONCEPT AS WELL AS GENERAL ARRANGEMENT OF EQUIPMENT. VALVES, PRESSURE GAUGES, ETC. ADDITIONAL VALVES PRESSURE GAUGES, ETC. SHALL BE PROVIDED AS SHOWN ON DETAILS AND AS INDICATED IN SPECIFICATIONS.
11. DETAILS WITHOUT SPECIFIC REFERENCE TO A LOCATION SHALL BE APPLIED TO THE GENERAL INSTALLATION OF PIPES, DUCTS, ETC.
12. DIMENSIONS GIVEN FOR SOUND LINED DUCTWORK ARE INTERNAL CLEAR DIMENSIONS.
13. MOUNT TEMPERATURE SENSORS 48" AFF UNLESS NOTED OTHERWISE.
14. ROUTE EXPOSED CONTROL WIRING IN THE NORTH BUILDING IN EMT CABLE. OTHERWISE, PROVIDE PLENUM RATED CABLE IN THE NORTH BUILDING. FOR THE SOUTH BUILDING, PROVIDE WIRING IN EMT CABLE FOR ALL SPACES EXCEPT MAINTENANCE BAY 217 AND WASH BAY 218. PROVIDE WIRING IN RIGID CONDUIT IN THESE SPACES.

MECHANICAL AND PLUMBING LEGEND

- NEW EQUIPMENT
- NEW WORK LINE WEIGHT
- EXISTING WORK LINE WEIGHT
- SUPPLY PIPING
- RETURN PIPING
- TO BE DEMOLISHED (ON DEMOLITION PLANS)
- TEE TURNED UP
- TEE TURNED DOWN
- PIPING TURNED DOWN
- PIPING TURNED UP
- CAPPED PIPING
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLEXIBLE PIPE CONNECTION
- FAN OR PUMP
- CIRCULATING PUMP
- UNION
- GAS COCK
- OS & Y GATE VALVE
- BALL VALVE
- THERMOSTATIC CONTROL VALVE
- PLUG VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- PRESSURE REDUCING VALVE
- TEMPERATURE AND PRESSURE RELIEF VALVE
- DIRECTION OF FLOW ARROW
- FLANGED FITTING
- THERMOMETER
- PRESSURE GAUGE WITH SHUT-OFF COCK
- TEMPERATURE SENSOR
- DIFFERENTIAL PRESSURE TRANSMITTER
- STATIC PRESSURE SENSOR, ANALOG
- ATC CONTROL DAMPER
- SMOKE DAMPER
- FREEZESTAT
- FIRE DAMPER WITH ACCESS DOOR
- SMOKE DETECTOR WITH ACCESS DOOR
- FLEXIBLE CONNECTION
- VOLUME DAMPER, HANDLE INDICATES DIRECTION OF FLOW
- MOTOR OPERATED DAMPER
- ACOUSTICAL LINING
- CEILING DIFFUSER, ROUND ARROWS INDICATE THROW DIRECTIONS
- CEILING DIFFUSER, RECTANGULAR ARROWS INDICATE THROW DIRECTIONS
- RETURN REGISTER OR GRILLE
- DIRECTION OF FLOW ARROW (FIRST DIMENSION SHOWN IS TOP)
- ACCESS DOOR
- RISE IN ELEVATION RELATIVE TO DIRECTION OF FLOW
- DROP IN ELEVATION RELATIVE TO DIRECTION OF FLOW
- BACK DRAFT DAMPER
- SUPPLY OR FRESH AIR DUCT (FIRST DIMENSION SHOWN IS TOP)
- RETURN OR EXHAUST DUCT (FIRST DIMENSION SHOWN IS TOP)
- DUCT TURNED UP
- DUCT TURNED DOWN
- FLEXIBLE DUCT (SINGLE LINE)
- TRANSITION
- TRANSITION, SQUARE (RECTANGULAR) TO ROUND
- STANDARD BRANCH
- HIGH EFFICIENCY SPIN-IN DUCT FITTING
- SPIN-IN DUCT FITTING
- SQUARE ELBOW WITH TURNING VANES
- AIR DEVICE TYPE SD-1 (UON) AIR QUANTITY (CFM)
- BLANK OFF PORTION OF CEILING DIFFUSERS
- CONNECT NEW TO EXISTING
- EXTENT OF DEMOLITION

Unofficial Website Copy

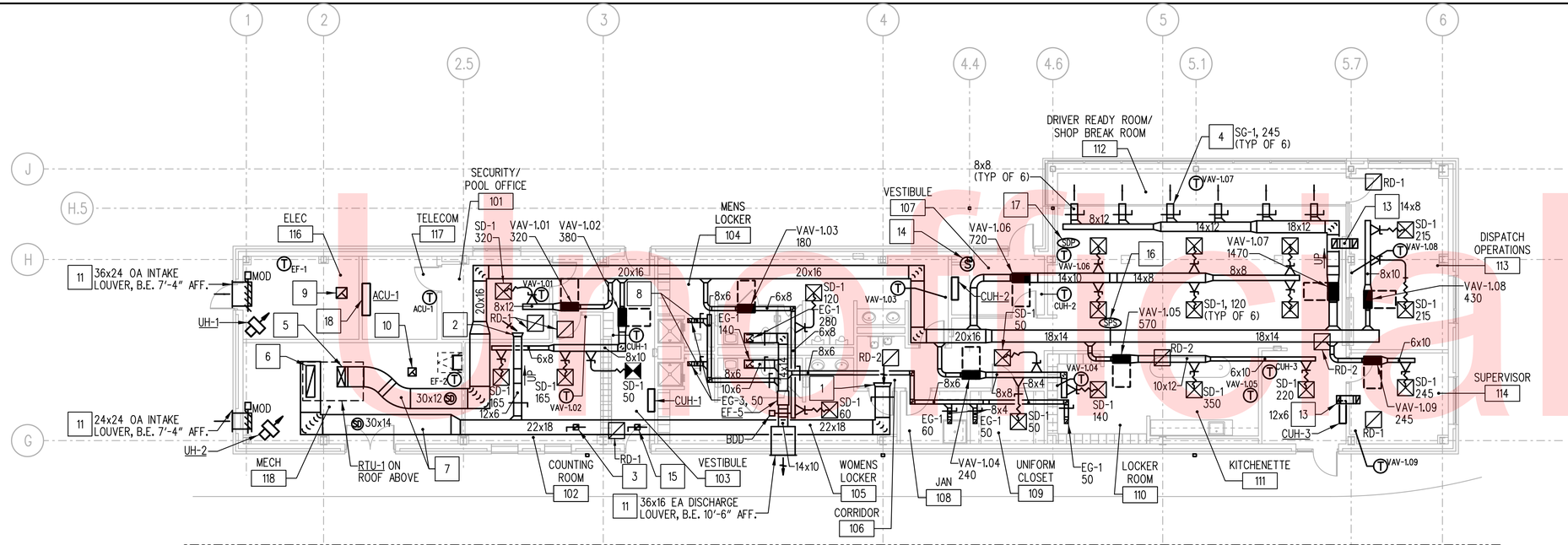
N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004M-001.dgn
10/27/2017 3:03:43 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	MECHANICAL & PLUMBING LEGEND, ABBREVIATIONS, & GENERAL NOTES
				COUNTY SUSSEX	DESIGNED BY: TLP	
					CHECKED BY: CAH	

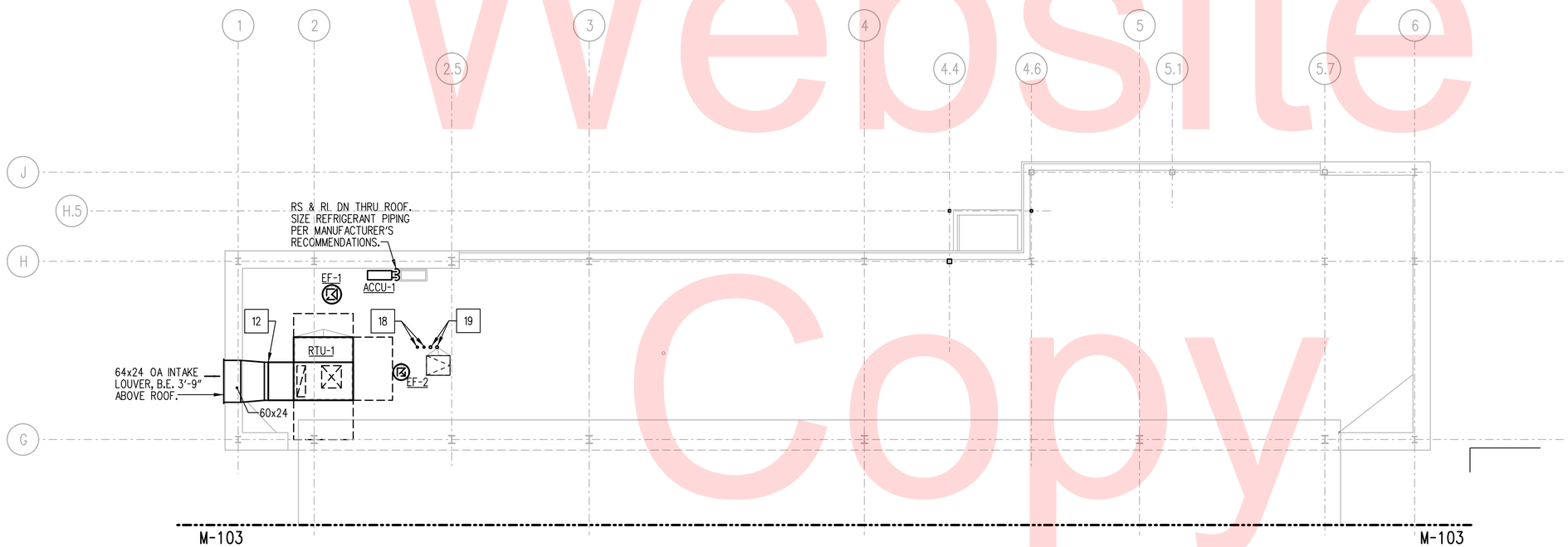
M-001

SHEET NO. 113

TOTAL SHTS. 189



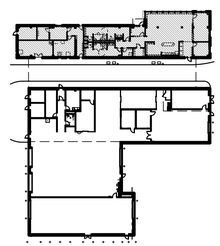
1 M-101 FLOOR PLAN - NORTH BUILDING - DUCTWORK
SCALE: 1/8"=1'-0"



2 M-101 ROOF PLAN - NORTH BUILDING - HVAC
SCALE: 1/8"=1'-0"

CONSTRUCTION NOTES:

1. 22x18 OED WITH BELLMOUTH AND BIRDSCREEN. BALANCE FOR 2540 CFM.
2. 12x6 OED WITH BELLMOUTH AND BIRDSCREEN. BALANCE FOR 290 CFM.
3. PROVIDE 10x8 RETURN DUCT CONNECTION TO RETURN AIR MAIN. EXTEND DUCT 6" BELOW MAIN AND TERMINATE OPEN ENDED WITH BIRDSCREEN. BALANCE FOR 300 CFM.
4. BOTTOM ELEVATION AT 11'-0" AFF.
5. 12x30 SUPPLY AIR DUCT UP TO RTU-1 ON ROOF. TRANSITION TO UNIT DISCHARGE AS REQUIRED.
6. 48x14 RETURN AIR DUCT UP TO RTU-1 ON ROOF. TRANSITION TO UNIT INLET AS REQUIRED.
7. BOTTOM ELEVATION AT 10'-6" AFF.
8. PROVIDE 8x4 ALUMINUM DUCT RUNOUT FROM AIR DEVICE TO EXHAUST DUCT MAIN.
9. 16x16 EXHAUST AIR DUCT UP TO EF-1 ON ROOF. EXTEND DUCT 6" BELOW STRUCTURE AND TERMINATE OPEN ENDED WITH BIRDSCREEN.
10. 12x12 EA EXHAUST AIR DUCT UP TO EF-2 ON ROOF. EXTEND DUCT 6" BELOW STRUCTURE AND TERMINATE OPEN ENDED WITH BIRDSCREEN.
11. PROVIDE 18" DEEP INSULATED SHEETMETAL PLENUM, FULL SIZE OF LOUVER.
12. PROVIDE CONNECTION TO RTU INTAKE OPENING W/FLEXIBLE CONNECTION.
13. PROVIDE TRANSFER DUCT ABOVE CEILING.
14. FIRE DEPARTMENT EMERGENCY SHUTDOWN SWITCH.
15. PROVIDE 6x6 RETURN DUCT CONNECTION TO RETURN AIR MAIN. EXTEND DUCT 6" BELOW MAIN AND TERMINATE OPEN ENDED WITH BIRDSCREEN. BALANCE FOR 50 CFM.
16. STATIC PRESSURE SENSOR, SPS-SA
17. SPACE STATIC PRESSURE SENSOR, SDP-SPACE
18. BOTTOM ELEVATION AT 7'-0" AFF

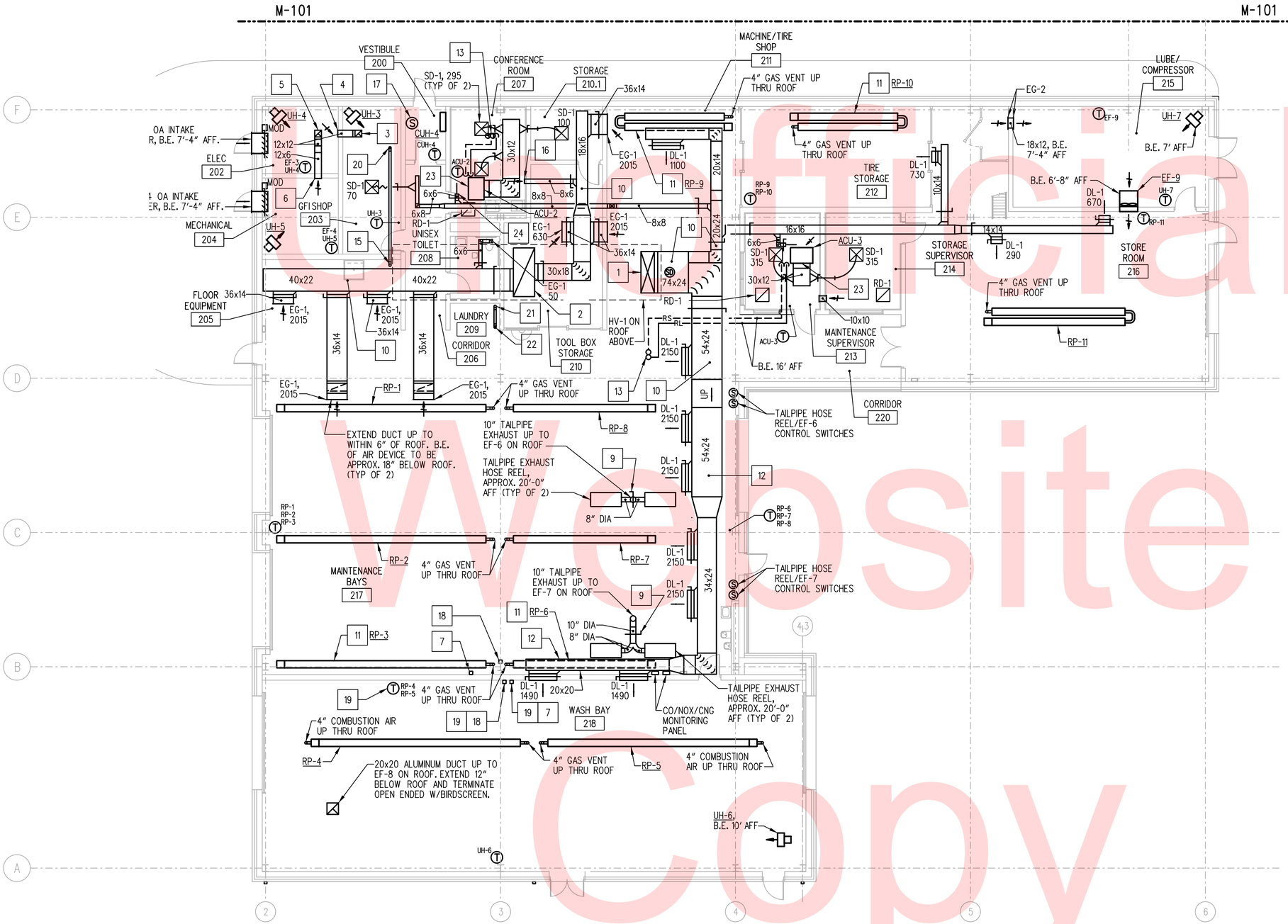


KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004M-101.dgn
10/27/2017 3:03:44 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR AND ROOF PLANS – NORTH BUILDING – HVAC	M-101
				COUNTY SUSSEX	DESIGNED BY: TLP		SHEET NO. 114
					CHECKED BY: CAH		TOTAL SHTS. 189



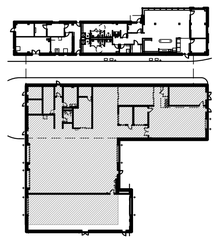
1 M-102 FLOOR PLAN - SOUTH BUILDING - DUCTWORK
SCALE: 1/8"=1'-0"

DRAWING NOTES:

1. BOTTOM ELEVATION OF UNIT HEATERS SHALL BE 10' AFF UNLESS OTHERWISE NOTED.
2. BOTTOM ELEVATION OF RADIANT PANELS SHALL BE AS SCHEDULED ON DRAWING M-702.

CONSTRUCTION NOTES:

1. 74x24 SA UP TO HV-1 ON ROOF. TRANSITION TO UNIT DISCHARGE IN VERTICAL AS REQUIRED.
2. 87x38 EXHAUST UP TO HV-1 ON ROOF.
3. 12x12 EXHAUST UP TO EF-3 ON ROOF.
4. 12x12 OPEN ENDED DUCT, APPROXIMATELY 10'-6" AFF. TERMINATE WITH BIRDSCREEN.
5. 12x12 EXHAUST UP TO EF-4 ON ROOF.
6. 12x6 OPEN ENDED DUCT, APPROXIMATELY 11' AFF. TERMINATE WITH BIRDSCREEN.
7. COMPRESSED NATURAL GAS SENSOR. MOUNT SENSOR WITHIN JOIST SPACE.
8. PROVIDE 18" DEEP INSULATED SHEETMETAL PLENUM, FULL SIZE OF LOUVER.
9. PROVIDE VOLUME DAMPER TO MAINTAIN 6" W.G. EXTERNAL STATIC PRESSURE FOR ASSOCIATED FAN.
10. BOTTOM OF DUCT ELEVATION AT 15'-4" AFF.
11. MOUNT PANEL 35 DEGREES FROM HORIZONTAL.
12. BOTTOM OF DUCT ELEVATION AT 17' AFF.
13. RS & RL UP TO ACCU ON ROOF. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
14. BOTTOM ELEVATION AT APPROXIMATELY 12' AFF.
15. 4" PVC EXHAUST UP FROM PARTS WASHER (CC308). OFFSET AS INDICATED. ALL ELBOWS SHALL BE 45 DEGREE ELBOWS.
16. 8x6 OPEN ENDED DUCT WITH BIRDSCREEN. BALANCE FOR 135 CFM.
17. FIRE DEPARTMENT EMERGENCY SHUTDOWN SWITCH.
18. CO & NOX SENSOR. MOUNTING HEIGHT AS RECOMMENDED BY GAS DETECTION SYSTEM MANUFACTURER.
19. PROVIDE WATERPROOF ENCLOSURE.
20. 4" PVC PARTS WASHER EXHAUST UP THRU ROOF. REFER TO DRAWING M-103 FOR CONTINUATION.
21. 4" DRYER EXHAUST DOWN TO DRYER CONNECTION. OFFSET WITH 45 DEGREE ELBOW.
22. 4" DRYER EXHAUST UP THRU ROOF. OFFSET WITH 45 DEGREE ELBOW. REFER TO DRAWING M-103 FOR CONTINUATION.
23. PROVIDE FLEX CONNECTION AT UNIT DISCHARGE.
24. 8x6 OPEN ENDED DUCT WITH BIRDSCREEN. BALANCE FOR 150 CFM.



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

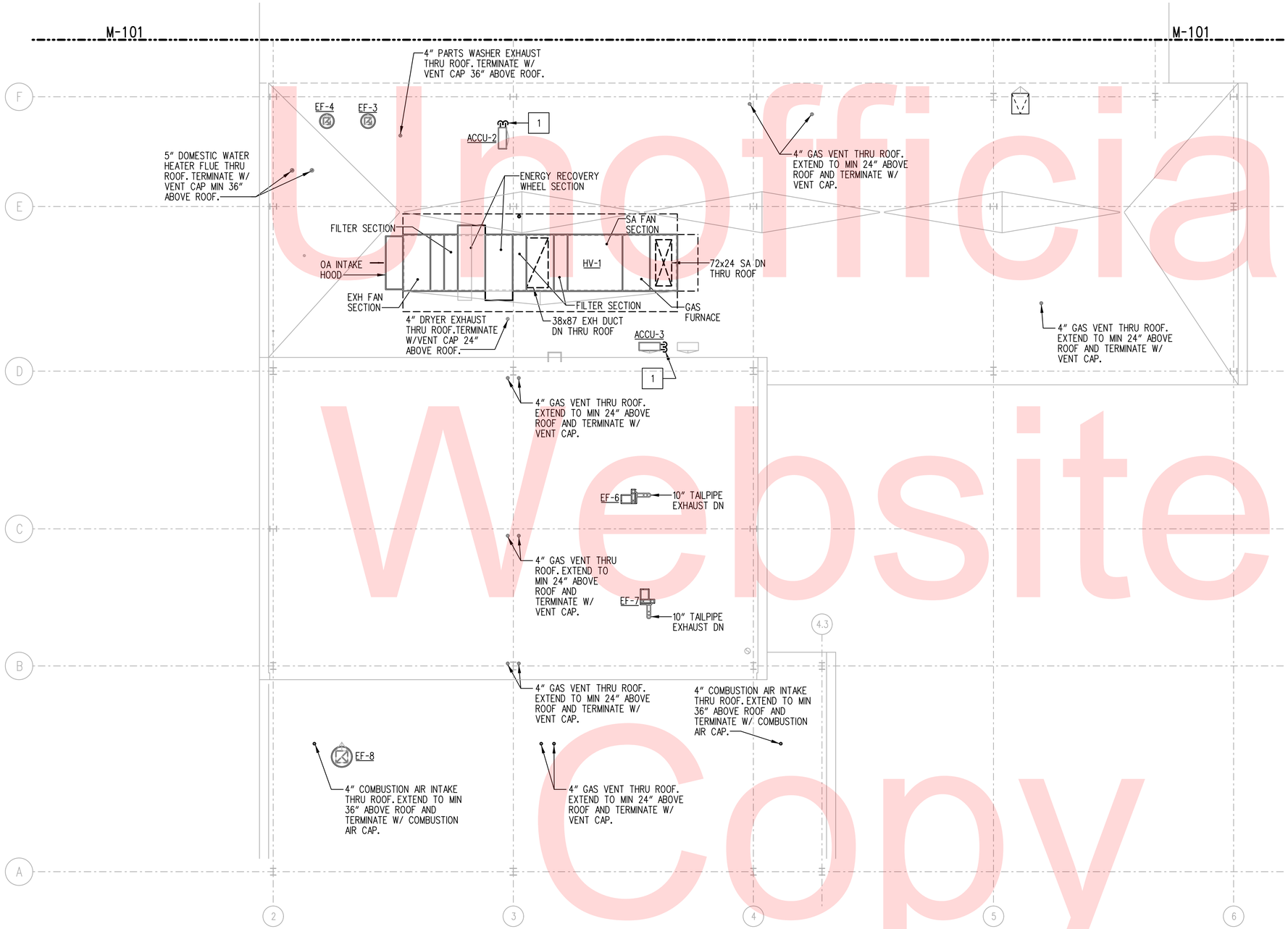
N:\90181-019\CADD\Phase # Sheet Files\CP01-90181004M-102.dgn
10/27/2017 3:03:45 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR PLAN - SOUTH BUILDING - HVAC
				COUNTY SUSSEX	DESIGNED BY: TLP	M-102
					CHECKED BY: CAH	SHEET NO. 115
						TOTAL SHTS. 189

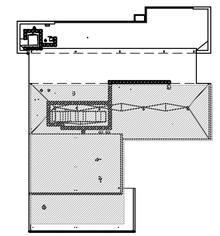
Unofficial Website Copy

CONSTRUCTION NOTES:

1. RS & RL DOWN THRU ROOF. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.



1 / M-103 ROOF PLAN - SOUTH BUILDING - HVAC
SCALE: 1/8"=1'-0"



KEY PLAN
SCALE: N.T.S.

M-103

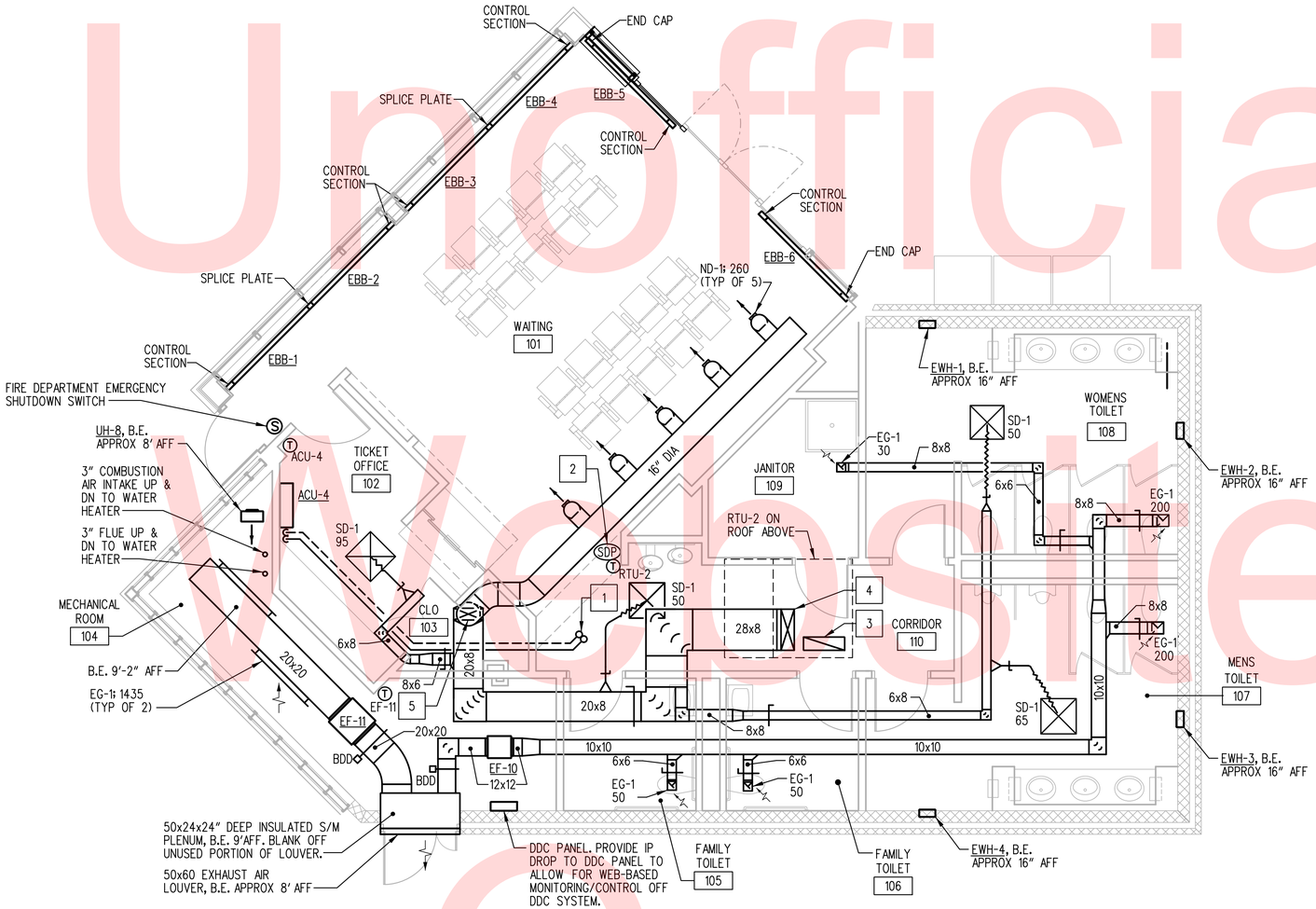
N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004M-103.dgn
10/27/2017 3:03:46 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	ROOF PLAN – SOUTH BUILDING – HVAC
				COUNTY SUSSEX	DESIGNED BY: DT	SHEET NO. 116
					CHECKED BY: TLP	TOTAL SHTS. 189

Unofficial Website Copy

CONSTRUCTION NOTES:

1. RS & RL UP TO ACCU-4 ON ROOF. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
2. SPACE STATIC PRESSURE SENSOR, SDP-SPACE.
3. 10x28 RETURN AIR DUCT CONNECTION TO RTU-2. TERMINATE DUCT OPEN ENDED WITH BIRDSCREEN, 12" BELOW ROOF DECK. PROVIDE VOLUME DAMPER IN VERTICAL.
4. 28x8 SUPPLY AIR DUCT UP TO RTU-2. TRANSITION TO UNIT DISCHARGE CONNECTION AS REQUIRED.
5. 20x8 UP. TRANSITION TO 16" DIAMETER IN VERTICAL.

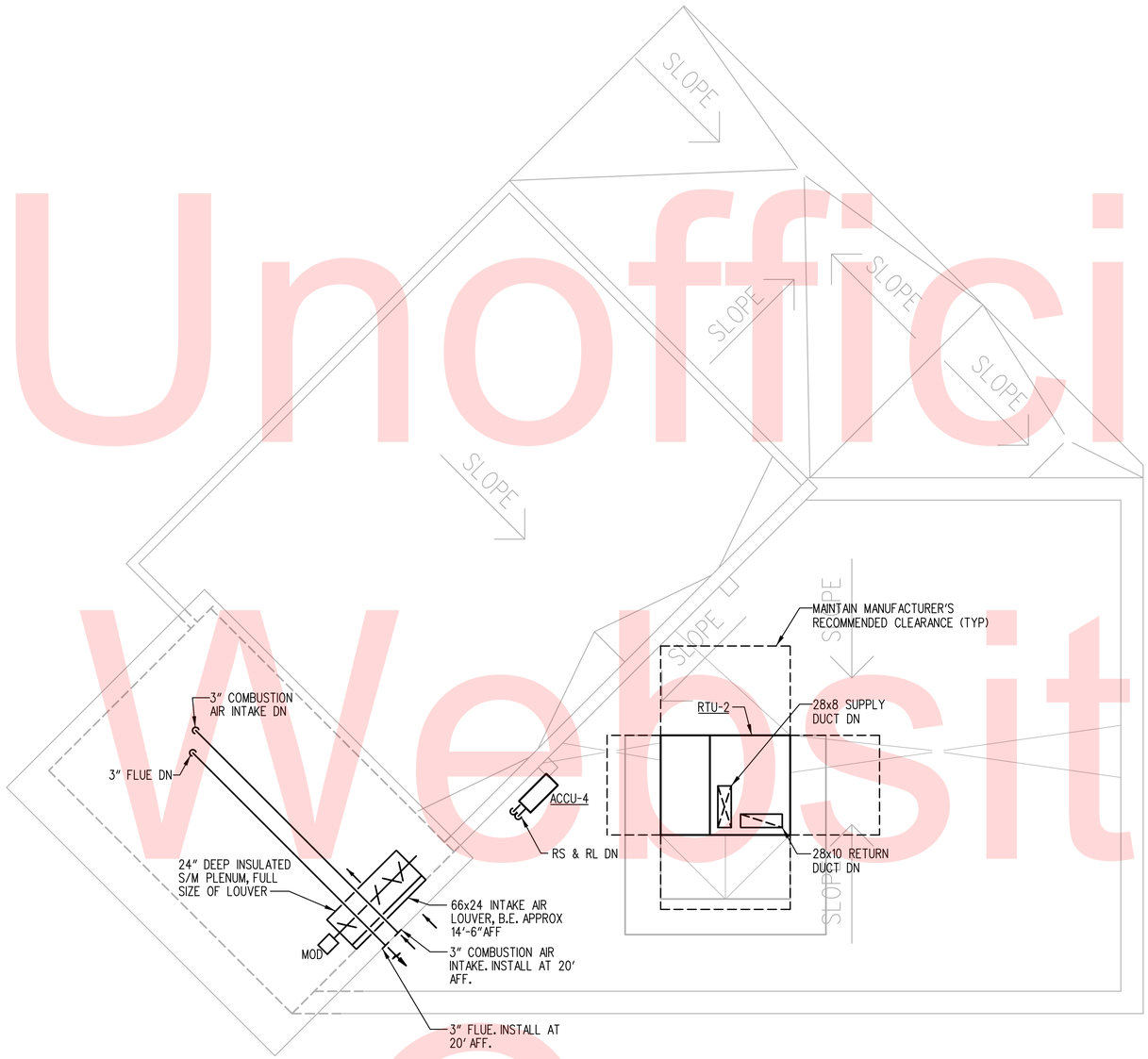


1 / M-104 FLOOR PLAN - VISITOR CENTER - HVAC
SCALE: 1/4"=1'-0"

N:\901B1\01P\CADD\Phase II Sheet Files\CP02-901B1019M-104.dgn
10/27/2017 3:04:28 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109 / COUNTY SUSSEX	BRIDGE NO. / DESIGNED BY: MN/TLP / CHECKED BY: CAH	FLOOR PLAN - VISITOR CENTER - HVAC	M-104 / SHEET NO. 117 / TOTAL SHTS. 189

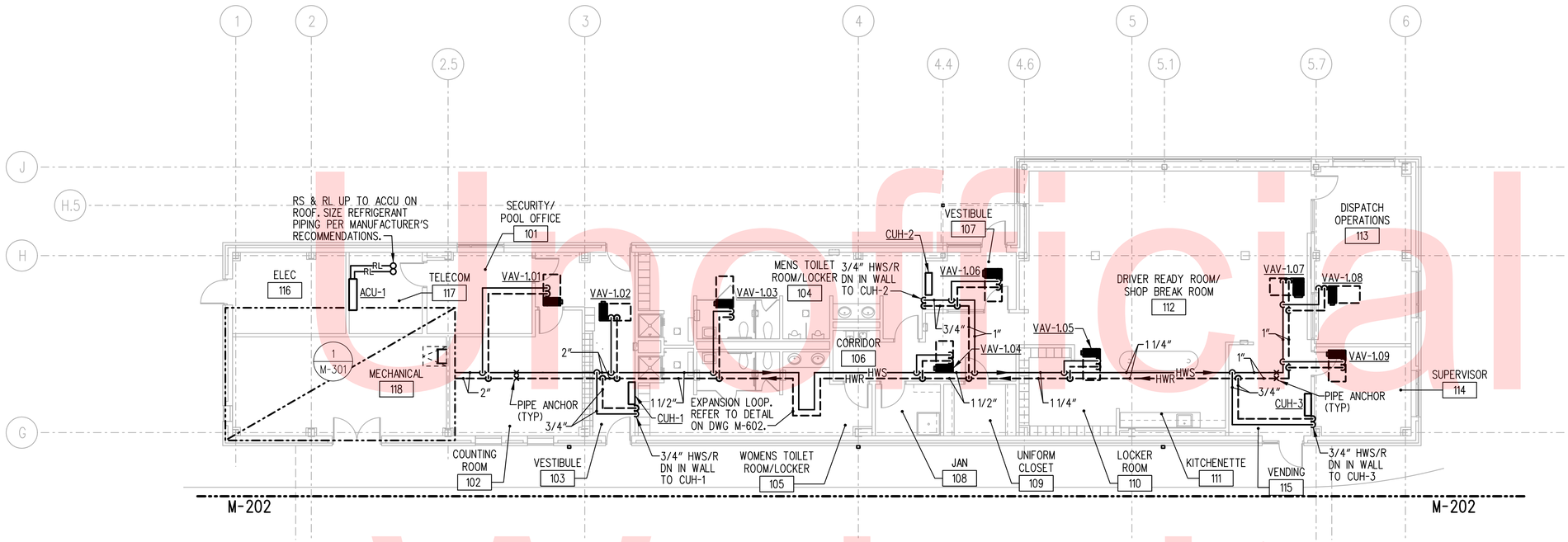
Unofficial Website Copy



1 / M-105 ROOF PLAN - VISITOR CENTER - HVAC
SCALE: 1/4"=1'-0"

N:\90181-01P\CAD\Phase 1 Sheet Files\CP02-90181019M-105.dgn
10/27/2017 3:04:28 PM

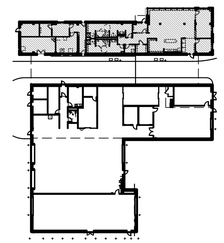
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ROOF PLAN - VISITOR CENTER - HVAC
				COUNTY SUSSEX	DESIGNED BY: MN/TLP	M-105
					CHECKED BY: CAH	SHEET NO. 118
						TOTAL SHTS. 189



1 M-201 FLOOR PLAN - NORTH BUILDING - PIPING
SCALE: 1/8" = 1'-0"

DRAWING NOTES:

1. HEATING WATER PIPING RUNOUTS TO UNIT HEATERS AND VAV TERMINAL UNIT REHEAT COILS SHALL BE 3/4" UNLESS OTHERWISE NOTED.



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\9018\-019\CADD\Phase II Sheet Files\CP01-9018004M-201.dgn
10/27/2017 3G347 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

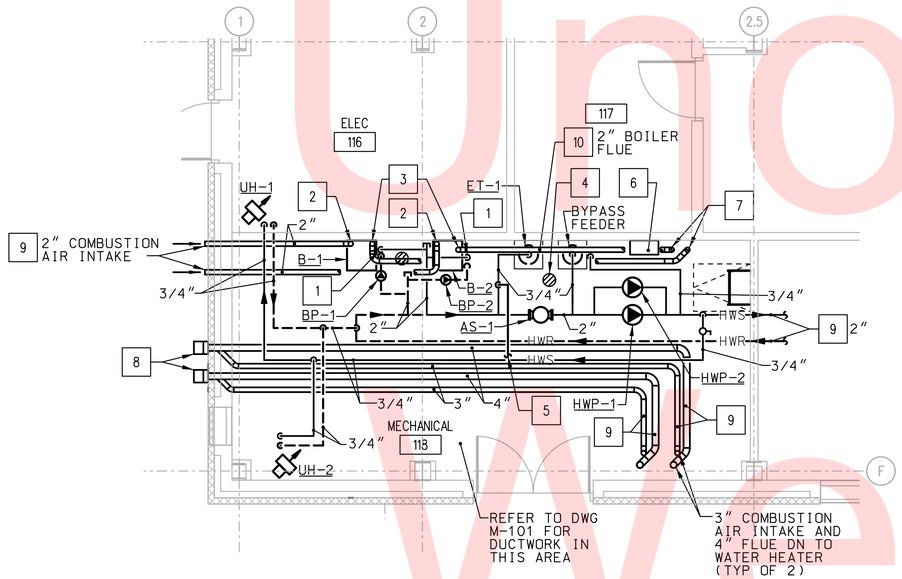
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

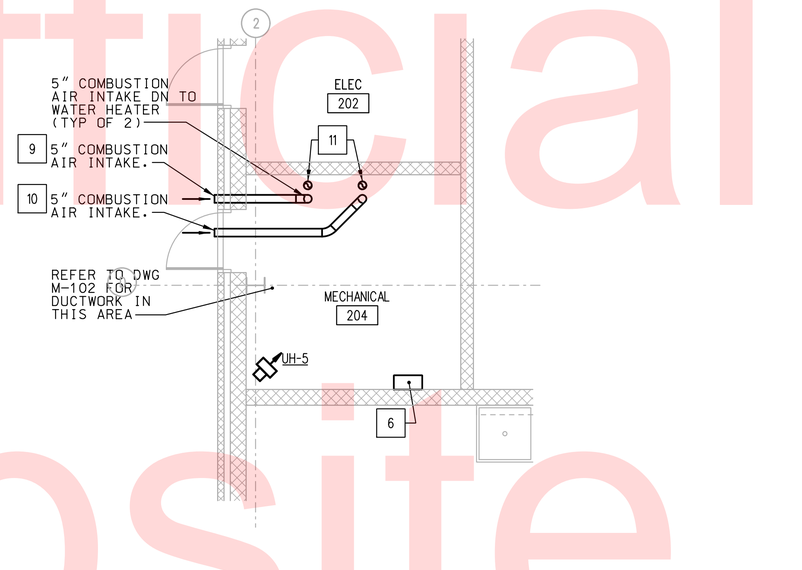
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: TLP	
CHECKED BY: CAH	

FLOOR PLAN - NORTH BUILDING - PIPING

	M-201
SHEET NO.	119
TOTAL SHTS.	189



1 M-301 PART PLAN - MECHANICAL ROOM 118 - HVAC
SCALE: 1/4"=1'-0"



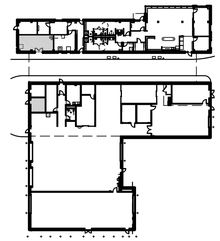
2 M-301 PART PLAN - MECHANICAL ROOM 204 - HVAC
SCALE: 1/4"=1'-0"

DRAWING NOTES:

1. BOTTOM ELEVATION OF UNIT HEATERS SHALL BE 10' AFF UNLESS OTHERWISE NOTED.

CONSTRUCTION NOTES:

1	1 1/4" HWS & HWR DOWN TO BOILER.
2	2" COMBUSTION AIR INTAKE DOWN TO BOILER.
3	2" BOILER FLUE DOWN TO BOILER.
4	FLOOR DRAIN. REFER TO DRAWING P-104 FOR PLUMBING WORK.
5	3/4" MAKEUP WATER CONNECTION. REFER TO DRAWING P-104 FOR CONTINUATION.
6	DDC PANEL. PROVIDE IP DROP TO DDC PANEL TO ALLOW FOR WEB-BASED MONITORING/CONTROL OF DDC SYSTEM.
7	3" BOILER FLUE UP THRU ROOF. REFER TO DRAWING M-101 FOR CONTINUATION.
8	TERMINATE CONCENTRIC WATER HEATER VENT/INTAKE AT 9' ABOVE FINISHED FLOOR WITH MANUFACTURER'S STANDARD DIRECT-VENT CONCENTRIC TERMINATION CAP.
9	INSTALL BOTTOM OF PIPE AT 9'-0" ABOVE FINISHED FLOOR.
10	INSTALL BOTTOM OF PIPE AT 11'-0" ABOVE FINISHED FLOOR.
11	5" DOMESTIC WATER HEATER FLUE DOWN TO WATER HEATER AND UP THRU ROOF. REFER TO DRAWING M-103 FOR CONTINUATION.



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004M-301.dgn
10/27/2017 3:03:48 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	MECHANICAL ROOM PART PLANS – HVAC
				COUNTY SUSSEX	DESIGNED BY: TLP	
					CHECKED BY: CAH	

M-301

SHEET NO.	120
TOTAL SHTS.	189

ROOFTOP AIR HANDLING UNIT (RTU-1) SEQUENCE OF OPERATIONS

GENERAL

1. UNIT SHALL BE PROVIDED WITH FACTORY PACKAGED CONTROLS WHICH SHALL BE INTERFACED WITH THE BUILDING MANAGEMENT SYSTEM (BMS).
2. TEMPERATURE SENSORS SHALL MONITOR SYSTEM TEMPERATURES THROUGH THE FACTORY PACKAGED CONTROLS.
3. WHEN RTU-1 IS DE-ENERGIZED, UNIT DAMPERS RETURN TO THEIR NORMAL POSITIONS, FANS STOP AND HEATING AND COOLING EQUIPMENT DE-ENERGIZES.
4. RTU-1 OPERATING STATUS AND SCHEDULES, TEMPERATURE SETPOINTS, STATIC PRESSURE SETPOINTS AND EQUIPMENT ALARM CONDITIONS SHALL BE MONITORED BY THE DDC SYSTEM AND MONITORED/ADJUSTED THROUGH THE PACKAGED CONTROLS PROVIDED BY THE UNIT MANUFACTURER. OPERATOR SHALL BE ABLE TO PERFORM ALL MONITORING AND CONTROL DIRECTLY FROM THE DDC PANEL LOCATED IN THE MECHANICAL ROOM.
5. INITIAL UNIT SUPPLY AIR TEMPERATURES SHALL BE AS SCHEDULED AND BE ADJUSTABLE.

UNOCCUPIED MODE

1. RTU-1 SHALL OPERATE IN UNOCCUPIED COOLNG OR HEATING MODE BASED ON OPERATING SCHEDULE PROGRAMMED INTO FACTORY PACKAGED CONTROLS.
2. STOP RTU-1 FANS AND DE-ENERGIZE GAS FURNACE. COMPRESSORS SHALL BE OFF.
3. RTU-1 SUPPLY FAN SF-RTU SHALL ENERGIZE WHEN THERE IS A CALL FOR HEATING OR COOLING AS DETERMINED THRU THE PACKAGED CONTROLS.
4. OUTSIDE AIR DAMPER D-OA SHALL BE FULLY CLOSED AND RETURN AIR DAMPER D-RA SHALL BE FULLY OPEN.
5. UPON A CALL FOR COOLING BY FACTORY PACKAGED CONTROLS, COMPRESSORS SHALL CYCLE TO MAINTAIN SCHEDULED SUPPLY AIR TEMPERATURE (55 DEG F, ADJUSTABLE).
6. UPON A CALL FOR HEATING BY FACTORY PACKAGED CONTROLS, GAS FURNACE CONTROL VALVE SHALL MODULATE TO MAINTAIN 80 DEG F SUPPLY AIR TEMPERATURE.
7. SF-RTU SHALL DE-ENERGIZE UPON SIGNAL FROM THE PACKAGED CONTROLS THAT VAV ZONES ARE SATISFIED.
8. ALL INTERLOCKED EXHAUST FANS SHALL BE OFF.
9. WHEN ALL VAV BOX DAMPERS ARE LESS THAN 90% OPEN, RESET DIFFERENTIAL PRESSURE SETPOINT LOWER UNTIL MOST WIDE OPEN VAV BOX IS AT LEAST 90% OPEN.
10. A MANUAL PUSHBUTTON ON EACH SENSOR, WHEN ENERGIZED, SHALL OVERRIDE THE UNOCCUPIED SIGNAL OF THE DDC SYSTEM AND SHALL SIGNAL RTU-1 AND ASSOCIATED VAV TERMINAL UNITS TO OPERATE IN THE OCCUPIED MODE. LENGTH OF OVERRIDE OPERATION SHALL BE AS DIRECTED BY OWNER (2 HOURS INITIAL SETPOINT), AND SYSTEM SHALL REVERT TO UNOCCUPIED CONTROL WHEN SETTING HAS EXPIRED.

OCCUPIED MODE

1. OUTSIDE AIR (OA) DAMPER D-OA, AND RETURN AIR DAMPER D-RA SHALL OPEN. SF-RTU AND EXHAUST FAN EF-RTU SHALL START AND RUN CONTINUOUSLY THROUGH THEIR ECM MOTOR CONTROL. THE ECM MOTORS SHALL GRADUALLY INCREASE FAN SPEEDS TO THEIR CONTROLLED POSITIONS. THE DDC SYSTEM SHALL MONITOR DUCT STATIC PRESSURE AS MEASURED BY SYSTEM STATIC PRESSURE SENSOR SPS-SA AND CONTROL THE SPEED OF SF-RTU TO MAINTAIN STATIC PRESSURE SETPOINT (1.0, ADJUSTABLE). SEE FLOOR PLAN FOR LOCATION OF STATIC PRESSURE SENSOR. FINAL CONTROL SETPOINT SHALL BE AS DETERMINED BY PROJECT TEST & BALANCE CONTRACTOR AND SHALL BE THE LOWEST VALUE REQUIRED FOR EACH TERMINAL UNIT TO DELIVER ITS DESIGN FLOW AT SYSTEM MAXIMUM FLOW.
2. THE FACTORY PACKAGED CONTROLS SHALL MONITOR SPACE PRESSURE AS MEASURED BY STATIC PRESSURE SENSOR SDP-SPACE AND CONTROL THE SPEED OF EF-RTU TO MAINTAIN PRESSURE AT 0.1" W.G. (ADJUSTABLE). SEE FLOOR PLAN FOR LOCATION OF STATIC PRESSURE SENSOR. WHEN PRESSURE FALLS BELOW SETPOINT, THE ECM MOTOR SHALL GRADUALLY DECREASE FAN SPEED. WHEN PRESSURE RISES ABOVE SETPOINT, THE ECM MOTOR SHALL GRADUALLY INCREASE FAN SPEED.
3. THE FACTORY PACKAGED CONTROLS SHALL OPEN D-OA AND MODULATE THE DAMPERS TO MAINTAIN SYSTEM OA FROM FALLING BELOW MINIMUM VALUE, AS SCHEDULED ON DRAWING M7.01, THROUGH THE OA MEASUREMENT STATION AMS-OA WHEN D-OA IS FULLY OPEN AND OA IS STILL BELOW SETPOINT, MODULATE D-RA TOWARDS THE CLOSED POSITION AS REQUIRED TO MEET OA SETPOINT.
4. THE FACTORY PACKAGED CONTROLS SHALL STAGE COMPRESSORS AS REQUIRED TO MAINTAIN UNIT DISCHARGE AIR TEMPERATURE OF 55 DEG F, ADJUSTABLE.
5. WHEN SUPPLY AIR TEMPERATURE FALLS BELOW SUPPLY AIR TEMPERATURE SETPOINT, FACTORY PACKAGED CONTROLS SHALL MODULATE THE GAS CONTROL VALVE OPEN AND ENERGIZE THE GAS FURNACE AS REQUIRED TO MAINTAIN SUPPLY AIR TEMPERATURE AT 55 DEG F, ADJUSTABLE.
6. INTERLOCKED EXHAUST FANS SHALL ENERGIZE AND OPERATE CONTINUOUSLY.

ECONOMIZER OPERATION

1. WHEN THE RETURN AIR ENTHALPY IS GREATER THAN THE OUTSIDE AIR ENTHALPY FOR 15 MINUTES AS MEASURED BY THEIR RESPECTIVE ENTHALPY SENSORS, THE PACKAGED CONTROLS SHALL UTILIZE ENTHALPY ECONOMIZER LOGIC TO MODULATE OA DAMPER D-OA OPEN AND D-RA CLOSED TO MAINTAIN SCHEDULED SUPPLY AIR TEMPERATURE SETPOINT (55 DEG F, ADJUSTABLE) AS SENSED BY TS-1
2. ECONOMIZER CONTROLS SHALL OVERRIDE OUTSIDE AIR DAMPER INTEGRAL CONTROLS. HEATING AND COOLING SHALL DE-ENERGIZE.
3. WHEN D-OA IS FULLY OPEN AND SUPPLY AIR TEMPERATURE INCREASES ABOVE SUPPLY AIR SETPOINT BY 2 DEG F FOR 15 MINUTES, MECHANICAL COOLING SHALL ENERGIZE TO CYCLE COMPRESSORS TO MAINTAIN SUPPLY AIR SETPOINT.
4. WHEN OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY, D-OA SHALL CLOSE TO ITS MINIMUM POSITION, AND COMPRESSORS SHALL BE STAGED TO MAINTAIN SETPOINT. GAS FURNACE SHALL DE-ENERGIZE.
5. WHEN D-OA IS AT MINIMUM POSITION AND SUPPLY AIR TEMPERATURE FALLS BELOW SETPOINT BY 2 DEG F FOR 15 MINUTES, ECONOMIZER OPERATION SHALL END AND GAS FURNACE SHALL ENERGIZE TO MAINTAIN SUPPLY AIR SETPOINT.

MORNING WARMUP MODE

1. DDC SYSTEM SHALL ENABLE MORNING WARMUP MODE THRU THE RTU PACKAGED CONTROLS AT A TIME DETERMINED BY THE OPTIMIZATION PROGRAM TO ALLOW SPACES TO BE HEATED TO OCCUPIED SPACE TEMPERATURE SETPOINT BY THE START OF THE OCCUPIED PERIOD.
2. D-OA SHALL FULLY CLOSE AND D-RA SHALL FULLY OPEN.
3. WHEN THE LIMIT SWITCH ON D-RA INDICATES IT TO BE OPEN, SF-RTU SHALL ENERGIZE.
4. SF-RTU, THROUGH ITS ECM MOTOR CONTROL, SHALL MODULATE TO MAINTAIN A CONSTANT 1.5 IN. W.G. (ADJUSTABLE) STATIC PRESSURE AS SENSED BY SUPPLY DUCT STATIC PRESSURE SENSOR SPS-SA
5. EF-RTU SHALL DE-ENERGIZE AND COMPRESSORS SHALL BE LOCKED OUT.
6. GAS FURNACE SHALL MODULATE TO MAINTAIN 80 DEG F SUPPLY AIR SETPOINT, ADJUSTABLE.
7. DDC SYSTEM SHALL SIGNAL VAV BOXES INTO MORNING WARMUP MODE. VAV BOXES SHALL OPERATE UNDER THEIR MORNING WARMUP CONTROL SEQUENCES.
8. WHEN ALL OF THE VAV BOXES ARE WITHIN 2 DEG F OF THE OCCUPIED SETPOINT (70 DEG F), THE DDC SYSTEM SHALL INITIATE RTU-1 INTO OCCUPIED MODE OF OPERATION.

MORNING COOLDOWN

1. DDC SYSTEM SHALL ENABLE MORNING COOLDOWN MODE THRU THE RTU PACKAGED CONTROLS AT A TIME DETERMINED BY THE OPTIMIZATION PROGRAM TO ALLOW SPACES TO BE COOLED TO OCCUPIED SPACE TEMPERATURE SETPOINT BY THE START OF THE OCCUPIED PERIOD.
2. D-OA SHALL FULLY CLOSE AND D-RA SHALL FULLY OPEN.
3. WHEN THE LIMIT SWITCH OND-RA INDICATES IT TO BE OPEN, SUPPLY FAN SHALL ENERGIZE.
4. SF-RTU, THROUGH ITS ECM MOTOR CONTROL, SHALL MODULATE TO MAINTAIN A CONSTANT 1.0 IN. W.G. (ADJUSTABLE) STATIC PRESSURE AS SENSED BY SUPPLY DUCT STATIC PRESSURE SENSOR SPS-SA
5. EF-RTU SHALL DE-ENERGIZE.
6. GAS CONTROL VALVE SHALL FULLY BE CLOSED AND GAS FURNACE SHALL BE LOCKED OUT.
7. COMPRESSORS SHALL CYCLE TO MAINTAIN A 55 DEG F SUPPLY AIR TEMPERATURE AS SENSED BY TS-1
8. DDC SYSTEM SHALL SIGNAL VAV BOXES INTO MORNING COOLDOWN MODE. VAV BOXES SHALL OPERATE UNDER THEIR MORNING COOLDOWN CONTROL SEQUENCES.
9. WHEN ALL OF THE VAV BOXES HAVE ARE WITHIN 2 DEG F OF THE OCCUPIED SETPOINT (75 DEG F, ADJUSTABLE), THE DDC SYSTEM SHALL INITIATE RTU-1 INTO OCCUPIED MODE OF OPERATION.

SUPPLY AIR TEMPERATURE RESET

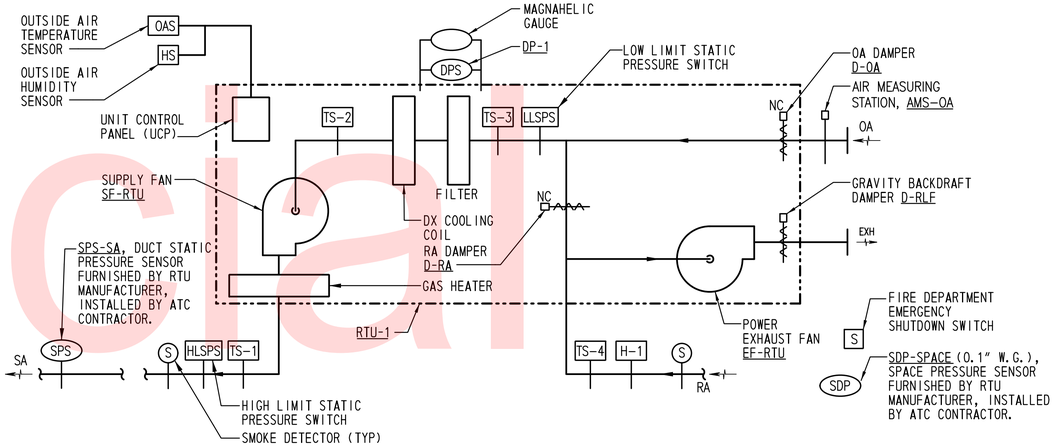
WHEN ECM MOTOR MODULATES DOWN TO 30 HZ, RESET SUPPLY AIR TEMPERATURE UP IN 1 DEG F INCREMENTS TOWARDS A MAXIMUM OF 60 DEG F. ONCE SUPPLY AIR TEMPERATURE REACHES 60 DEG F, ECM MOTOR SHALL BE PERMITTED TO MODULATE LOWER THAN 30 HZ. DISABLE RESET IF ANY ZONE IS MORE THAN 2 DEG F ABOVE COOLING SETPOINT. IF HUMIDITY AT H-1 IS ABOVE 60% RH, ADJUST SUPPLY AIR TEMPERATURE DOWN IN 1 DEG F INCREMENTS TOWARD A MINIMUM OF 55 DEG F.

STATIC PRESSURE SETPOINT RESET

PACKAGED CONTROLS SHALL RESET SUPPLY AIR STATIC PRESSURE SETPOINT LOWER AS REQUIRED TO PREVENT MOST WIDE OPEN VAV BOX PRIMARY DAMPER FROM BEING LESS THAN 90% OPEN.

SAFETY CONTROLS

1. WHEN EITHER SUPPLY AIR OR RETURN AIR DUCT SMOKE DETECTORS SENSE PRODUCTS OF COMBUSTION, DE-ENERGIZE SF-RTU AND EF-RTU, FULLY CLOSE D-OA AND D-RA, SIGNAL AN ALARM TO THE FIRE ALARM SYSTEM. THE INTERLOCK WITH THE SF-RTU AND EF-RTU SHALL BE HARDWIRED AND REQUIRE A MANUAL RESET.
2. WHEN THE SUPPLY AIR DUCT HIGH LIMIT STATIC PRESSURE SENSOR SENSES STATIC PRESSURE EXCEEDING THE 3.0 IN W.G. SETPOINT (ADJUSTABLE), DE-ENERGIZE SF-RTU AND EF-RTU AUTOMATICALLY RESTART SYSTEM AFTER ONE MINUTE DELAY. SECOND FAILURE IN ONE HOUR SHALL REQUIRE A MANUAL RESET.
3. WHEN THE SUPPLY AIR DUCT LOW LIMIT STATIC PRESSURE SENSOR SENSES STATIC PRESSURE BELOW THE NEGATIVE 2.0 IN W.G. SETPOINT (ADJUSTABLE), DE-ENERGIZE SF-RTU AND EF-RTU AUTOMATICALLY RESTART SYSTEM AFTER ONE MINUTE DELAY. SECOND FAILURE IN ONE HOUR SHALL REQUIRE A MANUAL RESET.
4. THE FACTORY PACKAGED CONTROLS SHALL COMMAND RTU TO DE-ENERGIZE UPON DETECTION OF LOW SYSTEM TEMPERATURE (40 DEG F) AS SENSED BY TS-1
5. FIRE DEPARTMENT EMERGENCY SHUTDOWN SWITCH SHALL BE PROVIDED FOR FIRE DEPARTMENT ACCESS IN THE SPACE AS REQUIRED BY NFPA. COORDINATE LOCATION WITH LOCAL FIRE DEPARTMENT. SWITCH SHALL SHUT DOWN ALL SUPPLY AND EXHAUST FANS IN THE BUILDING.



RTU-1 CONTROL SCHEMATIC

NOT TO SCALE

ROOFTOP AIR HANDLING UNIT RTU-1 SYSTEM CONTROLLER									
POINT I.D. #	POINT DESCRIPTION	AI	AO	DI	DO	ALARM			NOTES
						HI/LOW	MAINT.	FAILURE	
1	TS-1, SUPPLY AIR TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
2	TS-2, COOLING COIL DISCHARGE TEMPERATURE SENSOR	X				X			
3	TS-3, MIXED AIR TEMPERATURE SENSOR	X				X			
4	TS-4, RETURN AIR TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
5	OAS, OUTSIDE AIR TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
6	OUTDOOR AIRFLOW FROM AMS-OA	X				X			PROVIDED FROM UNIT CONTROL PANEL
7	SF-RTU, ECM MOTOR PERCENT SPEED	X				X			PROVIDED FROM UNIT CONTROL PANEL
8	EF-RTU, ECM MOTOR PERCENT SPEED	X				X			PROVIDED FROM UNIT CONTROL PANEL
9	SPS-SA, SUPPLY AIR STATIC PRESSURE	X				X			PROVIDED FROM UNIT CONTROL PANEL
10	SDP-SPACE, SPACE DIFFERENTIAL PRESSURE	X				X			PROVIDED FROM UNIT CONTROL PANEL
11	H-1, RETURN AIR HUMIDITY	X				X			PROVIDED FROM UNIT CONTROL PANEL
12	H-0A, OUTSIDE AIR HUMIDITY	X				X			PROVIDED FROM UNIT CONTROL PANEL
13	SF-RTU STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
14	EF-RTU STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
15	LOW LIMIT STATIC PRESSURE SWITCH			X		X			PROVIDED FROM UNIT CONTROL PANEL
16	HIGH LIMIT STATIC RESSURE SWITCH			X		X			PROVIDED FROM UNIT CONTROL PANEL
17	DP-1, FILTER DIFFERENTIAL PRESSURE SWITCH			X			X		PROVIDED FROM UNIT CONTROL PANEL
18	SA DUCT SMOKE DETECTOR			X					
19	RA DUCT SMOKE DETECTOR			X					
20	RTU-1 START/STOP				X				

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004M-501.dgn
10/27/2017 3:03:49 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

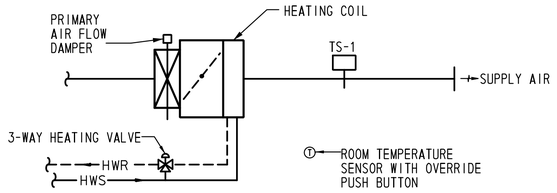
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: TLP	
CHECKED BY: CAH	

AUTOMATIC TEMPERATURE CONTROLS

M-501	
SHEET NO.	121
TOTAL SHTS.	189



VAV BOX SCHEMATIC

NOT TO SCALE

VAV TERMINAL UNIT SEQUENCE OF OPERATION

GENERAL:

1. UNIT DESCRIPTION: VARIABLE AIR VOLUME BOX WITH HYDRONIC HEATING COIL.
2. INSTALL VAV TERMINAL UNIT CONTROLLER ON THE VAV BOX THAT IT SERVES AND DIGITALLY COMMUNICATE WITH THE DDC SYSTEM.
3. AHU OPERATING STATUS AND SCHEDULES, TEMPERATURE SETPOINTS, STATIC PRESSURE SETPOINTS AND EQUIPMENT ALARM CONDITIONS SHALL BE MONITORED AND ADJUSTED THROUGH THE DDC SYSTEM. OPERATOR SHALL ALSO BE ABLE TO PERFORM ALL MONITORING AND CONTROL DIRECTLY FROM THE DDC CONTROL PANEL.
4. INITIAL TEMPERATURE SETPOINTS SHALL BE AS FOLLOWS (AND ADJUSTABLE) FOR ALL ZONES:

   OCCUPIED COOLING: 75 DEG F
   OCCUPIED HEATING: 70 DEG F
   UNOCCUPIED COOLING: 85 DEG F
   UNOCCUPIED HEATING: 60 DEG F

5. EACH VAV BOX MAXIMUM AND MINIMUM AIRFLOWS SHALL BE AS SCHEDULED.

OCCUPIED MODE:

1. THE VAV BOX DAMPER SHALL MODULATE BETWEEN THE MINIMUM AIR VOLUME SETPOINT AND THE MAXIMUM AIR VOLUME SETPOINT TO MAINTAIN THE ZONE TEMPERATURE SETPOINT.
2. UPON A FALL IN TEMPERATURE BELOW THE COOLING TEMPERATURE SETPOINT, THE DAMPER SHALL MAINTAIN MINIMUM AIRFLOW SETPOINT. UPON A FURTHER FALL IN SPACE TEMPERATURE BELOW THE HEATING TEMPERATURE SETPOINT, THE HEATING COIL CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN ZONE TEMPERATURE SETPOINT AND TERMINAL UNIT AIR VOLUME SHALL INCREASE TO HEATING AIRFLOW SETPOINT AS INDICATED IN SCHEDULE.
3. UPON A RISE IN TEMPERATURE ABOVE THE HEATING TEMPERATURE SETPOINT, THE DAMPER SHALL MAINTAIN AIRFLOW AT THE SCHEDULED MINIMUM AIRFLOW AND THE HEATING WATER CONTROL VALVE SHALL BE CLOSED.

UNOCCUPIED MODE:

1. THE UNITS SHALL OPERATE IN UNOCCUPIED MODE TO MAINTAIN ZONE UNOCCUPIED TEMPERATURE SETPOINTS.
2. RTU-1 SHALL ENERGIZE AND ALL VAV BOX DAMPERS SHALL OPEN FULLY WHEN A MINIMUM OF THREE VAV ZONE TEMPERATURES IS ABOVE 85 DEG F FOR 10 MINUTES OR LONGER. RTU-1 SHALL DE-ENERGIZE AND ALL VAV BOX DAMPERS SHALL CLOSE WHEN ALL VAV ZONE TEMPERATURES FALL BELOW 82 DEG F FOR 10 MINUTES OR LONGER.
3. RTU-1 SHALL ENERGIZE WHEN A MINIMUM OF THREE VAV ZONE TEMPERATURES IS BELOW 60 DEG F FOR 10 MINUTES OR LONGER. THE VAV UNIT SHALL MODULATE THE DAMPER TO MAINTAIN THE SCHEDULED HEATING AIRFLOW. THE VAV HEATING COIL CONTROL VALVE SHALL OPEN AS REQUIRED TO MAINTAIN ZONE TEMPERATURE SETPOINT. RTU-1 SHALL DE-ENERGIZE AND ALL VAV BOX DAMPERS SHALL CLOSE WHEN ALL VAV ZONE TEMPERATURES FALL BELOW 62 DEG F FOR 10 MINUTES OR LONGER.

MORNING WARMUP MODE:

1. DDC SYSTEM SHALL INITIALIZE MORNING WARMUP MODE AT A TIME DETERMINE BY THE OPTIMIZATION PROGRAM TO ALLOW SPACES TO BE HEATED TO OCCUPIED SPACE TEMPERATURE BY THE START OF THE OCCUPIED PERIOD.
2. THE VAV BOX DAMPER SHALL BE FULLY OPEN FOR MAXIMUM AIRFLOW.
3. INDEX UNITS TO OCCUPIED MODE WHEN SPACE TEMPERATURES REACH THE OCCUPIED SETPOINT.

MORNING COOLDOWN MODE:

1. DDC SYSTEM SHALL INITIALIZE MORNING COOLDOWN MODE AT A TIME DETERMINE BY THE OPTIMIZATION PROGRAM TO ALLOW SPACES TO BE COOLED TO OCCUPIED SPACE TEMPERATURE BY THE START OF THE OCCUPIED PERIOD.
2. THE VAV BOX DAMPER SHALL BE FULLY OPEN FOR MAXIMUM AIRFLOW TO BRING ZONE TEMPERATURE DOWN TO SETPOINT.
3. INDEX UNITS TO OCCUPIED MODE WHEN SPACE TEMPERATURES REACH THE OCCUPIED SETPOINT.

VAV BOX WITH HOT WATER REHEAT CONTROLLER

POINT I.D. #	POINT DESCRIPTION	AI	AO	DI	DO	ALARM			NOTES
						HI/LOW	MAINT.	FAILURE	
1	SPACE TEMPERATURE	X				X			
2	TS-1, SUPPLY AIR TEMPERATURE	X				X			
3	PRIMARY AIRFLOW	X				X			
4	PRIMARY AIR DAMPER POSITION		X						
5	HEATING VALVE POSITION		X						
6	OVERRIDE			X					

HEATING & VENTILATING UNIT (HV-1) – SEQUENCE OF OPERATION

GENERAL:

1. HV-1 SHALL BE PROVIDED WITH FACTORY PACKAGED CONTROLS WHICH SHALL BE INTERFACED WITH THE BUILDING MANAGEMENT SYSTEM (BMS).
2. ALARM CONTACTS AT VFDs SHALL MONITOR FAN OPERATION AND SHALL ALARM THE DDC SYSTEM UPON DETECTION OF ITS RESPECTIVE FAN FAILURE.
3. TEMPERATURE SENSORS SHALL MONITOR SYSTEM TEMPERATURES THROUGH THE PACKAGED CONTROLS.
4. WHEN HV-1 IS DE-ENERGIZED, UNIT DAMPERS RETURN TO THEIR NORMAL POSITIONS, FANS AND ENERGY RECOVERY WHEEL ERW-HV1 STOP, AND HEATING AND COOLING EQUIPMENT DE-ENERGIZES.
5. HV-1 OPERATING STATUS AND SCHEDULES, TEMPERATURE SETPOINTS, STATIC PRESSURE SETPOINTS AND EQUIPMENT ALARM CONDITIONS SHALL BE MONITORED BY THE DDC SYSTEM AND MONITORED/ADJUSTED THROUGH THE PACKAGED CONTROLS PROVIDED BY THE UNIT MANUFACTURER. OPERATOR SHALL BE ABLE TO PERFORM ALL MONITORING DIRECTLY FROM THE DDC PANEL LOCATED IN THE MECHANICAL ROOM.
6. INITIAL UNIT SUPPLY AIR TEMPERATURES SHALL BE AS SCHEDULED AND BE ADJUSTABLE.
7. WHEN OUTSIDE AIR TEMPERATURE SENSOR, TS-OA, SENSES TEMPERATURE ABOVE 65 DEG F, ENERGY RECOVERY WHEEL SHALL DE-ENERGIZE.

OCCUPIED MODE:

1. OPEN OUTSIDE AIR (OA) DAMPER D-OA-HV1. WHEN D-OA-HV1 IS PROVEN OPEN BY ITS LIMIT SWITCH, THE SUPPLY AND EXHAUST FANS SHALL START AND RUN CONTINUOUSLY AT THEIR MINIMUM SCHEDULED AIR VOLUME. THE VFD SHALL GRADUALLY INCREASE THE FAN SPEEDS TO THEIR CONTROLLED POSITION.
2. WHEN THE SPACE TEMPERATURE RISES ABOVE 85 DEG F (ADJUSTABLE) AS SENSED BY RETURN AIR TEMPERATURE SENSOR TS-5, THE VFDS SHALL INCREASE THE SUPPLY AND EXHAUST FAN SPEEDS TO PROVIDE THE MAXIMUM SCHEDULED AIR VOLUME. WHEN THE SPACE TEMPERATURE FALLS BELOW 80 DEG F (ADJUSTABLE) AS SENSED BY TS-5, THE VFDS SHALL DECREASE THE SUPPLY AND EXHAUST FAN SPEEDS TO PROVIDE THE MINIMUM SCHEDULED AIR VOLUME.
3. THE PACKAGED CONTROLS SHALL CONTROL THE SUPPLY AND EXHAUST FAN SPEEDS THROUGH THEIR RESPECTIVE VFDs TO MAINTAIN SYSTEM OA VOLUME FROM FALLING BELOW MINIMUM VALUE AS SCHEDULED AND MEASURED BY THE OA MEASUREMENT STATIONS AMS-OA-HV1 AND AMS-EXH-HV1.
4. THE PACKAGED CONTROLS SHALL MONITOR ENERGY RECOVERY WHEEL DISCHARGE AIR TEMPERATURE AS SENSED BY TS-2 AND CONTROL HV-1 TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT (68 DEG F, ADJUSTABLE) AS SENSED BY DISCHARGE AIR TEMPERATURE SENSOR TS-1. IF TS-2 SENSES TEMPERATURE BELOW 66 DEG F, THE PACKAGED CONTROLS SHALL ENABLE THE GAS FURNACE AND MODULATE THE GAS CONTROL VALVE OPEN AND ENERGIZE THE GAS FURNACE AS REQUIRED TO MAINTAIN UNIT SUPPLY AIR TEMPERATURE (68 DEG F, ADJUSTABLE).
5. ON A RISE IN CARBON MONOXIDE (CO), NITROUS OXIDE (NOx), OR COMPRESSED NATURAL GAS (CNG) LEVELS ABOVE SETPOINT, THE DDC SYSTEM SHALL INCREASE THE FAN SPEEDS, THROUGH VFD OPERATION, TO THE MAXIMUM SCHEDULED AIR VOLUME. CO SETPOINT SHALL BE NINE (9) PARTS PER MILLION. NOx SETPOINT SHALL BE 100 MICROGRAMS PER CUBIC METER. CNG SETPOINT SHALL BE 20% LFL.

UNOCCUPIED MODE:

HV-1 SHALL DE-ENERGIZE AND MOTOR OPERATED DAMPERS SHALL CLOSE.

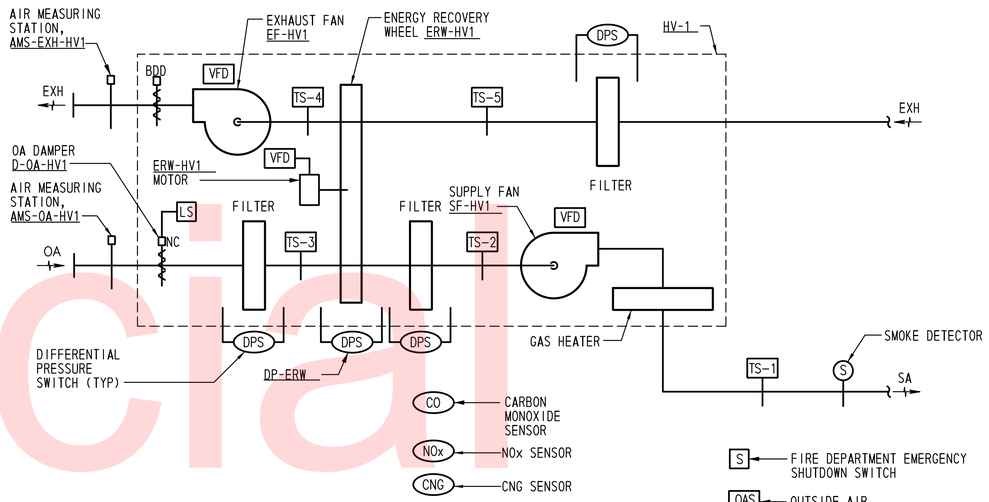
ENERGY WHEEL FROST CONTROL

PROVIDE MODULATING WHEEL FROST CONTROL TO ALLOW FOR CONTINUOUS OPERATION OF UNIT. FROST CONTROL SHALL OPERATE AS FOLLOWS:

1. WHEN DIFFERENTIAL PRESSURE SENSOR, DP-ERW, DETECTS AN INCREASE IN PRESSURE DROP ACROSS THE ENERGY RECOVERY WHEEL ABOVE THE FACTORY SETPOINT (ADJUSTABLE), AND TS-OA SENSES A TEMPERATURE BELOW THE FACTORY SETPOINT (ADJUSTABLE), THE VFD SHALL REDUCE THE WHEEL SPEED.
2. WHEN THE PRESSURE DROP DECREASES BELOW SETPOINT, WHEEL SHALL OPERATE AT FULL SPEED.

SAFETY CONTROLS

1. WHEN SUPPLY AIR DUCT SMOKE DETECTOR SENSES PRODUCTS OF COMBUSTION, DE-ENERGIZE SUPPLY AIR FAN, CLOSE D-OA-HV1, SIGNAL AN ALARM TO THE FIRE ALARM SYSTEM. THE INTERLOCK WITH THE SUPPLY AND EXHAUST AIR FANS SHALL BE HARD-WIRED AND REQUIRE MANUAL RESET.
2. THE PACKAGED CONTROLS SHALL COMMAND HV-1 TO DE-ENERGIZE UPON DETECTION OF LOW SYSTEM TEMPERATURE (40 DEG F) AS SENSED BY TS-1.
3. FIRE DEPARTMENT EMERGENCY SHUTDOWN SWITCH SHALL BE PROVIDED FOR FIRE DEPARTMENT ACCESS IN THE SPACE AS REQUIRED BY NFPA. COORDINATE LOCATION WITH LOCAL FIRE DEPARTMENT. SWITCH SHALL SHUT DOWN ALL SUPPLY AND EXHAUST FANS IN THE BUILDING.



HEATING & VENTILATING UNIT HV-1 CONTROL SCHEMATIC

NOT TO SCALE

HEATING & VENTILATING UNIT HV-1 SYSTEM CONTROLLER

POINT I.D. #	POINT DESCRIPTION	AI	AO	DI	DO	ALARM			NOTES
						HI/LOW	MAINT.	FAILURE	
1	TS-1, HEATER DISCHARGE TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
2	TS-5, RA TEMPERATURE SENSOR	X				X			
3	TS-OA, OA TEMPERATURE SENSOR	X				X			
4	OUTDOOR AIRFLOW FROM AMS-OA-HV1	X				X			PROVIDED FROM UNIT CONTROL PANEL
5	EXHAUST AIRFLOW FROM AMS-EXH-HV1	X				X			PROVIDED FROM UNIT CONTROL PANEL
6	SF-HV1 VFD FREQUENCY	X				X			PROVIDED FROM UNIT CONTROL PANEL
7	EF-HV1 VFD FREQUENCY	X				X			PROVIDED FROM UNIT CONTROL PANEL
8	CARBON MONOXIDE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
9	NOX SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
10	CNG SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
11	SF-HV1 VFD FREQUENCY		X						
12	EF-HV1 VFD FREQUENCY		X						
13	SF-HV1 STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
14	EF-HV1 STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
15	SA FILTER DIFFERENTIAL PRESSURE SWITCH			X			X		PROVIDED FROM UNIT CONTROL PANEL
16	OA FILTER DIFFERENTIAL PRESSURE SWITCH			X			X		PROVIDED FROM UNIT CONTROL PANEL
17	EA FILTER DIFFERENTIAL PRESSURE SWITCH			X			X		PROVIDED FROM UNIT CONTROL PANEL
18	SA DUCT SMOKE DETECTOR			X					
19	HV-1 START/STOP				X				

Unofficial Web Site Copy

N:\99181-019\CADD\Phase II\Sheet Files\CP01-99181004M-502.dgn
10/27/2017 3:03:49 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

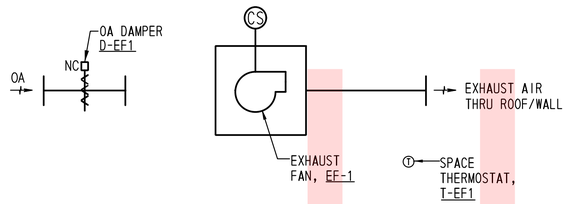
ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TLP
CHECKED BY: CAH

AUTOMATIC TEMPERATURE CONTROLS

M-502
SHEET NO. 122
TOTAL SHTS. 189



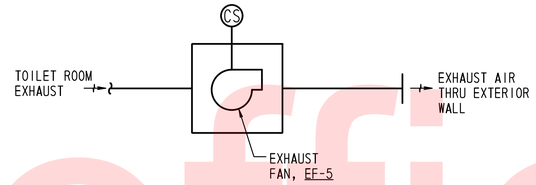
EXHAUST FAN SCHEMATIC (EF-1 THRU EF-4 & EF-11)

NOT TO SCALE

EXHAUST FAN (EF-1 THRU EF-4 & EF-11) - SEQUENCE OF OPERATION

GENERAL:

1. SUMMER TEMPERATURE SETPOINT: 95 DEG F
2. SCHEMATIC AND SEQUENCE FOR EF-1 INDICATED, TYPICAL FOR EF-2 THRU EF-4 & EF-11.
3. WHEN THE SPACE TEMPERATURE RISES 2 DEG F ABOVE THE DESIGN SETPOINT AS DETECTED BY WALL-MOUNTED THERMOSTAT T-EF1, MODULATE THE TRANSFER AIR DAMPER D-1 OPEN AND ENERGIZE EF-1.



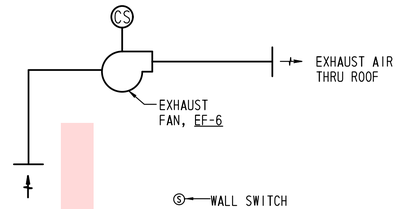
EXHAUST FAN SCHEMATIC (EF-5 & EF-10)

NOT TO SCALE

EXHAUST FAN (EF-5 & EF-10) - SEQUENCE OF OPERATION

GENERAL:

1. SCHEMATIC FOR EF-5 INDICATED, TYPICAL FOR EF-10.
2. EXHAUST FAN EF-5 SHALL BE INTERLOCKED WITH RTU-1. EXHAUST FAN EF-10 SHALL BE INTERLOCKED WITH RTU-2.



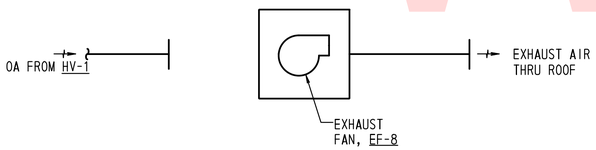
TAILPIPE EXHAUST FAN SCHEMATIC (EF-6 & EF-7)

NOT TO SCALE

TAILPIPE EXHAUST FAN (EF-6 AND EF-7) - SEQUENCE OF OPERATION

GENERAL:

1. SCHEMATIC AND SEQUENCE FOR EF-6 INDICATED, TYPICAL FOR EF-7.
2. EACH EXHAUST FAN SHALL BE CONNECTED TO A PAIR OF EXHAUST HOSE REELS AND A DIRECT MOUNT SWITCH MOUNTED ON THE WALL.
3. DDC SYSTEM SHALL MONITOR EXHAUST FAN STATUS THROUGH CURRENT SENSOR RELAY AND SHALL ALARM UPON DETECTION OF FAN FAILURE.
4. ENERGIZE EXHAUST FAN EF-6 WHEN THE MANUAL FAN SWITCH IS IN THE "ON POSITION.
5. STOP EF-6 WHEN MANUAL FAN SWITCH IS IN THE "OFF"POSITION.



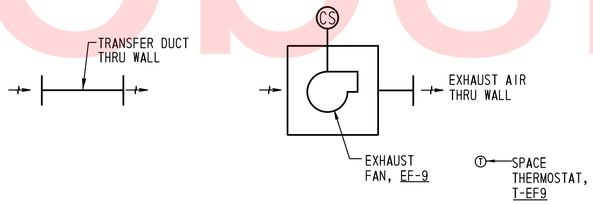
EXHAUST FAN SCHEMATIC (EF-8)

NOT TO SCALE

EXHAUST FAN (EF-8) - SEQUENCE OF OPERATION

GENERAL:

1. EXHAUST FAN EF-8 SHALL BE INTERLOCKED WITH HV-1.
2. WHEN HV-1 IS DELIVERING 50% SUPPLY AIR VOLUME, EF-8 SHALL BE AT 50% SPEED. WHEN HV-1 IS DELIVERING 100% SUPPLY AIR VOLUME, EF-8 SHALL BE AT 100%.
3. WHEN HV-1 IS DE-ENERGIZED, EF-8 SHALL BE OFF.



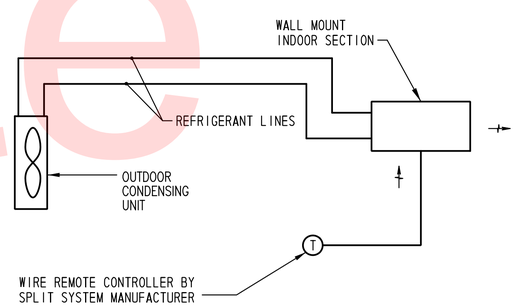
EXHAUST FAN SCHEMATIC (EF-9)

NOT TO SCALE

EXHAUST FAN (EF-9) - SEQUENCE OF OPERATION

GENERAL:

1. WHEN THE SPACE TEMPERATURE RISES ABOVE THE DESIGN SETPOINT (95 DEG F, ADJUSTABLE), AS SENSED BY THE WALL MOUNTED THERMOSTAT T-EF9, ENERGIZE THE EXHAUST FAN.
2. WHEN THE SPACE TEMPERATURE FALLS BELOW 90 DEG F (ADJUSTABLE), DE-ENERGIZE THE EXHAUST FAN.



DUCTLESS SPLIT SYSTEM UNIT CONTROL SCHEMATIC

NOT TO SCALE

DUCTLESS SPLIT SYSTEM (ACU-X/ACCU-X) SEQUENCE OF OPERATIONS

COOLING ONLY OPERATION (ACU-1/ACCU-1 & ACU-4/ACCU-4)

1. UNIT SHALL OPERATE UNDER PACKAGED CONTROLS TO MAINTAIN SPACE TEMPERATURE SETPOINT.

HEAT PUMP OPERATION (ACU-2/ACCU-2 & ACU-3/ACCU-3)

1. UNIT SHALL OPERATE UNDER PACKAGED CONTROLS AND RESPOND TO THE PROGRAMMABLE THERMOSTAT TO MAINTAIN SPACE TEMPERATURE SETPOINT.

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004M-503.dgn
10/27/2017 3:03:50 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TLP
CHECKED BY: CAH

AUTOMATIC TEMPERATURE CONTROLS

M-503
SHEET NO. 123
TOTAL SHTS. 189

BMS SYSTEM GENERAL NOTES

1. BMS SYSTEM SHALL BE BACNET COMPLIANT. PROVIDE WEB-BASED BROWSER GRAPHIC USER INTERFACE TO ENABLE SYSTEM MONITORING AND CONTROL FROM ANY NETWORK CONNECTED COMPUTER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY CONTROL DEVICES, TRANSFORMERS, RELAYS, SENSORS, AND WIRING, BOTH LOW AND LINE VOLTAGE, AND ALL OTHER ITEMS REQUIRED FOR A COMPLETE WORKING CONTROLS SYSTEM THAT ACCOMPLISHES THE DESIGN INTENT. SHOULD THE CONTRACTOR NOT BE PROPERLY CERTIFIED FOR PERFORMING LINE VOLTAGE ELECTRICAL WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THIS WORK THROUGH OTHERS WHO POSSESS THE APPROPRIATE CERTIFICATION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE COORDINATION AND EXECUTION OF THIS WORK.

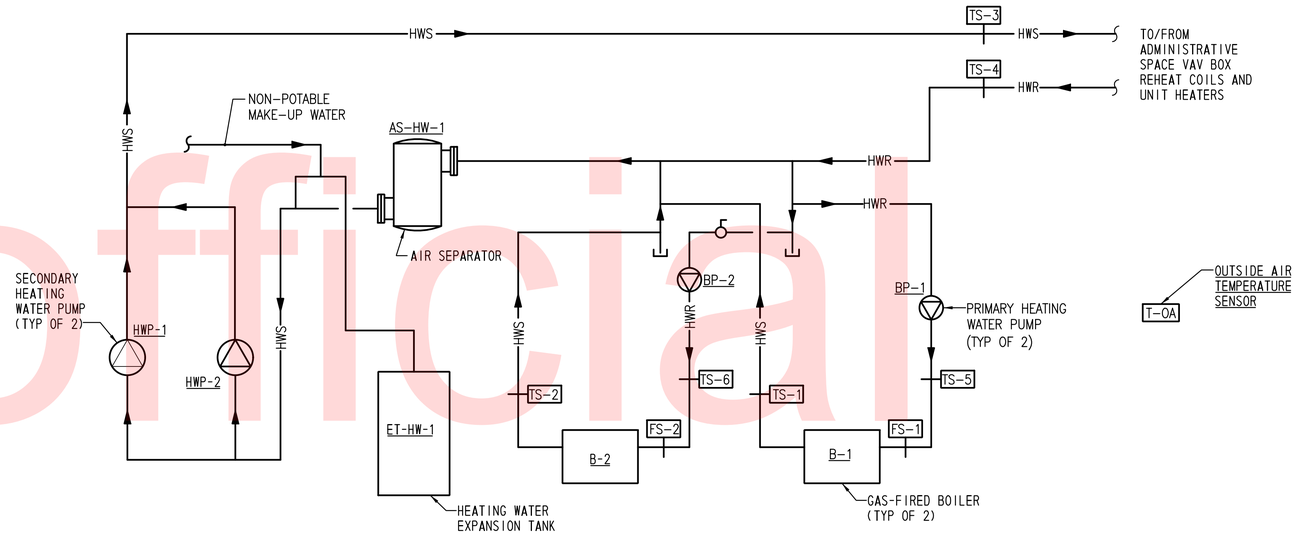
3. PROVIDE GRAPHICS FOR ALL EQUIPMENT AND SYSTEMS PROVIDED AS PART OF THIS PROJECT. PROVIDE GRAPHIC FOR EACH SPACE SHOWING REAL TIME INFORMATION ON SPACE TEMPERATURES.

4. CONTROL POINTS INDICATED IN THE POINTS LIST AND THEIR ASSOCIATED VALUES SHALL BE DISPLAYED WITH REAL TIME INFORMATION ON THE CENTRAL WORKSTATION GRAPHIC USER INTERFACE.

5. PROVIDE AN EMERGENCY SHUTOFF PUSHBUTTON AT LOCATION INDICATED ON THE DRAWINGS TO DEACTIVATE ALL FANS. THE PUSHBUTTON SHALL BE HARDWIRED TO FANS AND SHALL HAVE A PROTECTIVE FLIP TOP COVER TO PREVENT ACCIDENTAL ACTIVATION. THE SYSTEM SHALL BE MANUALLY RESTARTED THROUGH THE DDC SYSTEM GRAPHIC INTERFACE.

6. WHERE DDC CONTROL PANELS ARE SHOWN ON THE DRAWINGS, PROVIDE MULTIPLE PANELS AS REQUIRED IMPLEMENTING THE SEQUENCE OF OPERATIONS AND PROVIDING REQUIRED CONTROL POINTS. EXTEND POWER WIRING TO DDC CONTROL PANELS FROM NEAREST 120 VOLT PANEL WITH SUITABLE SPARE BREAKERS UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

7. ALARMS SHALL BE INDICATED ON THE GRAPHIC USER INTERFACE. NOTIFICATION SHALL BE IN PLAIN ENGLISH AND SHALL CLEARLY DESCRIBE THE ALARM CONDITION WITHOUT THE NEED FOR ADDITIONAL REFERENCE INFORMATION. FOR EXAMPLE, THE ALARM FOR AN AHU FAN FAILURE SHALL BE "AHU FAN FAILURE." NUMERICAL OR ALPHANUMERICAL ALARMS ARE NOT ACCEPTABLE.



HEATING WATER PLANT PIPING SCHEMATIC

NOT TO SCALE

HEATING WATER SYSTEM CONTROLLER

POINT I.D. #	POINT DESCRIPTION	HARDWARE POINTS				SOFTWARE POINTS					SHOW ON GRAPHIC	NOTES
		AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM		
1	TS-OA, GLOBAL OUTSIDE AIR TEMPERATURE	X									X	PROVIDED THRU BOILER CONTROL PANEL
2	TS-1, BOILER B-1 DISCHARGE TEMPERATURE	X							X	X	X	PROVIDED THRU BOILER CONTROL PANEL
3	TS-2, BOILER B-2 DISCHARGE TEMPERATURE	X							X	X	X	PROVIDED THRU BOILER CONTROL PANEL
4	TS-3, HWS LOOP TEMPERATURE	X							X		X	PROVIDED THRU BOILER CONTROL PANEL
5	TS-4, HWR LOOP TEMPERATURE	X							X		X	PROVIDED THRU BOILER CONTROL PANEL
6	BP-1, PRIMARY PUMP STATUS (B-1)			X						X	X	PROVIDED THRU BOILER CONTROL PANEL
7	BP-2, PRIMARY PUMP STATUS (B-2)			X						X	X	PROVIDED THRU BOILER CONTROL PANEL
8	HWP-1, SECONDARY PUMP STATUS			X						X	X	PROVIDED THRU BOILER CONTROL PANEL
9	HWP-2, SECONDARY PUMP STATUS			X						X	X	PROVIDED THRU BOILER CONTROL PANEL
10	BOILER B-1 STATUS			X						X	X	PROVIDED THRU BOILER CONTROL PANEL
11	BOILER B-2 STATUS			X						X	X	PROVIDED THRU BOILER CONTROL PANEL
12	HEATING WATER PLANT ENABLE/DISABLE				X					X	X	

HEATING WATER SYSTEM - SEQUENCE OF OPERATION

GENERAL:

1. TYPE: CONSTANT VOLUME, PRIMARY/SECONDARY SYSTEM WITH OUTSIDE AIR RESET.
2. SYSTEM OPERATION SHALL BE FULLY AUTOMATIC WITH MANUAL OVERRIDES.
3. HEATING SYSTEM OPERATING STATUS AND SCHEDULES, TEMPERATURE SETPOINTS AND EQUIPMENT ALARM CONDITIONS SHALL BE MONITORED BY THE DDC SYSTEM AND MONITORED/ADJUSTED THROUGH THE PACKAGED CONTROLS SYSTEM PROVIDED BY THE BOILER MANUFACTURER. OPERATOR SHALL BE ABLE TO PERFORM ALL MONITORING AND CONTROL OF THE HEATING WATER SYSTEM DIRECTLY FROM THE DDC PANEL LOCATED IN THE MECHANICAL ROOM.
4. SECONDARY PUMPS SHALL OPERATE AS LEAD/LAG. THROUGH THE BOILER CONTROLS, SECONDARY HEATING WATER PUMPS (HWP-1 & HWP-2) SHALL ALTERNATE LEAD PUMP ASSIGNMENT, BASED ON RUNTIME.
5. HEATING WATER TEMPERATURE SHALL BE RESET LINEARLY BASED ON THE FOLLOWING SCHEDULE:

OA TEMP	HWS TEMP
BELOW 20 DEG F	140 DEG F
20 DEG F TO 50 DEG F	INTERPOLATE
50 DEG F AND ABOVE	120 DEG F

HEATING WATER SYSTEM:

1. UPON A SIGNAL FOR HEATING, THE HEATING WATER SYSTEM SHALL BE ENABLED.
2. ENERGIZE THE PRIMARY HEATING WATER PUMP, BP-1, AND THE LEAD SECONDARY HEATING WATER PUMP. UPON PROOF OF WATER FLOW BY FLOW SWITCH, FS-1, BOILER B-1 SHALL BE ENABLED.
3. IF FS-1 FAILS TO PROVE FLOW, AN ALARM SHALL BE SIGNALED, AND THE STANDBY PUMP SHALL BE STARTED. UPON A FURTHER FAILURE TO PROVE FLOW AT THE FLOW SWITCH, THE HEATING WATER SYSTEM SHALL BE SHUT DOWN AND A FAILURE ALARM SHALL BE INITIATED.
4. BOILER PACKAGED CONTROLS SHALL MODULATE BOILER OUTPUT TO MAINTAIN HEATING WATER SUPPLY WATER TEMPERATURE AS SENSED BY TS-3 IN ACCORDANCE WITH OUTSIDE AIR RESET SCHEDULE.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004M-504.dgn
10/27/2017 3:03:35 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

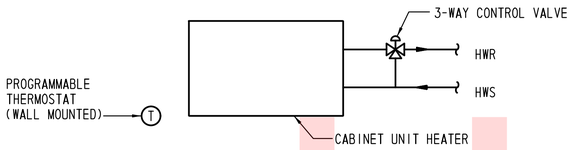
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TLP
CHECKED BY: CAH

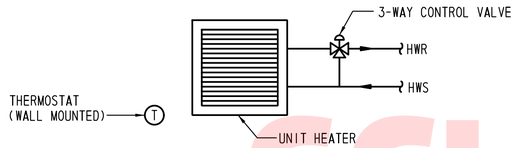
AUTOMATIC TEMPERATURE CONTROLS

M-504
SHEET NO. 124
TOTAL SHTS. 189



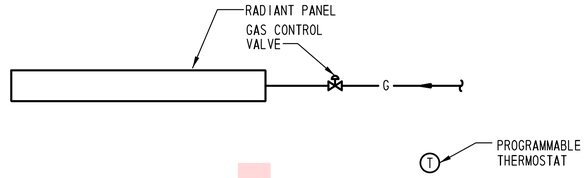
HYDRONIC CABINET UNIT HEATER CONTROL SCHEMATIC

NOT TO SCALE



HYDRONIC UNIT HEATER CONTROL SCHEMATIC

NOT TO SCALE



RADIANT PANEL CONTROL SCHEMATIC (RP-1 THRU RP-11)

NOT TO SCALE

HYDRONIC CABINET UNIT HEATER (CUH-X) SEQUENCE OF OPERATIONS

GENERAL:

1. OCCUPIED VERSUS UNOCCUPIED MODE IS ADJUSTABLE AND SHALL BE ENABLED BY A PROGRAMMABLE THERMOSTAT PROVIDED BY ATC CONTRACTOR.

OCCUPIED MODE:

1. OCCUPIED TEMPERATURE SETPOINT FOR CUH-1 SHALL BE 70 DEG F (ADJUSTABLE). OCCUPIED SETPOINT FOR CUH-2 THRU CUH-4 SHALL BE 65 DEG F (ADJUSTABLE).
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT, AS SENSED BY THERMOSTAT, CYCLE FAN ON AND FULLY OPEN HEATING COIL CONTROL VALVE.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, AS SENSED BY THERMOSTAT, DE-ENERGIZE FAN AND FULLY CLOSE HEATING COIL CONTROL VALVE.

UNOCCUPIED MODE:

1. OCCUPIED TEMPERATURE SETPOINT FOR CUH-1 SHALL BE 60 DEG F (ADJUSTABLE). OCCUPIED SETPOINT FOR CUH-2 THRU CUH-4 SHALL BE 50 DEG F (ADJUSTABLE).
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT, AS SENSED BY THERMOSTAT, CYCLE FAN ON AND FULLY OPEN HEATING COIL CONTROL VALVE.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, AS SENSED BY THERMOSTAT, DE-ENERGIZE FAN AND FULLY CLOSE HEATING COIL CONTROL VALVE.

ELECTRIC UNIT HEATER (UH-4, UH-5, & UH-8) SEQUENCE OF OPERATIONS

GENERAL:

1. SPACE TEMPERATURE SETPOINT FOR UH-4 & UH-5 SHALL BE 55 DEG F (ADJUSTABLE). SPACE TEMPERATURE SETPOINT FOR UH-8 SHALL BE 50 DEG F (ADJUSTABLE). TEMPERATURE SETPOINTS SHALL BE MEASURED BY WALL MOUNTED THERMOSTAT PROVIDED BY ATC CONTRACTOR.
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT, AS SENSED BY THERMOSTAT, CYCLE FAN ON AND ENERGIZE HEATING COIL.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, CYCLE FAN OFF AND DE-ENERGIZE HEATING COIL.

ELECTRIC BASEBOARD HEATERS (EBB-1 THRU EBB-6) SEQUENCE OF OPERATIONS

WHEN INTEGRAL THERMOSTAT SENSES A TEMPERATURE 2 DEG F BELOW HEATING SETPOINT (70 DEGREES F, ADJUSTABLE), THE HEATER SHALL ENERGIZE. WHEN THE SETPOINT IS SATISFIED, THE HEATER SHALL DE-ENERGIZE.

ELECTRIC WALL HEATER (EWH-1 THRU EWH-4) SEQUENCE OF OPERATIONS

WHEN INTEGRAL THERMOSTAT SENSES A TEMPERATURE 2 DEG F BELOW HEATING SETPOINT (70 DEGREES F, ADJUSTABLE), THE HEATER SHALL ENERGIZE. WHEN THE SETPOINT IS SATISFIED, THE HEATER SHALL DE-ENERGIZE.

HYDRONIC UNIT HEATER (UH-1 & UH-2) SEQUENCE OF OPERATIONS

GENERAL:

1. SPACE TEMPERATURE SETPOINT FOR UH-1 & UH-2 SHALL BE 55 DEG F (ADJUSTABLE) AS MEASURED BY WALL MOUNTED THERMOSTAT PROVIDED BY ATC CONTRACTOR.
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT, AS SENSED BY THERMOSTAT, CYCLE FAN ON AND FULLY OPEN HEATING COIL CONTROL VALVE.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, CYCLE FAN OFF AND FULLY CLOSE HEATING COIL CONTROL VALVE.

ELECTRIC UNIT HEATER (UH-3, UH-6, & UH-7) SEQUENCE OF OPERATIONS

GENERAL:

1. OCCUPIED VESUS UNOCCUPIED MODE IS ADJUSTABLE AND SHALL BE ENABLED BY A PROGRAMMABLE THERMOSTAT PROVIDED BY THE ATC CONTRACTOR.

OCCUPIED MODE:

1. OCCUPIED SPACE TEMPERATURE SETPOINT SHALL BE 68 DEG F (ADJUSTABLE).
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT, AS SENSED BY THERMOSTAT, CYCLE FAN ON AND ENERGIZE HEATING COIL.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, CYCLE FAN OFF AND DE-ENERGIZE HEATING COIL.

UNOCCUPIED MODE:

1. UNOCCUPIED SPACE TEMPERATURE SETPOINT SHALL BE 58 DEG F (ADJUSTABLE).
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT, AS SENSED BY THERMOSTAT, CYCLE FAN ON AND ENERGIZE HEATING COIL.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, CYCLE FAN OFF AND DE-ENERGIZE HEATING COIL.

GAS-FIRED INFRA-RED HEATER (RP-1 THRU RP-11) - SEQUENCE OF OPERATION

GENERAL:

1. OCCUPIED VESUS UNOCCUPIED MODE IS ADJUSTABLE AND SHALL BE ENABLED BY A PROGRAMMABLE THERMOSTAT PROVIDED BY ATC CONTRACTOR.
2. RADIANT PANELS SHALL MAINTAIN AN OCCUPIED SPACE TEMPERATURE OF 68 DEGREES F (ADJUSTABLE), AS MEASURED BY ASSOCIATED PROGRAMMABLE THERMOSTAT. THE UNOCCUPIED MODE SPACE TEMPERATURE SETPOINT SHALL BE 58 DEGREES F.

OCCUPIED/UNOCCUPIED MODE:

1. ON A DROP IN SPACE TEMPERATURE OF 2 DEG F BELOW SETPOINT, PACKAGED CONTROLS SHALL MODULATE THE GAS CONTROL VALVE OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AND ENERGIZE THE RADIANT PANEL.
2. ON A RISE ABOVE SETPOINT, PACKAGED CONTROLS SHALL CLOSE THE GAS CONTROL VALVE AND DE-ENERGIZE THE RADIANT PANEL.

ELECTRIC CABINET UNIT HEATER (CUH-4) SEQUENCE OF OPERATIONS

GENERAL:

1. OCCUPIED VESUS UNOCCUPIED MODE IS ADJUSTABLE AND SHALL BE ENABLED BY A PROGRAMMABLE THERMOSTAT PROVIDED BY THE ATC CONTRACTOR.

OCCUPIED MODE:

1. OCCUPIED SPACE TEMPERATURE SETPOINT FOR CUH-4 SHALL BE 65 DEG F (ADJUSTABLE).
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT (63 DEG F, ADJUSTABLE), AS SENSED BY PROGRAMMABLE THERMOSTAT, CYCLE FAN ON AND ENERGIZE HEATING COIL.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, CYCLE FAN OFF AND DE-ENERGIZE HEATING COIL.

UNOCCUPIED MODE:

1. UNOCCUPIED SPACE TEMPERATURE SETPOINT FOR CUH-4 SHALL BE 50 DEG F (ADJUSTABLE).
2. WHEN SPACE TEMPERATURE FALLS 2 DEG F BELOW SETPOINT (45 DEG F, ADJUSTABLE) AS SENSED BY PROGRAMMABLE THERMOSTAT, CYCLE FAN ON AND ENERGIZE HEATING COIL.
3. WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT, CYCLE FAN OFF AND DE-ENERGIZE HEATING COIL.

Unofficial Website Copy

TOP AIR HANDLING UNIT (RTU-2) SEQUENCE OF OPERATIONS

GENERAL

1. TYPE: VARIABLE AIR VOLUME, SINGLE ZONE SYSTEM. SYSTEM OPERATION SHALL BE FULLY AUTOMATIC WITH MANUAL OVERRIDES.
2. MODES: RTU-2 SHALL OPERATE IN OCCUPIED, UNOCCUPIED, MORNING WARMUP, MORNING COOLDOWN AND EMERGENCY MODES OF OPERATION. OCCUPIED AND UNOCCUPIED MODES SHALL BE AS ESTABLISHED BY THE USER. MORNING WARMUP AND MORNING COOLDOWN SHALL BE IMPLEMENTED AS DETERMINED BY THE OPTIMIZATION PROGRAM. EMERGENCY OPERATION SHALL BE IMPLEMENTED BY A WALL MOUNTED PUSHBUTTON SWITCH.
3. UNIT SHALL BE PROVIDED WITH FACTORY PACKAGED CONTROLS WHICH SHALL BE INTERFACED WITH THE BUILDING MANAGEMENT SYSTEM (BMS).
4. TEMPERATURE SENSORS SHALL MONITOR SYSTEM TEMPERATURES THROUGH THE FACTORY PACKAGED CONTROLS.
5. RTU-2 SHALL OPERATE TO MAINTAIN A SPACE TEMPERATURE SETPOINT (ADJUSTABLE)
6. WHEN RTU-2 IS DE-ENERGIZED, UNIT DAMPERS RETURN TO THEIR NORMAL POSITIONS, FANS STOP, AND HEATING AND COOLING EQUIPMENT DE-ENERGIZES.
7. RTU-2 OPERATING STATUS AND SCHEDULES, TEMPERATURE SETPOINTS, STATIC PRESSURE SETPOINTS AND EQUIPMENT ALARM CONDITIONS SHALL BE MONITORED BY THE DDC SYSTEM AND MONITORED/ADJUSTED THROUGH THE PACKAGED CONTROLS PROVIDED BY THE UNIT MANUFACTURER. OPERATOR SHALL BE ABLE TO PERFORM ALL MONITORING AND CONTROL DIRECTLY FROM THE DDC PANEL LOCATED IN THE MECHANICAL ROOM.
8. INITIAL UNIT SUPPLY AIR TEMPERATURES SHALL BE AS SCHEDULED AND BE ADJUSTABLE.

UNOCCUPIED MODE

1. RTU-2 SHALL OPERATE IN UNOCCUPIED COOLNG OR HEATING MODE BASED ON OPERATING SCHEDULE PROGRAMMED INTO FACTORY PACKAGED CONTROLS.
2. THERE SHALL BE A CALL FOR HEATING WHEN THE SPACE TEMPERTAURE SENSOR SENSES TEMPERATURE BELOW 60 DEGREES F (ADJUSTABLE). THERE SHALL BE A CALL FOR COOLING WHEN THE SPACE TEMPERATURE SENSOR SENSES TEMPERATURE ABOVE 80 DEGREES F (ADJUSTABLE).
3. STOP RTU-2 FANS AND DE-ENERGIZE GAS FURNACE. COMPRESSORS SHALL BE OFF.
4. RTU-2 SUPPLY FAN SF-RTU SHALL ENERGIZE WHEN THERE IS A CALL FOR HEATING OR COOLING AS DETERMINED THRU THE PACKAGED CONTROLS.
5. OUTSIDE AIR DAMPER D-OA SHALL BE FULLY CLOSED AND RETURN AIR DAMPER D-RA SHALL BE FULLY OPEN.
6. UPON A CALL FOR COOLING, THE FACTORY PACKAGED CONTROLS SHALL STAGE COMPRESSORS AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPONT AS SENSED BY T-RTU2
7. UPON A CALL FOR HEATING, THE FACTORY PACKAGED CONTROLS SHALL DE-ENERGIZE THE COMPRESSORS, REDUCE SF-RTU TO ITS SCHEDULED HEATING AIR VOLUME, MODULATE THE GAS CONTROL VALVE OPEN, AND ENERGIZE THE GAS FURNACE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPONT AS SENSED BY T-RTU2
8. SF-RTU SHALL DE-ENERGIZE UPON SIGNAL FROM THE PACKAGED CONTROLS THAT SPACE TEMPERATURE IS SATISFIED.
9. ALL INTERLOCKED EXHAUST FANS SHALL BE OFF.
10. A MANUAL PUSHBUTTON ON THE SPACE TEMPERATURE SENSOR, WHEN ENERGIZED, SHALL OVERRIDE THE UNOCCUPIED SIGNAL OF THE DDC SYSTEM AND SHALL SIGNAL RTU-2 TO OPERATE IN THE OCCUPIED MODE. LENGTH OF OVERRIDE OPERATION SHALL BE AS DIRECTED BY OWNER (2 HOURS INITIAL SETPOINT), AND SYSTEM SHALL REVERT TO UNOCCUPIED CONTROL WHEN SETTING HAS EXPIRED.

OCCUPIED MODE

1. RTU-2 SHALL OPERATE IN OCCUPIED COOLING OR HEATING MODE BASED ON OPERATING SCHEDULE PROGRAMMED INTO FACTORY PACKAGED CONTROLS.
2. THERE SHALL BE A CALL FOR HEATING WHEN THE SPACE TEMPERTAURE SENSOR SENSES TEMPERATURE BELOW 70 DEGREES F (ADJUSTABLE). THERE SHALL BE A CALL FOR COOLING WHEN THE SPACE TEMPERATURE SENSOR SENSES TEMPERATURE ABOVE 75 DEGREES F (ADJUSTABLE).
3. D-OA AND D-RA SHALL OPEN. SF-RTU AND EXHAUST FAN EF-RTU SHALL START AND RUN CONTINUOUSLY UNDER THEIR ECM MOTOR CONTROL. THE ECM MOTORS SHALL GRADUALLY INCREASE FAN SPEEDS TO THEIR CONTROLLED POSITIONS.
4. THE FACTORY PACKAGED CONTROLS SHALL MONITOR SPACE PRESSURE AS MEASURED BY STATIC PRESSURE SENSOR SDP-SPACE AND CONTROL THE SPEED OF EF-RTU TO MAINTAIN PRESSURE AT 0.1' W.G. (ADJUSTABLE). SEE FLOOR PLAN FOR LOCATION OF STATIC PRESSURE SENSOR. WHEN PRESSURE FALLS BELOW SETPOINT, THE ECM MOTOR SHALL GRADUALLY DECREASE FAN SPEED. WHEN PRESSURE RISES ABOVE SETPOINT, THE ECM MOTOR SHALL GRADUALLY INCREASE FAN SPEED.
5. THE FACTORY PACKAGED CONTROLS SHALL OPEN D-OA AND MODULATE THE DAMPERS TO MAINTAIN SYSTEM OA FROM FALLING BELOW MINIMUM VALUE, AS SCHEDULED ON DRAWING M7.01, THROUGH THE OA MEASUREMENT STATION AMS-OA. WHEN D-OA IS FULLY OPEN AND OA IS STILL BELOW SETPOINT, MODULATE D-RA TOWARDS THE CLOSED POSITION AS REQUIRED TO MEET OA SETPOINT.
6. UPON A CALL FOR COOLING, THE FACTORY PACKAGED CONTROLS SHALL STAGE COMPRESSORS AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPONT AS SENSED BY T-RTU2 HOT GAS REHEAT COIL SHALL MODULATE AS REQUIRED TO MAINTAIN SPACE SETPOINT.
7. UPON A CALL FOR HEATING, THE FACTORY PACKAGED CONTROLS SHALL DE-ENERGIZE THE COMPRESSORS, REDUCE SF-RTU TO ITS MINIMUM FAN SPEED, MODULATE THE GAS CONTROL VALVE OPEN, AND ENERGIZE THE GAS FURNACE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPONT AS SENSED BY T-RTU2
8. INTERLOCKED EXHAUST FANS SHALL ENERGIZE AND OPERATE CONTINUOUSLY.

ECONOMIZER OPERATION

1. WHEN THE RETURN AIR ENTHALPY IS GREATER THAN THE OUTSIDE AIR ENTHALPY FOR 15 MINUTES AS MEASURED BY THEIR RESPECTIVE ENTHALPY SENSORS, THE PACKAGED CONTROLS SHALL UTILIZE ENTHALPY ECONOMIZER LOGIC TO MODULATE OA DAMPER D-OA OPEN AND D-RA CLOSED TO MAINTAIN SCHEDULED SUPPLY AIR TEMPERATURE SETPOINT (55 DEG F, ADJUSTABLE) AS SENSED BY TS-1
2. ECONOMIZER CONTROLS SHALL OVERRIDE OUTSIDE AIR DAMPER INTEGRAL CONTROLS. HEATING AND COOLING SHALL DE-ENERGIZE.
3. WHEN D-OA IS FULLY OPEN AND SUPPLY AIR TEMPERATURE INCREASES ABOVE SUPPLY AIR SETPOINT BY 2 DEG F FOR 15 MINUTES, MECHANICAL COOLING SHALL ENERGIZE TO CYCLE COMPRESSORS TO MAINTAIN SUPPLY AIR SETPOINT.
4. WHEN OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY, D-OA SHALL CLOSE TO ITS MINIMUM POSITION, AND COMPRESSORS SHALL BE STAGED TO MAINTAIN SETPOINT. GAS FURNACE SHALL DE-ENERGIZE.
5. WHEN D-OA IS AT MINIMUM POSITION AND SUPPLY AIR TEMPERATURE FALLS BELOW SETPOINT BY 2 DEG F FOR 15 MINUTES, ECONOMIZER OPERATION SHALL END AND GAS FURNACE SHALL ENERGIZE TO MAINTAIN SUPPLY AIR SETPOINT.

MORNING WARMUP MODE

1. DDC SYSTEM SHALL ENABLE MORNING WARMUP MODE THRU THE RTU PACKAGED CONTROLS AT A TIME DETERMINED BY THE OPTIMIZATION PROGRAM TO ALLOW SPACES TO BE HEATED TO OCCUPIED SPACE TEMPERATURE SETPOINT BY THE START OF THE OCCUPIED PERIOD.
2. D-OA SHALL FULLY CLOSE AND D-RA SHALL FULLY OPEN.
3. WHEN THE LIMIT SWITCH ON D-RA INDICATES IT TO BE OPEN, SF-RTU SHALL ENERGIZE.
4. SF-RTU, THROUGH ITS ECM MOTOR CONTROL, SHALL PROVIDE THE SCHEDULED MAXIUM SUPPLY AIR QUANTITY.
5. EF-RTU SHALL DE-ENERGIZE AND COMPRESSORS SHALL BE LOCKED OUT.
6. GAS FURNACE SHALL MODULATE TO MAINTAIN 80 DEG F SUPPLY AIR SETPOINT, ADJUSTABLE.
7. WHEN SPACE TEMPERATURE REACHES THE OCCUPIED SETPOINT (70 DEG F), AS SENSED BY T-RTU2, THE DDC SYSTEM SHALL INITIATE RTU-2 INTO OCCUPIED MODE OF OPERATION.

MORNING COOLDOWN

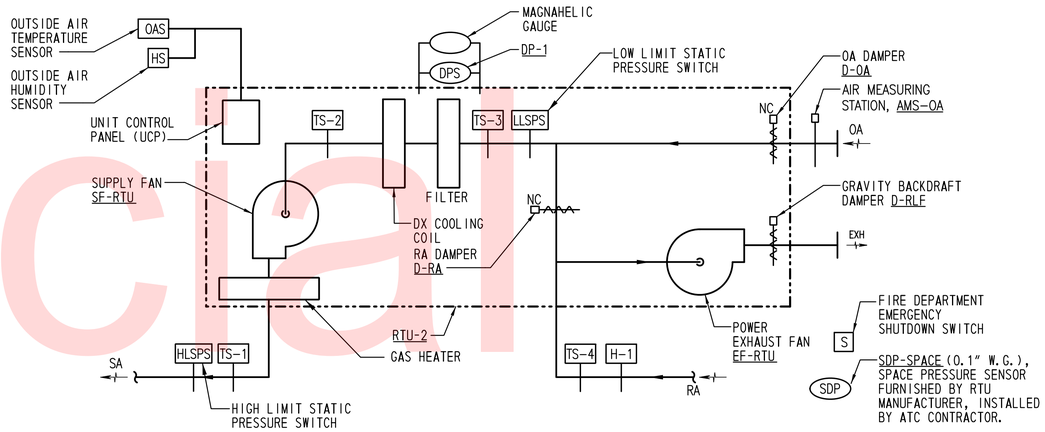
1. DDC SYSTEM SHALL ENABLE MORNING COOLDOWN MODE THRU THE RTU PACKAGED CONTROLS AT A TIME DETERMINED BY THE OPTIMIZATION PROGRAM TO ALLOW SPACES TO BE COOLED TO OCCUPIED SPACE TEMPERATURE SETPOINT BY THE START OF THE OCCUPIED PERIOD.
2. D-OA SHALL FULLY CLOSE AND D-RA SHALL FULLY OPEN.
3. WHEN THE LIMIT SWITCH ON D-RA INDICATES IT TO BE OPEN, SUPPLY FAN SHALL ENERGIZE.
4. SF-RTU, THROUGH ITS ECM MOTOR CONTROL, SHALL PROVIDE THE SCHEDULED MAXIUM SUPPLY AIR QUANTITY.
5. EF-RTU SHALL DE-ENERGIZE.
6. GAS CONTROL VALVE SHALL FULLY BE CLOSED AND GAS FURNACE SHALL BE LOCKED OUT.
7. COMPRESSORS SHALL CYCLE TO MAINTAIN A 55 DEG F SUPPLY AIR TEMPERATURE AS SENSED BY TS-1
8. WHEN SPACE TEMPERATURE REACHES THE OCCUPIED SETPOINT (75 DEG F, ADJUSTABLE), AS SENSED BY T-RTU2, THE DDC SYSTEM SHALL INITIATE RTU-2 INTO OCCUPIED MODE OF OPERATION.

SUPPLY AIR TEMPERATURE RESET

WHEN ECM MOTOR MODULATES DOWN TO 30 HZ, RESET SUPPLY AIR TEMPERATURE UP IN 1 DEG F INCREMENTS TOWARDS A MAXIMUM OF 60 DEG F. ONCE SUPPLY AIR TEMPERATURE REACHES 60 DEG F, ECM MOTOR SHALL BE PERMITTED TO MODULATE LOWER THAN 30 HZ. DISABLE RESET IF ANY ZONE IS MORE THAN 2 DEG F ABOVE COOLING SETPOINT. IF HUMIDITY AT H-1 IS ABOVE 60% RH, ADJUST SUPPLY AIR TEMPERATURE DOWN IN 1 DEG F INCREMENTS TOWARD A MINIMUM OF 55 DEG F.

SAFETY CONTROLS

1. WHEN THE SUPPLY AIR DUCT HIGH LIMIT STATIC PRESSURE SENSOR SENSES STATIC PRESSURE EXCEEDING THE 3.0 IN W.G. SETPOINT (ADJUSTABLE), DE-ENERGIZE SF-RTU AND EF-RTU AUTOMATICALLY RESTART SYSTEM AFTER ONE MINUTE DELAY. SECOND FAILURE IN ONE HOUR SHALL REQUIRE A MANUAL RESET.
2. WHEN THE SUPPLY AIR DUCT LOW LIMIT STATIC PRESSURE SENSOR SENSES STATIC PRESSURE BELOW THE NEGATIVE 2.0 IN W.G. SETPOINT (ADJUSTABLE), DE-ENERGIZE SF-RTU AND EF-RTU AUTOMATICALLY RESTART SYSTEM AFTER ONE MINUTE DELAY. SECOND FAILURE IN ONE HOUR SHALL REQUIRE A MANUAL RESET.
3. THE FACTORY PACKAGED CONTROLS SHALL COMMAND RTU TO DE-ENERGIZE UPON DETECTION OF LOW SYSTEM TEMPERATURE (40 DEG F) AS SENSED BY TS-RTU2.
4. FIRE DEPARTMENT EMERGENCY SHUTDOWN SWITCH SHALL BE PROVIDED FOR FIRE DEPARTMENT ACCESS IN THE SPACE AS REQUIRED BY NFPA. COORDINATE LOCATION WITH LOCAL FIRE DEPARTMENT. SWITCH SHALL SHUT DOWN ALL SUPPLY AND EXHAUST FANS IN THE BUILDING.



RTU-2 CONTROL SCHEMATIC

NOT TO SCALE

ROOFTOP AIR HANDLING UNIT RTU-2 SYSTEM CONTROLLER

POINT I.D. #	POINT DESCRIPTION	AI	AO	DI	DO	ALARM HI/LOW	ALARM MAINT.	ALARM FAILURE	NOTES
1	TS-1, SUPPLY AIR TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
2	TS-2, COOLING COIL DISCHARGE TEMPERATURE SENSOR	X				X			
3	TS-3, MIXED AIR TEMPERATURE SENSOR	X				X			
4	TS-4, RETURN AIR TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
5	OAS, OUTSIDE AIR TEMPERATURE SENSOR	X				X			PROVIDED FROM UNIT CONTROL PANEL
6	OUTDOOR AIRFLOW FROM AMS-OA	X				X			PROVIDED FROM UNIT CONTROL PANEL
7	SF-RTU, ECM MOTOR PERCENT SPEED	X				X			PROVIDED FROM UNIT CONTROL PANEL
8	EF-RTU, ECM MOTOR PERCENT SPEED	X				X			PROVIDED FROM UNIT CONTROL PANEL
9	T-RTU2, SPACE TEMPERATURE	X				X			PROVIDED FROM UNIT CONTROL PANEL
10	SDP-SPACE, SPACE DIFFERENTIAL PRESSURE	X				X			PROVIDED FROM UNIT CONTROL PANEL
11	H-1, RETURN AIR HUMIDITY	X				X			PROVIDED FROM UNIT CONTROL PANEL
12	H-OA, OUTSIDE AIR HUMIDITY	X				X			PROVIDED FROM UNIT CONTROL PANEL
10	SF-RTU STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
11	EF-RTU STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
12	COOLING STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
13	HEATING STATUS			X				X	PROVIDED FROM UNIT CONTROL PANEL
14	LOW LIMIT STATIC PRESSURE SWITCH			X		X			PROVIDED FROM UNIT CONTROL PANEL
15	HIGH LIMIT STATIC RESSURE SWITCH			X		X			PROVIDED FROM UNIT CONTROL PANEL
16	DP-1, FILTER DIFFERENTIAL PRESSURE SWITCH			X			X		PROVIDED FROM UNIT CONTROL PANEL
17	RTU-2 START/STOP				X				

Unofficial Website copy

N:\90181-01P\CAD\Phase II Sheet Files\CP02-90181019M-506.dgn
10/27/2017 3:04:29 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

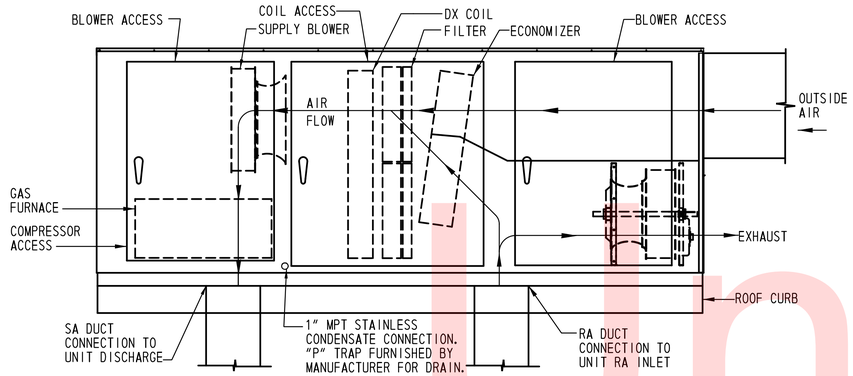
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

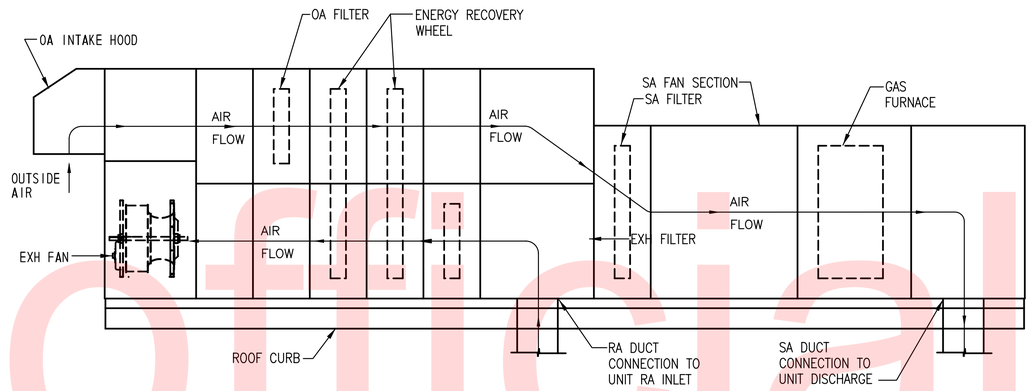
CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TLP
CHECKED BY: CAH

AUTOMATIC TEMPERATURE CONTROLS

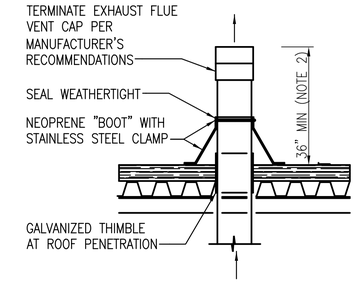
M-506
SHEET NO. 126
TOTAL SHTS. 189



1 / M-601 ROOFTOP AIR HANDLING UNIT (RTU-1 & RTU-2)
SCALE: NOT TO SCALE

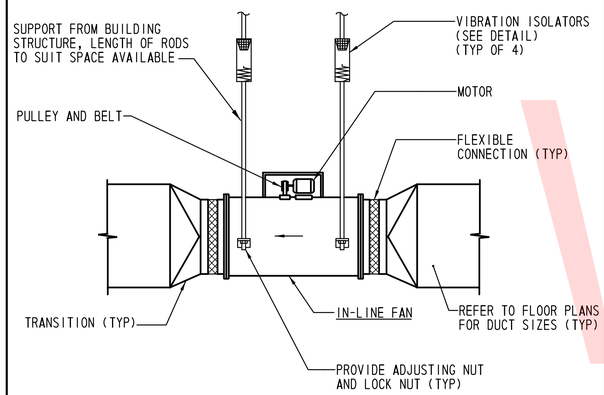


2 / M-601 HEATING & VENTILATING UNIT (HV-1)
SCALE: NOT TO SCALE

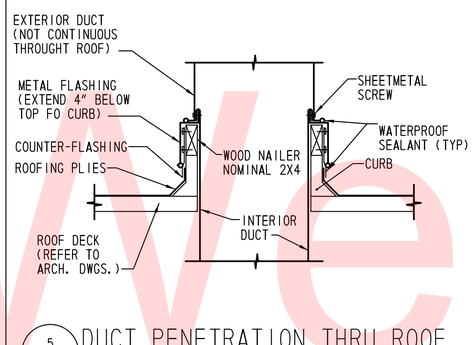


NOTES:
1. INSTALL ALL FLUES IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. MINIMUM DISTANCE ALLOWS FOR 18" SNOW ACCUMULATION.
3. DETAIL APPLIES TO BOILER AND WATER HEATER FLUES, AND PARTS WASHER EXHAUST FLUE.
4. VENT CAP SHALL NOT BE LESS THAN 36" ABOVE THE HIGHEST POINT OF THE ROOF PENETRATION OR 24" ABOVE ANY VERTICAL WALL OR SIMILAR OBSTRUCTION WITHIN 10' HORIZONTALLY.

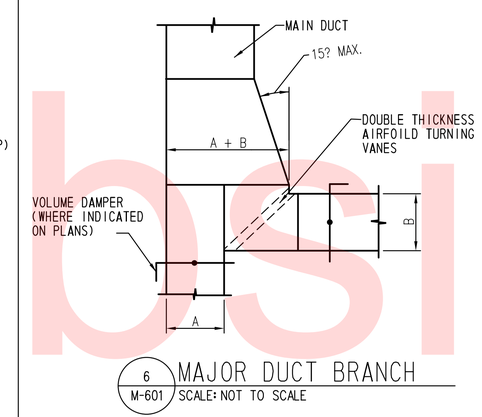
3 / M-601 FLUE THRU ROOF
SCALE: NOT TO SCALE



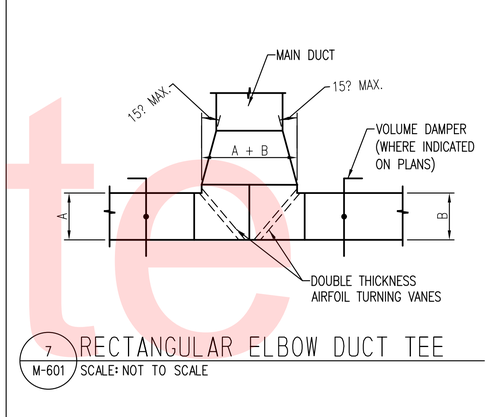
4 / M-601 CENTRIFUGAL IN-LINE FAN
SCALE: NOT TO SCALE



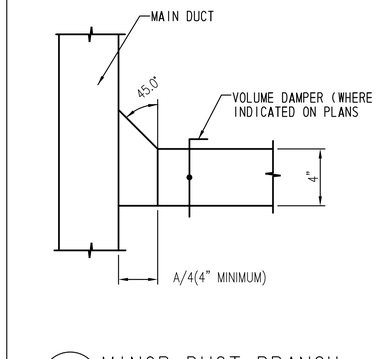
5 / M-601 DUCT PENETRATION THRU ROOF
SCALE: NOT TO SCALE



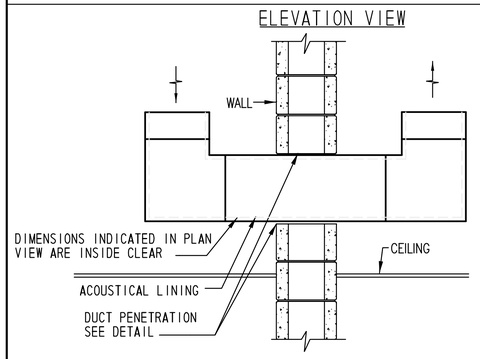
6 / M-601 MAJOR DUCT BRANCH
SCALE: NOT TO SCALE



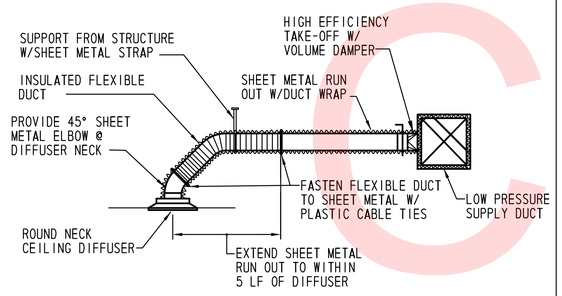
7 / M-601 RECTANGULAR ELBOW DUCT TEE
SCALE: NOT TO SCALE



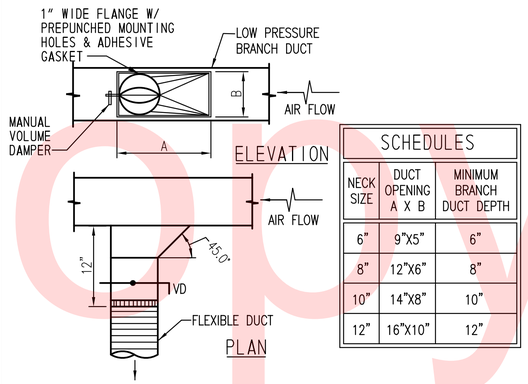
8 / M-601 MINOR DUCT BRANCH
SCALE: NOT TO SCALE



9 / M-601 DUCTED TRANSFER DETAIL
SCALE: NOT TO SCALE

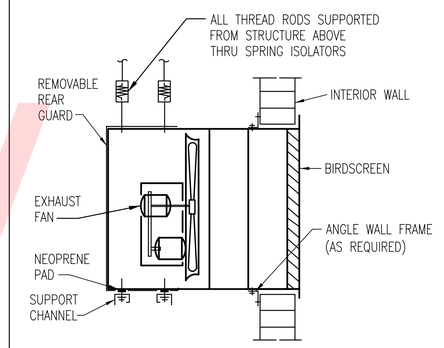


10 / M-601 BRANCH DUCT - ROUND NECK DIFFUSER
SCALE: NOT TO SCALE

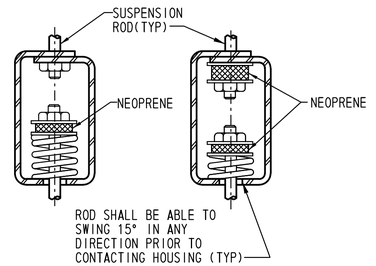


SCHEDULES		
NECK SIZE	DUCT OPENING A X B	MINIMUM BRANCH DUCT DEPTH
6"	9"X5"	6"
8"	12"X6"	8"
10"	14"X8"	10"
12"	16"X10"	12"

11 / M-601 HIGH EFFICIENCY TAKEOFFS
SCALE: NOT TO SCALE



12 / M-601 WALL MOUNTED PROPELLER FAN
SCALE: NOT TO SCALE



DUCT HANGER PIPE/EQUIPMENT HANGER

13 / M-601 SPRING ISOLATORS
SCALE: NOT TO SCALE

Unofficial Website Copy

N:\9018\-01D\CADD\Phase II Sheet Files\CP01-90181004M-601.dgn
10/27/2017 3:03:52 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

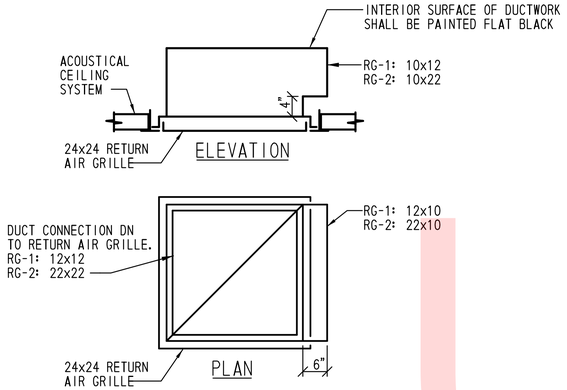
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

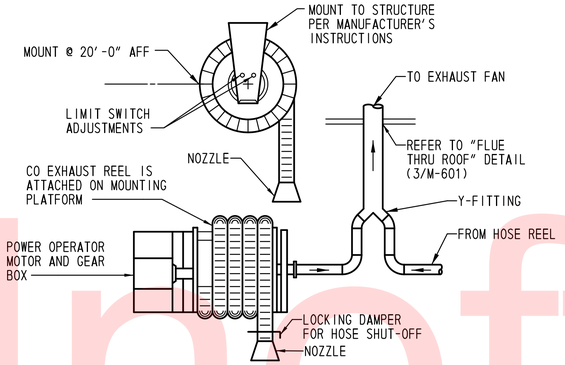
CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: TLP
SUSSEX	CHECKED BY: CAH

MECHANICAL DETAILS

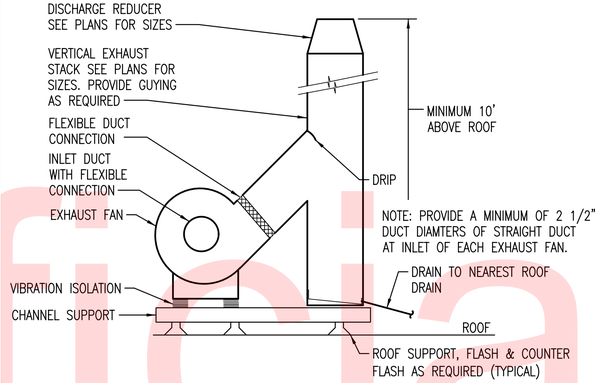
M-601	
SHEET NO.	127
TOTAL SHTS.	189



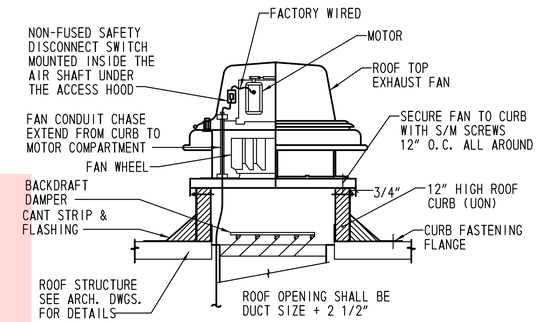
1 M-602 PLENUM RETURN AIR GRILLE
SCALE: NOT TO SCALE



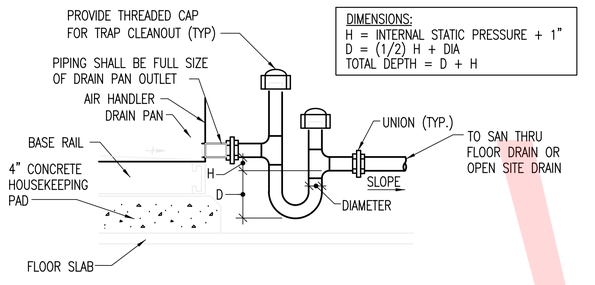
2 M-602 CARBON MONOXIDE EXHAUST REEL
SCALE: NOT TO SCALE



3 M-602 UTILITY EXHAUST FAN
SCALE: NOT TO SCALE

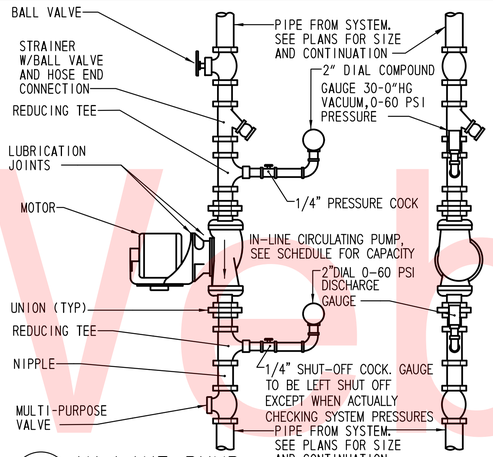


4 M-602 ROOF MOUNTED EXHAUST FAN
SCALE: NOT TO SCALE

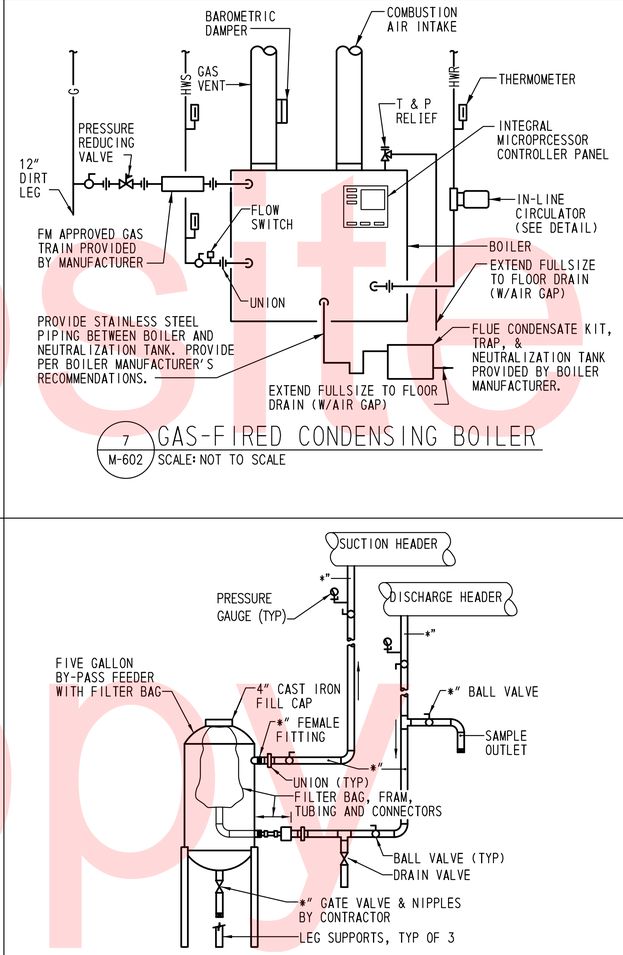


NOTES:
1. IF ADEQUATE HEIGHT DOES NOT EXIST FOR PROPER TRAP INSTALLATION, CONTRACTOR SHALL SLEEVE OR CORE DRILL FLOOR SLAB AND INSTALL TRAP IN CEILING OF FLOOR BELOW.
2. FOR UNITS LOCATED IN THE BASEMENT LEVEL, CONTRACTOR SHALL MODIFY SLAB AS REQUIRED TO ACHIEVE NECESSARY TRAP DIMENSIONS.

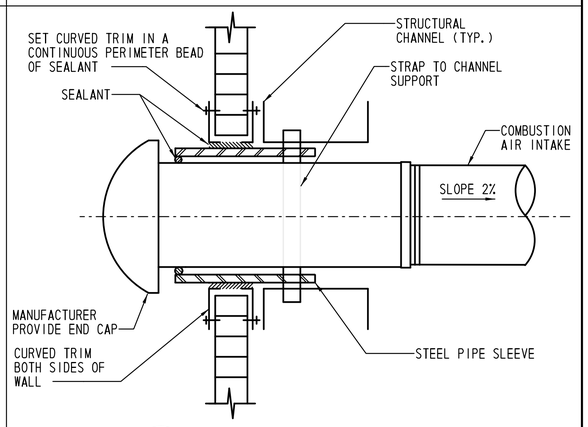
5 M-602 DRAW-THRU UNIT A/C CONDENSATE TRAP
SCALE: NOT TO SCALE



6 M-602 IN-LINE PUMP
SCALE: NOT TO SCALE

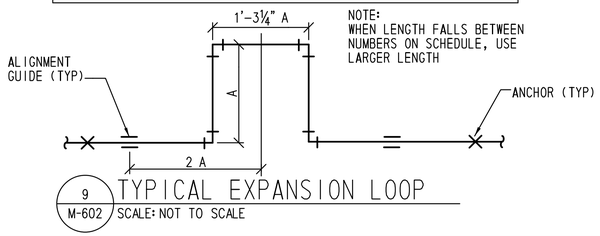


7 M-602 GAS-FIRED CONDENSING BOILER
SCALE: NOT TO SCALE

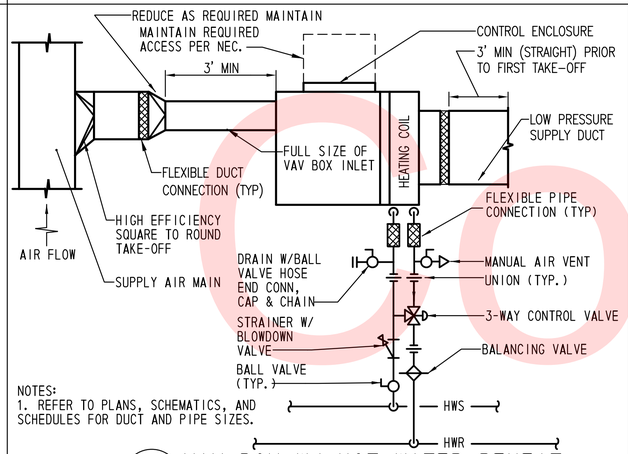


8 M-602 COMBUSTION AIR INTAKE
SCALE: NOT TO SCALE

LENGTH BETWEEN ANCHORS IN FEET	PIPE SIZES									
	*"	1"	1*"	1*"	2"	2*"	3"	4"	6"	8"
	"A" IN INCHES									
50	36	48	48	60	60	60	60	72	84	96
100	48	60	60	72	72	66	72	84	102	120
150	60	72	78	84	90	84	90	102	120	144
200	72	78	90	96	102	96	102	120	144	168



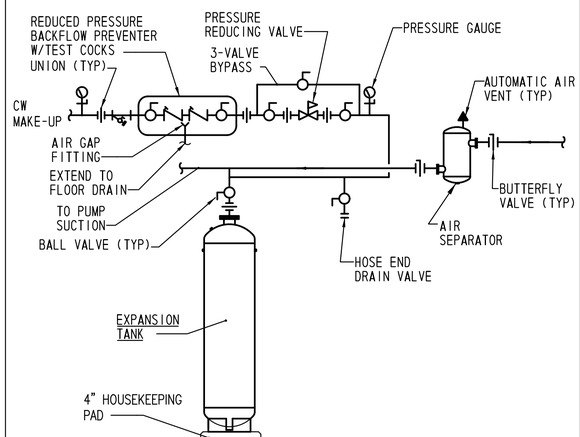
9 M-602 TYPICAL EXPANSION LOOP
SCALE: NOT TO SCALE



NOTES:
1. REFER TO PLANS, SCHEMATICS, AND SCHEDULES FOR DUCT AND PIPE SIZES.

10 M-602 VAV BOX W/ HOT WATER REHEAT
SCALE: NOT TO SCALE

11 M-602 BY-PASS FEEDER CONNECTIONS
SCALE: NOT TO SCALE



12 M-602 MAKE-UP WATER CONNECTION
SCALE: NOT TO SCALE

M-602

Unofficial Website Copy

N:\99181-019\CADD\Phase II\Sheet Files\CP01-99181004M-602.dgn
10/27/2017 3:03:54 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

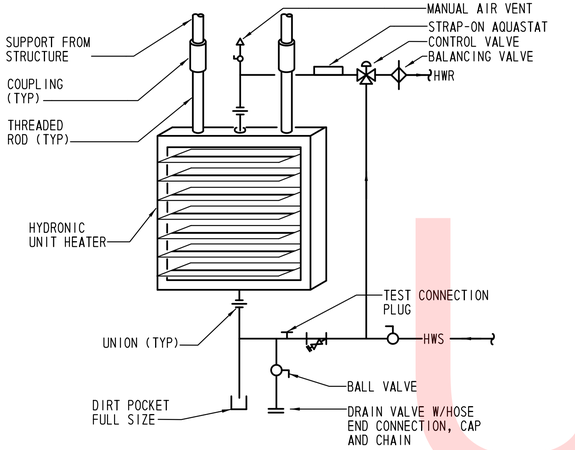
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

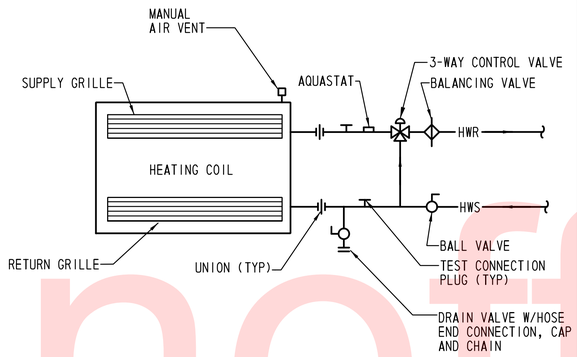
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: TLP	
CHECKED BY: CAH	

MECHANICAL DETAILS

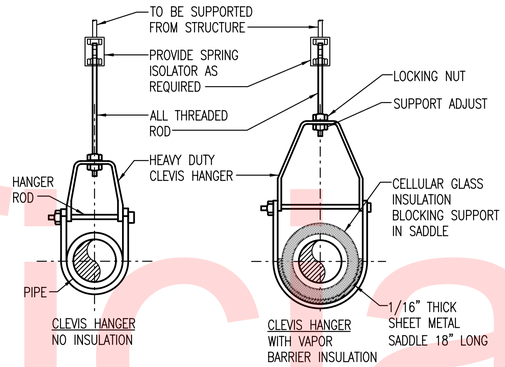
SHEET NO.	128
TOTAL SHTS.	189



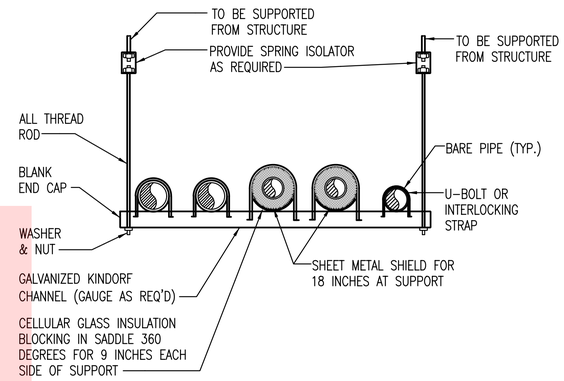
1 M-603 UNIT HEATER CONNECTION
SCALE: NOT TO SCALE



2 M-603 CABINET HEATER CONNECTION
SCALE: NOT TO SCALE



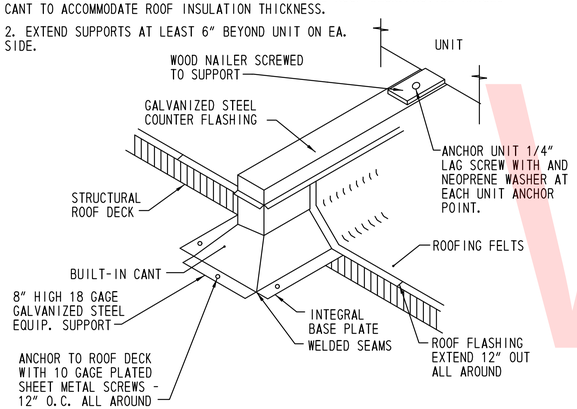
3 M-603 TYPICAL PIPE HANGER SUPPORTS
SCALE: NOT TO SCALE



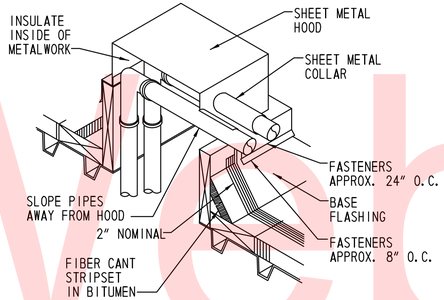
4 M-603 TRAPEZE PIPE SUPPORT
SCALE: NOT TO SCALE

NOTES:
1. PIPING SUPPORT SYSTEM COMPONENTS SHALL HAVE A NON-CORROSIVE METAL FINISH.
2. COPPER PIPING SHALL BE PROTECTED FROM CONTACT W/DISSIMILAR METALS.

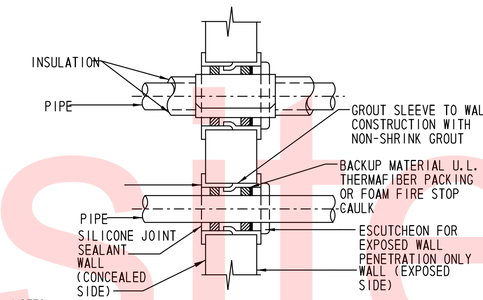
NOTES:
1. EQUIPMENT SUPPORTS SHALL REST ON STRUCTURAL ROOF DECK. PROVIDE RAISED CANT TO ACCOMMODATE ROOF INSULATION THICKNESS.
2. EXTEND SUPPORTS AT LEAST 6" BEYOND UNIT ON EA. SIDE.



5 M-603 ROOF EQUIPMENT SUPPORT
SCALE: NOT TO SCALE

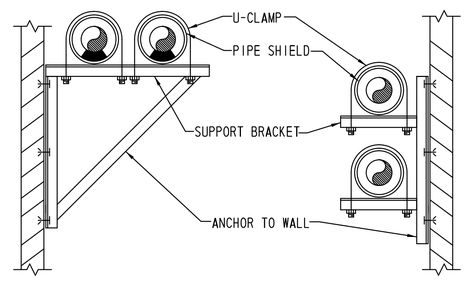


6 M-603 MULTIPLE PIPING THRU ROOF DECK
SCALE: NOT TO SCALE



NOTES:
1. AT THE CONTRACTORS' OPTION A U.L. LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.
2. FOR EXISTING POURED CONCRETE WALLS, CORE DRILLED OPENINGS DO NOT REQUIRE PIPE SLEEVES.

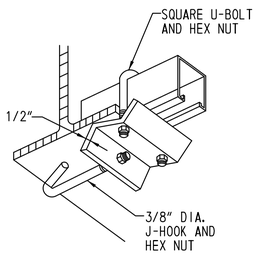
7 M-603 PIPE SLEEVE THRU WALL
SCALE: NOT TO SCALE



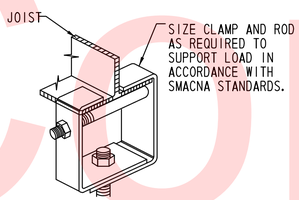
ON BRACKET

RACKED ON WALL

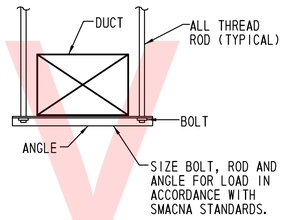
8 M-603 PIPE SUPPORT - DETAIL
SCALE: NOT TO SCALE



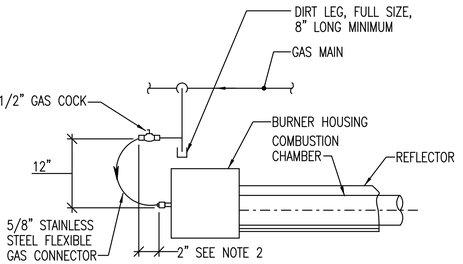
9 M-603 CHANNEL CLAMPED TO JOIST
SCALE: NOT TO SCALE



10 M-603 DUCT HANGER ATTACHMENT TO JOIST
SCALE: NOT TO SCALE



11 M-603 LOWER DUCT ATTACHMENT
SCALE: NOT TO SCALE



NOTE:
1. GAS COCK MUST BE PARALLEL TO BURNER INLET PIPE.
2. THE 2" DISPLACEMENT AS SHOWN IS FOR THE COLD CONDITION. THIS DISPLACEMENT WILL REDUCE AS THE SYSTEM IS FIRED.

12 M-603 INFRARED BURNER CONNECTION
SCALE: NOT TO SCALE

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004M-603.dgn
10/27/2017 3:03:54 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: TLP	
COUNTY	CHECKED BY: CAH	
SUSSEX		

MECHANICAL DETAILS

M-603	
SHEET NO.	129
TOTAL SHTS.	189

ROOFTOP AIR HANDLING UNIT SCHEDULE

UNIT ID	AREA SERVED	LOCATION	SUPPLY FAN						EXHAUST FAN				COOLING COIL (DX)					HEATING (NATURAL GAS)					FILTERS			WEIGHT (LBS)	ELECTRICAL				BASIS OF DESIGN
			MAX CFM	MIN CFM	MIN OA CFM	ESP (IN. WG)	FAN RPM	MOTOR HP	MAX CFM	ESP (IN. WG)	FAN RPM	MOTOR HP	EAT DB/WB (F)	UNIT LAT DB (F)	SENSIBLE (MBH)	TOTAL (MBH)	FACE VELOCITY (FPM)	HEATING CFM	EAT (F)	LAT (F)	INPUT CAPACITY (MBH)	OUTPUT CAPACITY (MBH)	SA FILTERS				MCA	MOCP	VOLTS/PH/HZ	EER	
																							THICK (IN.)	MERV	TYPE						
RTU-1	NORTH BUILDING	ROOF	3,800	1,140	830	2.00	1432	4.00	2,970	0.50	1558	4.00	81/65.3	55	124.4	171.0	250.0	3,800	60	80	102.6	82.1	2"	8	PLEATED	2700	33.7	45	480/3/60	10.8	DAIKIN McQUAY DPS015A
RTU-2	VISITOR'S CENTER	ROOF	1,560	470	390	1.25	1725	4.00	1,560	0.50	1755	1.30	80/66.4	55	48.0	68.4	258.0	780	35	85	52.7	42.1	2"	8	PLEATED	1500	14.8	20	480/3/60	11.3	DAIKIN McQUAY DPS006A

NOTES:

1. ROOFTOP UNIT SHALL BE PROVIDED WITH AN AIRSIDE ECONOMIZER.
2. PROVIDE VARIABLE FREQUENCY DRIVES FOR SUPPLY AND EXHAUST FAN MOTORS.
3. REFRIGERANT CIRCUITS SHALL BE CHARGED WITH R-410A REFRIGERANT.
4. SINGLE POINT ELECTRICAL CONNECTION.
5. NOMINAL BUILDING NATURAL GAS PRESSURE IS 2 PSI. PROVIDE GAS PRESSURE REGULATOR AT UNIT.

HEATING AND VENTILATING UNIT SCHEDULE

UNIT ID	SERVING	SUPPLY FAN							EXHAUST FAN							ENERGY RECOVERY WHEEL	GAS FURNACE							FILTERS (NOTE 5)			ELECTRICAL			MAX OPERATING WEIGHT (LB)	BASIS OF DESIGN
		CFM		TSP (IN. WG)	ESP (IN. WG)	FAN TYPE	MOTOR		CFM		TSP (IN. WG)	ESP (IN. WG)	FAN TYPE	MOTOR			HEATING CFM	INPUT CAPACITY (MBH)	OUTPUT CAPACITY (MBH)	GAS PRESSURE (IN. W.C.)		EAT (F)	LAT (F)	EFF. (%)	THICK (IN.)	TYPE	MCA	MOCP	VOLTS/PH		
		MAX	MIN				HP	VOLTS/PH	MAX	MIN				HP	VOLTS/PH				MIN	MAX											
HV-1	SOUTH BUILDING	16,810	8,405	2.7	0.5	DWDI	15	480/3	12,650	6,325	1.10	0.5	SWSI	5	480/3	ERW-HV1	16,810	1250	1000	7	14	14	68	30	2	FLAT	30.4	45	480/3	15,500	McQUAY APPLIED MODEL RAH

NOTES:

1. PROVIDE VARIABLE FREQUENCY DRIVES FOR SUPPLY AND EXHAUST FAN MOTORS AND ENERGY RECOVERY WHEEL MOTOR.
2. SINGLE POINT ELECTRICAL CONNECTION.
3. PROVIDE UNIT WITH INTEGRAL ENERGY RECOVERY WHEEL. REFER TO SCHEDULE.
4. NOMINAL BUILDING NATURAL GAS PRESSURE IS 2 PSI. PROVIDE GAS PRESSURE REGULATOR AT UNIT.
5. APPLIES TO ALL THREE FILTERS.

DESIGN CONDITIONS SCHEDULE

ROOM DESCRIPTION	OUTSIDE DESIGN CONDITIONS				OCCUPIED HOURS				UNOCCUPIED HOURS			
	SUMMER		WINTER		SUMMER		WINTER		SUMMER		WINTER	
	DB (F)	WB (F)	DB (F)	WB(F)	DB (F)	% RH	DB (F)	% RH	DB (F)	% RH	DB (F)	% RH
MAINTENANCE BAYS	95	78	0	0	AMBIENT	AMBIENT	68	-	AMBIENT	-	58	-
WASH BAY 218	95	78	0	0	AMBIENT	AMBIENT	50	-	AMBIENT	-	40	-
VESTIBULE 103	95	78	0	0	75	50	70	-	85	-	60	-
TELECOM 117	95	78	0	0	75	50	65	-	85	-	55	-
OTHER VESTIBULES	95	78	0	0	AMBIENT	AMBIENT	65	-	AMBIENT	-	55	-
MECHANICAL/ELECTRICAL ROOMS	95	78	0	0	AMBIENT	AMBIENT	55	-	AMBIENT	-	-	-
OFFICE SPACES	95	78	0	0	75	50	70	50	85	-	60	-
VISITORS CENTER	95	78	0	0	75	50	70	50	85	-	60	-

AIR DEVICE SCHEDULE

UNIT ID	SERVICE	MOUNTING	NECK SIZE (IN)	FACE SIZE (IN)	CFM RANGE	MAX. APD (IN. WG)	NC	BASIS OF DESIGN	DESCRIPTION
SD-1	SUPPLY DIFFUSER	LAY-IN	6	24x24	0 - 170	0.10	30	TITUS DAT	PLAQUE FACE WITH 2 SLOTS
	SUPPLY DIFFUSER	LAY-IN	8	24x24	175 - 300	0.10	30	TITUS DAT	PLAQUE FACE WITH 2 SLOTS
	SUPPLY DIFFUSER	LAY-IN	10	24x24	305 - 430	0.10	30	TITUS DAT	PLAQUE FACE WITH 2 SLOTS
SG-1	SUPPLY GRILLE	SURFACE	8x8	10x10	0 - 250	0.10	25	TITUS 300RL	DOUBLE DEFLECTION, 3/4" SPACING, FRONT BLADES AT 35 DEG
RD-1	RETURN DIFFUSER	LAY-IN	12x12	24x24	0-400	0.06	15	TITUS PAR	PERFORATED
RD-2	RETURN DIFFUSER	LAY-IN	22x22	24x24	405-1340	0.06	20	TITUS PAR	PERFORATED
EG-1	EXHAUST GRILLE	SURFACE/DUCT	6x6	8x8	0-130	0.10	25	TITUS 350RL	STEEL, 3/4" SPACING, 35 DEG FIXED DEFLECTION
	EXHAUST GRILLE	SURFACE/DUCT	8x8	10x10	135-260	0.10	25	TITUS 350RL	STEEL, 3/4" SPACING, 35 DEG FIXED DEFLECTION
	EXHAUST GRILLE	SURFACE/DUCT	10x10	12x12	265-410	0.10	25	TITUS 350RL	STEEL, 3/4" SPACING, 35 DEG FIXED DEFLECTION
	EXHAUST GRILLE	SURFACE/DUCT	36x14	38x16	415-2015	0.10	25	TITUS 350RL	STEEL, 3/4" SPACING, 35 DEG FIXED DEFLECTION
EG-2	TRANSFER GRILLE	SURFACE	18x16	20x18	----	0.05	20	TITUS 350RL	STEEL, 3/4" SPACING, 35 DEG FIXED DEFLECTION
EG-3	EXHAUST GRILLE	SURFACE	6x6	8x8	----	0.10	20	TITUS 350RL	ALUMINUM, 3/4" SPACING, 35 DEG FIXED DEFLECTION
EG-4	TRANSFER GRILLE	SURFACE	12x8	14x10	----	0.05	15	TITUS 350RL	STEEL, 3/4" SPACING, 35 DEG FIXED DEFLECTION
DL-1	SUPPLY GRILLE	DUCT	9x6	9x6	0-180	0.10	25	TITUS DL	ALUMINUM DRUM LOUVER
	SUPPLY GRILLE	DUCT	20x10	20x10	180-730	0.10	25	TITUS DL	ALUMINUM DRUM LOUVER
	SUPPLY GRILLE	DUCT	50x10	50x10	735-2150	0.10	25	TITUS DL	ALUMINUM DRUM LOUVER
ND-1	NOZZLE DIFFUSER	DUCT	10	10	0-260	0.20	25	TITUS TND-AA	----------
RG-1	EGG CRATE RETURN	LAY-IN	24x10	26x12	0-1170	0.10	25	TITUS 50F	----------

AIR FLOW BALANCE SCHEDULE

UNIT ID	SUPPLY AIR (CFM)	RETURN AIR (CFM)	OUTSIDE AIR (CFM)	EXHAUST AIR (CFM)	EQUIPMENT EXHAUST AIR (CFM)	RELIEF AIR (CFM)	AIR PRESSURE (CFM)	NOTES
RTU-1	3,800	2970	830	680	0	0	150	---
RTU-2	1,560	1170	390	330	0	0	60	---
HV-1	17,080	0	17,080	12,905	2725	0	1450	---

VAV BOX SCHEDULE

UNIT ID	AREA SERVED	BOX INLET DIA. (IN)	SP LOSS (IN)	AIR FLOW		HEATING CFM	HEATING COIL								BASIS OF DESIGN
				MAX	MIN COOLING		CAPACITY (MBH)	EAT (F)	LAT (F)	MAX APD (IN W.G.)	EWT (F)	LWT (F)	FLOW (GPM)	ROWS	MAX WPD (FT)	
VAV-1.01	101 - SECURITY/POOL OFFICE	6	0.5	320	100	140	6.1	55	95	0.25	140	120	0.9	2	2.0	TITUS DESV
VAV-1.02	102 - COUNTING ROOM & 103 - VESTIBULE	6	0.5	380	115	130	5.6	55	95	0.25	140	120	0.8	2	2.0	TITUS DESV
VAV-1.03	104 - MENS LOCKER & 105 - WOMENS LOCKER	4	0.5	180	55	100	4.3	55	94	0.25	140	120	0.6	2	2.0	TITUS DESV
VAV-1.04	109 - UNIFORM CLOSET & 110 - LOCKER ROOM	6	0.5	240	80	80	3.1	55	91	0.25	140	120	0.5	2	2.0	TITUS DESV
VAV-1.05	111 - KITCHENETTE & 115 - VENDING	8	0.5	570	170	170	5.5	55	85	0.25	140	120	0.8	2	2.0	TITUS DESV
VAV-1.06	112 - DRIVER READY	8	0.5	720	220	220	7.1	55	85	0.25	140	120	1.1	2	2.0	TITUS DESV
VAV-1.07	112 - DRIVER READY	12	0.5	1470	440	440	18.4	55	94	0.25	140	120	2.8	2	2.0	TITUS DESV
VAV-1.08	113 - DISPATCH OPERATIONS	6	0.5	430	130	130	5.1	55	91	0.25	140	120	0.8	2	2.0	TITUS DESV
VAV-1.09	114 - SUPERVISOR	6	0.5	245	80	80	2.6	55	84	0.25	140	120	0.4	2	2.0	TITUS DESV

ENERGY RECOVERY WHEEL SCHEDULE

UNIT ID	LOCATION	SUPPLY AIR				EXHAUST AIR			EFFECTIVENESS		MAX. APD (IN WC)
		CFM	WINTER EAT (DB)	WINTER LAT (DB)	MAX APD (IN WC)	CFM	WINTER EAT (DB)	WINTER LAT (DB)	TOTAL	SENSIBLE	
ERW-HV1	HV-1	17,080	0/0	32.9/32.9	1.8	12,905	68	----	0.75	0.74	0.75

NOTES:

1. PROVIDE VFD FOR ENERGY RECOVERY WHEEL. FURNISHED AND INSTALLED BY UNIT MANUFACTUER.

AIR FLOW MONITORING STATION SCHEDULE

UNIT ID	SERVES	AIRFLOW (CFM)	MIN AIR TEMP (F)	BASIS OF DESIGN
AMS-OA-RTU1	RTU-1 OUTDOOR AIR	830	0	EBTRON GOLD
AMS-OA-RTU2	RTU-2 OUTDOOR AIR	390	0	EBTRON GOLD
AMS-OA-HV1	HV-1 OUTDOOR AIR	17,080	0	EBTRON GOLD

NOTES:

1. PROVIDED BY UNIT MANUFACTURER.

Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004M-701.dgn
10/27/2017 3:03:55 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TLP
CHECKED BY: CAH

MECHANICAL
SCHEDULES

M-701
SHEET NO. 130
TOTAL SHTS. 189

PUMP SCHEDULE

UNIT ID	SERVICE	LOCATION	TYPE	CAPACITY		ELECTRICAL DATA			BASIS OF DESIGN	NOTES
				GPM	HEAD (FT)	HP	RPM	VOLTS/PH		
HWP-1	HEATING WATER	MECHANICAL 118	IN-LINE	15	15	1/6	3300	120/1	BELL & GOSSETT SERIES NRF	SECONDARY PUMP
HWP-2	HEATING WATER	MECHANICAL 118	IN-LINE	15	15	1/6	3300	120/1	BELL & GOSSETT SERIES NRF	SECONDARY PUMP
BP-1	BOILER PRIMARY PUMP	MECHANICAL 118	IN-LINE	4.5	5	1/6	3300	120/1	-----	PRIMARY PUMP, NOTE 1
BP-2	BOILER PRIMARY PUMP	MECHANICAL 118	IN-LINE	4.5	5	1/6	3300	120/1	-----	PRIMARY PUMP, NOTE 1

NOTES:
1. BOILER PRIMARY PUMP TO BE FURNISHED BY BOILER MANUFACTURER.

ELECTRIC UNIT HEATER SCHEDULE

UNIT ID	LOCATION	MOUNTING/STYLE	HEAT SOURCE	CAPACITY (MBH)	CAPACITY (KW)	AIR FLOW			ELECTRICAL DATA			BASIS OF DESIGN
						CFM	EAT (F)	LAT (F)	KW	A	VOLTS/PH	
CUH-4	VESTIBULE 200	VERTICAL CABINET	ELECTRIC	8.8	2.6	240	60	100.0	3.0	12.5 MCA	277/1	TRANE FORCE-FLO (SIZE 2)
UH-3	GFI SHOP 203	HORIZONTAL	ELECTRIC	3.9	1.1	400	60	86	3.3	11.9 FLA	277/1	TRANE MODEL UHEC
UH-4	ELECTRICAL 202	HORIZONTAL	ELECTRIC	4.2	1.3	400	50	76	3.3	11.9 FLA	277/1	TRANE MODEL UHEC
UH-5	MECHANICAL 204	HORIZONTAL	ELECTRIC	3.2	1.0	400	50	76	3.3	11.9 FLA	277/1	TRANE MODEL UHEC
UH-6	WASH BAY 218	HORIZONTAL	ELECTRIC	15	4.4	400	60	100	5.0	6.1 FLA	480/3	TRANE MODEL UHRA
UH-7	LUBE/COMPRESSOR 215	HORIZONTAL	ELECTRIC	15	4.4	400	60	100	5.0	6.1 FLA	480/3	TRANE MODEL UHEC
UH-8	MECHANICAL ROOM 104	HORIZONTAL	ELECTRIC	15	4.4	400	60	100	5.0	6.1 FLA	480/3	TRANE MODEL UHEC
EWH-1	WAITING 100	RECESSED	ELECTRIC	0.7	0.2	65	60	84	0.5	4.2 FLA	120/1	QMARK CWH1000
EWH-2	WAITING 100	RECESSED	ELECTRIC	0.7	0.2	65	60	84	0.5	4.2 FLA	120/1	QMARK CWH1000
EWH-3	WAITING 100	RECESSED	ELECTRIC	0.7	0.2	65	60	84	0.5	4.2 FLA	120/1	QMARK CWH1000
EWH-4	WAITING 100	RECESSED	ELECTRIC	0.7	0.2	65	60	84	0.5	4.2 FLA	120/1	QMARK CWH1000

NOTES:
1. PROVIDE 2-STAGE HEATER AND ELECTRONICALLY COMMUTATED MOTOR (ECM) FOR CUH-4.

DUCTLESS SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT												OUTDOOR CONDENSING SECTION						
UNIT ID	AREA SERVED	FAN DATA		COOLING (DX)			HEATING (DX)		ELECTRICAL			UNIT ID	REFRIG.	ELECTRICAL			NOTES	BASIS OF DESIGN
		CFM	ESP (IN W.G.)	TOTAL (MBH)	SENSIBLE (MBH)	EAT DB (F)	CAPACITY (MBH)	EAT DB (F)	MCA	MOCP	VOLTS/PH			MCA	MOCP	VOLTS/PH		
ACU-1	TELECOM 117	520	----	12.6	12.6	75.0	----	---	1	---	208/1	ACCU-1	R-410A	15	20	208/1	1, 2	DAIKIN FTXN/RKN
ACU-2	CONFERENCE ROOM 207	690	0.5	22.2	14.8	75.0	3.1	60.0	1.8	15	208/1	ACCU-2	R-410A	16.5	20	208/1	1, 2, 3	DAIKIN FBQ/RZQ
ACU-3	MAINTENANCE SUPERVISOR 213 & STORAGE SUPERVISOR 114	630	0.5	17.2	14.2	75.0	2.0	60.0	1.6	15	208/1	ACCU-3	R-410A	16.5	20	208/1	1, 2, 3	DAIKIN FBQ/RZQ
ACU-4	TICKET OFFICE 102	420	----	9.0	8.2	75.0	----	----	1	----	208/1	ACCU-4	R-410A	12.1	20	208/1	2	DAIKIN FTXN/RKN

NOTES:
1. PROVIDE UNIT WITH CONDENSATE PUMP.
2. PROVIDE UNIT WITH BAFFLE PLATE.
3. PROVIDE FOR HEAT PUMP OPERATION.

BOILER SCHEDULE

UNIT ID	SERVICE	LOCATION	FUEL	INPUT (MBH)	CAPACITY	GAS PRESSURE (IN. W.C.)		EWT (F)	LWT (F)	FLOW RATE (GPM)	MAX. WPD (FT)	THERMAL EFF. (%)	ELECTRICAL DATA		BASIS OF DESIGN
						MIN	MAX						FLA	VOLTS/PH	
B-1	HEATING HOT WATER - OFFICE SYSTEM	MECHANICAL 118	NATURAL GAS	74	65	8	14	120	150	4.5	1.5	92	1.5	120/1	LOCHINVAR KNIGHT MODEL WHN
B-2	HEATING HOT WATER - OFFICE SYSTEM	MECHANICAL 118	NATURAL GAS	74	65	8	14	120	150	4.5	1.5	92	1.5	120/1	LOCHINVAR KNIGHT MODEL WHN

NOTES:
1. PROVIDE NEUTRALIZATION TANK FOR EACH BOILER.
2. NOMINAL BUILDING NATURAL GAS PRESSURE IS 2 PSI.
3. PROVIDE REGULATOR AT HEATER AS REQUIRED AND VENT TO ATMOSPHERE THROUGH ROOF.

HYDRONIC UNIT HEATER SCHEDULE

UNIT ID	LOCATION	MOUNTING/STYLE	HEAT SOURCE	CAPACITY (MBH)	EWT (F)	LWT (F)	GPM	MAX. WPD (FT)	AIR FLOW			ELECTRICAL DATA			BASIS OF DESIGN	REMARKS
									CFM	EAT (F)	LAT (F)	HP	MCA	VOLTS/PH		
UH-1	ELECTRICAL 116	HORIZONTAL	HOT WATER	3.5	140	120	0.5	5	210	50	77	16 W	1	120/1	TRANE S SERIES	----
UH-2	MECHANICAL 118	HORIZONTAL	HOT WATER	4.3	140	120	0.5	5	245	50	78.5	16 W	1	120/1	TRANE S SERIES	----
CUH-1	VESTIBULE 103	VERTICAL CABINET	HOT WATER	9.7	140	120	1.0	5	220	65	105.8	0.22	3.1	120/1	TRANE FORCE-FLO	SLOPED TOP
CUH-2	VESTIBULE 107	VERTICAL CABINET	HOT WATER	9.7	140	120	1.0	5	220	60	100.8	0.22	3.1	120/1	TRANE FORCE-FLO	SLOPED TOP
CUH-3	VENDING 115	VERTICAL CABINET	HOT WATER	9.1	140	120	0.9	5	220	60	98.3	0.22	3.1	120/1	TRANE FORCE-FLO	SLOPED TOP

FAN SCHEDULE

UNIT ID	TYPE	SERVICE	LOCATION	CFM	ESP (IN. WG)	FAN RPM	DRIVE TYPE	METHOD OF CONTROL	ELECTRICAL DATA		BASIS OF DESIGN	NOTES
									HP	VOLTS/PH		
EF-1	ROOF EXHAUSTER	VENTILATION	ROOF (NORTH)	1,350	0.25	880	BELT	TEMPERATURE	1/4	115/1	GREENHECK GB	1
EF-2	ROOF EXHAUSTER	VENTILATION	ROOF (NORTH)	700	0.25	1382	BELT	TEMPERATURE	1/4	115/1	GREENHECK GB	1
EF-3	ROOF EXHAUSTER	VENTILATION	ROOF (SOUTH)	910	0.25	1247	BELT	TEMPERATURE	1/4	115/1	GREENHECK GB	1
EF-4	ROOF EXHAUSTER	VENTILATION	ROOF (SOUTH)	260	0.25	859	BELT	TEMPERATURE	1/6	115/1	GREENHECK GB	1
EF-5	INLINE	EXHAUST	WOMENS LOCKER 105	680	0.5	1687	DIRECT	CONTINUOUS	1/4	115/1	GREENHECK SQ-VG	1
EF-6	CENTRIFUGAL	TAILPIPE EXHAUST	MAINTENANCE 217	1,400	6	2450	BELT	WALL SWITCH	3	480/3	MONOXIVENT MHA	1
EF-7	CENTRIFUGAL	TAILPIPE EXHAUST	MAINTENANCE 217	1,400	6	2450	BELT	WALL SWITCH	3	480/3	MONOXIVENT MHA	1
EF-8	ROOF EXHAUSTER	VENTILATION	WASH BAY 218	2,680	0.25	779	DIRECT	CONTINUOUS	3/4	480/3	GREENHECK G-VG	1, 2
EF-9	SIDEWALL PROPELLER	EXHAUST	LUBE/COMPRESSOR 215	910	0.25	650	BELT	TEMPERATURE	1/4	115/1	GREENHECK SBE	1
EF-10	INLINE	EXHAUST	MECHANICAL ROOM 104	530	0.5	1629	DIRECT	CONTINUOUS	1/6	115/1	GREENHECK SQ-VG	1
EF-11	INLINE	EXHAUST	MECHANICAL ROOM 104	2,870	0.5	1674	DIRECT	TEMPERATURE	1	208/1	GREENHECK SQ-VG	1

NOTE:
1. PROVIDE FAN WITH FACTORY PROVIDED DISCONNECT AND STARTER.
2. PROVIDE FAN WITH HI-PRO POLYESTER COATING.

INFRARED HEATER SCHEDULE

UNIT ID	LOCATION	MOUNTING HEIGHT (FT)	FUEL	INPUT (CFH)	CAPACITY (MBH)	TUBE LENGTH (FT)	TUBE DIAMETER (IN)	FLUE CONNECTION (IN)	GAS PRESSURE (IN. W.C.)		ELECTRICAL DATA		BASIS OF DESIGN
									MIN	MAX	AMPS	VOLTS/PH	
RP-1	MAINTENANCE BAY 217	18'-0"	NATURAL GAS	40.0	25.0	30	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-CNG
RP-2	MAINTENANCE BAY 217	18'-0"	NATURAL GAS	40.0	25.0	30	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-CNG
RP-3	MAINTENANCE BAY 217	14'-6"	NATURAL GAS	40.0	25.0	30	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-CNG
RP-4	WASH BAY 218	16'-6"	NATURAL GAS	40.0	24.0	30	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-ALC CNG
RP-5	WASH BAY 218	16'-6"	NATURAL GAS	40.0	24.0	30	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-ALC CNG
RP-6	MAINTENANCE BAY 217	14'-6"	NATURAL GAS	40.0	12.0	20	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-CNG
RP-7	MAINTENANCE BAY 217	18'-0"	NATURAL GAS	40.0	12.0	20	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-CNG
RP-8	MAINTENANCE BAY 217	18'-0"	NATURAL GAS	40.0	12.0	20	4	4	5	14	1.8	120/1	SPACE-RAY PTS 40-CNG
RP-9	MACHINE/TIRE SHOP 211	14'-0"	NATURAL GAS	40.0	13.0	20	4	4	5	14	1.8	120/1	SPACE-RAY PTU 40-CNG
RP-10	TIRE STORAGE 212	16'-6"	NATURAL GAS	40.0	13.0	20	4	4	5	14	1.8	120/1	SPACE-RAY PTU 40-CNG
RP-11	STORE ROOM 216	16'-6"	NATURAL GAS	75.0	73.0	40	4	4	5	14	1.8	120/1	SPACE-RAY PTU 75-CNG

NOTES:
1. NOMINAL BUILDING NATURAL GAS PRESSURE IS 2 PSI.
2. PROVIDE REGULATOR AT HEATER AS REQUIRED AND VENT TO ATMOSPHERE THROUGH ROOF.

ELECTRIC BASEBOARD SCHEDULE

UNIT ID	HEATING ELEMENT				ENCLOSURE		BASIS OF DESIGN
	CAPACITY (W/FT)	ACTIVE LENGTH (FT)	TOTAL WATTS	VOLTS/PH	SIZE (WxH) (IN)	MOUNTING HEIGHT (IN)	
EBB-1	375	6	2250	208/1	5x7	2	VULCAN LBF
EBB-2	375	6	2250	208/1	5x7	2	VULCAN LBF
EBB-3	375	6	2250	208/1	5x7	2	VULCAN LBF
EBB-4	375	6	2250	208/1	5x7	2	VULCAN LBF
EBB-5	500	6	3000	208/1	5x7	2	VULCAN LBF
EBB-6	500	6	3000	208/1	5x7	2	VULCAN LBF-PD (PEDESTAL)

EXPANSION TANK SCHEDULE

UNIT ID	SERVICE	TYPE	TANK VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	PRESSURE		BASIS OF DESIGN
					PRECHARGE (PSI)	MAX. OPER.	
ET-1	HEATING WATER	BLADDER	4	0.6	11.9	100	TACO CBX

NOTES:
1. SYSTEM PRV SETTING SHALL BE EQUAL TO PRECHARGE PRESSURE.
2. SYSTEM RELIEF VALVE SETTING SHALL BE EQUAL TO MAX. OPERATING PRESSURE.

AIR SEPARATOR SCHEDULE

UNIT ID	FLOW RATE (GPM)	SERVICE	SIZE		MAX. WPD (FT)	REMARKS
			DIA (IN)	HEIGHT (IN)		
AS-1	15	HEATING WATER	10.75	27	2.5	BELL & GOSSETT ROLAIRTROL

Unofficial Website Copy

N:\9018\-019\CADD\Phase II Sheet Files\CP01-9018004M-702.dgn
10/27/2017 3:03:56 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

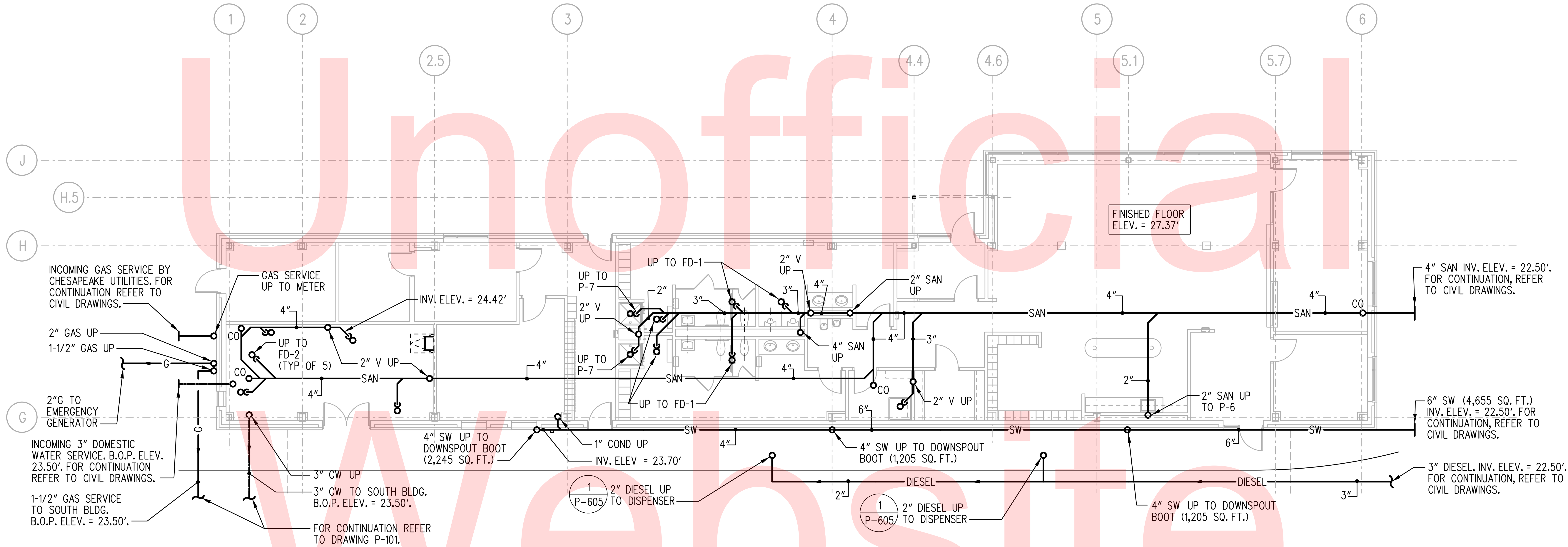
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	TLP
CHECKED BY:	CAH

MECHANICAL
SCHEDULES

	M-702
SHEET NO.	131
TOTAL SHTS.	189

Unofficial Website Copy

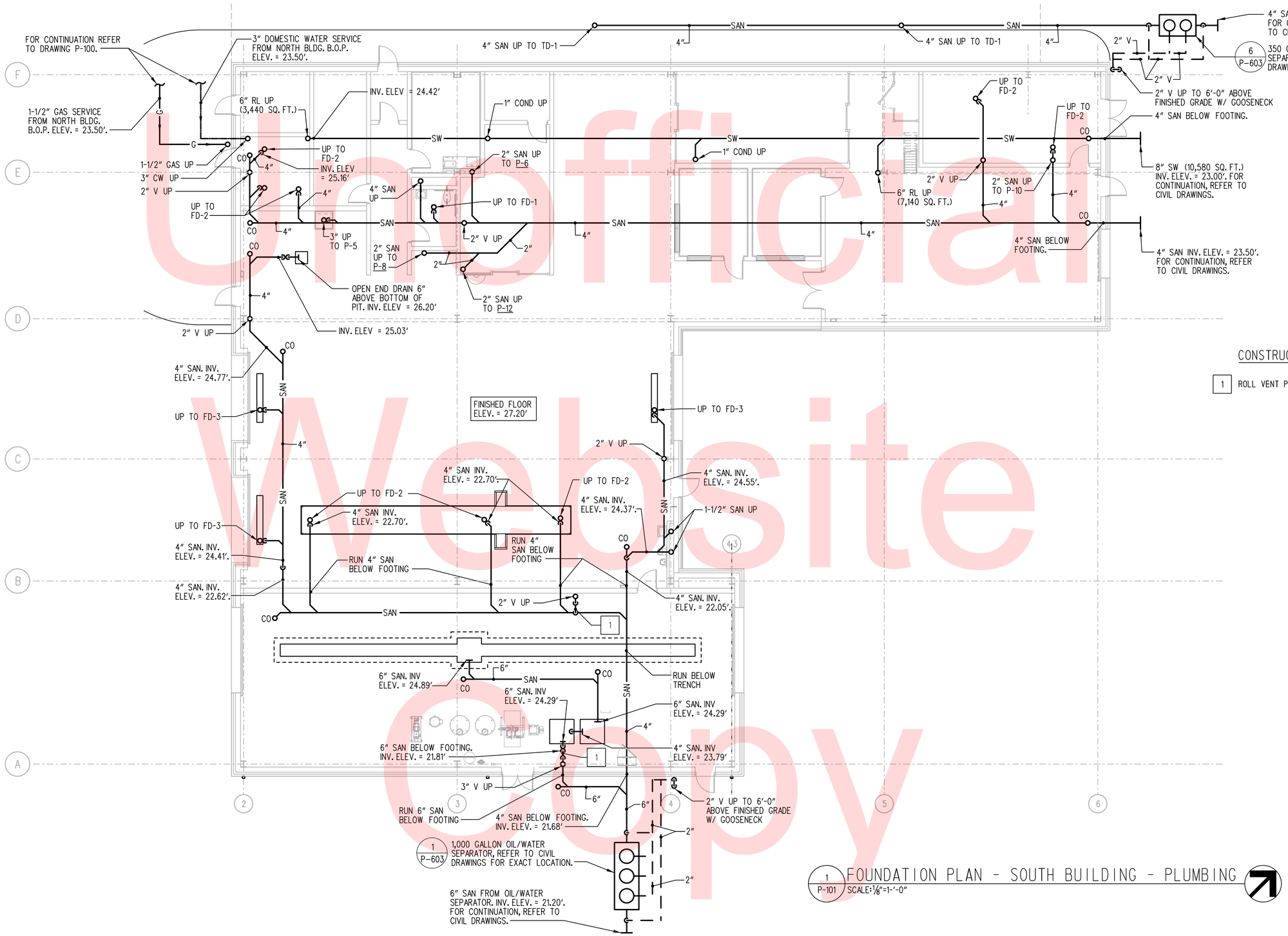


1 P-100 FOUNDATION PLAN - NORTH BUILDING PLUMBING
SCALE: 1/8"=1'-0"

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/8" = 1'-0" (0 4' 8' 16')	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT: T201753109; COUNTY: SUSSEX; BRIDGE NO.; DESIGNED BY: TTM/ALM; CHECKED BY: CAH	FOUNDATION PLAN - NORTH BUILDING - PLUMBING

P-100
SHEET NO. 132
TOTAL SHTS. 189

N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004P-100.dgn
10/27/2017 3:03:57 PM



CONSTRUCTION NOTES

1 ROLL VENT PIPE UP AT 45° BELOW FLOOR.

1 P-101 FOUNDATION PLAN - SOUTH BUILDING - PLUMBING
SCALE: 1/8"=1'-0"

Unofficial Website Copy

N:\90181-01\CADD\Phase II\Sheet Files\CP01-90181004P-101.dgn
10/27/2017 3:03:56 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: 1/8" = 1'-0" (0, 4', 8', 16')

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

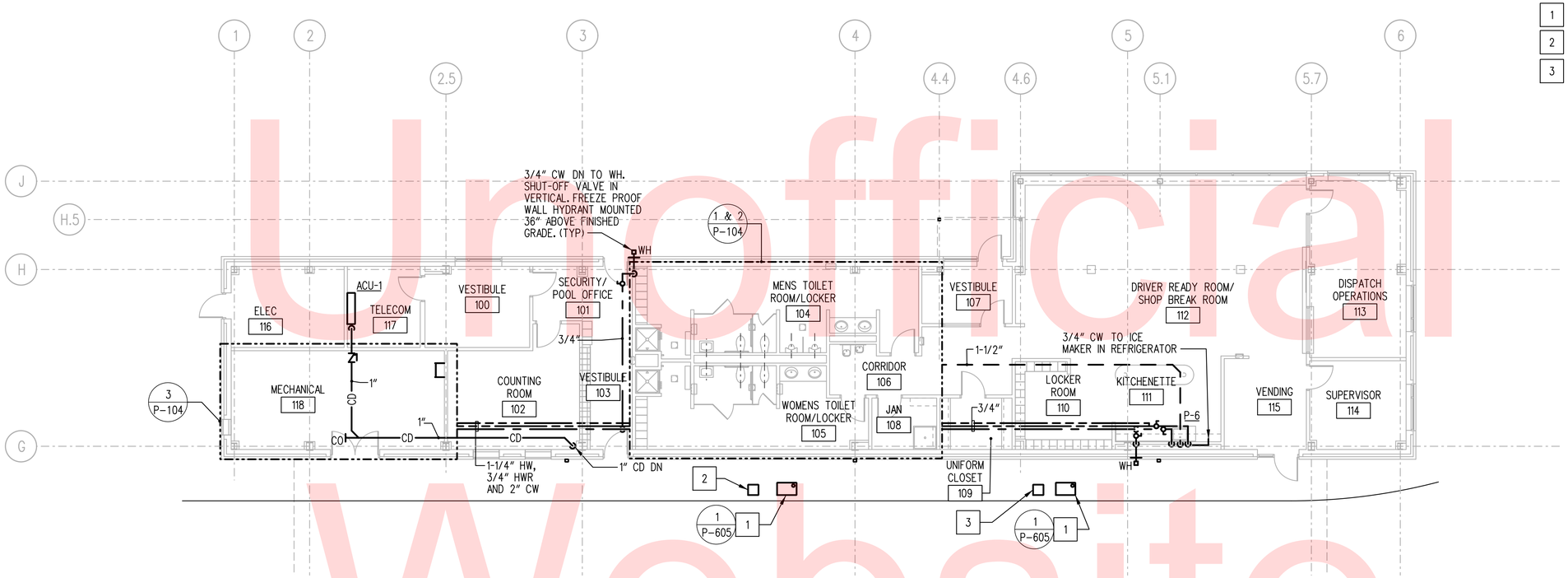
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: TTM/ALM	
COUNTY		
SUSSEX	CHECKED BY: CAH	

FOUNDATION PLAN - SOUTH BUILDING - PLUMBING

P-101	
SHEET NO.	133
TOTAL SHTS.	189

CONSTRUCTION NOTES

1. FUEL DISPENSER (DIESEL).
2. FUEL MANAGEMENT CARD READER.
3. FUEL SITE CONTROLLER.

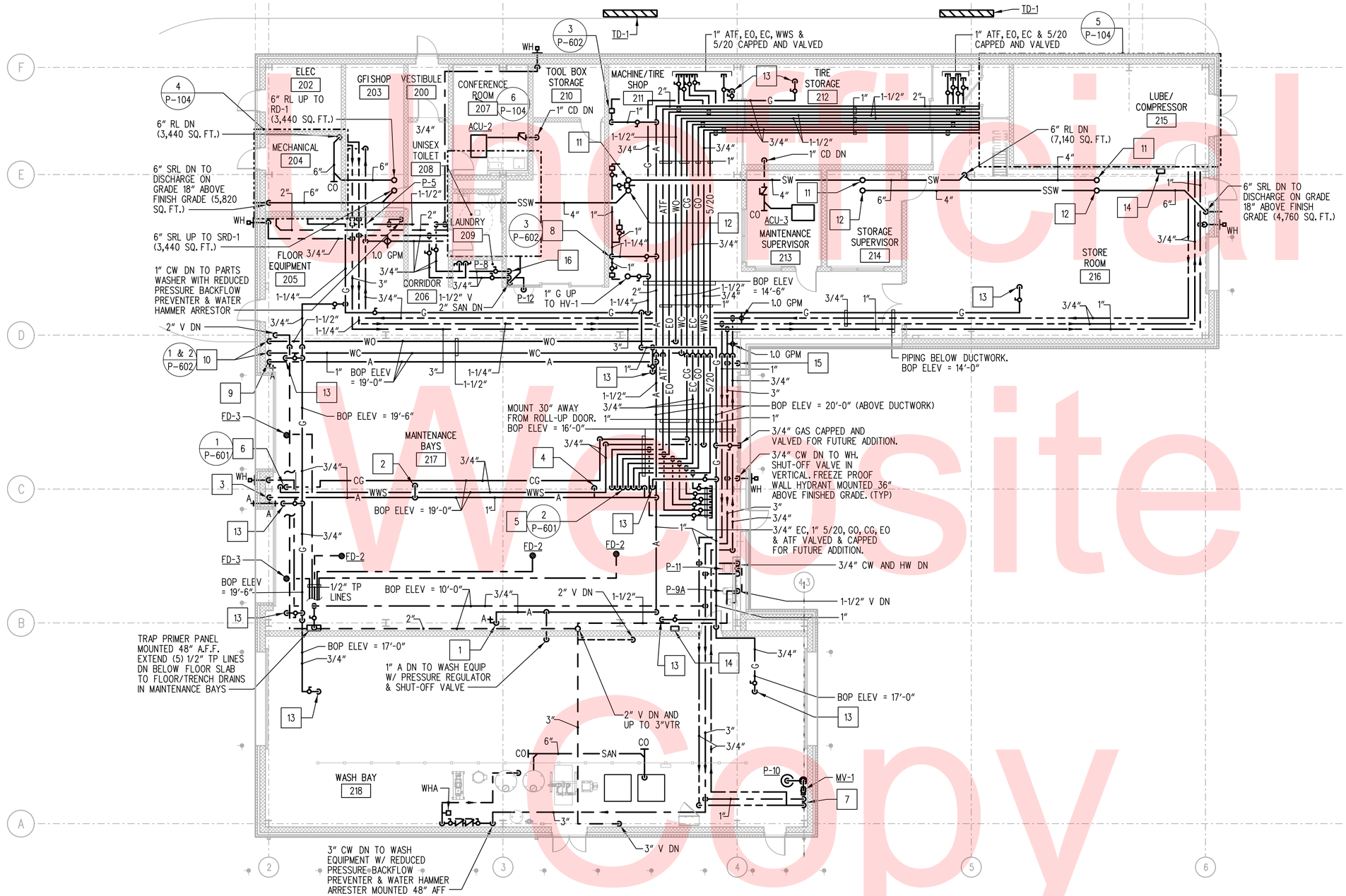


1 P-102 FLOOR PLAN - NORTH BUILDING - PLUMBING
SCALE: 1/8"=1'-0"

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004P-102.dgn
10/27/2017 3:03:56 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR PLAN – NORTH BUILDING – PLUMBING	P-102
				COUNTY SUSSEX	DESIGNED BY: TTM/ALM		SHEET NO. 134
					CHECKED BY: CAH		TOTAL SHTS. 189



1 P-103 FLOOR PLAN - SOUTH BUILDING - PLUMBING
SCALE: 1/8"=1'-0"

CONSTRUCTION NOTES

1. 3/4" AIR DN TO QUICK CONNECT OUTLET W/ SHUT-OFF VALVE, PRESSURE REGULATOR, LUBRICATOR AND FILTER MOUNTED 36" AFF.
2. 3/4" AIR DN TO SHUT-OFF VALVE, PRESSURE REGULATOR, FILTER, LUBRICATOR AND QUICK CONNECT OUTLET AT UTILITY TRAPEZE.
3. 3/4" AIR DN TO QUICK CONNECT OUTLET W/ SHUT-OFF VALVE, PRESSURE REGULATOR, LUBRICATOR AND FILTER MOUNTED 36" AFF. EXTEND 3/4" AIR THROUGH EXTERIOR WALL TO EXTERIOR QUICK CONNECT OUTLET AT 36" ABOVE FINISH GRADE.
4. 3/4" AIR DN TO CONTROL PANEL WITH SHUT-OFF VALVE, PRESSURE REGULATOR, LUBRICATOR AND FILTER.
5. 1" ATF, EO, CG, GO, 5/20 AND 3/4" EC & AIR DN TO HOSE REEL.
6. 3/4" WWS AND 3/4" CG DN TO HOSE REEL.
7. 3/4" HW AND 1" CW DN TO MIXING VALVE MV-1 MOUNTED 60" AFF ON WALL. EXTEND 1-1/4" TEPID WATER FROM MIXING VALVE TO P-10.
8. 1-1/4" AIR DN. PROVIDE SHUT-OFF VALVE, PRESSURE REGULATOR, LUBRICATOR AND FILTER AT EQUIPMENT (TYP OF 4).
9. 1-1/4" AIR DN TO WO AND WC PUMPS MOUNTED ON WALL AND TO QUICK CONNECT OUTLET.
10. 1-1/2" WC AND 1-1/2" WO DN TO PUMPS FP-7 (WC) AND FP-8 (WO).
11. 4" RL UP TO RD-1 (2,380 SQ. FT.)
12. 4" SRL UP TO SRD-1 (2,380 SQ. FT.)
13. 3/4" G DN TO RADIANT PANEL.
14. HIGH LEVEL OIL ALARM FOR OIL WATER SEPARATOR. MOUNT 48" AFF. EXTEND CONTROL WIRING TO LEVEL SENSOR IN SEPARATOR.
15. 1/2" TP LINE DN TO FD-3. SHUT-OFF AND TRAP PRIMER VALVE MOUNTED IN VERTICAL.
16. 3/4" HW & CW DN, RUN EXPOSED ON WALL 24" AFF AND EXTEND TO P-12.

Official Website Copy

N:\90181-019\CADD\Phase 1 Sheet Files\CP01-90181004P-103.dgn
10/27/2017 3:03:59 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

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

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

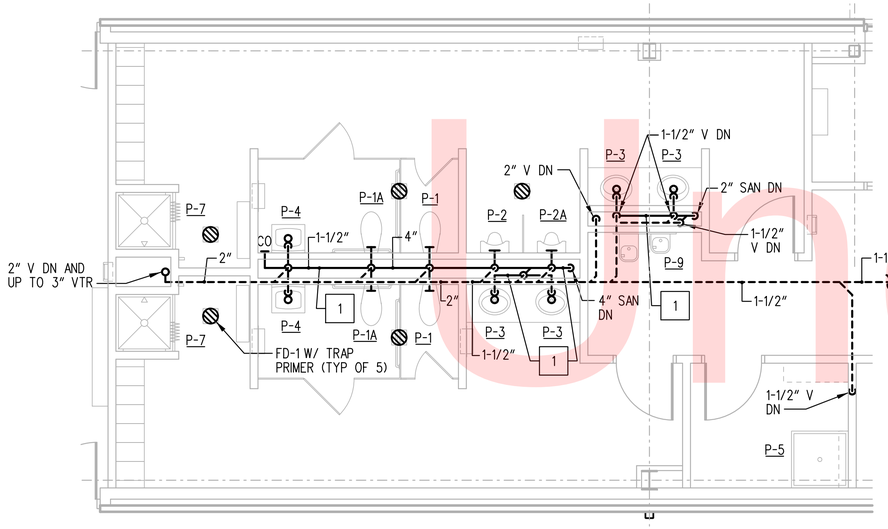
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: TTM/ALM	
COUNTY	CHECKED BY: CAH	
SUSSEX		

FLOOR PLAN - SOUTH BUILDING - PLUMBING

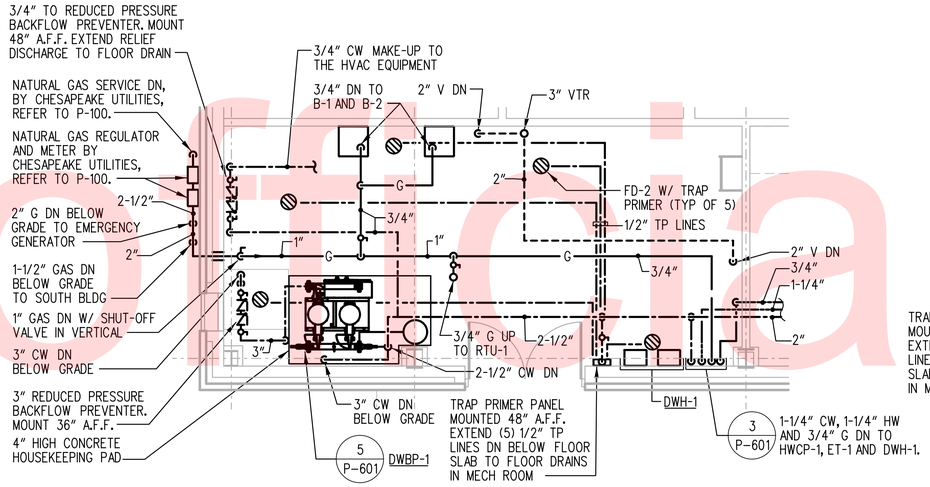
P-103	
SHEET NO.	135
TOTAL SHTS.	189

CONSTRUCTION NOTES

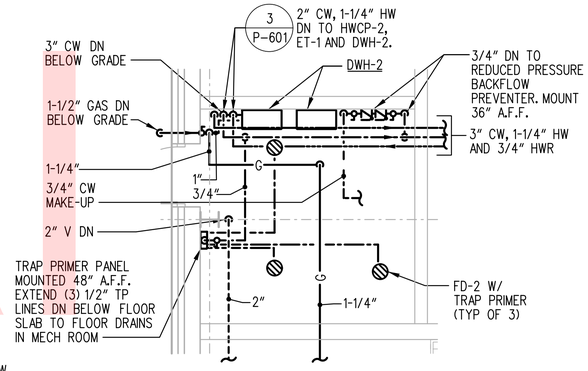
1. ABOVE FLOOR IN CHASE.
2. 1/2" TP LINE DN TO FD-2. SHUT-OFF AND TP VALVE IN VERTICAL.



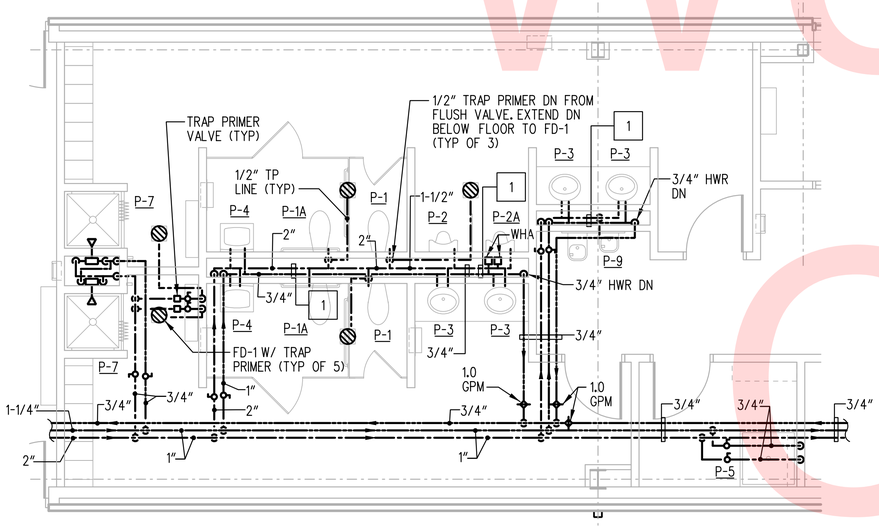
1 / P-104 NORTH BLDG - TOILET RM - SANITARY
SCALE: 1/4"=1'-0"



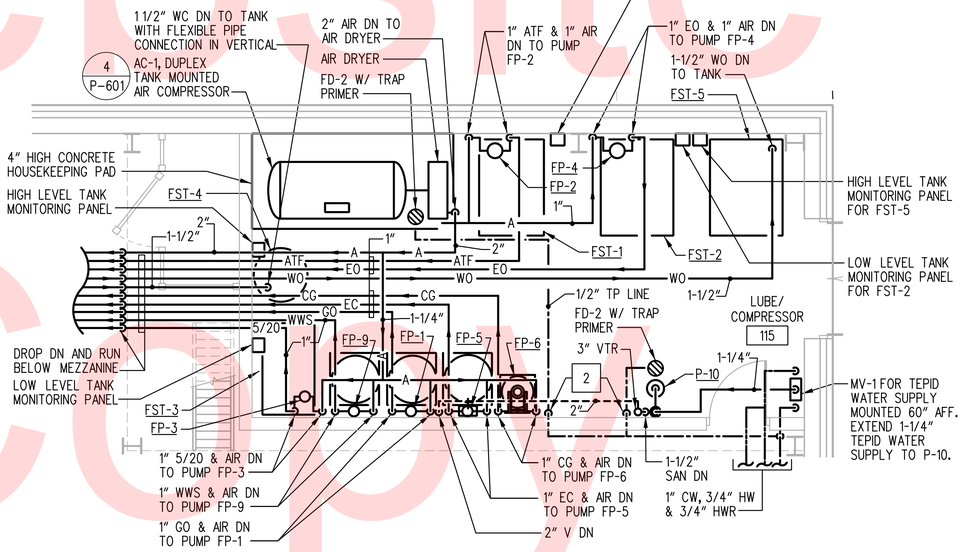
3 / P-104 NORTH BLDG - MECHANICAL ROOM
SCALE: 1/4"=1'-0"



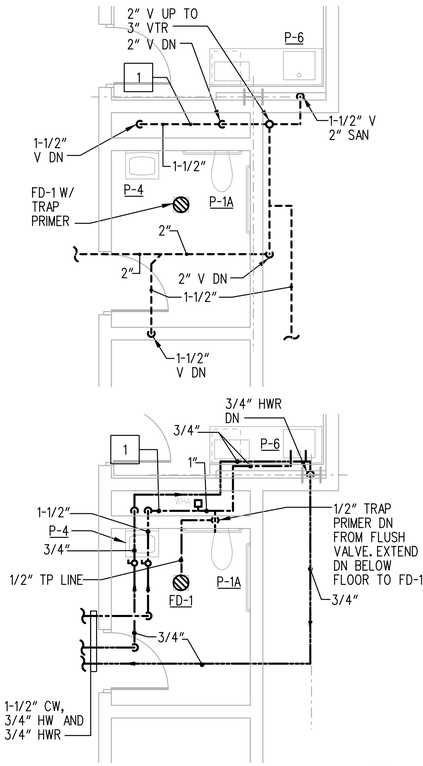
4 / P-104 SOUTH BLDG - MECHANICAL ROOM
SCALE: 1/4"=1'-0"



2 / P-104 NORTH BLDG - TOILET RM - DOMESTIC WATER
SCALE: 1/4"=1'-0"



5 / P-104 PART PLAN - LUBE/COMPRESSOR RM
SCALE: 1/4"=1'-0"



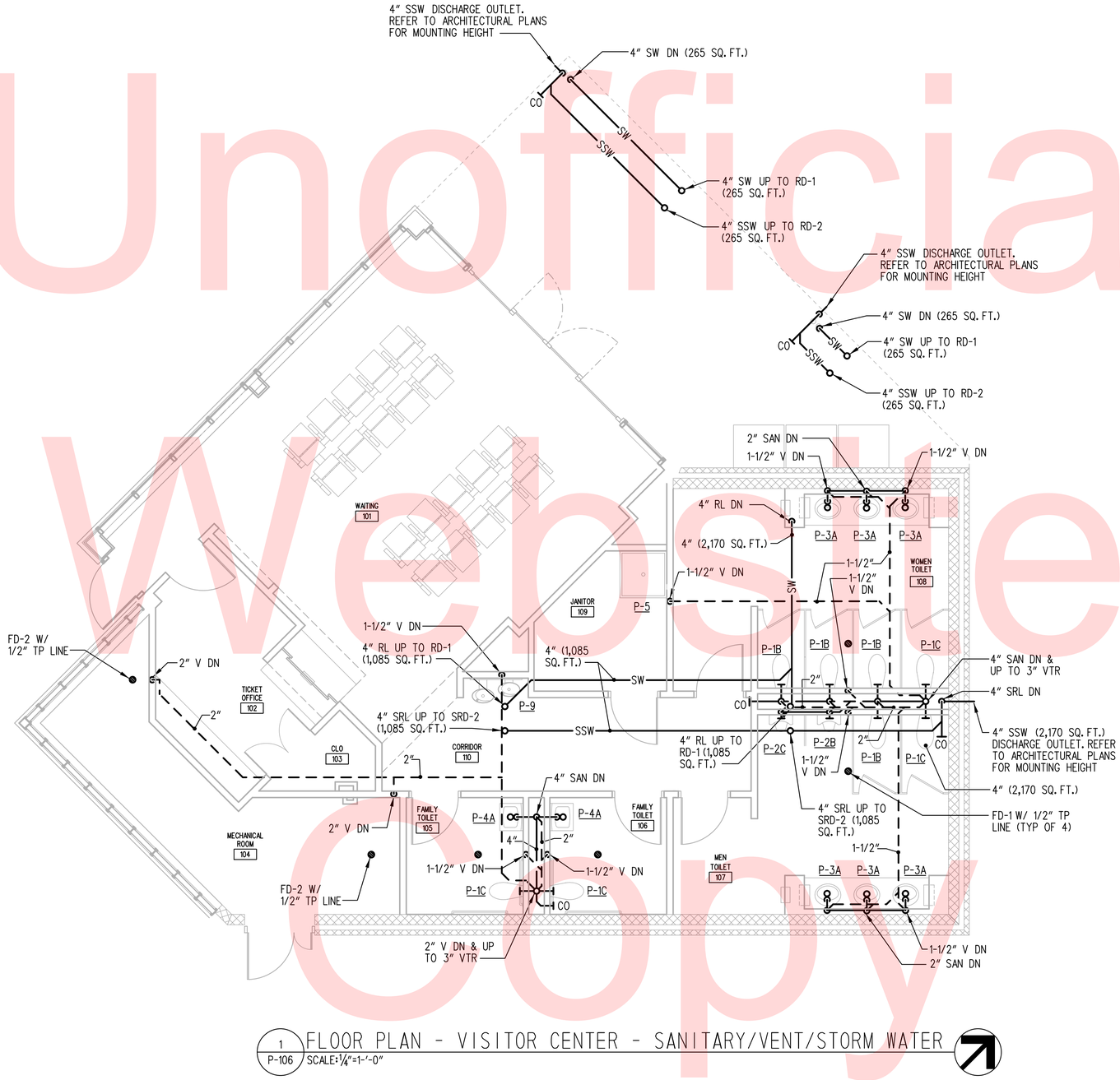
6 / P-104 SOUTH BLDG - TOILET ROOM
SCALE: 1/4"=1'-0"

Unofficial Website copy

N:\39181-019\CADD\Phase II\Sheet Files\CP01-39181004P-104.dgn
10/27/2017 3:04:06 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	PART PLANS	P-104
				COUNTY SUSSEX	DESIGNED BY: TTM/ALM		SHEET NO. 136
					CHECKED BY: CAH		TOTAL SHTS. 189

Unofficial Website Copy



1 / P-106 FLOOR PLAN - VISITOR CENTER - SANITARY/VENT/STORM WATER

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

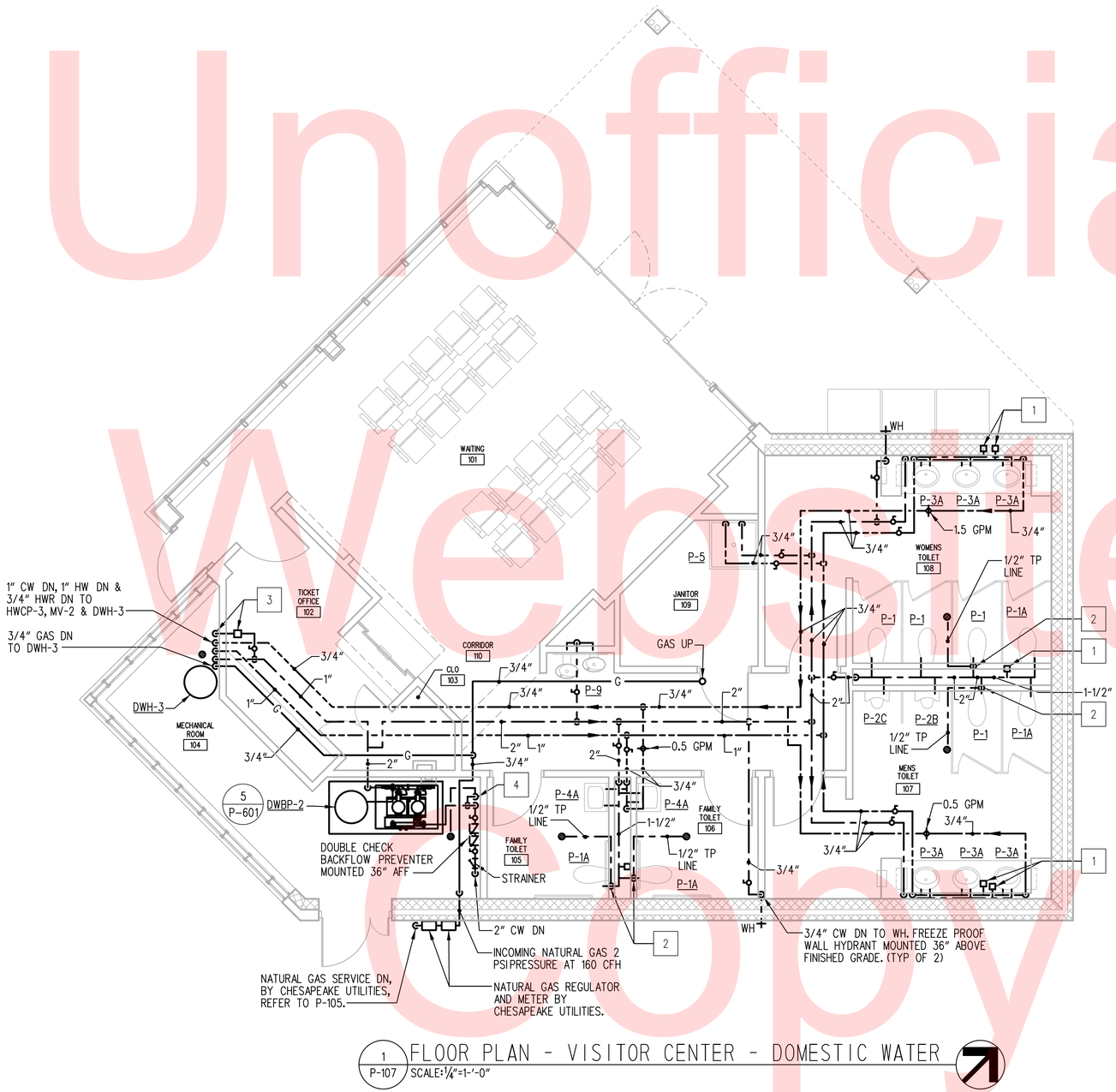
N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019P-106.dgn
10/27/2017 3:04:30 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR PLAN – VISITOR CENTER – SANITARY/VENT /STORM WATER	P-106
				COUNTY SUSSEX	DESIGNED BY: TTM/ALM		SHEET NO. 138
					CHECKED BY: CAH		TOTAL SHTS. 189

Unofficial Website Copy

CONSTRUCTION NOTES

1. WATER HAMMER ARRESTOR.
2. 1/2" TP LINE FROM FLUSH VALVE TRAP PRIMER CONNECTION, EXTEND 1/2" TP LINE DN BELOW BELOW FLOOR TO FD-1.
3. TRAP PRIMER VALVE, EXTEND 1/2" TP DN BELOW FLOOR TO FLOOR DRAIN.
4. EXTEND 1/2" TP DN BELOW FLOOR TO FLOOR DRAIN. SHUT-OFF AND TRAP PRIMER VALVE IN VERTICAL.

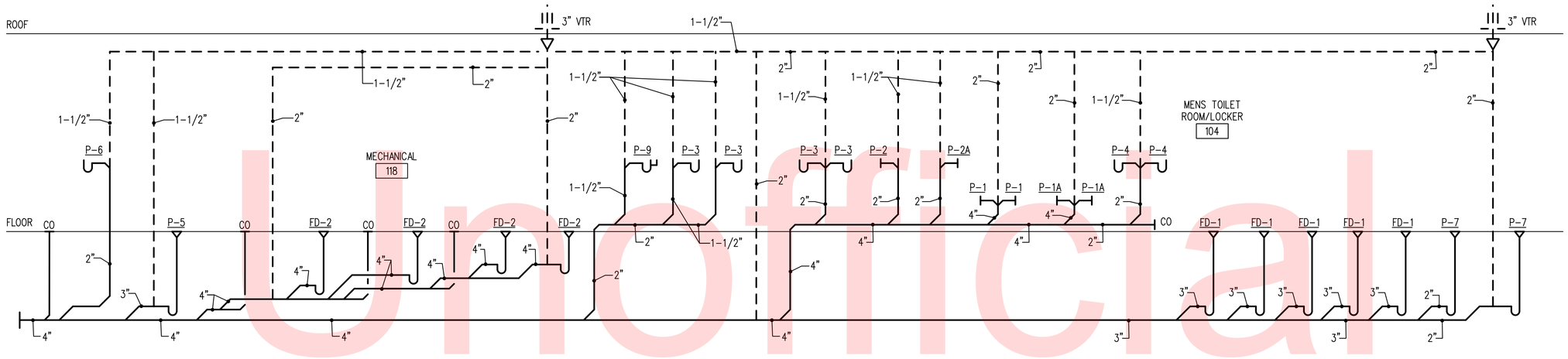


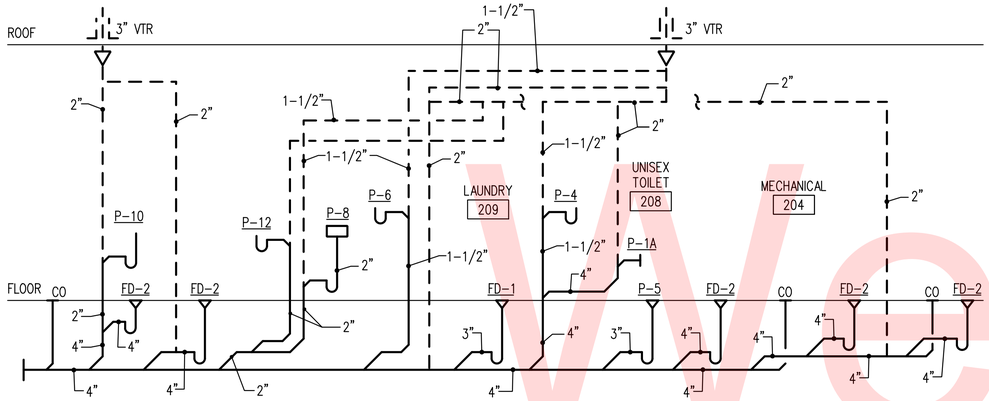
1 / P-107 FLOOR PLAN - VISITOR CENTER - DOMESTIC WATER
SCALE: 1/4"=1'-0"

N:\90181-019-C4DD\Phase II Sheet Files\CP02-90181019P-107.dgn
10/27/2017 3:04:31 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR PLAN - VISITOR CENTER - DOMESTIC WATER	P-107
				COUNTY SUSSEX	DESIGNED BY: TTM/ALM		SHEET NO. 139
					CHECKED BY: CEH		TOTAL SHTS. 189

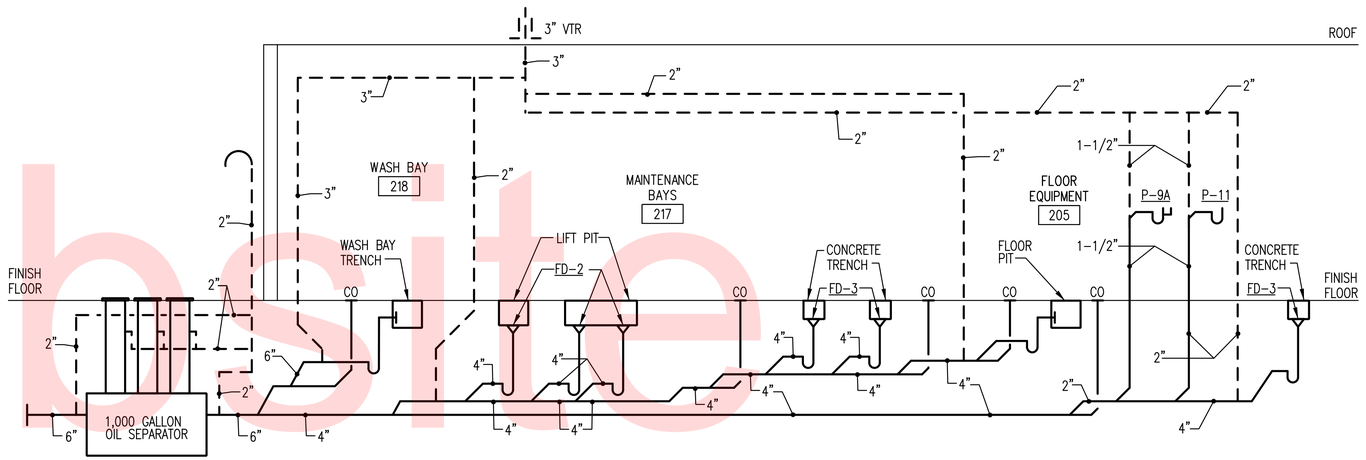
Unofficial Website Copy

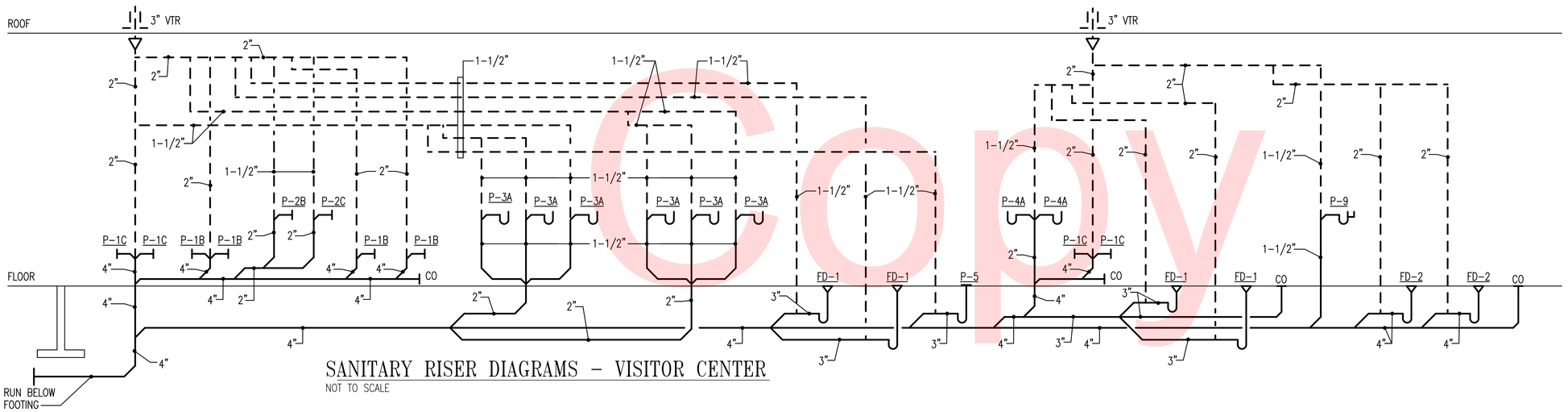




SANITARY RISER DIAGRAMS - MAINTENANCE BLDG

NOT TO SCALE



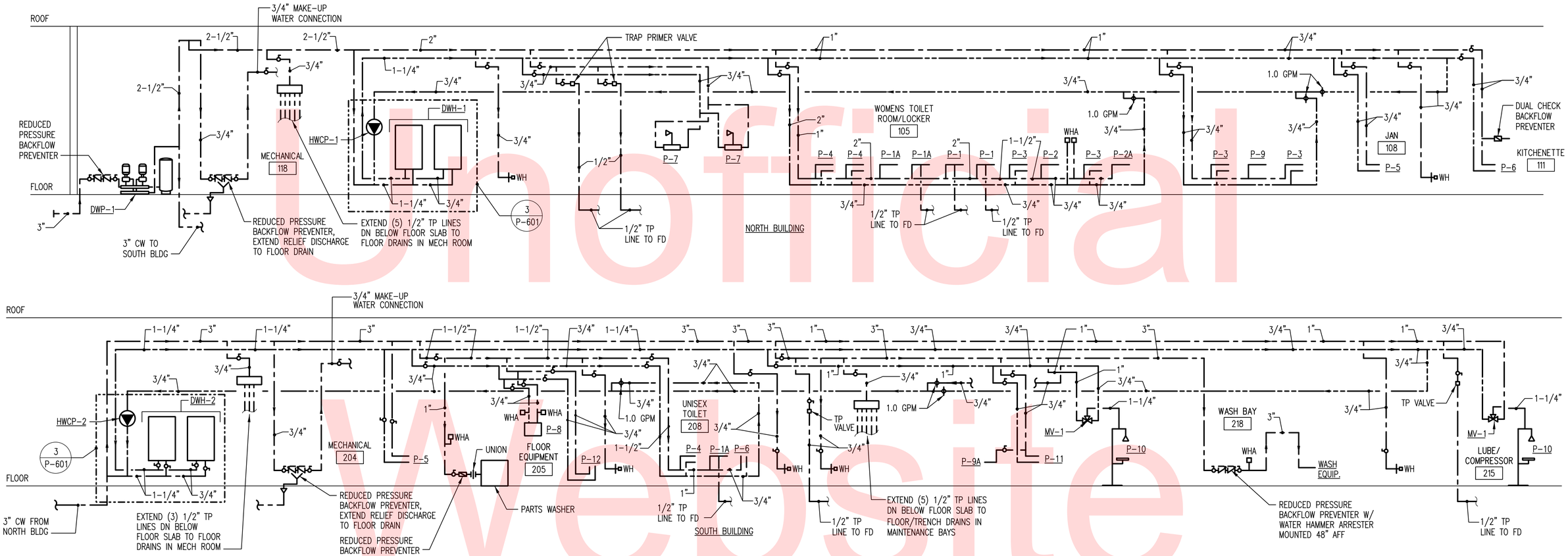


SANITARY RISER DIAGRAMS - VISITOR CENTER

NOT TO SCALE

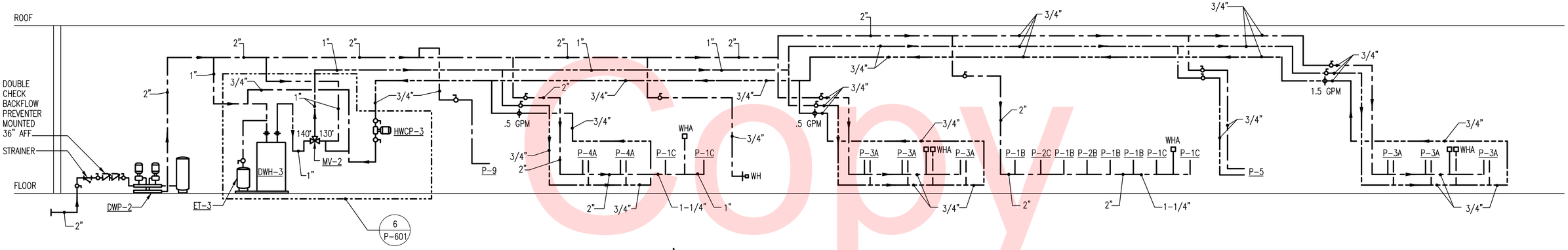
N:\90181-019\CADD\Phase II\Sheet Files\CP01-90181004P-501.dgn
10/27/2017 3:04:01 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	PLUMBING RISERS
				COUNTY SUSSEX	DESIGNED BY: TTM/ALM	P-501
					CHECKED BY: CAH	SHEET NO. 140
						TOTAL SHTS. 189



MAINTENANCE BLDG DOMESTIC RISER DIAGRAMS

NOT TO SCALE



VISITOR'S CENTER DOMESTIC RISER DIAGRAMS

NOT TO SCALE

Unofficial Website Copy

N:\90181-019-C&D\Phase II Sheet Files\CP01-90181004P-502.dgn
10/27/2017 3:04:01 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

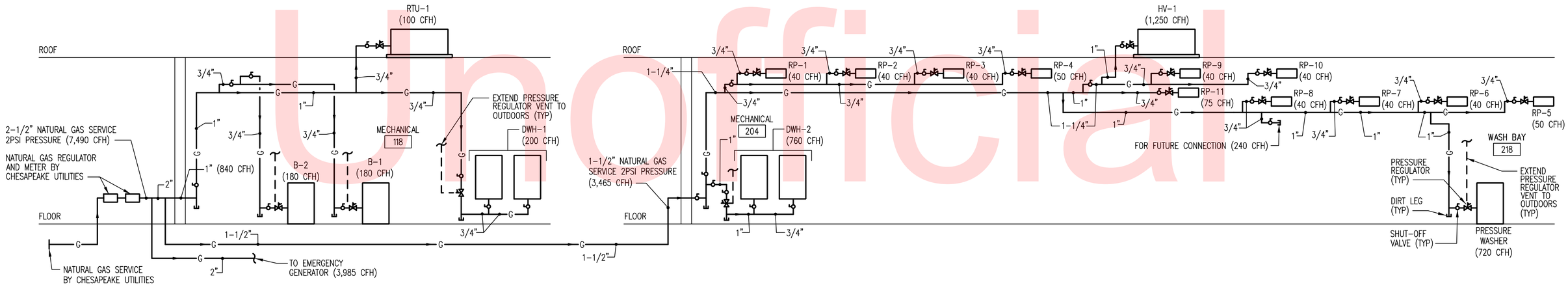
ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TTM/ALM
CHECKED BY: CAH

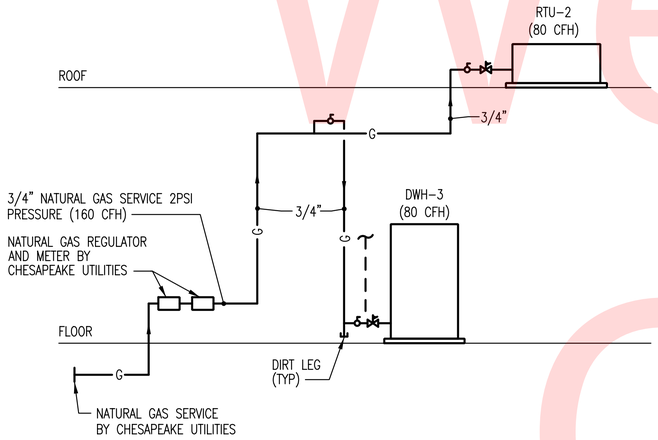
PLUMBING RISERS

P-502
SHEET NO. 141
TOTAL SHTS. 189



GAS RISER DIAGRAMS - MAINTENANCE BLDG

NOT TO SCALE



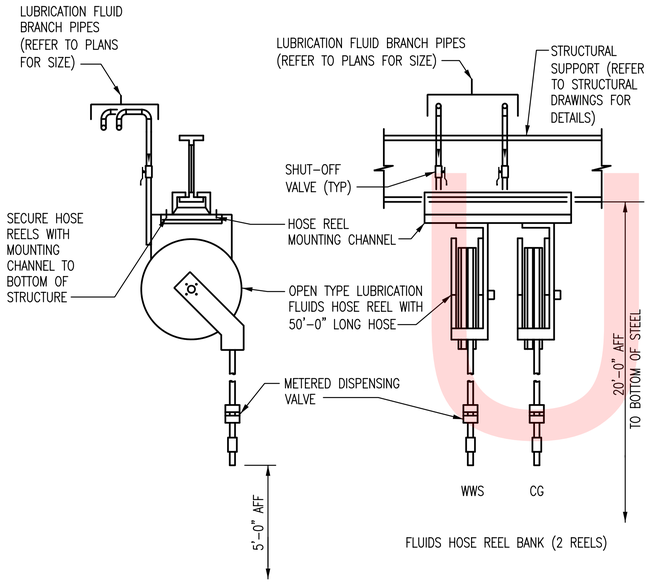
GAS RISER DIAGRAMS - VISITOR CENTER

NOT TO SCALE

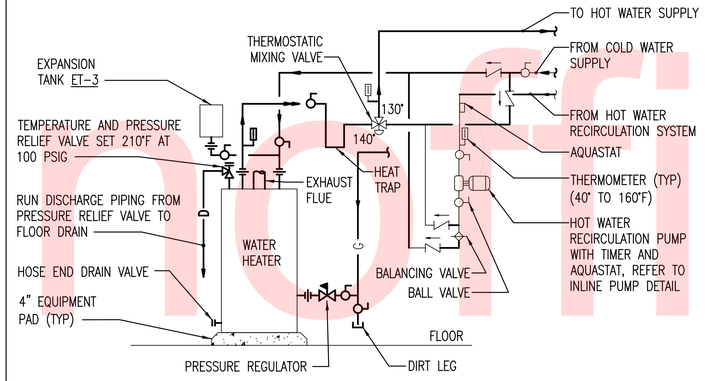
Unofficial Website Copy

N:\9018\c01\P\CADD\Phase II Sheet Files\CP01-9018004P-503.dgn
10/27/2017 3:04:02 PM

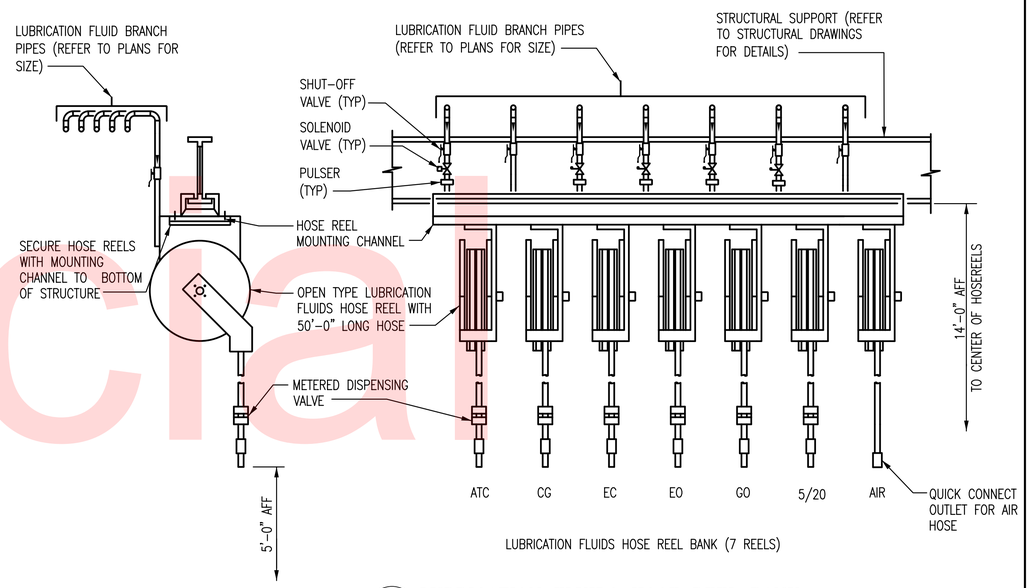
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	PLUMBING RISERS
				COUNTY SUSSEX	DESIGNED BY: TTM/ALM	P-503
					CHECKED BY: CAH	SHEET NO. 142
						TOTAL SHTS. 189



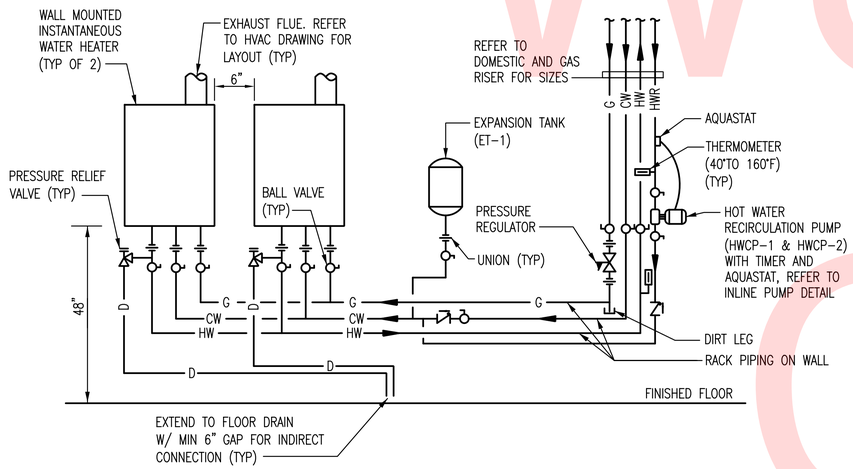
1 P-601 LUBRICATION FLUIDS HOSE REEL BANK
NOT TO SCALE



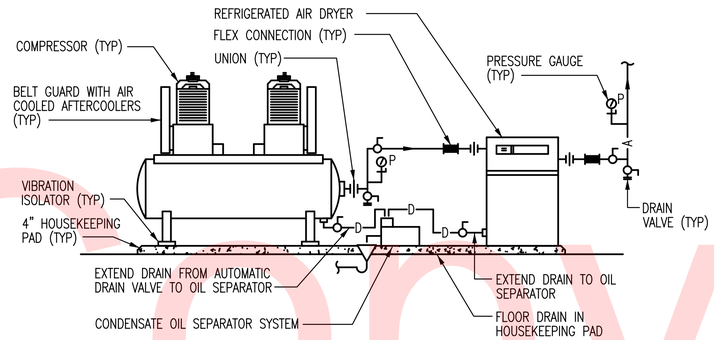
2 P-601 GAS FIRED DOMESTIC WATER HEATER (DWH-3 VISITORS CENTER)
NOT TO SCALE



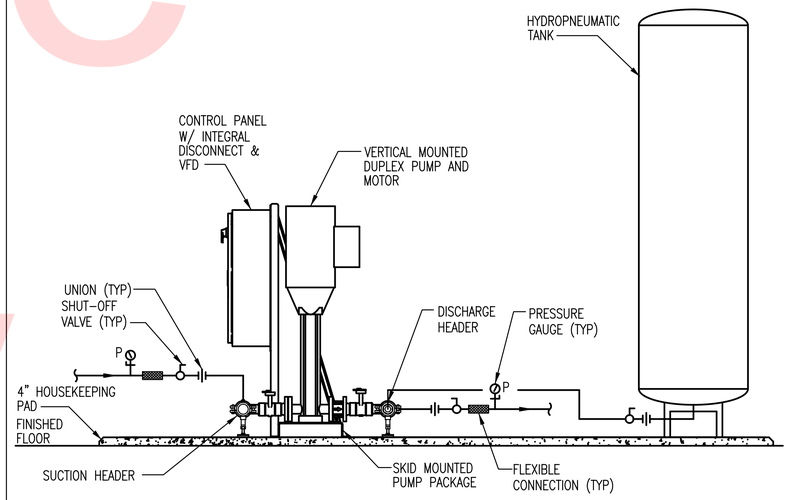
3 P-601 LUBRICATION FLUIDS HOSE REEL BANK
SCALE
REF:



4 P-601 GAS FIRED INSTANTANEOUS WATER HEATER CONNECTION (DWH-1 & DWH-2 MAINTENANCE BUILDING)
NOT TO SCALE



5 P-601 TANK MOUNTED DUPLEX AIR COMPRESSOR
NOT TO SCALE



6 P-601 DOMESTIC WATER DUPLEX BOOSTER PUMP PACKAGE
NOT TO SCALE

Unofficial Website Copy

N:\99181-019\CADD\Phase II Sheet Files\CP01-90180004P-601.dgn
10/27/2017 3:04:03 PM

P-601

DELAWARE
DEPARTMENT OF TRANSPORTATION

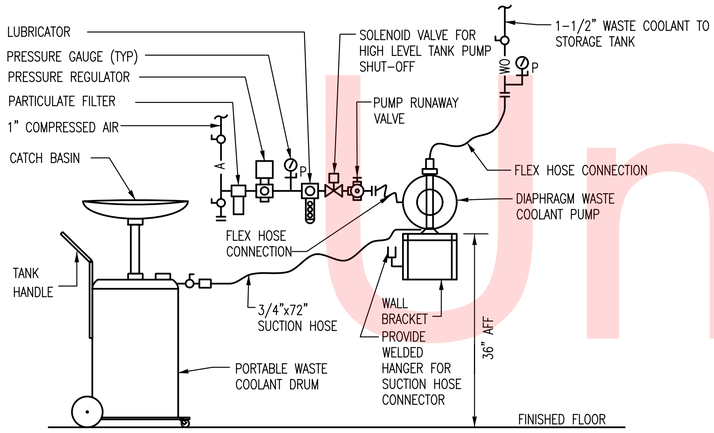
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

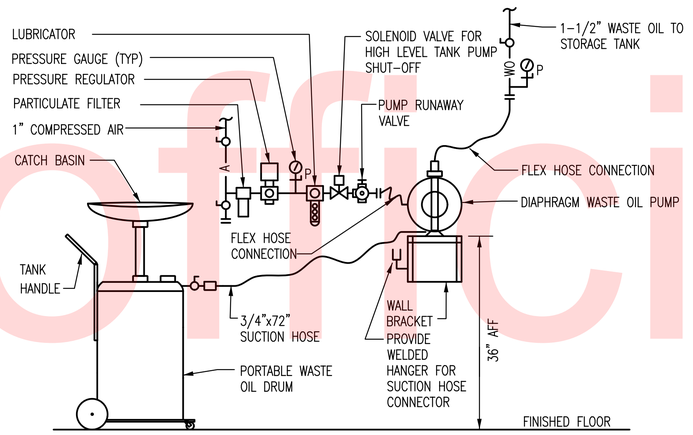
CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: TTM/ALM	
COUNTY	CHECKED BY: CAH	
SUSSEX		

PLUMBING DETAILS

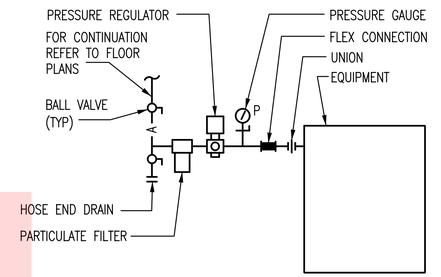
SHEET NO.
143
TOTAL SHTS.
189



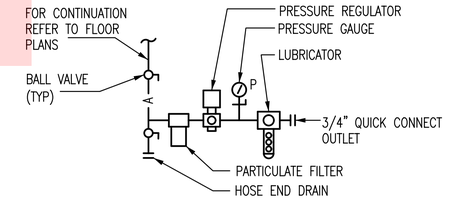
1 P-602 WASTE COOLANT PUMP CONNECTION
NOT TO SCALE



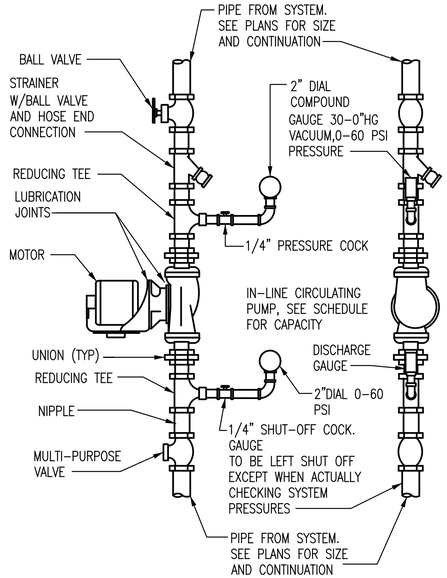
2 P-602 WASTE OIL PUMP CONNECTION
NOT TO SCALE



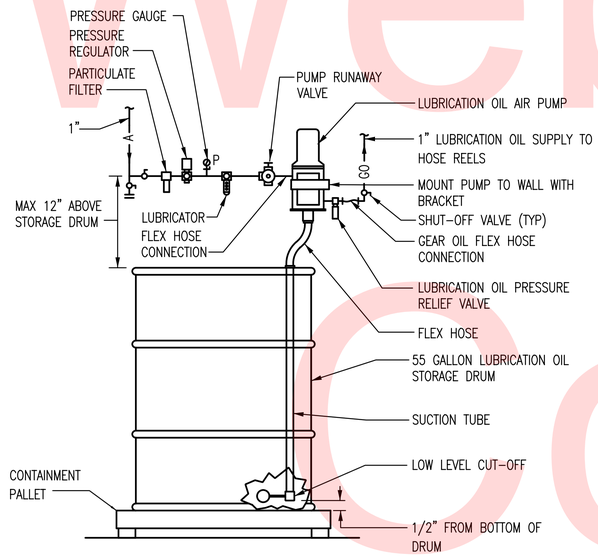
3 P-602 COMPRESSED AIR CONNECTION TO EQUIP
NOT TO SCALE



3 P-602 COMPRESSED AIR DROP CONNECTION
NOT TO SCALE

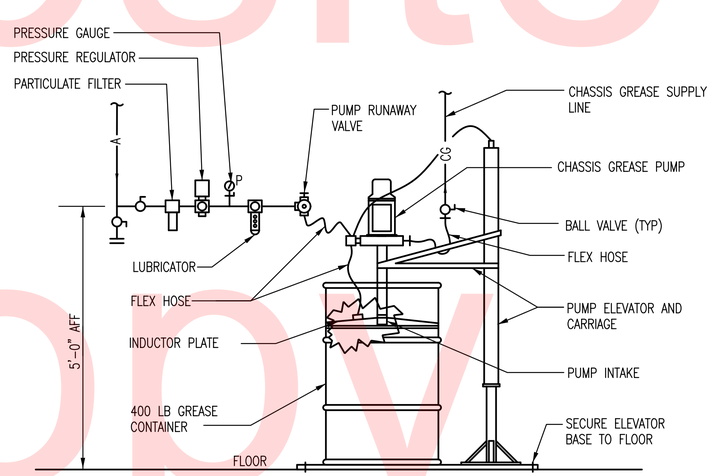


4 P-602 IN-LINE PUMP
NOT TO SCALE

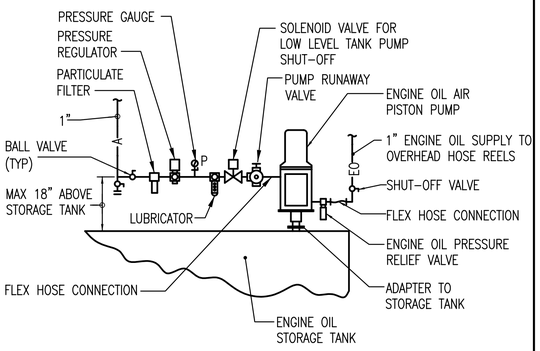


NOTE: TYPICAL FOR EC & WWS

5 P-602 GEAR OIL PUMP CONNECTION AT DRUM
NOT TO SCALE



6 P-602 STATIONARY CHASSIS GREASE PUMP CONNECTION
NOT TO SCALE



NOTE:
1. TYPICAL FOR, ENGINE OIL (5/20), AUTOMATIC TRANSMISSION FLUID (ATF).
2. REFER TO PLANS FOR SIZES.

7 P-602 ENGINE OIL PUMP AT STORAGE TANK
NOT TO SCALE

Unofficial Website Copy

N:\9018\c01\CADD\Phase II Sheet Files\CP01-9018004P-602.dgn
10/27/2017 3:04:03 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

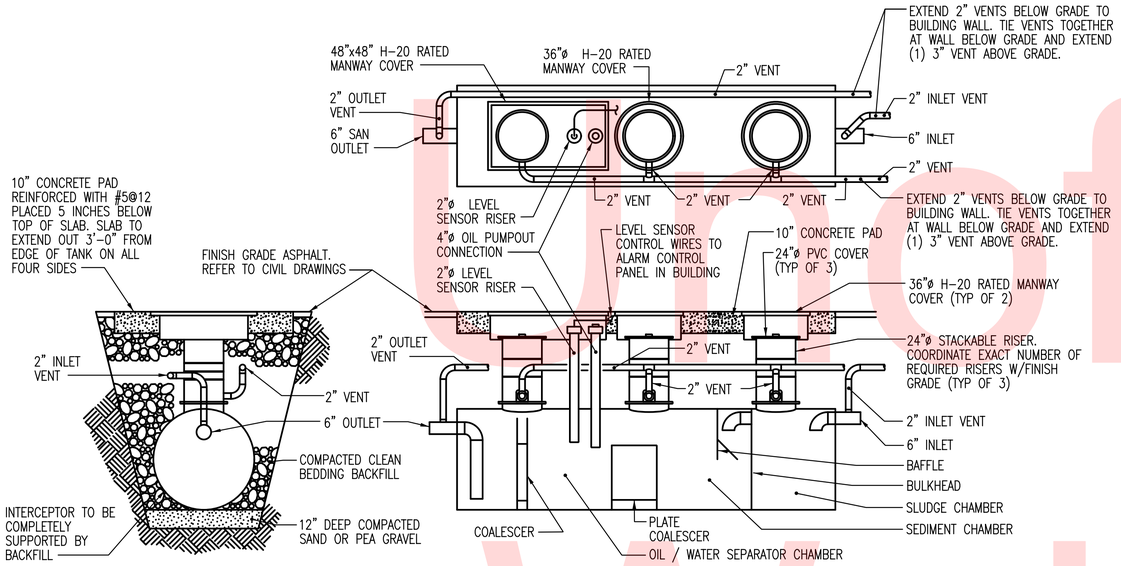
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

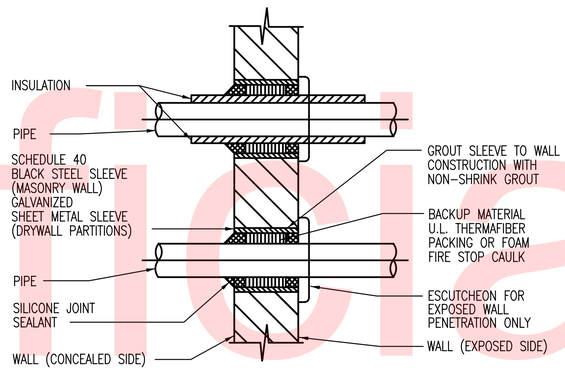
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: TTM/ALM	
CHECKED BY: CEH	

PLUMBING
DETAILS

	P-602
SHEET NO.	144
TOTAL SHTS.	189



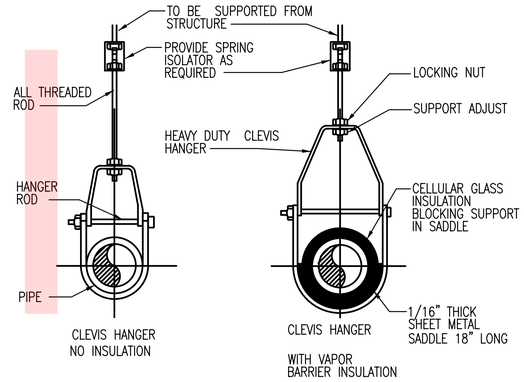
1 P-603 OIL/WATER SEPARATOR (1,000 GALLON)
NOT TO SCALE



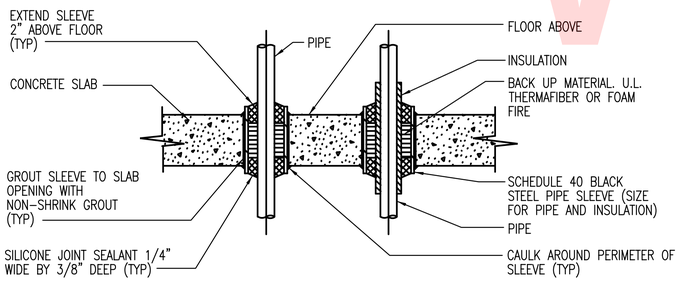
2 P-603 PIPE SLEEVE THRU WALL
NOT TO SCALE

NOTES:

1. AT THE CONTRACTORS OPTION A U.L. LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.
2. FOR EXISTING POURED CONCRETE WALLS, CORE DRILLED OPENINGS DO NOT REQUIRE PIPE SLEEVES.



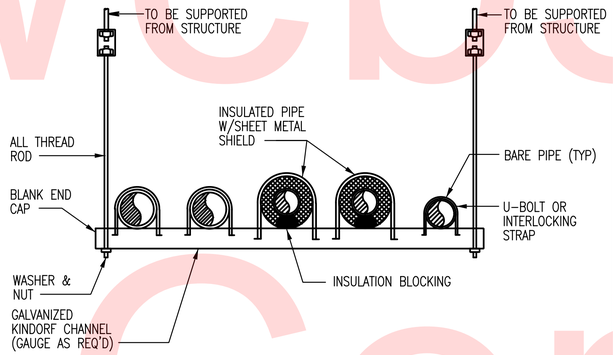
3 P-603 TYPICAL PIPE HANGER SUPPORTS
NOT TO SCALE



NOTES:

1. AT THE CONTRACTORS' OPTION A U.L. LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.

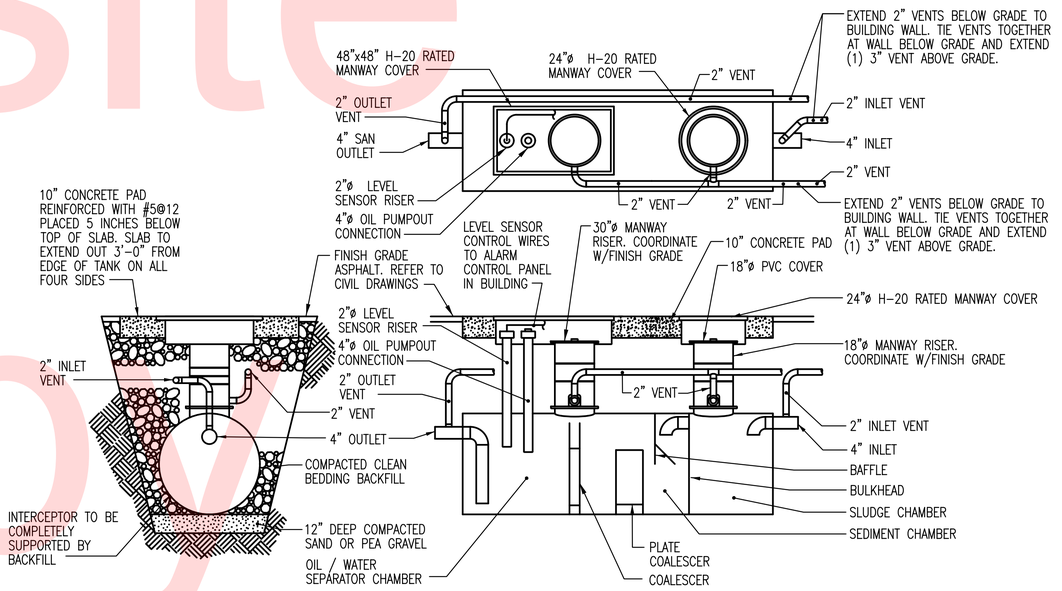
4 P-603 PIPE SLEEVE THRU FLOOR
NOT TO SCALE



5 P-603 TRAPEZE PIPE SUPPORT
NOT TO SCALE

NOTES:

1. ALL PIPING SUPPORT SYSTEM COMPONENTS SHALL HAVE A NON-CORROSIVE METAL FINISH.
2. ALL COPPER PIPING SHALL BE PROTECTED FROM CONTACT W/ DISSIMILAR METALS.



6 P-603 OIL/WATER SEPARATOR (350 GALLON)
NOT TO SCALE

Unofficial Website Copy

N:\9018\civil\CAD\Phase II Sheet Files\CP01-9018004P-603.dgn
10/27/2017 3:04:04 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

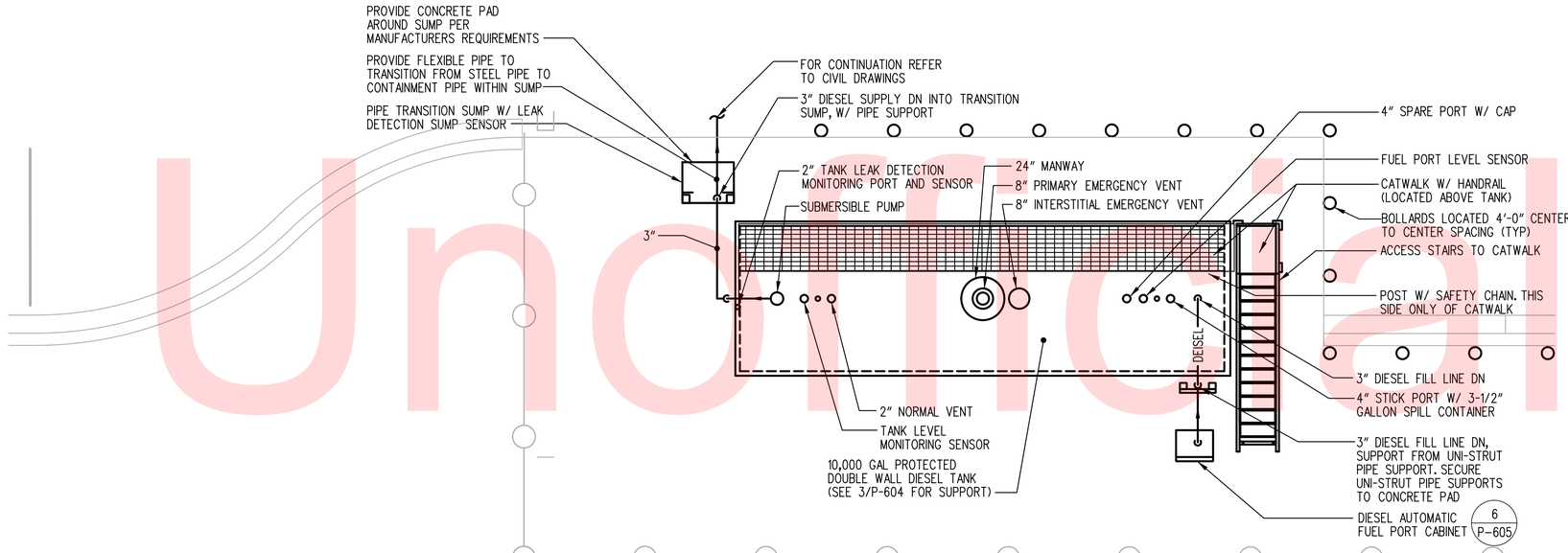
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: TTM/ALM	
CHECKED BY: CAH	

PLUMBING DETAILS

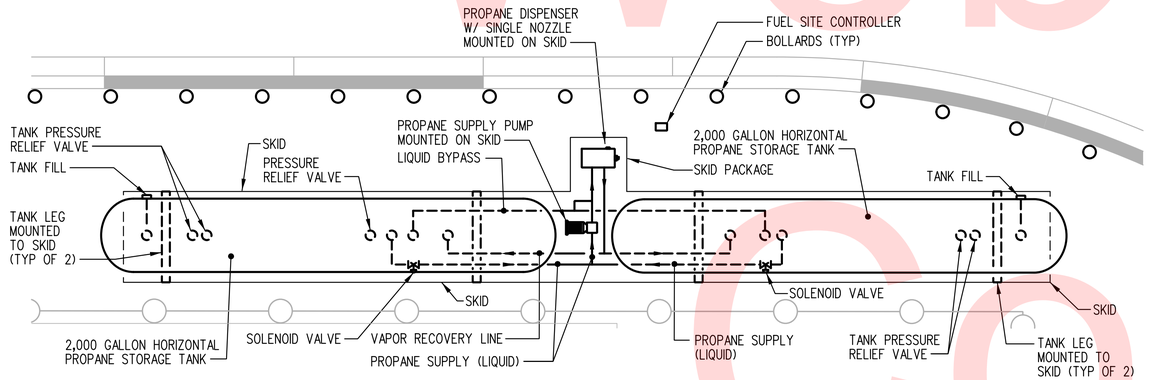
P-603	
SHEET NO.	145
TOTAL SHTS.	189



1 / P-604 ABOVE GROUND FUEL STORAGE TANK DIESEL

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

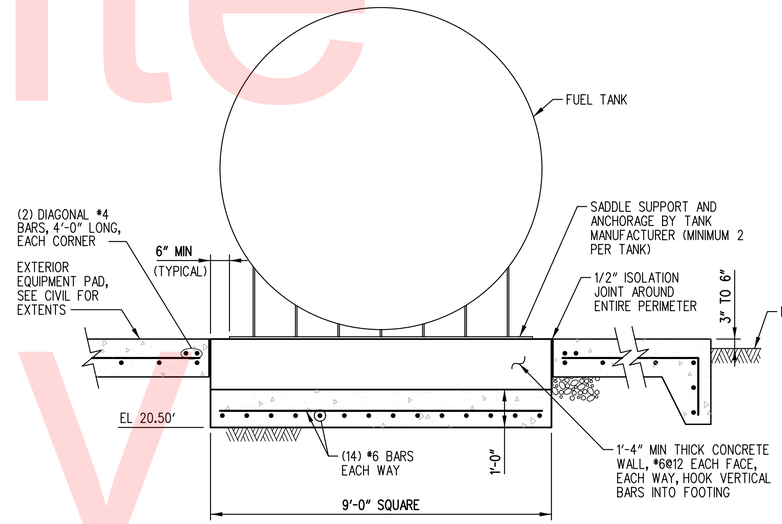
NOTE:
1. REFER TO DIESEL PIPING DIAGRAM ON DRAWING P-605.



2 / P-604 ABOVE GROUND PROPANE STORAGE TANK & DISPENSING SYSTEM

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

NOTE:
1. PROPANE DISPENSING SYSTEM WHICH INCLUDES, TANKS, DISPENSER, INTERCONNECTING PIPING, VALVES, PUMP, METERS AND INTERCONNECTING WIRING TO BE A COMPLETE FACTORY ASSEMBLED PROPANE DISPENSING SYSTEM MOUNTED ON A SKID ASSEMBLY.



3 / P-604 FUEL TANK FOUNDATION

SCALE: 1/2" = 1'-0"

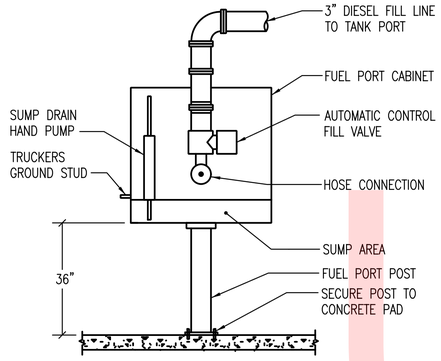
0 1' 2' 4'
SCALE: 1/2" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

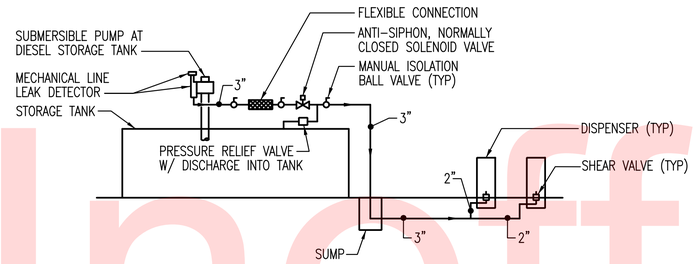
Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004P-604.dgn
10/27/2017 3:04:05 PM

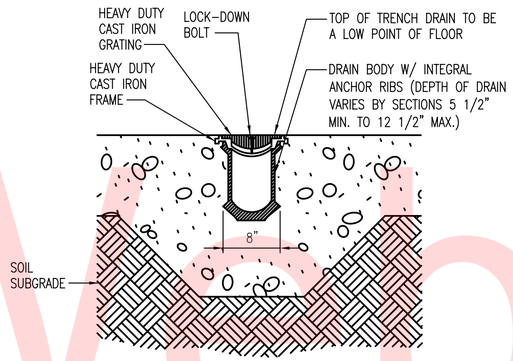
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	PLUMBING DETAILS	P-604
			COUNTY SUSSEX	DESIGNED BY: TTM/ALM		SHEET NO. 146
				CHECKED BY: CAH		TOTAL SHTS. 189



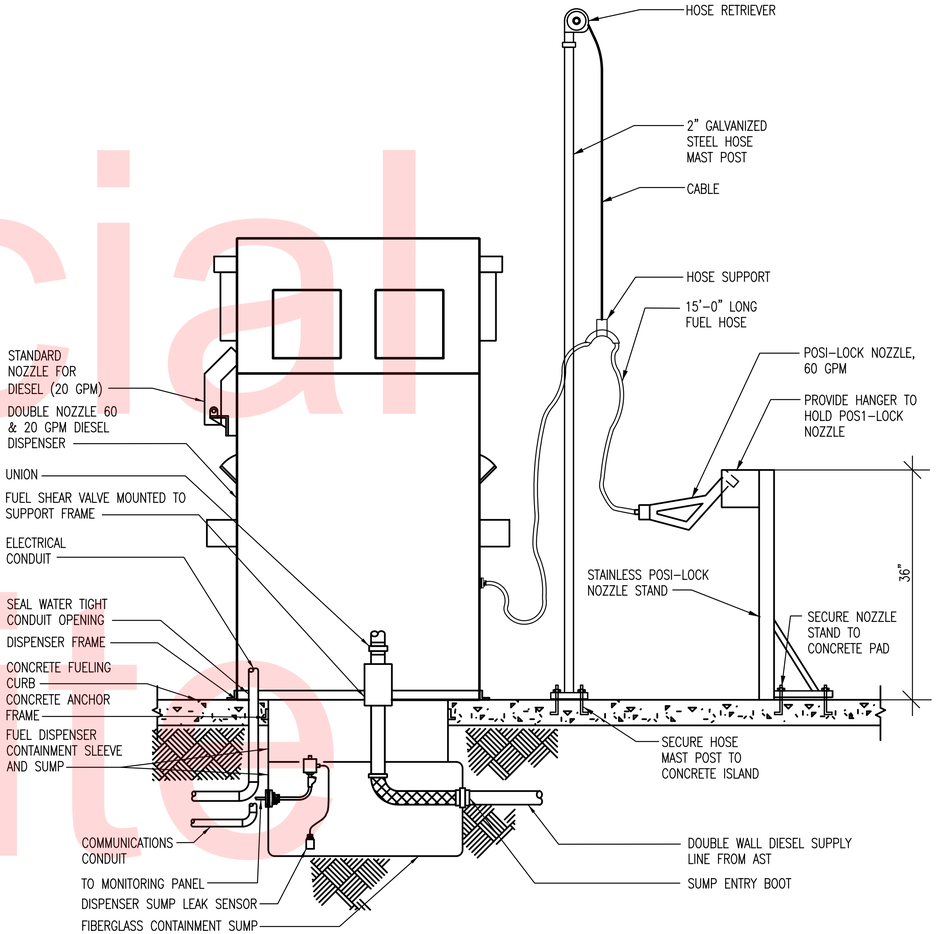
4 / P-605 DIESEL FUEL PORT
NOT TO SCALE



2 / P-605 DIESEL FUEL PIPING DIAGRAM
NOT TO SCALE



3 / P-605 MODULAR TRENCH DRAIN
NOT TO SCALE



1 / P-605 DIESEL DISPENSER
NOT TO SCALE

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004P-605.dgn
10/27/2017 3:04:05 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109	BRIDGE NO.	
COUNTY SUSSEX	DESIGNED BY: TTM/ALM	
	CHECKED BY: CAH	

PLUMBING DETAILS

	P-605
SHEET NO.	147
TOTAL SHTS.	189

DOMESTIC WATER HEATER SCHEDULE

UNIT ID	LOCATION	INPUT			RECOVERY @ 100 RISE	FLOW RATE @ 90 RISE	STORAGE CAPACITY GALLONS	DISCHARGE TEMPERAURE	ELECTRICAL DATA		BASIS OF DESIGN
		FUEL SOURCE	CAPACITY	UNITS					FLA	VOLTS/PH	
DWH-1	MAINTENANCE BUILDING MECHANICAL ROOM 118	NATURAL GAS	200	CFH	0	8.0 GPM	0	130	0.73	120/1	PROVIDE (2) AO SMITH ATI-540H-N UNITS MANIFOLDED TOGETHER (NOTE 1)
DWH-2	MAINTENANCE BUILDING MECHANICAL ROOM 204	NATURAL GAS	760	CFH	0	10 GPM	0	130	1.48	120/1	PROVIDE (2) AO SMITH ATI-910-N UNITS MANIFOLDED TOGETHER (NOTE 1)
DWH-3	VISITORS CENTER MECHANICAL 104	NATURAL GAS	80	CFH	74 GPH	0	80	140	2	120/1	A.O. SMITH BPD-80

NOTES:
1. CAPACITY AND RECOVERY INDICATED IS THE TOTAL REQUIRED DEMAND WITH THE WATER HEATERS MANIFOLDED TOGETHER.

AIR COMPRESSOR SCHEDULE

UNIT ID	SERVICE	TYPE	NO. OF COMPRESSORS	TANK VOLUME (GAL)	TOTAL CAPACITY (SCFM)	DISCHARGE PRESSURE (PSI)	HP EACH COMPRESSOR	RPM	VOLTS/PHASE	BASIS OF DESIGN	REMARKS
AC-1	SHOP & LUBE OIL EQUIPMENT	DUPLEX TANK MOUNTED	2	250	100	155	15	770	480/3	GARDNER DENVER-HR15DF-25	TANK MOUNTED DUPLEX

NOTE:
PROVIDE WITH ZEKS MODEL 150HSG REFRIGERATED AIR DRYER.

FLUIDS PUMP SCHEDULE

UNIT ID	SERVICE	LOCATION	TYPE	CAPACITY		RATIO	SYSTEM PRESSURE (PSI)	COMPRESSED AIR		REMARKS	BASIS OF DESIGN
				GPM	LBS/MIN			SCFM	PRESSURE (PSI)		
FP-1	GEAR OIL (GO)	LUBE / COMPRESSOR ROOM	AIR PISTON PUMP	4	-	5 TO 1	280	25	100	WALL MOUNTED	BALCRANK PANTHER 5:1 SERIES
FP-2	AUTOMATIC TRANSMISSION FLUID (ATF)	LUBE / COMPRESSOR ROOM	AIR PISTON PUMP	4	-	5 TO 1	150	25	100	TANK MOUNTED	BALCRANK PANTHER 5:1 SERIES
FP-3	ENGINE OIL (5/20)	LUBE / COMPRESSOR ROOM	AIR PISTON PUMP	4	-	5 TO 1	260	25	100	TANK MOUNTED	BALCRANK PANTHER 5:1 SERIES
FP-4	ENGINE OIL (EO)	LUBE / COMPRESSOR ROOM	AIR PISTON PUMP	4	-	5 TO 1	260	25	100	TANK MOUNTED	BALCRANK PANTHER 5:1 SERIES
FP-5	ENGINE COOLANT (EC)	LUBE / COMPRESSOR ROOM	AIR DIAPHRAGM PUMP	4	-	1 TO 1	50	15	100	WALL MOUNTED	BALCRANK CENTERFLO SERIES
FP-6	CHASSIS GREASE (CG)	LUBE / COMPRESSOR ROOM	AIR PISTON PUMP W/ INDUCTOR	-	8	50 TO 1	5000	72	135	TANK MOUNTED	BALCRANK LION SERIES
FP-7	WASTE COOLANT (WC)	MAIN SHOP REPAIR BAYS	AIR DIAPHRAGM PUMP	4	-	1 TO 1	50	15	100	WALL MOUNTED	BALCRANK SERIES 1120-013S
FP-8	WASTE OIL (WO)	MAIN SHOP REPAIR BAYS	AIR DIAPHRAGM PUMP	4	-	1 TO 1	50	15	100	WALL MOUNTED	BALCRANK SERIES 1120-013S
FP-9	WINDSHIELD WASHER FLUID (WWS)	LUBE / COMPRESSOR ROOM	AIR DIAPHRAGM PUMP	4	-	1 TO 1	45	15	100	WALL MOUNTED	BALCRANK CENTERFLO SERIES

PLUMBING FIXTURE SCHEDULE

UNIT ID	DESCRIPTION	CW (IN)	HW (IN)	SAN (IN)	VENT (IN)	WSFU	DFU	REMARKS	BASIS OF DESIGN
P-1	WATER CLOSET WALL MOUNTED	1	-	4	2	10	4	MANUAL FLUSH VALVE 1.28 GPF	AMERICAN STANDARD, AFWALL
P-1A	WATER CLOSET WALL MOUNTED BARRIER FREE	1	-	4	2	10	4	MANUAL FLUSH VALVE 1.28 GPF	AMERICAN STANDARD, AFWALL
P-1B	WATER CLOSET WALL MOUNTED	1	-	4	2	10	4	SENSOR OPERATED FLUSH VALVE 1.28 GPF (NOTE 1)	AMERICAN STANDARD, AFWALL
P-1C	WATER CLOSET WALL MOUNTED BARRIER FREE	1	-	4	2	10	4	SENSOR OPERATED FLUSH VALVE 1.28 GPF (NOTE 1)	AMERICAN STANDARD, AFWALL
P-2	URINAL WALL MOUNTED	3/4	-	2	1 1/2	5	2	MANUAL FLUSH VALVE 1/8 GPF	AMERICAN STANDARD, WASHBROOK FLOWISE
P-2A	URINAL WALL MOUNTED BARRIER FREE	3/4	-	2	1 1/2	5	2	MANUAL FLUSH VALVE 1/8 GPF	AMERICAN STANDARD, WASHBROOK FLOWISE
P-2B	URINAL WALL MOUNTED	3/4	-	2	1 1/2	5	2	SENSOR OPERATED FLUSH VALVE 1/8 GPF (NOTE 1)	AMERICAN STANDARD, WASHBROOK FLOWISE
P-2C	URINAL WALL MOUNTED BARRIER FREE	3/4	-	2	1 1/2	5	2	SENSOR OPERATED FLUSH VALVE 1/8 GPF (NOTE 1)	AMERICAN STANDARD, WASHBROOK FLOWISE
P-3	LAVATORY, COUNTER MOUNTED BARRIER FREE	1/2	1/2	1 1/2	1 1/2	2	1	0.5 GPM MANUAL FAUCET (NOTE 4)	JUST ,MFG
P-3A	LAVATORY, COUNTER MOUNTED BARRIER FREE	1/2	1/2	1 1/2	1 1/2	2	1	0.5 GPM SENSOR FAUCET (NOTE 2)	JUST ,MFG
P-4	LAVATORY, WALL MOUNTED BARRIER FREE	1/2	1/2	1 1/2	1 1/2	2	1	0.5 GPM MANUAL FAUCET (NOTE 4)	AMERICAN STANDARD, LUCERNE
P-4A	LAVATORY, WALL MOUNTED BARRIER FREE	1/2	1/2	1 1/2	1 1/2	2	1	0.5 GPM SENSOR FAUCET (NOTE 2)	AMERICAN STANDARD, LUCERNE
P-5	MOP SINK	3/4	3/4	3	1 1/2	3	2		FIAT, MSB 2424 SERIES
P-6	KITCHENETTE SINK, STAINLESS STEEL, COUNTER MOUNTED	1/2	1/2	2	1 1/2	2	2	SINGLE COMPARTMENT	JUST, SL SERIES
P-7	SHOWER STALL BARRIER FREE WITH DETACHABLE HEAD	1/2	1/2	2	1 1/2	4	2		COMFORT DESIGNS
P-8	CLOTHES WASHING MACHINE WALL OUTLET BOX	1/2	1/2	1 1/2	1 1/2	1.4	2		GUY GRAY
P-9	ELECTRIC WATER COOLER BARRIER FREE	1/2	-	1 1/2	1 1/2	0.5	0.5	BI-LEVEL W/ INTGRAL BOTTLE FILLER	HALSEY TAYLOR, OVL-II SERIES
P-9A	ELECTRIC WATER COOLER BARRIER FREE	1/2	-	1 1/2	1 1/2	0.5	0.5	BI-LEVEL W/ INTGRAL BOTTLE FILLER	HALSEY TAYLOR MODEL HTHB-HAV8BLWF
P-10	COMBINATION EMERGENCY SHOWER AND EYE WASH	-	-	1 1/2	1 1/2	-	2	NOTE 1	BRADLEY
P-11	LAVATORY, STAINLESS STEEL, WALL MOUNTED BARRIER FREE	1/2	1/2	1 1/2	1 1/2	2	1	0.5 GPM MANUAL FAUCET	JUST, MFG
P-12	SEMI CIRCULAR WASH FOUNTAIN	1/2	1/2	2	1 1/2	2	1	1.25 GPM	BRADLEY WF2503

NOTES:
1. SENSOR FLUSH VALVE TO HAVE HARD WIRED TRANSFORMER.
2. FAUCET TO HAVE HARD WIRED TRANSFORMER. PROVIDE INDIVIDUAL ASSE 1070 MIXING VALVE FOR EACH SENSOR FAUCET, LOCATE MIXING VALVE TIGHT TO BOTTOM OF LAVATORY BOWL.
3. PROVIDE 1-1/4" TEPID WATER SUPPLY FROM MIXING VALVE MV-1 TO P-10 EMERGENCY FIXTURE.

EXPANSION TANK SCHEDULE

UNIT ID	SERVICE	TYPE	ACCEPTANCE VOLUME (GALLONS)	PRESSURE		BASIS OF DESIGN
				PRECHARGE (PSI)	MAX. OPER.	
ET-1	DOMESTIC HOT WATER HEATER-1	DIAPHRAGM	1	55	70	ST-5C
ET-2	DOMESTIC HOT WATER HEATER-2	DIAPHRAGM	1	55	70	ST-5C
ET-3	DOMESTIC HOT WATER HEATER-3	DIAPHRAGM	3.2	55	70	ST-12C

DOMESTIC HOT WATER MIXING VALVE SCHEDULE

UNIT ID	LOCATION	SERVICE	MIN. GPM	MAX. GPM	HOT WATER TEMP. (°F)	MAX. PRESSURE DROP (PSI)	BASIS OF DESIGN
MV-1	WASH BAY-218 & LUBE/COMPRESSOR-215	P-10	23	23	85	20	BRADLEY S19-2200
MV-2	MECH ROOM 104 (VISITORS CENTER)	DWH-3	0.5	20	130	20	LAWLER SERIES 66

FLUIDS STORAGE TANK SCHEDULE

UNIT ID	SERVICE	LOCATION	CONSTRUCTION	SIZE (GALLONS)	TYPE	BASIS OF DESIGN
FST-1	AUTOMATIC TRANSMISSION FLUID (ATF)	LUBE / COMPRESSOR ROOM	DOUBLE WALL STEEL	500	CUBE-DOUBLE WALL	CONTAINMENT SOLUTION INC.
FST-2	ENGINE OIL (EO)	LUBE / COMPRESSOR ROOM	DOUBLE WALL STEEL	500	CUBE-DOUBLE WALL	CONTAINMENT SOLUTION INC.
FST-3	ENGINE OIL (5/20)	LUBE / COMPRESSOR ROOM	DOUBLE WALL STEEL	280	CUBE-DOUBLE WALL	CONTAINMENT SOLUTION INC.
FST-4	WASTE COOLANT (WC)	LUBE / COMPRESSOR ROOM	POLYETHYLENE	200	VERTICAL-SINGLE WALL	SNYDER INDUSTRIES INC.
FST-5	WASTE OIL (WO)	LUBE / COMPRESSOR ROOM	DOUBLE WALL STEEL	500	CUBE-DOUBLE WALL	CONTAINMENT SOLUTION INC.

DRAIN SCHEDULE

UNIT ID	DESCRIPTION	SAN (IN)	CD (IN)	SW (IN)	VENT (IN)	REMARKS
FD-1	FLOOR DRAIN	3	–	–	1.5	NICKEL BRONZE FINISH STRAINER (TOILET ROOM AREAS)
FD-2	FLOOR DRAIN	4	–	–	2.0	CAST IRON STRAINER WITH DEEP SEAL TRAP (MECHANICAL ROOMS, LUBE ROOM AND LIFT PITS)
FD-3	FLOOR DRAIN	4	–	–	2.0	CAST IRON STRAINER WITH DEEP SEAL TRAP (MAINTENANCE BAYS FOR CONCRETE TRENCH AT OVERHEAD DOORS)
RD-1	ROOF DRAIN	–	–	4	–	CAST IRON DOME STRAINER
SRD-1	OVERFLOW ROOF DRAIN	–	–	4	–	CAST IRON DOME STRAINER WITH WATER DAM
TD-1	TRENCH DRAIN	4	–	–	2.0	MODULAR TRENCH DRAIN SYSTEM, CAST IRON STRAINER, 8" W X 96" L (FUEL ISLAND)

PUMP SCHEDULE

UNIT ID	SERVICE	LOCATION	TYPE	CAPACITY		ELECTRICAL DATA			BASIS OF DESIGN
				GPM	HEAD (FT)	HP	RPM	VOLTS/PH	
HWCP-1	DOMESTIC HOT WATER	MAINTENANCE BUILDING MECHANICAL ROOM 118	INLINE	3	10	1/8	1725	115/1	TACO 111 (NOTE 1)
HWCP-2	DOMESTIC HOT WATER	MAINTENANCE BUILDING MECHANICAL ROOM 204	INLINE	3	10	1/8	1725	115/1	TACO 111 (NOTE 1)
HWCP-3	DOMESTIC HOT WATER	VISITORS CENTER MECHANICAL ROOM 104	INLINE	3	10	1/8	1725	115/1	TACO 111 (NOTE 1)
DWBP-1	DOMESTIC COLD WATER	MAINTENANCE BUILDING MECHANICAL ROOM 118	VERTICALLY MOUNTED DUPLEX	190	145	7 1/2	1725	480/3	TIGERFLOW (NOTE 1 & 3)
DWBP-2	DOMESTIC COLD WATER	VISITORS CENTER MECHANICAL ROOM 104	VERTICALLY MOUNTED DUPLEX	76	58	1 1/2	1725	480/3	TIGERFLOW (NOTE 1 & 3)

NOTE:
1. PROVIDE WITH AQUA-STAT AND TIMER PUMP CONTROLS.
2. PROVIDE DUPLEX PUMP PACKAGE MOUNTED ON FACTORY ASSEMBLED SKID W/ HYDROPNUEMATIC TANK.
3. CAPACITIES INDICATED ARE FOR TOTAL SYSTEM DEMAND. EACH PUMP TO BE SIZED FOR 50% DEMAND: DWBP-1, 95 GPM AT 145 FTHD AND DWBP-2 38 GPM AT 58 FTHD.

Unofficial Web Copy

N:\90181-019-CADD\Phase II\Sheet Files\CP01-90181004P-701.dgn
10/27/2017 3:04:06 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: TTM/ALM
CHECKED BY: CAH

PLUMBING
SCHEDULES

P-701
SHEET NO. 148
TOTAL SHTS. 189

ABBREVIATIONS

ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
ADD	ADDENDUM
ADJ	ADJACENT
ADJT	ADJUSTABLE
ALT	ALTERNATE
ANCH	ANCHOR, ANCHORAGE
∠	ANGLE
APPD	APPROVED
AD	AREA DRAIN/ACCESS DOOR
BSMT	BASEMENT
BM	BENCH MARK
BEL	BELOW
BRG	BEARING
BET	BETWEEN
BIT	BITUMINOUS
BLEND	BLENDING
BS	BOTH SIDES
BOT	BOTTOM
BN	BULLNOSE
CI	CAST IRON
CLG	CEILING
CH	CEILING HEIGHT
℄	CENTER LINE
C TO C	CENTER TO CENTER
CLASS 1	HIGH RACK STORAGE AREA
CLO	CLOSET
CLOS	CLOSURE
COL	COLUMN
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS, CONTINUATION
CONTR	CONTRACTOR
CJT	CONTROL JOINT
COORD	COORDINATE, COORDINATED
CORR	CORRIDOR
DPR	DAMPER
DP	DAMPROOFING
DEG	DEGREE
DEPT	DEPARTMENT
DTL	DETAIL
DIAG	DIAGRAM,DIAGONAL
DIAM,DIA	DIAMETER
DIM	DIMENSION
DIST	DISTANCE
DN	DOWN
DNS	DOWNSPOUT
D	DRAIN
DRB	DRAIN BOARD
EA	EACH
EQ	EQUAL
EXG	EXISTING
EXP	EXPANSION
EH1	EXTRA HAZARD, GROUP 1
EH2	EXTRA HAZARD, GROUP 2
EB	EXPANSION BOLT
EJ	EXPANSION JOINT
EX	EXISTING
F	FAHRENHEIT
FA	FIRE ALARM
FDC	FIRE DEPARTMENT CONNECTION
FHV	FIRE HOSE VALVE
FEC	FIRE EXTINGUISHER CABINET
FH & E	FIRE HOSE & EXTINGUISHER
FEC	FIRE HOSE CABINET
FPRG	FIREPROOFING
FSP	FIRE STANDPIPE
FXD	FIXED
GA	GAUGE,GAGE
GALV	GALVANIZED
GP	GALVANIZED PIPE
GOV DOC	GOVERNMENT DOCUMENTS
GD	GRADE, GRADING
GWB	GYPSUM DRYWALL
GRD ROD	GROUND ROD
GYP	GYPSUM
HT	HEIGHT OR HIGH
HP	HIGH POINT
HORZ	HORIZONTAL
HYD	HYDRAULIC
HVLS	HIGH VELOCITY LOW SPEED
IN (")	INCH
INCL	INCLUDE
INFO	INFORMATION
IT	INFORMATION TECHNOLOGY
LG	LENGTH, LONG
LH	LIGHT HAZARD
LP	LOW POINT
LB	POUND

MAINT	MAINTENANCE
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
NAC	NOTIFICATION APPLIANCE CIRCUIT
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
O/A	OUTSIDE AIR
OC	ON CENTER
OPP	OPPOSITE
OPH	OPPOSITE HAND
OA	OVERALL (DIM)
OH	OVERHEAD
OH1	ORDINARY HAZARD, GROUP 1
OH2	ORDINARY HAZARD, GROUP 2
OPG	OPENING
PTD	PAINTED
R	RISER
REF	REFERENCE
RELOC	RELOCATE
REM	REMOVE
REQD	REQUIRED
RET	RETURN
REV	REVISION
RM	ROOM
RX	REMOVE EXISTING
SCH	SCHEDULE
SLC	SIGNALING LINE CIRCUIT
SLR	SEALER
SIM	SIMILAR
SL	SLAB
SPEC	SPECIFICATION
STL	STEEL
STIF	STIFFENER
SUP	SUPPORT
SURF	SURFACE
SYM	SYMMETRICAL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORIES
V	VALVE
VAC	VOICE ALARM COMMUNICATIONS CIRCUIT
VB	VAPOR BARRIER
VENT	VENTILATE
VP	VENT PIPE
VIF	VERIFY IN FIELD
VERT	VERTICAL
W	WIDTH

LEGEND - FIRE PROTECTION

- NEW PIPING OR EQUIPMENT TO BE INSTALLED
- 1-HOUR FIRE-RESISTIVE CONSTRUCTION
- 2-HOUR FIRE-RESISTIVE CONSTRUCTION
- —D— DRY-PIPE SPRINKLER PIPING
- —DR— DRAIN PIPING
- —FDC— FIRE DEPARTMENT CONNECTIONS PIPING
- —F— WET-PIPE SPRINKLER PIPING
- PIPE CAP
- PIPE CONTINUATION
- TS TAMPER SWITCH
- WF FLOW SWITCH
- PR PRESSURE SWITCH
- HL HIGH/LOW PRESSURE SWITCH
- SOL SOLENOID VALVE
- CHECK VALVE
- OS&Y VALVE
- BUTTERFLY CONTROL VALVE
- VALVE IN VERTICAL PIPING
- UPRIGHT SPRINKLER
- SPRINKLER SYSTEM RISER
- STD SPRINKLER TEST AND DRAIN ASSEMBLY
- ZCA ZONE CONTROL ASSEMBLY
- ALARM CHECK VALVE
- DRY-PIPE VALVE
- DOUBLE DETECTOR CHECK BACKFLOW PREVENTER
- POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECTION
- BACKFLOW PREVENTER TEST HEADER
- Ⓑ ELECTRIC BELL

FIRE PROTECTION NOTES:

1. SCOPE OF WORK - THE SCOPE OF WORK SHALL BE TO PROVIDE NEW FIRE SPRINKLER SYSTEMS FOR THE LEWES TRANSIT CENTER IN LEWES, DELAWARE. THE NEW SYSTEMS SHALL BE WET-PIPE SPRINKLER SYSTEMS IN THE NORTH AND SOUTH BUILDING AND A DRY-PIPE SYSTEM PROTECTING THE CANOPY OVER THE BUS LANE. THE INSTALLING CONTRACTOR SHALL PROVIDE ALL PIPING, SPRINKLERS, HANGERS, ETC. AS NECESSARY FOR A COMPLETE AND OPERATIONAL SPRINKLER SYSTEM. SPRINKLER SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2013 EDITION, DELAWARE STATE FIRE PREVENTION REGULATIONS, AND PROJECT SPECIFICATIONS.
2. SPRINKLER SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND MUST BE APPROVED BY THE DELAWARE STATE OFFICE OF THE FIRE MARSHAL PRIOR TO INSTALLATION.
3. ALL PIPE AND FITTINGS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13, 2013 EDITION.
4. ALL LOW POINTS IN SYSTEM SHALL BE EQUIPPED WITH DRAINS (BALL VALVES WITH FEMALE HOSE THREADS & PLUG) PER NFPA 13.
5. CONTRACTOR SHALL COORDINATE WITH THE STATE AND LOCAL FIRE MARSHAL FOR ALL APPROVALS, INSPECTIONS, AND CERTIFICATIONS OF ALL FIRE PROTECTION AND FIRE ALARM SYSTEMS.
6. ALL WORK INCLUDING INSTALLATION AND TESTING SHALL BE DONE IN ACCORDANCE WITH NFPA 13. HYDROSTATIC TEST AND FLUSHING TEST TO BE COMPLETED AND DOCUMENTED BY CONTRACTOR IN THE PRESENCE OF REPRESENTATIVES FROM THE DELAWARE STATE OFFICE OF THE FIRE MARSHAL OR OTHER AUTHORIZED GOVERNMENT REPRESENTATIVE.
7. ALL NECESSARY CONNECTIONS TO FIRE ALARM SYSTEM SHALL BE MADE AND COORDINATED WITH THE DESIGNATED FIRE ALARM REPRESENTATIVES. SYSTEM ACCEPTANCE TESTS SHALL BE PERFORMED IN THE PRESENCE OF REPRESENTATIVES FROM THE DELAWARE STATE OFFICE OF THE FIRE MARSHAL.
8. ALL WRITTEN DIMENSIONS ON DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
9. ALL PIPING ON WET SYSTEMS LESS THAN AND INCLUDING 2" DIAMETER SHALL BE SCHEDULE 40 BLACK STEEL.
10. ALL PIPING ON DRY-PIPE SYSTEMS SHALL BE SCHEDULE 40 BLACK STEEL.
11. ALL FITTINGS FOR SCHEDULE 40 PIPING TO BE CI THREADED, UNLESS NOTED OTHERWISE.
12. ALL PIPING ON WET SYSTEMS OF 2 1/2" DIAMETER AND LARGER SHALL BE SCHEDULE 10 BLACK STEEL. ALL FITTINGS FOR SCHEDULE 10 PIPING SHALL BE GROOVED COUPLINGS.
13. INSTALL PIPE HANGERS AS REQUIRED PER NFPA 13. SEISMIC BRACING IS NOT REQUIRED.
14. FIRE SPRINKLER PIPING SHALL BE PAINTED RED.
15. CONTRACTOR SHALL FIELD VERIFY ALL WORK BEFORE PROCEEDING.
16. PENETRATION OF FIRE-RATED ASSEMBLIES SHALL BE SEALED BY THE INSTALLING CONTRACTOR WITH A U.L. CERTIFIED THROUGH-PENETRATION SYSTEM APPROPRIATE FOR THE RATING OF THE WALL PENETRATED.
17. PIPE HANGERS SHALL SUPPORT SPRINKLER PIPING ONLY AND SHALL NOT BE SHARED WITH OTHER UTILITY PIPING . ALL HANGERS SHALL BE U.L. LISTED FOR USE WITH SPRINKLER SYSTEMS PER NFPA 13.
18. ALL MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC.(U.L.) OR APPROVED BY FACTORY MUTUAL (FM) FOR USE ON COMMERCIAL FIRE SPRINKLER SYSTEMS.
19. ALL SPRINKLER PIPING, INCLUDING INSPECTOR'S TEST CONNECTION, SHALL BE CAPABLE OF BEING DRAINED BACK TO THE SYSTEM RISER, DISCHARGED TO THE OUTSIDE, OR TO AN APPROVED AUXILIARY DRAIN. PROVIDE SIGNS AT ALL DRAIN VALVES.
20. DRY-PIPE SPRINKLER PIPING SHALL BE INSTALLED WITH BRANCH LINES PITCHED AT LEAST 1/2-INCH PER 10-FEET AND MAINS PITCHED AT LEAST 1/4-INCH PER 10-FEET.
21. ALL SPRINKLER WORK SHALL BE FOR COMPLIANCE NFPA 13 AND THE CONTRACT DOCUMENTS.
22. SPRINKLER MAINS AND BRANCH LINES SHALL BE INSTALLED AS HIGH AS POSSIBLE AND A MINIMUM OF 12-INCHES ABOVE THE FINISHED CEILING TO ACCOMMODATE LIGHTING.
23. ALL SPRINKLERS IN THE WET-PIPE LIGHT AND ORDINARY HAZARD GROUP 1 SPACES SHALL BE QUICK RESPONSE SPRINKLERS WITH A NOMINAL K-FACTOR OF 5.6 OR 8.0. SPRINKLERS IN ORDINARY HAZARD, GROUP 2 AREAS SHALL BE STANDARD RESPONSE SPRINKLERS WITH A NOMINAL K - FACTOR OF 11.2.
24. ALL SPRINKLERS WITH EXCEPTION OF TIRE STORAGE SHALL HAVE NOMINAL TEMPERATURE RATING OF 155 F - 165 F, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR REQUIRED BY NFPA 13.
25. TIRE STORAGE SHALL HAVE HIGH TEMPERATURE, STANDARD RESPONSE SPRINKLERS WITH A NOMINAL K-FACTOR OF 11.2.
26. SPRINKLERS ON THE DRY-PIPE SPRINKLER SYSTEM SHALL BE STANDARD RESPONSE SPRINKLERS WITH A NOMINAL K-FACTOR OF 5.6 OR 8.0. ALL SPRINKLERS ON THE DRY-PIPE SYSTEM SHALL BE EITHER UPRIGHT SPRINKLERS OR PENDANT SPRINKLERS ON RETURN BENDS.
27. SPRINKLERS WITHIN SUSPENDED TILE CEILINGS SHALL BE INSTALLED CENTER-OF-TILE UNLESS NOTED OTHERWISE.
28. CONTRACTOR SHALL HAVE A FIRE FLOW TEST CONDUCTED FOR SYSTEM DESIGN PURPOSES WITHIN 12 MONTHS OF WORKING PLAN SUBMITTAL.

HAZARD CLASSIFICATION SCHEDULE

AREA	CLASSIFICATION	AREA (SQ. FT.)	DENSITY (GPM PER SQ FT)	HOSE STREAM ALLOWANCE (GPM)	DURATION OFSUPPLY (MINUTES)
OFFICE, RESTROOMS, BREAK ROOM, DRIVER READY ROOM, AND CORRIDORS	LIGHT HAZARD	1,500	0.10	100	30
ELECTRICAL ROOMS, MECHANICAL ROOMS, TELECOM ROOMS, JANITOR'S CLOSETS, LOCKER ROOMS, COUNTING ROOM, AND WASH BAY	ORDINARY HAZARD GROUP 1	1,500	0.15	250	60
MAINTENANCE BAYS, LUBE COMPRESSOR, STORE ROOM, TOOL BOX STORAGE SHOP, AND POWER WASH JOIST	ORDINARY HAZARD GROUP 2	1,500	0.20	250	60
TIRE STORAGE	SPECIAL HAZARD (SEE NFPA 13, CHAPTER 18)	2,000*	0.32	750	180
EXTERIOR CANOPY	ORDINARY HAZARD, GROUP 1, (DRY-PIPE SYSTEM)	1,950	0.15	250	60

* – ACTUAL AREA IS 351 SQUARE FEET

Unofficial Web Copy

N:\90181-010\CADD\Phase II Sheet Files\CP01-90181004F-001.dgn
10/27/2017 3:03:38 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	EPH
CHECKED BY:	TML

FIRE PROTECTION
LEGEND, NOTES AND
ABBREVIATIONS

	F-001
SHEET NO.	149
TOTAL SHTS.	189

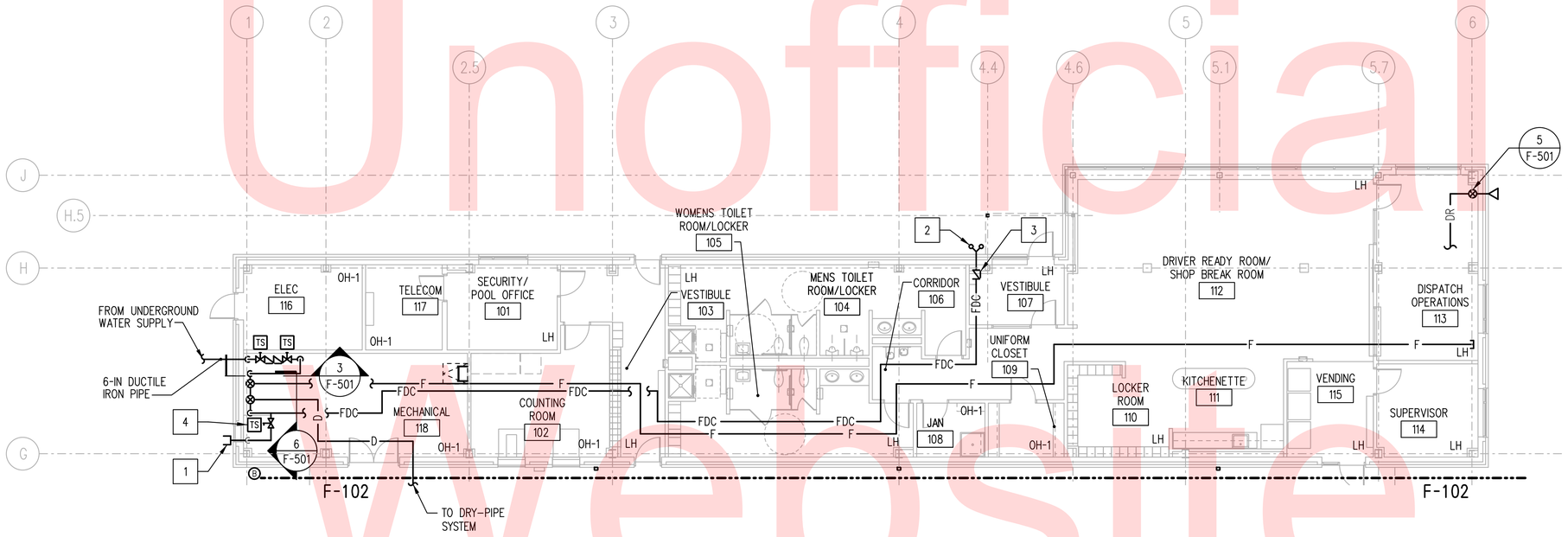
Unofficial Website Copy

DRAWING NOTES:

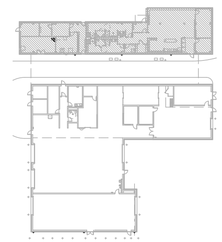
1. REFER TO SHEET F-001 FOR LEGEND, NOTES AND ABBREVIATIONS.
2. DRAWING IS DIAGRAMMATIC AND REFLECTS DESIGN INTENT ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COORDINATED SYSTEM LAYOUT, FINAL PIPE ROUTING, SPRINKLER LOCATIONS AND SIZING SYSTEM COMPONENTS BASED ON CALCULATIONS.
3. PENDENT SPRINKLERS INSTALLED IN SUSPENDED CEILINGS SHALL BE EXTENDED FROM 1" BRANCH-LINE OUTLETS.

CONSTRUCTION NOTES:

1. PROVIDE DRIP DRAIN TO EXTERIOR FROM BACKFLOW PREVENTER TEST HEADER.
2. PROVIDE DRIP DRAIN ON EXTERIOR FIRE DEPARTMENT CONNECTION.
3. PROVIDE CHECK VALVE WITH AUTOBALL DRIP DEVICE.
4. PROVIDE SUPERVISED CONTROL VALVE ON TEST LINE. VALVE SHALL BE SUPERVISED IN THE CLOSED POSITION.



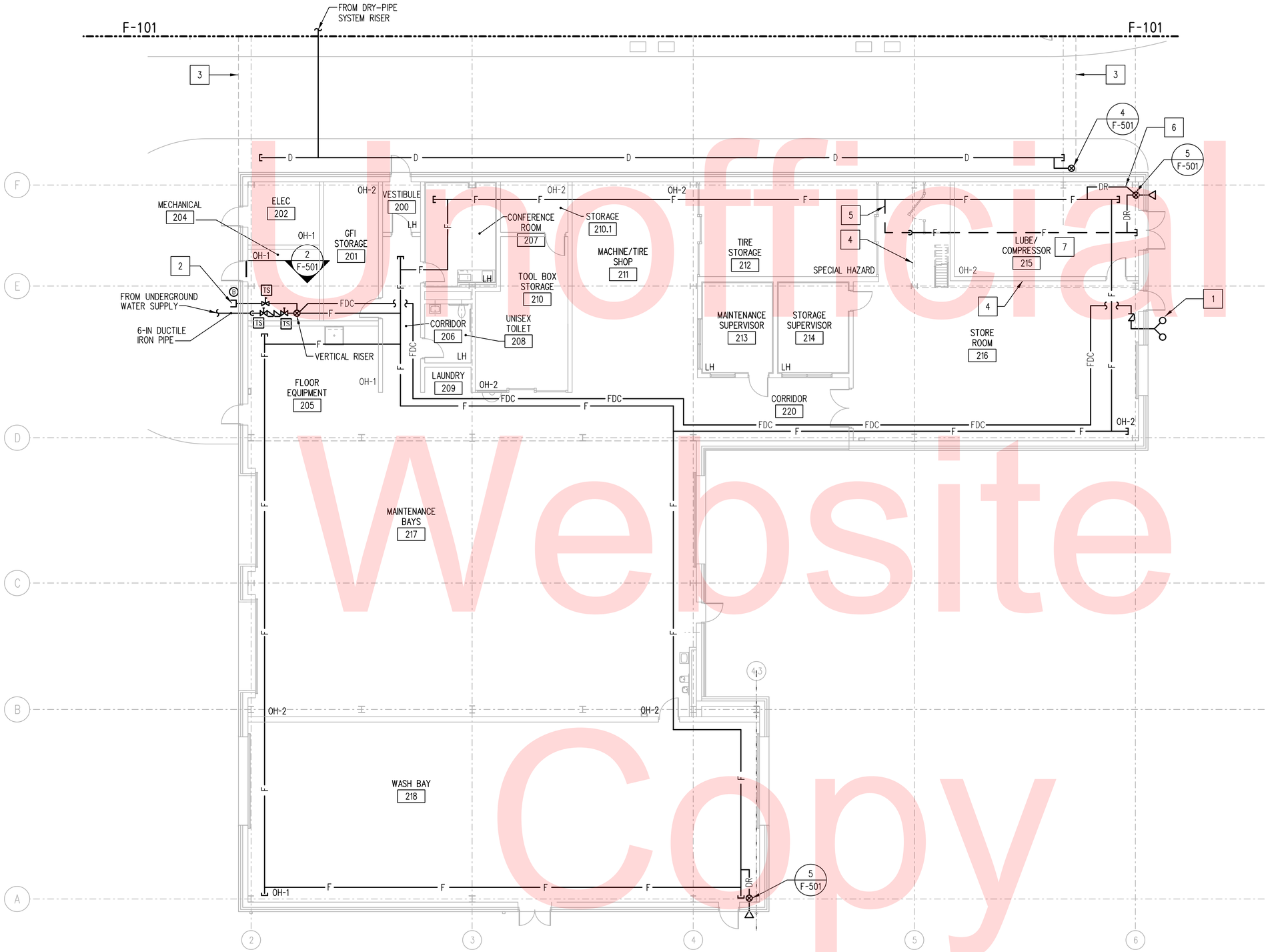
1 / F-101 FLOOR PLAN - NORTH BUILDING - FIRE PROTECTION
SCALE: 1/8"=1'-0"



KEY PLAN
SCALE: N.T.S.

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004F-101.dgn
10/27/2017 3:03:39 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/8" = 1'-0" (0, 4', 8', 16')	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	FLOOR PLAN – NORTH BUILDING – FIRE PROTECTION	F-101
				COUNTY SUSSEX	DESIGNED BY: EPH		SHEET NO. 150
					CHECKED BY: TML		TOTAL SHTS. 189



Unofficial Website Copy

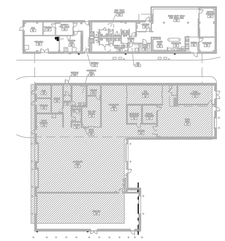
DRAWING NOTES:

1. REFER TO SHEET F-001 FOR LEGEND, NOTES AND ABBREVIATIONS.
2. DRAWING IS DIAGRAMMATIC AND REFLECTS DESIGN INTENT ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COORDINATED SYSTEM LAYOUT, FINAL PIPE ROUTING, SPRINKLER LOCATIONS AND SIZING SYSTEM COMPONENTS BASED ON CALCULATIONS.
3. PENDENT SPRINKLERS INSTALLED IN SUSPENDED CEILINGS SHALL BE EXTENDED FROM 1" BRANCH-LINE OUTLETS.

CONSTRUCTION NOTES:

1. PROVIDE DRIP DRAIN TO EXTERIOR FROM FIRE DEPARTMENT CONNECTION.
2. PROVIDE DRIP DRAIN TO EXTERIOR FROM BACKFLOW PREVENTER TEST HEADER.
3. EXTENTS OF COVERED OUTDOOR BUS LANE. PROVIDE DRY-PIPE SPRINKLER SYSTEM UNDER CANOPY.
4. EDGE OF MEZZANINE. PROVIDE FIRE SPRINKLER PROTECTION BOTH ABOVE AND BELOW MEZZANINE.
5. PROVIDE FIRE PROTECTION UNDER MEZZANINE.
6. COMBINE DRAINS FROM BOTH LEVEL INTO COMMON INSPECTOR'S TEST DRAIN CONNECTION TO EXTERIOR.
7. PROVIDE INTERMEDIATE TEMPERATURE RATED SPRINKLERS WITHIN ROOM.

1 / F-102 FLOOR PLAN - SOUTH BUILDING - FIRE PROTECTION
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: N.T.S.

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004F-102.dgn
10/27/2017 3:03:39 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

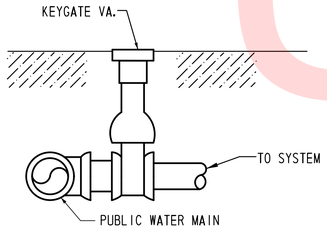
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	EPH
CHECKED BY:	TML

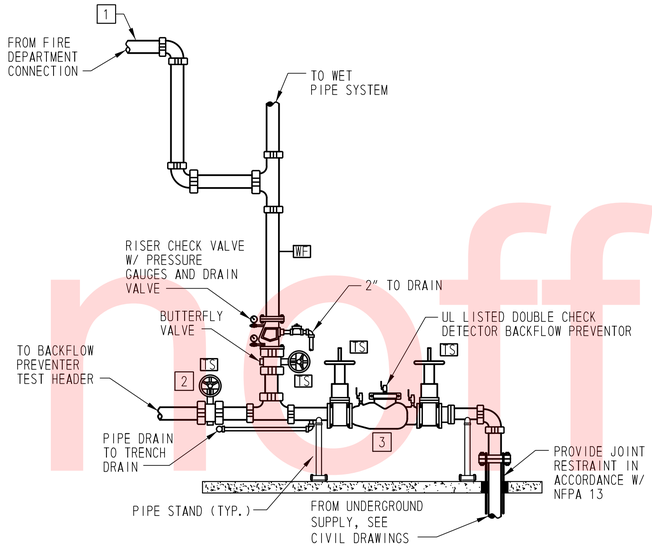
FLOOR PLAN - SOUTH BUILDING - FIRE PROTECTION

	F-102
SHEET NO.	151
TOTAL SHTS.	189



1 F-501 TYP. UNDERGROUND FIRE PROTECTION SERVICE

SCALE: NONE

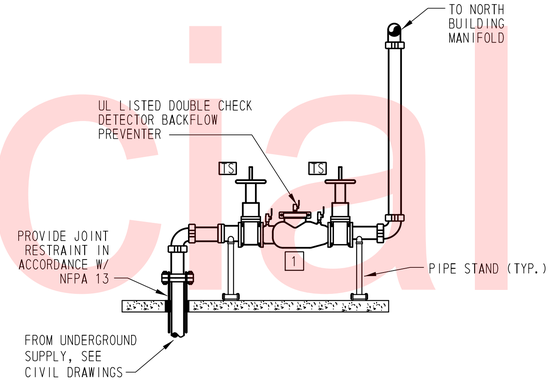


NOTES

1. PROVIDE CHECK VALVE IN FIRE DEPARTMENT CONNECTION LINE.
2. BACKFLOW PREVENTER TEST HEADER CONTROL VALVE SHALL BE SUPERVISED NORMALLY CLOSED.
3. MOUNT BACKFLOW PREVENTOR NO LESS THAN 18-INCHES AFF AND NO GREATER THAN 3'-0" AFF.

2 F-501 SOUTH BUILDING SPRINKLER SYSTEM ENTRANCE RISER

SCALE: NONE

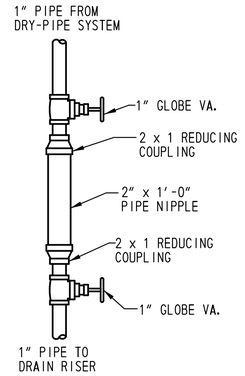


NOTES

1. MOUNT BACKFLOW PREVENTOR NO LESS THAN 18-INCHES AFF AND NO GREATER THAN 3'-0" AFF.

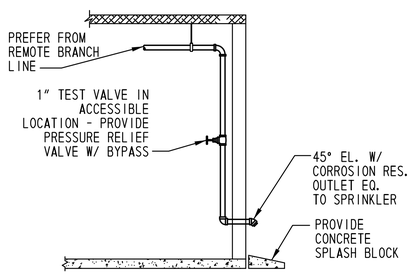
3 F-501 NORTH BUILDING SPRINKLER SYSTEM ENTRANCE RISER

SCALE: NONE



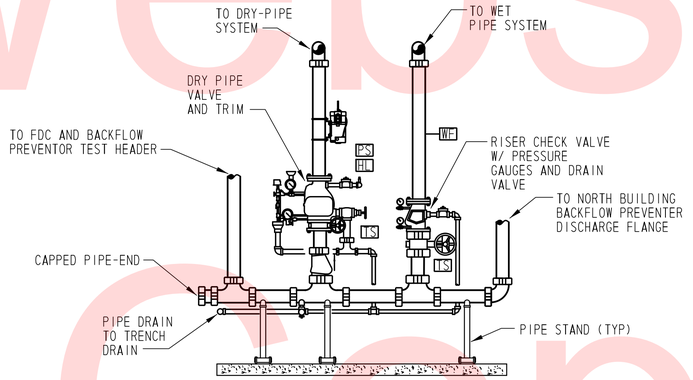
4 F-501 'DRUM DRIP' ASSEMBLY DRY SYSTEM AUXILIARY DRAIN

SCALE: NONE



5 F-501 WET PIPE SYSTEM TEST CONNECTION

SCALE: NONE

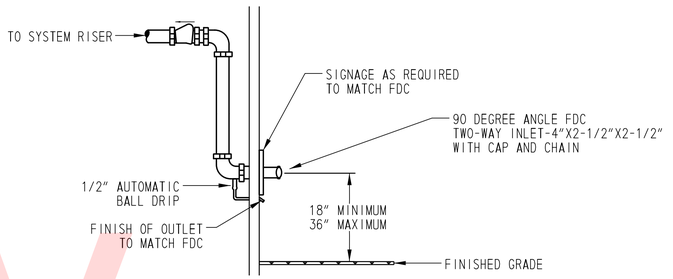


NOTES

1. PROVIDE CHECK VALVE IN FIRE DEPARTMENT CONNECTION LINE.
2. BACKFLOW PREVENTER TEST HEADER CONTROL VALVE SHALL BE SUPERVISED NORMALLY CLOSED.

6 F-501 NORTH BUILDING SPRINKLER SYSTEM MANIFOLD

SCALE: NONE



7 F-501 FIRE DEPARTMENT CONNECTION

SCALE: NONE

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004F-501.dgn
10/27/2017 3:03:40 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: EPH	
CHECKED BY: TML	

FIRE PROTECTION DETAILS

	F-501
SHEET NO.	152
TOTAL SHTS.	189

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
DEG F	DEGREES FARENHEIT
FAA	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FACP BC	FIRE ALARM CONTROL PANEL BATTERY CABINET
FARP	FIRE ALARM RELEASING PANEL
FATC	FIRE ALARM TERMINAL CABINET
FDC	FIRE DEPARTMENT CONNECTION
FM	FM GLOBAL
FT	FEET
GPM	GALLONS PER MINUTE
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IDC	INITIATING DEVICE CIRCUIT
IN	INCHES
LED	LIGHT EMITTING DIODE
LH	LIGHT HAZARD
NAC	NOTIFICATION APPLIANCE CIRCUIT
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OH-1	ORDINARY HAZARD, GROUP 1
OH-2	ORDINARY HAZARD, GROUP 2
OS&Y	OUTSIDE SCREW AND YOKE
PIV	POST INDICATOR VALVE
PSI	POUND PER SQUARE INCH
RF	RADIO FREQUENCY
SCH	SCHEDULE
SLC	SIGNALING LINE CIRCUIT
SQ FT	SQUARE FEET
TC	TERMINAL CABINET
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORIES
W/	WITH
ZCA	ZONE CONTROL ASSEMBLY

FIRE ALARM LEGEND

P	MANUAL PULL STATION
	CEILING MOUNTED SMOKE DETECTOR
	HEAT DETECTOR
D,*	DUCT SMOKE DETECTOR (* = S, SUPPLY SIDE; * = R, RETURN SIDE)
L	REMOTE LED ANNUNCIATOR SERVING DUCT SMOKE DETECTORS
WF	FLOW SWITCH
PS	PRESSURE SWITCH
TS	TAMPER SWITCH
HL	HIGH/LOW PRESSURE SWITCH
AM	ADDRESSABLE MODULE
RM	RELAY MODULE
S K	DUCT SMOKE DETECTOR BY-PASS KEYSWITCH
XX	STROBE (SUBSCRIPT INDICATES CANDELA RATING)
XX	FIRE ALARM HORN/STROBE (SUPERSCRIPT C INDICATES CEILING MOUNTED)
	FIRE ALARM HORN (SUPERSCRIPT C INDICATES CEILING MOUNTED)
FAA	FIRE ALARM ANNUNCIATOR PANEL
FACP	COMBINATION FIRE ALARM
DACT	DIGITAL ALARM COMMUNICATING TRANSMITTER
NAC	NOTIFICATION APPLIANCE CIRCUIT POWER EXTENDER PANEL
TC	TERMINAL CIRCUIT
ANN	LCD REMOTE ANNUNCIATOR
FABC	FIRE ALARM BATTERY CHARGER

FIRE ALARM NOTES

1. SCOPE OF WORK - THE SCOPE OF WORK SHALL BE TO PROVIDE A NEW FIRE ALARM SYSTEM FOR THE NEW LEWES TRANSIT CENTER IN LEWES, DELAWARE. FIRE ALARM SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70, THE NATIONAL ELECTRICAL CODE, 2014 EDITION, NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, 2013 EDITION, DELAWARE STATE FIRE PREVENTION REGULATIONS, AND PROJECT SPECIFICATIONS.
2. FIRE ALARM SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND MUST BE APPROVED BY THE DELAWARE STATE OFFICE OF THE FIRE MARSHAL PRIOR TO INSTALLATION.
3. CONTROL PANEL SHALL TRANSMIT ALL ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO OFF-SITE SUPERVISING STATION VIA DACT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING OF CONDUCTORS IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 72.
5. SUPPLY SIDE DUCT SMOKE DETECTION SHALL BE INSTALLED DOWNSTREAM OF FILTERS AND BEFORE ANY TEES IN THE DUCTWORK. RETURN SIDE DUCT SMOKE DETECTION SHALL BE INSTALLED BETWEEN AIR HANDLING UNIT AND ANY RETURN TEES.
6. ADD CLEAR LABEL TO ALL DEVICES DISPLAYING ADDRESS OF DEVICE.
7. ALL HORNS SHALL BE TAPPED TO PROVIDE A MINIMUM OF 15 DBA ABOVE AVERAGE AMBIENT SOUND LEVEL.
8. WALL MOUNTED STROBES AND HORN/STROBES SHALL BE INSTALLED NOT LESS THAT 6'-6" AND NOT MORE THAN 8'-0" FROM THE BOTTOM OF THE UNIT TO THE FINISHED FLOOR.
9. ALL STROBE CIRCUITS SHALL BE WIRED TO FLASH IN SYNCHRONIZATION IN LINE OF SIGHT. PROVIDE SYNCHRONIZATION MODULES FOR EACH NOTIFICATION APPLIANCE CIRCUIT BOOSTER PANEL AS NEEDED.
10. ALL FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT. CONTRACTOR SHALL DETERMINE SIZES OF CONDUIT THROUGH CALCULATIONS.
11. ALL FIRE RATED ASSEMBLIES PENETRATED SHALL BE SEALED WITH AN APPROPRIATE UNDERWRITER'S LABORATORIES, INC. LISTED FIRE-RESISTIVE THROUGH-PENETRATION SYSTEM.
12. THE MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 5 FT.
13. INSTALLATION AND TERMINATION OF ALL CABLING AND WIRE SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
14. THE FOLLOWING WIRING STYLES SHALL BE FOLLOWED:

    SIGNALING LINE CIRCUITS: CLASS B
    INITIATING DEVICE CIRCUITS: CLASS B
    NOTIFICATION APPLIANCE CIRCUITS: CLASS B
15. ALL FIRE ALARM WORK SHALL BE INSPECTED AND INSPECTED BY A REPRESENTATIVE FROM THE DELAWARE STATE OFFICE OF THE FIRE MARSHAL FOR COMPLIANCE WITH NFPA 70, NFPA 72, AND THE CONTRACT DOCUMENTS. ALL SUPERVISORY AND TROUBLE ALERTS SHALL BE CLEARED BEFORE SYSTEM IS ACCEPTED.
16. ALL SURFACE MOUNTED PULL STATIONS, STROBES, AND HORN/STROBES SHALL BE MOUNTED IN THE MANUFACTURER'S BACK BOXES.
17. ALL PULL STATIONS SHALL BE MOUNTED AT HEIGHT BETWEEN 3-1/2 FT AND 4 -1/2 FT AFF.
18. ALL PULL STATIONS SHALL BE LOCATED A MAXIMUM DISTANCE OF 5 FT FROM ASSOCIATED EXIT.
19. SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN 3 FT OF HVAC DIFFUSERS.

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004FA-001.dgn
10/27/2017 3:03:41 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: EPH	
CHECKED BY: TML	

FIRE ALARM LEGEND, NOTES AND ABBREVIATIONS

FA-001

SHEET NO.	153
TOTAL SHTS.	189

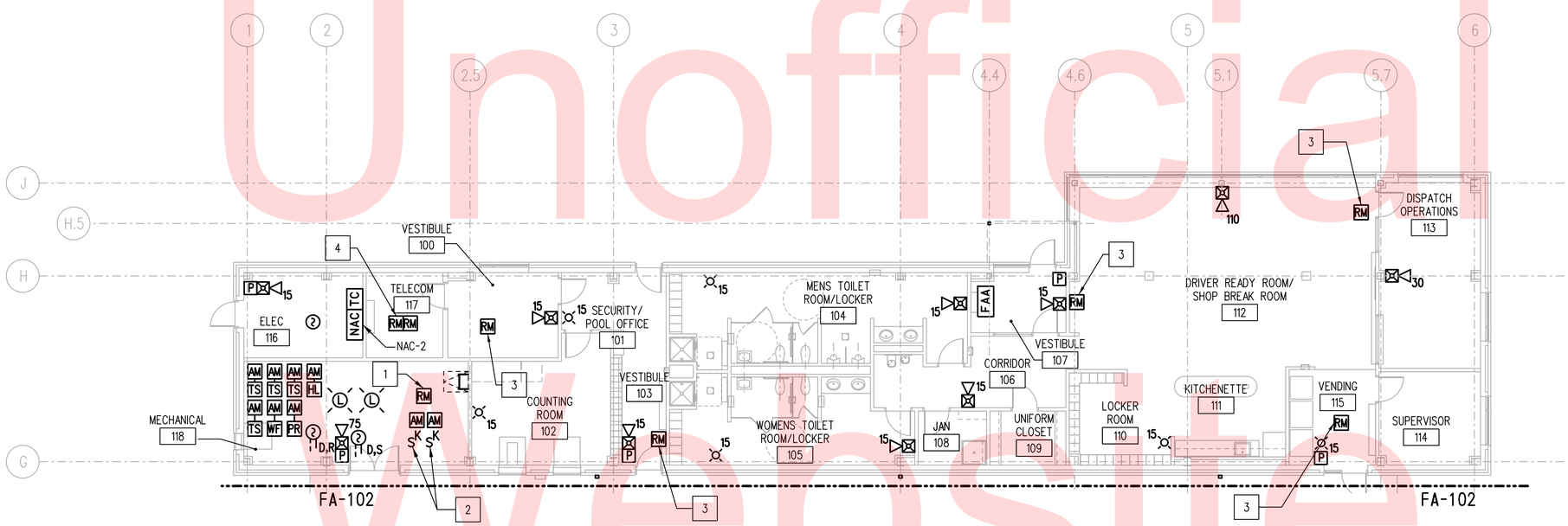
Unofficial Website Copy

DRAWING NOTES:

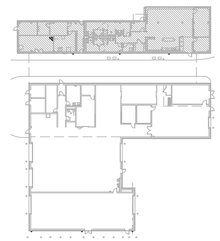
1. REFER TO SHEET FA-001 FOR LEGEND, NOTES AND ABBREVIATIONS.
2. DRAWING IS DIAGRAMMATIC AND REFLECTS DESIGN INTENT ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COORDINATED SYSTEM LAYOUT, FINAL DEVICE LOCATIONS, AND SYSTEM CIRCUITING.

CONSTRUCTION NOTES:

1. RELAY MODULE FOR AIR HANDLING UNIT SHUTDOWN. LOCATE RELAY MODULE WITHIN 3-FEET OF AIR HANDLING UNIT CONTROLLER.
2. PROVIDE REMOTE KEY SWITCHES FOR REMOTE TESTING OF DUCT SMOKE DETECTORS.
3. PROVIDE RELAY MODULE FOR ELECTRIC STRIKE RELEASE.
4. PROVIDE RELAY MODULE FOR OPENING OF EXTERIOR GATES.



1 / F-101 FLOOR PLAN - NORTH BUILDING - FIRE ALARM
SCALE: 1/8"=1'-0"



KEY PLAN
SCALE: N.T.S.

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004FA-101.dgn
10/27/2017 3:03:41 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

SCALE: 1/8" = 1'-0" (0, 4', 8', 16')

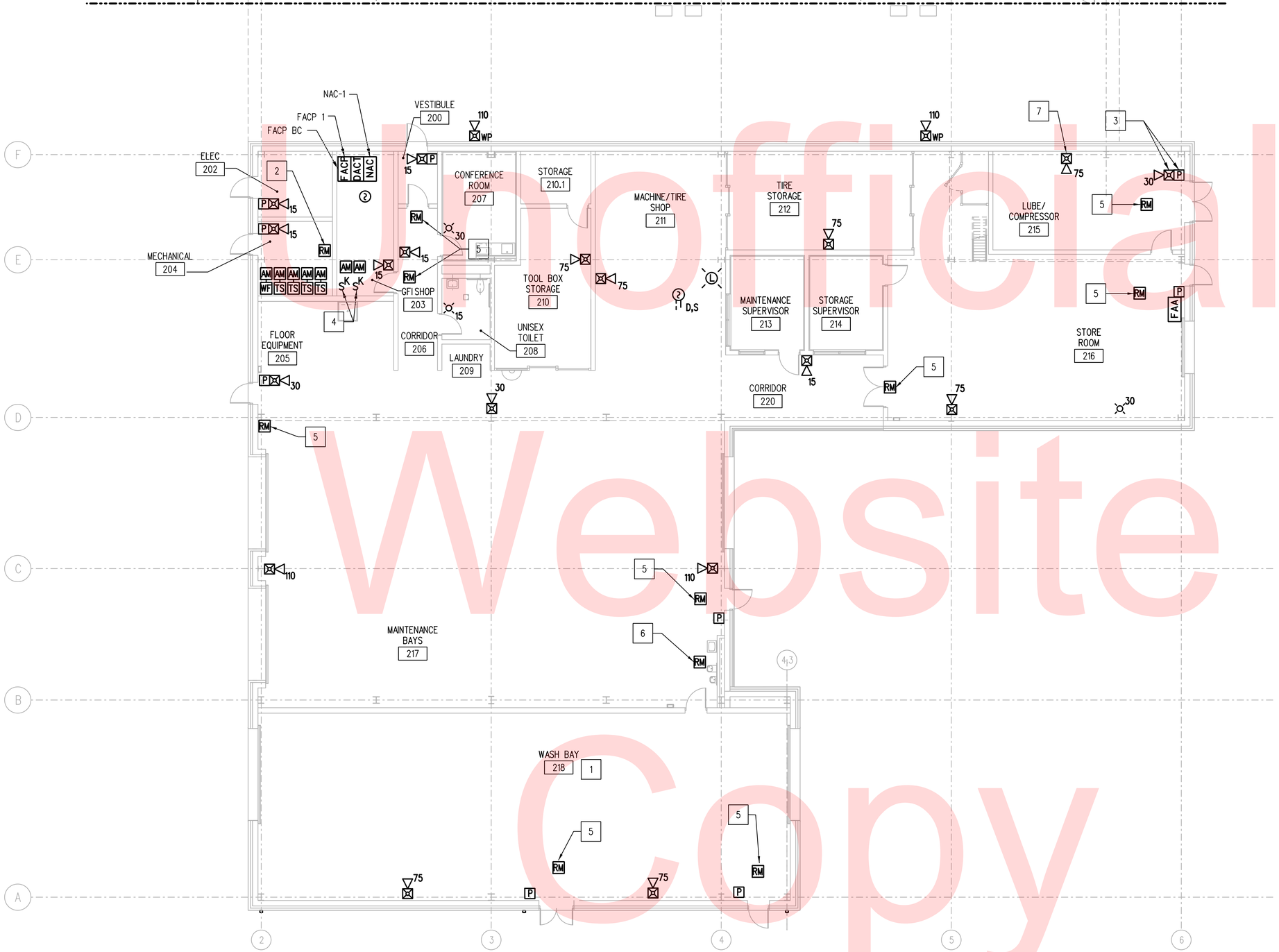
LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: EPH	
CHECKED BY: TML	

FLOOR PLAN – NORTH BUILDING – FIRE ALARM

FA-101	
SHEET NO.	154
TOTAL SHTS.	189

Unofficial Website Copy



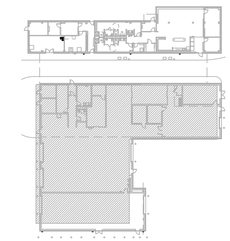
1 / F-102 FLOOR PLAN - SOUTH BUILDING - FIRE ALARM
SCALE: 1/8" = 1'-0"

DRAWING NOTES:

1. REFER TO SHEET FA-001 FOR LEGEND, NOTES AND ABBREVIATIONS.
2. DRAWING IS DIAGRAMMATIC AND REFLECTS DESIGN INTENT ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COORDINATED SYSTEM LAYOUT, FINAL DEVICE LOCATIONS, AND SYSTEM CIRCUITING.

CONSTRUCTION NOTES:

1. PROVIDE PLASTIC PROTECTIVE COVER OVER FIRE ALARM DEVICES IN WASH BAY. ALL FIRE ALARM APPLIANCES SHALL BE LISTED WEATHERPROOF DEVICES MOUNTED ON COMPATIBLE WEATHERPROOF BACK-BOXES.
2. RELAY MODULE FOR AIR HANDLING UNIT SHUTDOWN. LOCATE RELAY MODULE WITHIN 3-FEET OF AIR HANDLING UNIT CONTROLLER.
3. FIRE ALARM DEVICES SHALL BE LOCATED UNDER MEZZANINE.
4. PROVIDE REMOTE KEY SWITCHES FOR REMOTE TESTING OF DUCT SMOKE DETECTORS.
5. PROVIDE RELAY MODULE FOR ELECTRIC STRIKE RELEASE.
6. PROVIDE RELAY MODULE FOR GAS DETECTION CONTROL PANEL SUPERVISION.
7. PROVIDE FIRE ALARM APPLIANCE AT MEZZANINE LEVEL. MOUNT DEVICE APPROXIMATELY 6'-8" ABOVE MEZZANINE FLOOR LEVEL.



KEY PLAN
SCALE: N.T.S.

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004FA-102.dgn
10/27/2017 3:03:42 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

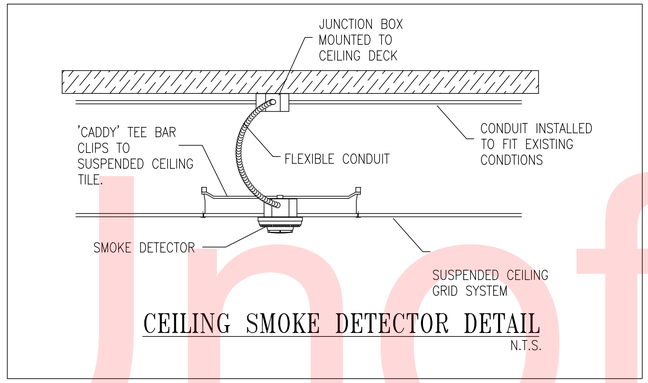
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	EPH
CHECKED BY:	TML

FLOOR PLAN - SOUTH BUILDING - FIRE ALARM

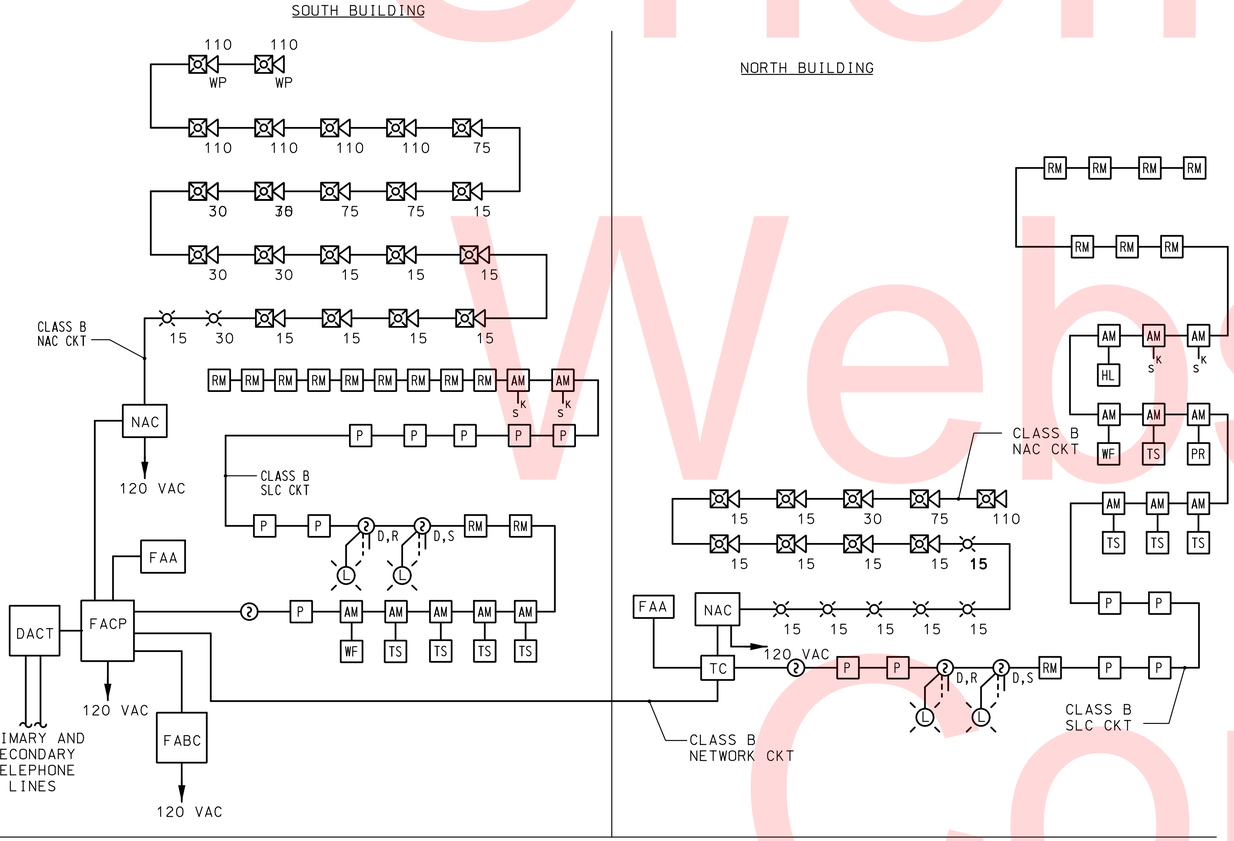
	FA-102
SHEET NO.	155
TOTAL SHTS.	189



CEILING SMOKE DETECTOR DETAIL

N.T.S.

SD01



LEWES TRANSIT CENTER FIRE ALARM SEQUENCE OF OPERATIONS – MAIN FACP	DISPLAY CUSTOM ADDRESS ON FACP AND REMOTE ANNUNCIATOR	INITIATE GENERAL ALARM CONDITION ON FACP; ACTUATE COMMON AUDIBLE ALARM SIGNAL	INITIATE SUPERVISORY CONDITION ON FACP; ACTUATE COMMON AUDIBLE SUPERVISORY SIGNAL	INITIATE TROUBLE CONDITION ON FACP; ACTUATE COMMON AUDIBLE TROUBLE SIGNAL	TRANSMIT ALARM STATUS TO REMOTE SUPERVISING STATION	TRANSMIT SUPERVISORY STATUS TO REMOTE SUPERVISING STATION	TRANSMIT TROUBLE STATUS TO REMOTE SUPERVISING STATION	ACTIVATE AUDIBLE/VISIBLE NOTIFICATION DEVICES THROUGHOUT THE BUILDING	INITIATE ASSOCIATED AHU SHUTDOWN	ACTUATE REMOTE LED ANNUNCIATOR	BYPASS HVAC SHUTDOWN	OPEN EXTERIOR GATES	RELEASE DOOR STRIKES
MANUAL PULL STATION	X	X			X			X				X	X
SMOKE DETECTOR	X	X			X			X				X	X
SPRINKLER WATERFLOW	X	X			X			X				X	X
DRY–PIPE SPRINKLER PRESSURE SWITCH	X	X			X			X				X	X
SPRINKLER CONTROL VALVE TAMPER SWITCH	X		X			X							
DRY–PIPE SPRINKLER HIGH/LOW PRESSURE	X		X			X							
DUCT SMOKE DETECTOR (AHU)	X		X			X			X	X			
DUCT SMOKE DETECTOR (BYPASS)	X		X			X				X	X		
GAS DETECTION PANEL	X		X			X				X	X		
FIRE ALARM AC POWER FAILURE	X			X			X						
FIRE ALARM SYSTEM LOW BATTERY	X			X			X						
OPEN CIRCUIT	X			X			X						
GROUND FAULT	X			X			X						
NOTIFICATION APPLIANCE CIRCUIT SHORT	X			X			X						
TROUBLE SIGNAL FROM REMOTE FIRE ALARM NAC PANEL	X			X			X						

LEWES TRANSIT CENTER FIRE ALARM RISER

SCALE: N.T.S.

NOTE: CONTRACTOR SHALL HAVE FINAL RESPONSIBILITY FOR FINAL DEVICE COUNT, NAC PANEL COUNT, AND DEVICE ORDER.

Unofficial Website Copy

N:\90181-01D\CADD\Phase II Sheet Files\CP01-90181004FA-501.dgn
10/27/2017 3:03:43 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	FIRE ALARM RISER AND SEQUENCE OF OPERATION	FA-501
				COUNTY SUSSEX	DESIGNED BY: EPH		SHEET NO. 156
					CHECKED BY: TML		TOTAL SHTS. 189

LEGEND

LIGHTING

- FLUORESCENT LIGHTING FIXTURE (LOWER CASE LETTER WITH NUMBER INDICATES SWITCH OR OCCUPANCY SENSOR USED TO CONTROL FIXTURE, NUMBER INDICATES CIRCUIT)
- FLUORESCENT INDUSTRIAL TYPE LIGHTING FIXTURE (LOWER CASE LETTER WITH NUMBER INDICATES SWITCH OR OCCUPANCY SENSOR USED TO CONTROL FIXTURE, NUMBER INDICATES CIRCUIT)
- WALL MOUNTED LIGHTING FIXTURE (LOWER CASE LETTER WITH NUMBER INDICATES SWITCH OR OCCUPANCY SENSOR USED TO CONTROL FIXTURE, NUMBER INDICATES CIRCUIT)
- DOWN-LIGHT LIGHTING FIXTURE (LOWER CASE LETTER WITH NUMBER INDICATES SWITCH OR OCCUPANCY SENSOR USED TO CONTROL FIXTURE, NUMBER INDICATES CIRCUIT)
- EXIT LIGHTING FIXTURE, ARROW, INDICATES DIRECTION (NUMBER INDICATES CIRCUIT)
- EMERGENCY BATTERY POWERED LIGHTING UNIT (NUMBER INDICATES CIRCUIT)
- LIGHTING FIXTURE TYPE SYMBOL (SEE LIGHTING FIXTURE SCHEDULE)

SWITCHES

- S — SINGLE POLE SWITCH, 20A, 120-277V
- S_3 — THREE WAY SWITCH, 20A, 120-277V
- S_4 — FOUR WAY SWITCH, 20A, 120-277V
- S_{a1} — SINGLE POLE SWITCH, 20A, 120-277V, (LOWER CASE LETTER WITH NUMBER WHEN USED INDICATES FIXTURES CONTROLLED)
- $S_{Lv-•}$ — LOW VOLTAGE SWITCH, SUBSCRIPT WHEN USED INDICATES QUANTITY OF BUTTON/ZONES TO BE PROVIDED
- S_T — SINGLE POLE TIMERSWITCH, 20A, 120-277V
- S_{OC} — SWITCH WITH OCCUPANCY SENSOR, 20A, 120-277V
- C — LIGHTING CONTACTOR (X POLE) 277V
- PUSH BUTTON (EPO)
- PC — PHOTO CELL
- MS — MOTION SENSOR
- OS — OCCUPANCY SENSOR. PROVIDE POWER PACK AS REQUIRED (LOWER CASE LETTER WITH NUMBER WHEN USED INDICATES FIXTURES CONTROLLED.)
- OS — HALLWAY OCCUPANCY SENSOR. PROVIDE POWER PACK AS REQUIRED (LOWER CASE LETTER WITH NUMBER WHEN USED INDICATES FIXTURES CONTROLLED.)

RECEPTACLES

- SINGLE RECEPTACLE, 20A, 125V AC. MOUNT 1'-6" AFF (UON)
- TRACK LIGHTING RECEPTACLE, 15A, 125V AC. MOUNT 8'-0" AFF (UON)
- DUPLEX CONVENIENCE RECEPT., 20A, 125V AC, MOUNT 1'-6" AFF (UON)
- $_G$ — DUPLEX CONVENIENCE RECEPTACLE 20A, 125V AC. SUBSCRIPT "G" INDICATES GFI TYPE, MOUNT 18" AFF (UON)
- $_+$ — RECEPTACLE, SUBSCRIPT "+" INDICATES MOUNT 6" ABOVE COUNTER
- $_G$ — DUPLEX CONVENIENCE RECEPTACLE 20A, 125V AC. SUBSCRIPT "G" INDICATES GFI TYPE, MOUNT 12" ABOVE COUNTER (UON)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE 20A, 125V AC. MOUNT 18" AFF (UON)
- SPECIAL PURPOSE RECEPTACLE 20A OR 30A OR 50A, 3P, 4W, 480V AC. MOUNT 48" AFF (UON)
- SPECIAL PURPOSE RECEPTACLE 20A OR 30A OR 50A, 3P, 4W, 208V AC. MOUNT 48" AFF (UON)
- $_C$ — FLUSH CEILING MOUNTED DUPLEX RECEPTACLE. 20A, 125V
- P — FLUSH FLOOR BOX FULLY ADJUSTABLE FOR INSTALLATION IN CONCRETE FLOOR. BLACK COVER WITH CARPET FLANG.

SAFETY SWITCHES/BREAKERS/STARTERS

- 60/3 — NON-FUSED DISCONNECT SWITCH, SUBSCRIPT INDICATES AMPACITY AND NUMBER OF POLES. ALL NON-FUSED DISCONNECT SWITCHES SHALL BE 3 POLE, 30AMPS UON.
- F 15/3 — FUSED DISCONNECT SWITCH, SUBSCRIPT INDICATES FUSED SIZE AND NUMBER OF POLES. ALL FUSED DISCONNECT SWITCHES SHALL BE RATED EQUAL TO OR GREATER GREATER THAN THE FUSE INDICATED.
- 2 — MAGNETIC MOTOR STARTER, SUBSCRIPT INDICATES NEMA SIZE 2, NEMA SIZE 1 STARTER UON
- 2 60/3 — MAGNETIC MOTOR STARTER, SUBSCRIPT INDICATES NEMA SIZE 2, 60 = SWITCH SIZE AND 3 = NO. OF POLES. ALL COMBINATION STARTERS SHALL BE 30AMPS, 3 POLE WITH NEMA SIZE 1 STARTER UON
- S_M — MANUAL MOTOR STARTER SWITCH WITH OVERLOAD. PROVIDE HOA AS REQUIRED
- VFD — VARIABLE FREQUENCY DRIVE, INDIVIDUALLY MOUNTED
- SS — SOLID STATE STARTER, INDIVIDUALLY MOUNTED
- 225/200 — ENCLOSED CIRCUIT BREAKER, SIZE AS INDICATED

EQUIPMENT CONNECTIONS

- M ½ — MOTOR, NUMBER INDICATES HORSEPOWER
- H — ELECTRIC UNIT HEATER
- J J — JUNCTION BOX
- E E — EQUIPMENT CONNECTION AS NOTED
- VAV — VARIABLE AIR VOLUME BOX
- MOD — MOTOR OPERATED DAMPER
- CP — CONTROL PANEL
- FD — FUEL DISPENSER
- FSC — FUEL SITE CONTROLLER
- FTSP — FUEL TANK STATUS PANEL
- VRP — VEEDER ROOT PANEL
- CR — FUEL DISPENSER CARD READER TERMINAL
- MANUFACTURE CONTROL PANEL

GROUNDING

- GROUND ROD, 3/4" DIAMETER x 10'-0" LONG UON
- AIR TERMINAL

FIRE ALARM SYSTEM

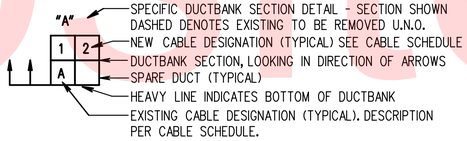
- FACP — FIRE ALARM CONTROL PANEL (FACP)
- FARP — FIRE ALARM RELEASING PANEL (FARP)
- NAC — FIRE ALARM NOTIFICATION APPLIANCE PANEL

ACCESS CONTROL/SECURITY SYSTEM (ROUGH-IN ONLY, PROVIDE BACKBOX AND RACEWAY)

- E — EMERGENCY DOOR RELEASE
- CA — CARD ACCESS TERMINAL
- DC — MAGNETIC DOOR CONTACT
- MD — MOTION DETECTOR
- ES — ELECTRIC STRIKE
- PC — PERSONAL COMPUTER
- PR — PRINTER
- VR — VIDEO RECORDER
- M — MONITOR
- CAMERA
- SSCP — SECURITY SYSTEM CONTROL PANEL
- RE — REQUEST TO EXIT
- C — CAMERA CEILING MOUNT

UNDERGROUND/SITE WORK

- EXISTING HANDHOLE/MANHOLE
- G — GROUND CONDUCTOR
- HANDHOLE/MANHOLE
- UNDERGROUND CONCRETE ENCASED DUCTBANK
- UNDERGROUND DIRECT BURIED DUCTBANK
- EXISTING DUCT BANK TO BE REMOVED
- MH — MANHOLE
- HH — HANDHOLE



- SPECIFIC DUCTBANK SECTION DETAIL - SECTION SHOWN DASHED DENOTES EXISTING TO BE REMOVED U.N.O.
- NEW CABLE DESIGNATION (TYPICAL) SEE CABLE SCHEDULE
- DUCTBANK SECTION, LOOKING IN DIRECTION OF ARROWS
- SPARE DUCT (TYPICAL)
- HEAVY LINE INDICATES BOTTOM OF DUCTBANK
- EXISTING CABLE DESIGNATION (TYPICAL). DESCRIPTION PER CABLE SCHEDULE.

TELEPHONE/ DATA (ROUGH-IN ONLY, PROVIDE BACKBOX AND RACEWAY)

- TELEPHONE CABINET
- ∇_W — TELEPHONE OUTLET ROUGH-IN IN WALL, 4" BOX WITH DOUBLE GAUGE RING, MOUNT 48" AFF UON. PROVIDE 1"C TO RACK IN ROOM 117 (NORTH BLDG.) AND ROOM 213 (SOUTH BLDG.).
- ∇ — TELEPHONE/DATA OUTLET ROUGH-IN IN WALL, 4" BOX WITH DOUBLE GANG RING, MOUNT 18" AFF UON. PROVIDE 1"C TO RACK IN ROOM 117 (NORTH BLDG.), ROOM 213 (SOUTH BLDG.), UON.
- ∇_+ — OUTLET ROUGH-IN SUBSCRIPT "+" INDICATES MOUNT 6" ABOVE COUNTER.

EMERGENCY SYSTEM

- G — GENERATOR
- ATS — AUTOMATIC TRANSFER SWITCH

WIRING

- HPA-1,3,5 — BRANCH CIRCUIT HOMERUN TO PANELBOARD, HPA DENOTES TO PANEL HPA AND NUMERALS IDENTIFY CIRCUIT NUMBERS.
- CONDUIT WITH WIRES, #12 AWG IN 3/4"C. UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS REQUIRED. PROVIDE SEPARATE NEUTRALS FOR ALL SINGLE PHASE CIRCUITS.
- OR
- BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. INDICATES 2#12 CONDUCTORS AND 1#12 GROUND IN A 3/4"C (UON) FOR SINGLE PHASE BRANCH CIRCUITS AND 3#12 CONDUCTORS AND 1#12 GROUND IN A 3/4"C (UON) FOR 3 PHASE BRANCH CIRCUITS.
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- G — GROUNDING CONDUCTOR (BCSD)
- X — RACEWAY WITH SEALING FITTING
- CABLE TRAY

PANELBOARDS

- ELECTRICAL PANELBOARD (AS NOTED)
- ELECTRICAL PANELBOARD (208Y/120V, 4W+G)
- ELECTRICAL PANELBOARD (480Y/277V, 4W+G)

MISCELLANEOUS

- 1 — SPECIFIC NOTE NUMBER
- 1 — FEEDER SIZE
- SECTION NUMBER
- DRAWING NUMBER WHERE SHOWN
- DETAIL NUMBER
- DRAWING NUMBER WHERE SHOWN

Unofficial Website Copy

N:\90185-01P\CADD\Phase II\Sheet Files\CP01-90185004E-001.dgn
10/27/2017 3:01:39 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY: MSM/SMC	
CHECKED BY: AP	

ELECTRICAL LEGEND

	E-001
SHEET NO.	157
TOTAL SHTS.	189

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CAPACITY, (SYM, RMS AMPS)
AL	ALUMINUM
ANNUN	ANNUNCIATOR
AS	AMMETER SWITCH
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BCSD	BARE COPPER SOFT DRAWN
BFC	BELOW FINISHED CEILING
BFI	BLOWN FUSE INDICATOR
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CC1	POWER/CONTROL/INSTRUMENTATION CABLE RUN NUMBER AS INDICATED.
CKT	CIRCUIT
COMB	COMBINATION
CLG	CEILING
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
CX	CONNECT TO EXISTING
CCTV	CLOSED CIRCUIT TELEVISION
DAS	DATA ACQUISITION SYSTEM
DC	DIRECT CURRENT
O/D	OUTDOOR
DISC	DISCONNECT
DN	DOWN
DP	DISTRIBUTION PANEL
DPC	DISTRIBUTED PROCESS CONTROLLER
DWG	DRAWING
EA	EACH
EC	EMPTY CONDUIT
ECD	ELEMENTARY CONTROL DIAGRAM
EF	EXHAUST FAN
EH	ELECTRIC HEATER
ELEV	ELEVATION
EMERG.	EMERGENCY
EMH	ELECTRIC MANHOLE
EMT	ELECTRIC METALLIC TUBING
ENCL	ENCLOSURE
E/O	ELECTRICALLY/OPERATED
EQUIP	EQUIPMENT
ETM	ELAPSED TIME METER
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX,EXIST	EXISTING
EXP	EXPLOSION PROOF
F	FUSE
FA	FRAME AMPS
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS UNDER SEPARATE CONTRACT
FC	FAN COIL UNIT
FDR	FEEDER
FL	FLOOR
FLEX	FLEXIBLE
FMC	FLEXIBLE METAL CONDUIT
FS	FLOW SWITCH
FSS	FUSED SAFETY SWITCH
FT	FOOT OR FEET
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING

G	GROUND
GFI	GROUND FAULT INTERRUPTER
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GFP	GROUND FAULT PROTECTION
HID	HIGH INTENSITY DISCHARGE
HH	HANDHOLE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HZ	HERTZ
ICCB	INSULATED CASE CIRCUIT BREAKER
IDS	INTRUSION DETECTION SYSTEM
IMC	INTERMEDIATE METALLIC CONDUIT
JB	JUNCTION BOX
KAIC	THOUSAND AMPERES INTERRUPTING CAPACITY
KV	KILOVOLT
KVA	KILOVOLT AMPERE
LTG	LIGHTING
LO	LOCKOUT
LP	LIGHTING AND APPLIANCE PANEL
LT/FMC	LIQUID TIGHT/FLEXIBLE METAL CONDUIT
LS	LIMIT SWITCH
LSH	LEVEL SWITCH HIGH
MAFC	MAKE ALL FINAL CONNECTIONS
M/C	MULTI/CONDUCTOR
MCB	MAIN CIRCUIT BREAKER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MH	MOUNTING HEIGHT
MHR	MOTORIZED HOSE REEL
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MO	METAL OXIDE
MSP	MOTOR STARTER PANEL
MTD	MOUNTED
MTG	MOUNTING
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NFSS	NON FUSED SAFETY SWITCH
NO	NORMALLY OPEN
NO	NUMBER
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OL	OVERLOAD
P	POLE OR POLES
PB	PUSH BUTTON
PH	PHASE
PL	PILOT LIGHT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANELBOARD
PS	PRESSURE SWITCH
PSH	PRESSURE SWITCH HIGH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE

RC	REMOTE CONTROL
RECEPT	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TERMINAL UNIT
RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
RX	REMOVE EXISTING
SER.	SERVICE
SF	SUPPLY FAN
SG1-1A/P	SWGR POWER WIRE RUN NUMBER - SWGR NUMBER AND UNIT NUMBER AS INDICATED
SIC	SYMMETRICAL INTERRUPTING CURRENT
SOPN	SPACE OR POLE NUMBER
SPPS	SOUND POWERED PHONE SYSTEM
SS	STAINLESS STEEL
SS	SAFETY SWITCH
ST	SHUNT TRIP
STA	STATION
STP	SHIELDED TWISTED PAIR
STPS	SHIELDED TWISTED PAIR OVER ALL SHIELD
STR	STARTER
STT	SHIELDED TWISTED TRIPLE
S/N	SOLID NEUTRAL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
SYS	SYSTEM
TA	TRIP AMPS
TC	TIME CLOCK
TDD	TIME DELAY DE-ENERGIZED (OFF)
TDE	TIME DELAY ENERGIZED (ON)
TDC	TIME DELAY CLOSE
TDO	TIME DELAY OPEN
TMH	TELEPHONE MANHOLE
TP	TWISTED PAIR
TPS	TWISTED PAIR SHIELDED
TST	THERMOSTAT SWITCH IN AUTO-TRANSFORMER STARTER
TTB/TTC	TELEPHONE TERMINAL BOARD/CABINET
TYP	TYPICAL
UH	UNIT HEATER
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS OR VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W	WIRE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER
℄	CENTER LINE
ø	PHASE
@	AT
#	NUMBER

DIAGRAM LEGEND

INCOMING LINE

METER

P.T. (2)

PT -POTENTIAL TRANSFORMER, NUMERAL DENOTES QUANTITY, STATIONARY TYPE WITH FUSE.
CPT -CONTROL POWER TRANSFORMER, NUMERAL DENOTES QUANTITY, STATIONARY FUSE.

(3)

CT -CURRENT TRANSFORMER, NUMERAL DENOTES QUANTITY.

800AF
600AT

MOLDED CASE CIRCUIT BREAKER
AUTOMATIC. 3 POLE UNLESS NOTED.
800 = FRAME SIZE, 600 = TRIP SIZE.

TRANSFORMER, SIZE AS NOTED ON DWG

△ PRIMARY CONNECTED DELTA

SECONDARY CONNECTED WYE,
NEUTRAL SOLIDLY GROUNDED.

NORMALLY OPEN CONTACT

NORMALLY CLOSED CONTACT

PILOT OR INDICATING LIGHT
A=AMBER, B=BLUE, G=GREEN, R=RED

GROUND CONNECTION

TVSS

TRANSIENT VOLTAGE SURGE SUPPRESSOR

AUTOMATIC TRANSFER SWITCH

Unofficial Website Copy

N:\9018\c01\CADD\Phase # Sheet Files\CP01-9018004E-002.dgn
10/27/2017 3:01:40 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	MSM/SMC
CHECKED BY:	AP

ELECTRICAL
ABBREVIATIONS & DIAGRAM
LEGEND

	E-002
SHEET NO.	158
TOTAL SHTS.	189

GENERAL NOTES

1. INSTALLATION OF ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), AND ALL APPLICABLE LOCAL CODES.

2. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS ABOVE SUSPENDED CEILING AND INFURRED WALLS SHALL BE INSTALLED PARALLEL TO THE BEAMS AND WALLS.

3. PROVIDE ALL REQUIRED PULL BOXES, JUNCTIONBOXES, AND HANDHOLES FOR INSTALLATION OF THE WIRING IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS THOUGH THE BOXES MAY NOT BE INDICATED ON THE DRAWINGS.

4. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS ARE BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS, APPROVED BY THE ENGINEER, MAY BE MADE BY THE CONTRACTOR AT HIS EXPENSE TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED.

5. PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR MAKING FINAL CONNECTION OF ALL EQUIPMENT INSTALLED AS PART OF THIS CONTRACT.

6. ALL INDICATION AND CONTROL WIRING IN JUNCTION BOXES SHALL BE WIRED TO NUMBERED TERMINAL STRIPS AND IDENTIFIED AS TO START AND END OF RUN.

7. ALL ELECTRICAL EQUIPMENT INSTALLED AGAINST CONCRETE OR MASONRY WALLS SHALL BE INSTALLED WITH IN A 1/4" SPACE BETWEEN THE EQUIPMENT AND THE MOUNTING SURFACE. SPACERS SHALL BE STAINLESS STEEL, PVC OR NYLON.

8. ALL JUNCTION AND PULL BOXES SHALL BE LABELED WITH THEIR VOLTAGE AND USAGE.

9. DRAWINGS ARE DIAGRAMMATIC, ACTUAL LOCATION OF EQUIPMENT TO BE DETERMINED IN THE FIELD. NEW EQUIPMENT SHALL FIT INTO AVAILABLE SPACE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE EQUIPMENT WHICH MEETS THE SPACE REQUIREMENT.

10. UNLESS OTHERWISE NOTED ALL SINGLE PHASE BRANCH CIRCUITS SHAL BE 1#12, 1#126 IN 3" C. ALL THREE PHASE BRANCH CIRCUITS SHALL BE 3#12, 1#126, IN 3/4" C.

11. CONTRACTOR SHALL SUBMIT A LIST OF ALL MAJOR EQUIPMENT AND FIXTURES TO THE ENGINEER FOR REVIEW AND APPROVAL. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT THE PERMISSION OF THE ENGINEER IN WRITING. ALL EQUIPMENT SHALL BE NEW AND BEAR THE MANUFACTURER'S NAME AND TRADE NAME. ALL EQUIPMENT SHALL BE UL LISTED.

12. ALL CONDUITS IN FINISHED AREAS SHALL RUN CONCEALED UNLESS OTHERWISE NOTED.

13. THE CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS AND CORRECTLY PHASING THE CIRCUITS IN PANELBOARDS.

14. ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT ARE BASED ON EQUIPMENT SPECIFIED. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL SHOP DRAWINGS PRIOR TO ORDERING AND INSTALLING EQUIPMENT.

15. UNLESS OTHERWISE NOTED ALL 20 AMP SINGLE PHASE BRANCH CIRCUITS FOR RECEPTACLES AND LIGHTING FIXTURES SHALL BE INCREASED IN SIZE AS LISTED BELOW FROM THE PANEL TO THE LAST DEVICE OR FIXTURE FOR VOLTAGE DROP.
    a. 120V CIRCUIT UP TO 100FT, #12
    b. 120V CIRCUIT UP TO 180FT, #10
    c. 120V CIRCUIT UP TO 280FT, #8
    d. 277V CIRCUIT UP TO 170FT, #12
    e. 277V CIRCUIT UP TO 280FT, #10
    f. 277V CIRCUIT UP TO 450FT, #8

    ALL BRANCH CIRCUITS IN EXCESS OF DISTANCES LISTED CONSULT ENGINEER PRIOR TO INSTALLATION.

16. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE SETTING SWITCHES. INSTALL SWITCHES ON THE LOCK SIDE OF DOORS 4 FEET AFF, UNLESS OTHERWISE NOTED.

17. WHERE ELECTRICAL INSTALLATIONS DEPEND UPON WORK OF OTHER TRADES, THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT NECESSARY INSTRUCTIONS, TEMPLATES, MATERIALS, ETC. ARE PROVIDED AND SUPERVISE THE WORK OF THE OTHER TRADES FOR QUALITY AND CODE COMPLIANCE.

18. CABLE TRAY INSTALLATION SHALL BE COORDINATED IN FIELD WITH OTHER TRADES.

19. CONTRACTOR SHALL VISIT THE JOB SITE AND EXAMINE THE EXISTING CONDITIONS THAT MAY AFFECT HIS WORK.

20. CONTRACTOR SHALL OBTAIN A WRITTEN PERMISSION FROM THE OWNER TO DE-ENERGIZE ANY ENERGIZED BUILDING EQUIPMENT OR DISRUPT ANY COMMUNICATION LINE 10 DAYS PRIOR TO THE SCHEDULED SHUTDOWN.

21. OPENINGS AND PASSAGE OF CONDUITS OR WIREWAYS THROUGH FLOOR SLABS AND FIRE RATED WALLS OR PARTITIONS SHALL BE PROVIDED WITH UL LISTED FIRE RATED SLEEVING SYSTEMS AS MANUFACTURED BY PROSET SYSTEMS INC.

22. DO NOT INSTALL MORE THAN THREE SINGLE PHASE CIRCUITS IN ONE HOMERUN UON.

23. NUMBER ADJACENT TO LIGHT, RECEPTACLE OR OTHER DEVICES INDICATE PANEL SERVING THE DEVICE OR EQUIPMENT AND CIRCUIT NUMBER. PROVIDE COMPLETE WIRING IN CONDUIT.

24. SERIES RATING OF CIRCUIT BREAKERS SHALL NOT BE ALLOWED UNLESS SPECIFICALLY INDICATED ON CONTRACT DRAWINGS.

25. ALL VFDS SHALL BE FURNISHED UNDER DIVISION 23 AND INSTALLED UNDER DIVISION 26 UNLESS OTHERWISE NOTED.

26. ALL WORK SHOWN ON THE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.

27. SUBMIT DUCTBANKS AND MANHOLE PROFILE AND PLAN DRAWINGS FOR APPROVAL BY THE ENGINEER. DUCTBANK AND MANHOLE SHALL COORDINATE WITH OTHER NEW UTILITIES. DUCTBANK PROFILES ARE INDICATED ON CIVIL DRAWINGS. MODIFY PROFILES TO SUIT EXISTING CONDITIONS. INCREASE DEPTH OF THE MANHOLE IF REQUIRED TO SUIT DUCTBANK INSTALLATION.

28. CONTRACTOR SHALL COORDINATE ALL WORK RELATED TO ELECTRICAL SERVICE WITH UTILITY COMPANY AND OBTAIN APPROVAL BEFORE INSTALLATION.

29. CONTRACTOR SHALL COORDINATE ALL WORK RELATED TO TELEPHONE SERVICE WITH TELEPHONE COMPANY AND OBTAIN APPROVAL BEFORE INSTALLATION.

30. PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT TO FACILITATE PULLING OF CABLES IN FUTURE.

31. ALL RECEPTACLES IN SHOP AREA SHALL BE 48" AFF. ALL RECEPTACLES AND SWITCHES INDICATED AS FREE STANDING SHALL BE INSTALLED ON CHANNELS. ALL RECEPTACLES LOCATED IN MECHANICAL RM, ELECTRICAL RM, JANITOR'S CLOSET, BATH ROOMS AND WITHIN 6' OF KITCHEN SINK SHALL BE GFITYPE UON.

32. ALL ELECTRICAL EQUIPMENT LOCATED OUTDOORS SHALL HAVE NEMA 4X ENCLOSURE UON.

33. ALL 120V CIRCUITS AND 277V CIRCUITS SHALL HAVE SEPARATE NEUTRALS.

34. ALL TRANSFORMERS WINDINGS AND PANEL BUSSES SHALL BE COPPER UON.

35. ALL OUTDOOR UNDERGROUND CONCRETE ENCASED CONDUITS SHALL BE PVC SCHEDULE 40 UON.

36. ALL OUTDOOR UNDERGROUND DIRECT BURIED CONDUITS SHALL BE SCHEDULE 80 UON.

37. MINIMUM CONDUIT SIZE SHALL BE 3 / 4".

38. MINIMUM WIRE SIZE SHALL BE #12 AWG.

39. PROVIDE SYSTEM GROUNDING CONDUCTORS AND EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NEC-250, UON.

40. ALL SINGLE PHASE BRANCH CIRCUITS SHALL BE 2#12, 1#12G IN 3/4"C (UON). ALL THREE PHASE BRANCH CIRCUITS SHALL BE 3#12, 1#12G IN 3/4"C (UON).

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004E-003.dgn
10/27/2017 3:01:40 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	T201753109	BRIDGE NO.
COUNTY	SUSSEX	DESIGNED BY: MSM/SMC
		CHECKED BY: AP

ELECTRICAL GENERAL NOTES

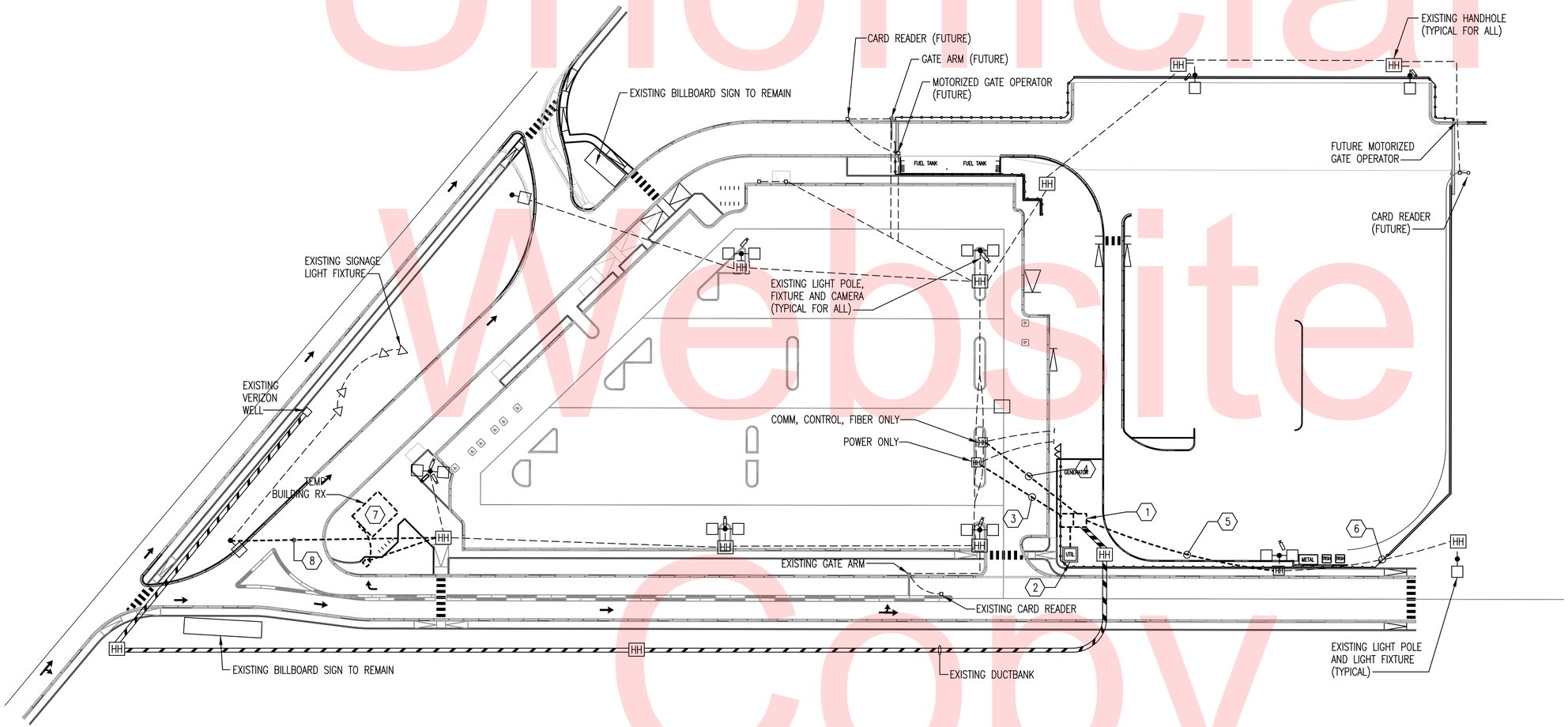
E-003	
SHEET NO.	159
TOTAL SHTS.	189

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. ALL ITEMS SHOWN ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

SPECIFIC NOTES:

1. EXISTING TEMP UTILITY BUILDING TO BE REMOVED.
2. EXISTING UTILITY SERVICE TO PARK & RIDE FACILITY TO BE REMOVED AND UPGRADED. COORDINATE REQUIREMENTS WITH DELAWARE ELECTRICAL COOPERATIVE (DEC).
3. REMOVE EXISTING BRANCH WIRING FOR ALL EXISTING CIRCUITS BACK TO HANDHOLE. RETAIN BRANCH WIRING FOR EXTENTION TO NEW PANELS IN NEW MAINTENANCE FACILITY. THIS SHALL INCLUDE ALL EXISTING ACTIVE CIRCUITS FEEDING SITE LIGHTING, SECURITY CAMERAS, CHARGING STATIONS, GATE ARMS AND SERVICE TO PARK & RIDE TEMP BUILDING. SEE PANEL SCHEDULES FOR EXACT LIST OF RELOCATED CIRCUITS. CAP AND SEAL ALL EXISTING CONDUIT OPENINGS IN EXISTING HANDHOLE AFTER CABLES HAVE BEEN RELOCATED. ABANDON DUCTBANK IN PLACE.
4. REMOVE EXISTING FIBER OPTIC CABLES FOR CCTV CAMERA SYSTEM BACK TO HANDHOLE FOR RELOCATION TO NEW MAINTENANCE FACILITY. SEAL ALL EXISTING CONDUIT OPENINGS IN HANDHOLE AFTER CABLES HAVE BEEN RELOCATED. ABANDON DUCTBANK IN PLACE.
5. REMOVE EXISTING CABLES AND DUCTBANK FROM TEMP UTILITY BUILDING TO EXISTING HANDHOLE.
6. REMOVE EXISTING CABLES IN EXISTING DUCTBANK. RETAIN DUCTBANK FOR INSTALLATION OF NEW SITE LIGHTING CIRCUIT.
7. EXISTING TRANSFORMER AND SERVICES TO TEMPORARY BUILDING TO BE REMOVED BACK TO NEAREST HANDHOLE.
8. EXISTING SITE LIGHTING CIRCUIT TO BE DEMOLISHED BACK TO HANDHOLE AND RELOCATED AROUND NEW VISITOR CENTER SHOWN ON DRAWING E-100.



1 ED-100 ELECTRICAL EXISTING SITE PLAN DEMOLITION
SCALE: 1"=40'-0"

Unofficial Website Copy

N:\3016\019\CADD\Phase II Sheet Files\CP01-90180004ED-100.dgn
10/27/2017 3:03:51 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

0 20' 40' 80'
SCALE: 1" = 40'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

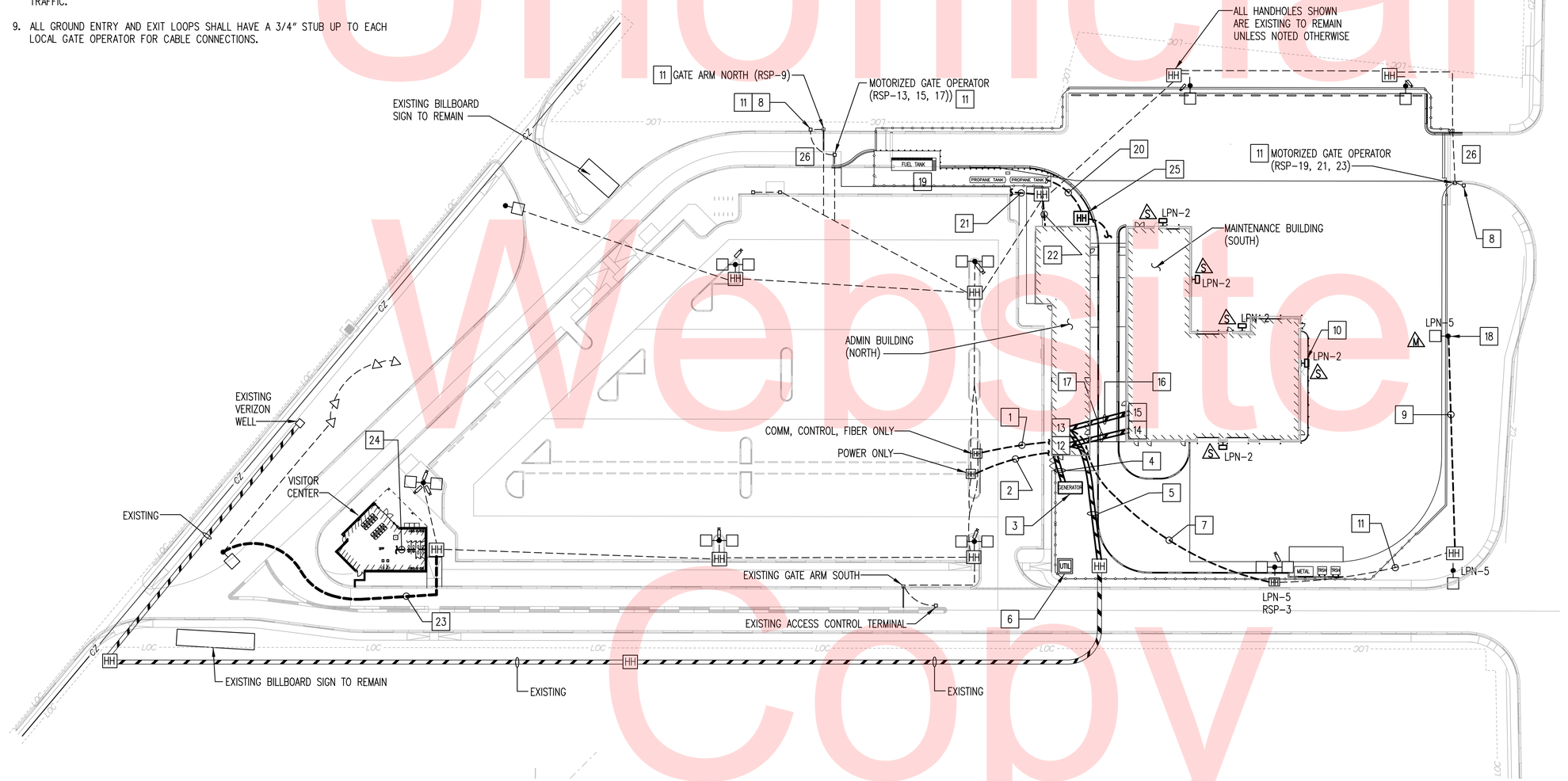
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	MSM/SMC
CHECKED BY:	IHK

ELECTRICAL EXISTING SITE PLAN DEMOLITION

ED-100	
SHEET NO.	160
TOTAL SHTS.	189

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-501 FOR SINGLE LINE DIAGRAM.
3. SEE DRAWING E-701 FOR LIGHTING FIXTURE SCHEDULE.
4. SEE LIGHTING PLANS FOR CANOPY AND EXTERIOR BUILDING FIXTURES MOUNTED.
5. PRIMARY AND SECONDARY SERVICE LATERALS INCLUDING THE PAD MOUNTED SERVICE TRANSFORMER AND PAD ARE PROVIDED AND INSTALLED BY DEC. CONTRACTOR SHALL COORDINATE THIS INSTALLATION WITH DEC ONCE THE SITE IS GRADED TO WITHIN 6" OF FINAL GRADE.
6. DUCT BANK ROUTING SHOWN IS SUGGESTED, CONTRACTOR SHALL COORDINATE ROUTE WITH OTHER UTILITIES AND CABLE BENDING RADIUS REQUIREMENTS.
7. ALL HAND HOLES SHALL BE AS SHOWN ON DETAIL 7 ON SHEET E-601, UON.
8. ALL HAND HOLES SHALL BE INSTALLED IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC.
9. ALL GROUND ENTRY AND EXIT LOOPS SHALL HAVE A 3/4" STUB UP TO EACH LOCAL GATE OPERATOR FOR CABLE CONNECTIONS.
10. PATCH AND REPAIR ALL EXISTING HANDHOLE AS REQUIRED TO INSTALL NEW CONDUITS OR REMOVE EXISTING CONDUITS.
11. SEE LIGHTING PLANS FOR ADDITIONAL BUILDING AND CANOPY MOUNTED FIXTURES.
12. COORDINATE EXACT STUB-UP LOCATIONS AND REQUIRED CONNECTIONS FOR EACH FUEL TANK WITH MANUFACTURERS APPROVED SHOP DRAWINGS PRIOR TO INSTALLATION OF CONDUITS.
13. SEE DRAWING E-608 FOR CCTV CAMERA MOUNTING AND INSTALLATION DETAILS.
15. ALL SITE LIGHTING CIRCUITS SHALL BE CONNECTED TO AND CONTROLLED WITH TIMECLOCK OVER RIDE TO INTERNAL PHOTOCELL.
16. PROVIDE PULL STRING IN ALL CONDUITS FOR CONTROL, DATA AND FIBER.



1 / E-100 ELECTRICAL SITE PLAN
SCALE: 1"=40'-0"

SPECIFIC NOTES:

1. EXTEND EXISTING SPARE CONDUITS (1) 2" AND (8) 1" CONDUITS TO ASSOCIATED COMMUNICATION, CONTROL AND CCTV CAMERA SYSTEMS IN TELECOM ROOM 117 NORTH BUILDING. COORDINATE EXACT STUB UP LOCATIONS WITH EQUIPMENT LOCATIONS.
2. EXTEND EXISTING SPARE CONDUITS (1) 2", (2) 1 1/4" AND (10) 1" CONDUITS TO ASSOCIATED POWER PANELS IN ELECT ROOM 116. RELOCATED SITE LIGHTING CIRCUITS TO LPN, CCTV POWER AND GATE ARM, CHARGING STATIONS CIRCUITS TO PANEL RSP PROVIDE NEW FEEDER FOR VISITOR CENTER TO PANEL MDPN.
3. EMERGENCY GENERATOR.
4. GENERATOR DUCTBANK. SEE DETAIL 5/E-601.
5. (2) 4"C. WITH PULL STRING FOR VOICE/DATA UTILITY SERVICE. COORDINATE SERVICE REQUIREMENTS WITH DELDOT AND VERIZON. SEE DETAIL 4/E-601.
6. UPGRADED UTILITY TRANSFORMER. COORDINATE REQUIREMENTS WITH DELAWARE ELECTRIC COOPERATIVE (DEC).
7. (1) 1" CONDUIT (POWER), (1) 1" CONDUIT FIBER. PROVIDE NEW CABLES.
8. GATE ACCESS CONTROL TERMINAL. SEE DRAWING E-609 FOR INSTALLATION DETAILS.
9. (1) 1" CONDUIT (POWER) PROVIDEL NEW CABLES.
10. FIXTURE MOUNTED AT 20 FT AFF. TYPICAL FOR ALL TYPE "S" FIXTURES SHOWN.
11. PROVIDE CABLES IN EXISTING RACEWAY.
12. MAIN ELECTRICAL ROOM 116 NORTH BUILDING.
13. MAIN TELECOM ROOM 117 NORTH BUILDING.
14. ELECTRICAL ROOM 202 SOUTH BUILDING.
15. COMMUNICATIONS RACK IN GFI SHOP ROOM 203 SOUTH BUILDING.
16. (1) 4" CONDUIT (DATA), (1) 4" CONDUIT (SECURITY) CONCRETE ENCASED STUB UP IN GFI ROOM 203. SEE DETAIL 8/E-601.
17. (1) 4" CONDUIT. FEED TO PANEL "MDPS", (1) 1" CONDUIT FOR FIRE ALARM. CONCRETE ENCASED SEE DETAIL 8/E-601.
18. SEE POLE BASE DETAIL 3/E-604.
19. SEE ENLARGED PLANS. 3/E-304 FOR POWER AND 2/E-305 FOR CONTROL AND DATA.
20. (1) 4", (1) 2" CONDUIT, (1) 1" CONDUIT.
21. SEE DRAWING E-304 FOR CONTINUATION.
22. (1) 1 1/2"C. (POWER) FEEDER FOR PANEL "FSP" FROM PANEL "RPS".
23. 1"C POWER RELOCATED SITE LIGHTING CIRCUIT. MATCH EXISTING BRANCH CIRCUIT SIZE.
24. 2"C POWER TO PANEL "LPV" IN VISITOR CENTER PROVIDE NEW CURBING AS INDICATED ON SINGLE LINE DIAGRAM DWG. E-501 FROM PANEL "MDPN" TO PANEL "LPV" IN VISITOR CENTER. 2"C (DATA) WITH PULL STRING TO RACK IN VISITOR CENTER RM. 102.
25. SEE DRAWING E-305 FOR HANDHOLE LOCATION AND CONTINUATIONS.
26. PROVIDE LOOP DETECTORS AS REQUIRED FOR GATE OPERATORS.

Unofficial Website Copy

N:\19181-01\CADD\Phase II Sheet Files\CP01-19181004E-100.dgn
10/27/2017 3:10:41 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

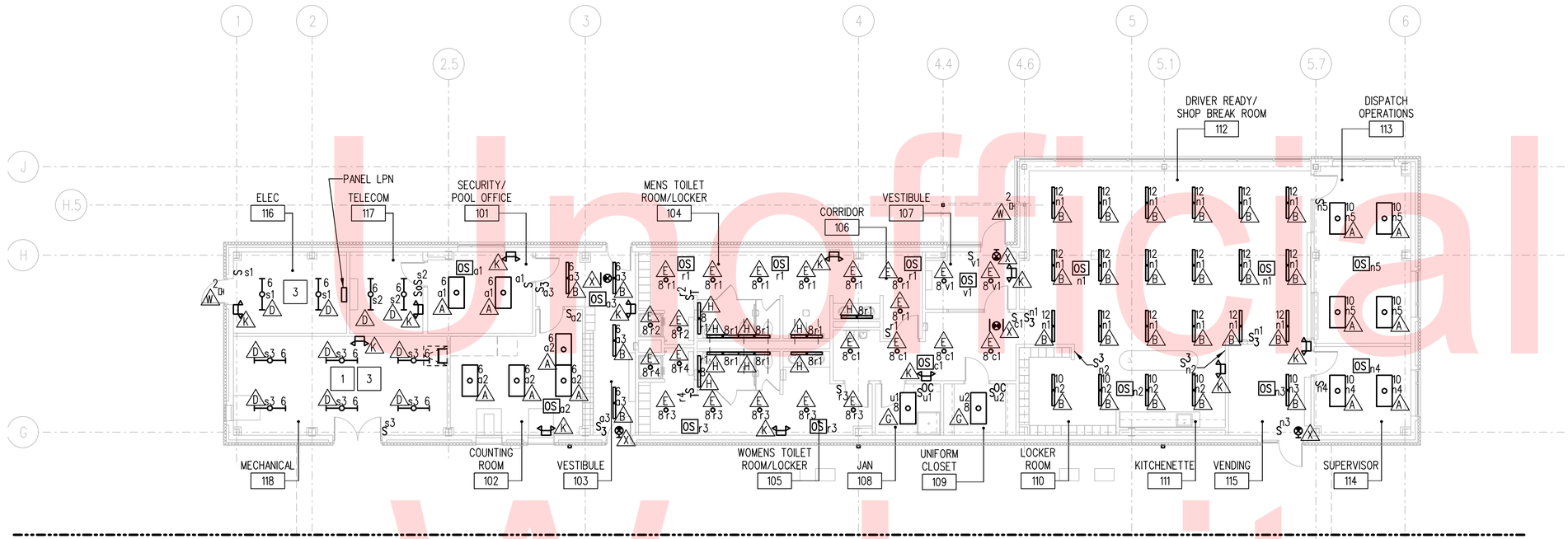
0 20' 40' 80'
SCALE: 1" = 40'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY:	MSM/SMC
COUNTY	CHECKED BY:	IHK
SUSSEX		

ELECTRICAL SITE PLAN

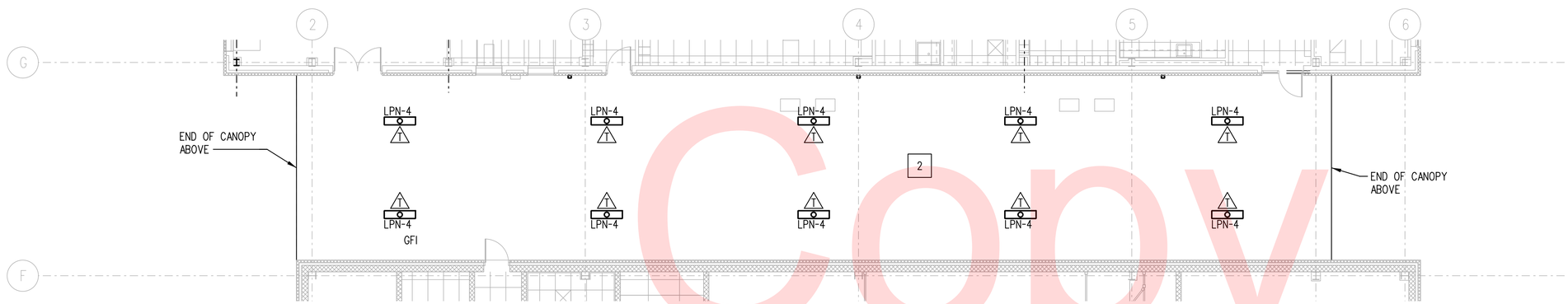
E-100	
SHEET NO.	161
TOTAL SHTS.	189



MATCH LINE - SEE E-202

MATCH LINE - SEE E-202

1 E-201 ELECTRICAL FLOOR PLAN - NORTH BUILDING - LIGHTING
SCALE: 1/8"=1'-0"



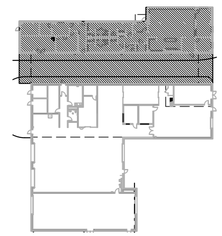
2 E-201 ELECTRICAL FLOOR PLAN - CANOPY - LIGHTING
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-701 FOR LIGHTING FIXTURE SCHEDULE.
3. ALL CIRCUIT NUMBERS SHOWN IN NORTH BUILDING ARE CONNECTED TO PANEL LPN, UON.
4. ALL EXIT AND EMERGENCY LIGHTING SHALL BE CONNECTED TO CIRCUIT LPN-9 AND UNSWITCHED.
5. SEE DRAWING E-702 THRU E-705 FOR PANELBOARD SCHEDULES.
6. SEE DRAWING E-602 FOR TYPICAL WIRING DIAGRAM FOR LIGHTING CONTROLS.

SPECIFIC NOTES:

1. SHIFT LIGHTS AS REQUIRED FOR OBSTRUCTIONS TO PROVIDE UNIFORM LIGHT LEVELS.
2. CANOPY LIGHTING CIRCUIT SHALL BE SWITCH THROUGH EXTERIOR PHOTOCELL WITH A TIME CLOCK OVER RIDE. CONTRACTOR SHALL FIELD LOCATE PHOTCELL FOR OPTIMAL PERFORMANCE.
3. MOUNT FIXTURES AT 10 FT AFF.



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004E-201.dgn
10/27/2017 3:01:42 PM

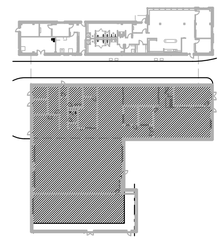
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.
				COUNTY SUSSEX	DESIGNED BY: MSM/SMC
					CHECKED BY: AP

ELECTRICAL FLOOR PLAN NORTH BUILDING – LIGHING

	E-201
SHEET NO.	162
TOTAL SHTS.	189

MATCHLINE - SEE E-201

MATCHLINE - SEE E-201



GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-701 FOR LIGHTING FIXTURE SCHEDULE.
3. ALL CIRCUIT NUMBERS SHOWN IN SOUTH BUILDING ARE CONNECTED TO PANEL LPS, UON.
4. ALL EXIT AND EMERGENCY LIGHTING SHALL BE UNSWITCHED.
5. SEE DRAWING E-702 THRU E-705 FOR PANELBOARD SCHEDULES.
6. SEE DRAWING E-602 FOR TYPICAL WIRING DIAGRAM FOR LIGHTING CONTROLS.
7. PENDANT MOUNT ALL CEILING OCCUPANCY SENSORS AT SAME ELEVATION AS LIGHT FIXTURES IN AREAS WITH NO FINISHED CEILING.
8. SHIFT SUSPENDED INDUSTRIAL TYPE LIGHT FIXTURES AS REQUIRED FOR OBSTRUCTIONS TO PROVIDE UNIFORM LIGHT LEVELS.

SPECIFIC NOTES:

1. LIGHT SWITCH FOR MEZZANINE LIGHTING ABOVE LUBE/COMPRESSOR ROOM, SEE MEZZANINE LIGHTING PLAN.
2. MOUNT EXTERIOR FIXTURES 12" ABOVE DOOR FRAME WITH CENTERLINE OF FIXTURE ALIGNED WITH THE CENTERLINE OF THE DOOR OVER WHICH IT IS MOUNTED.
3. HIGHBAY OCCUPANCY SENSOR PENDANT MOUNTED AT 25 FEET ABOVE FINISH FLOOR.
4. NOT USED.
5. SURFACE MOUNT FIXTURE TO CEILING.
6. MOUNT FIXTURES AND OCCUPANCY SENSORS TO UNDER SIDE OF STEEL JOIST.
7. MOUNT FIXTURES AND OCCUPANCY SENSORS AT 18 FT AFF.

1 / E-202 ELECTRICAL FLOOR PLAN - SOUTH BUILDING - LIGHTING
SCALE: 1/8"=1'-0"

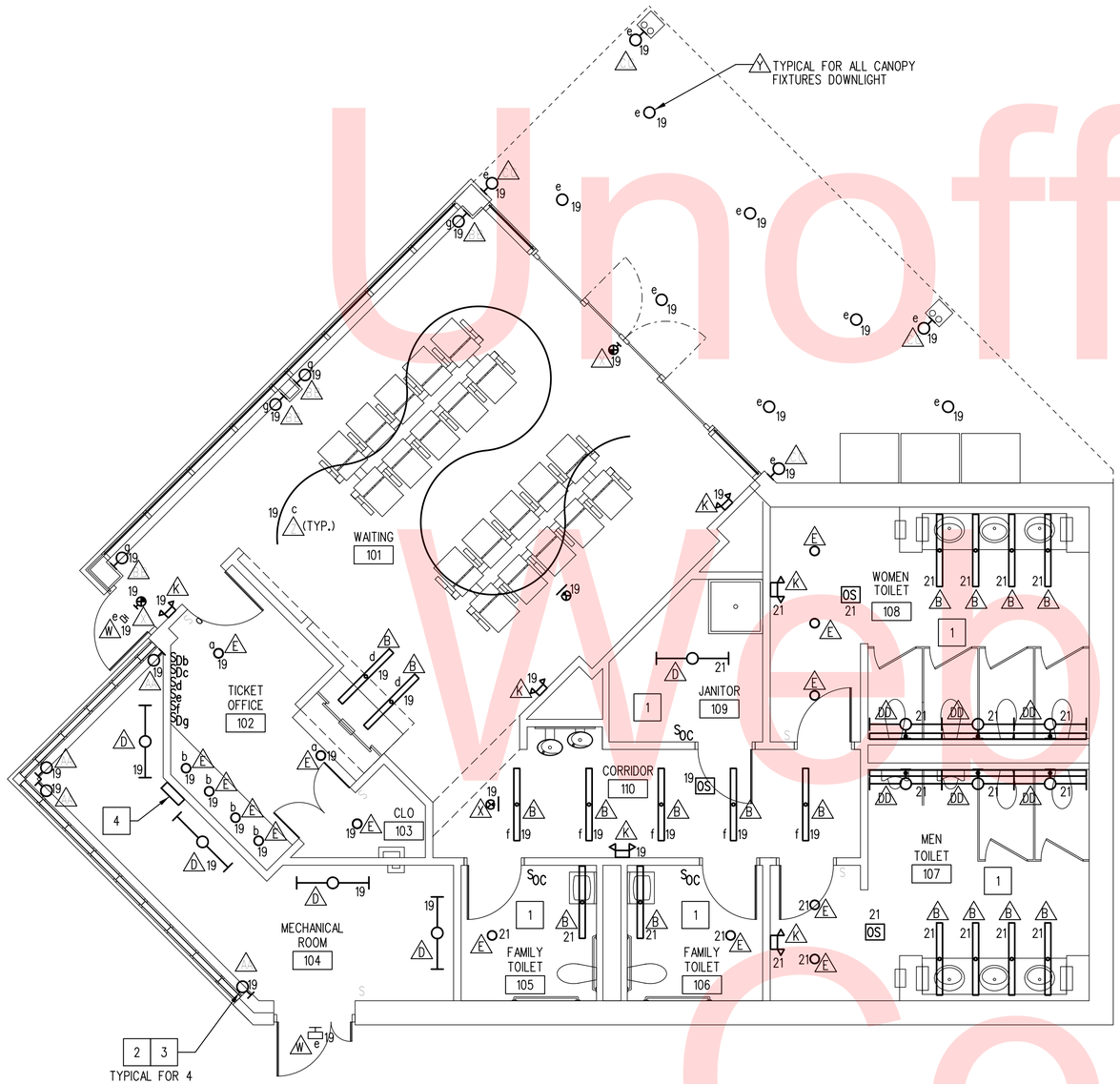
2 / E-202 ELECTRICAL FLOOR PLAN - MEZZANINE - LIGHTING
SCALE: 1/8"=1'-0"

KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181\c01P\C4D\Phase II Sheet Files\CP01-90181004E-202.dgn
10/27/2017 3:01:43 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL FLOOR PLAN SOUTH BUILDING LIGHTING	E-202
				COUNTY SUSSEX	DESIGNED BY: MSM/SMC		SHEET NO. 163
					CHECKED BY: AP		TOTAL SHTS. 189



1 / E-203 NORTH BUILDING LIGHTING PLAN
SCALE: 1/4"=1'-0"

DRAWING NOTES

1. SEE DWG. E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND NOTES.
2. ALL CIRCUIT ARE CONNECTED TO PANEL "LPV" UON.
3. ALL EXIT AND EMERGENCY LIGHTS SHALL BE UNSWITCHED.

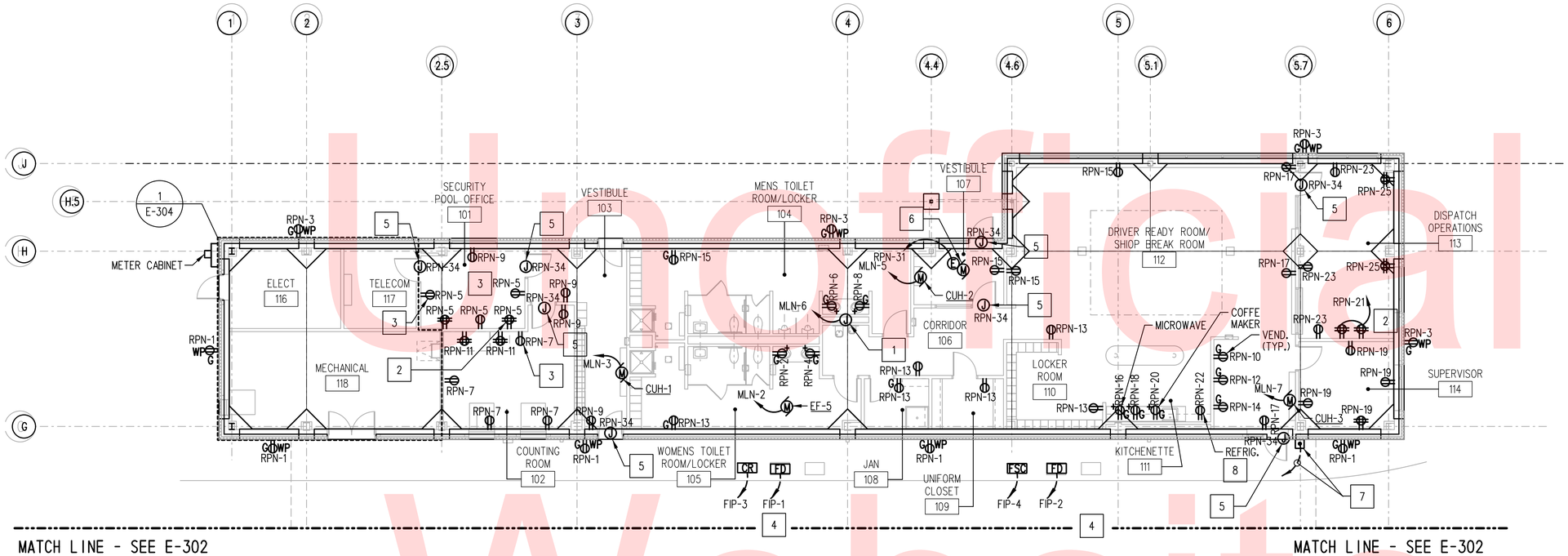
CONSTRUCTION NOTES

1. ALL LIGHTS IN THIS ROOM ARE CONTROLLED BY LOCAL SENSOR AND OR SWITCH.
2. AT EACH LOCATION THE TYPE "AA" FIXTURE SHALL BE INSTALLED IN 3 SECTIONS.
   1.) 92" SECTION FROM TOP OF BRICK TO STEEL TUBE.
   2.) 96" SECTION FROM LOWER STEEL TUBE TO UPPER STEEL TUBE.
   3.) 84" SECTION FROM UPPER STEEL TUBE TO CEILING.
   SEE ARCH DETAIL 1/A-409.
3. ALL TYPE "AA" FIXTURES SHALL BE CONTROLLED THROUGH RGB LIGHTING CONTROL SYSTEM. THIS SYSTEM SHALL BE PROVIDED UNDER THE CANOPY CONTRACT.
4. PANEL "LPV".

Unofficial Website Copy

N:\90181-01\CADD\Phase II\Sheet Files\CP02-90181019E-203.dgn
10/27/2017 3:04:26 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	LIGHTING FLOOR PLAN VISITOR CENTER	E-203 SHEET NO.
				COUNTY SUSSEX	DESIGNED BY: MSM/SMC		164 TOTAL SHTS.
					CHECKED BY: IHK		189



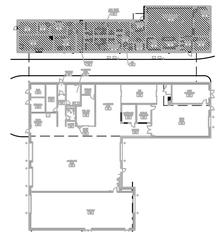
1 E-301 ELECTRICAL FLOOR PLAN - NORTH BUILDING - POWER
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-501 FOR SINGLE LINE DIAGRAM.
3. SEE DRAWING E-702 THRU E-705 FOR PANELBOARD SCHEDULES.

SPECIFIC NOTES:

1. PROVIDE JUNCTION BOX FOR ELECTRIC WATER COOLER POWER, CONCEAL IN PLUMBING CHASE.
2. RECEPTACLES FOR SECURITY MONITORS.
3. COORDINATE MOUNTING HEIGHT WITH MONITOR INSTALLATION.
4. PROVIDE CLASSIFIED SEALS ON ALL EQUIPMENT CONDUITS AND STUB-UPS AT FUEL DISPENSING EQUIPMENT AND AT PANEL.
5. POWER FOR ACCESS CONTROL EQUIPMENT SEE DRAWINGS E-605 AND E-606 FOR INSTALLATION DETAILS.
6. MOTORIZED DOOR.
7. EPO SWITCH. PROVIDE 3/4"C WITH PULL STRING FOR CABLES TO CONNECT TO AND OPERATE SHUNT TRIP COIL OF MAIN BREAKER IN PANEL "FIP". EPO SWITCH TO DISCONNECT POWER TO ALL DISPENSERS CARD READER AND FUEL SITE CONTROLLER.
8. MOUNT RECEPTACLE AT SAME HEIGHT AS COUNTER RECEPTACLES.



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004E-301.dgn
10/27/2017 3:01:44 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

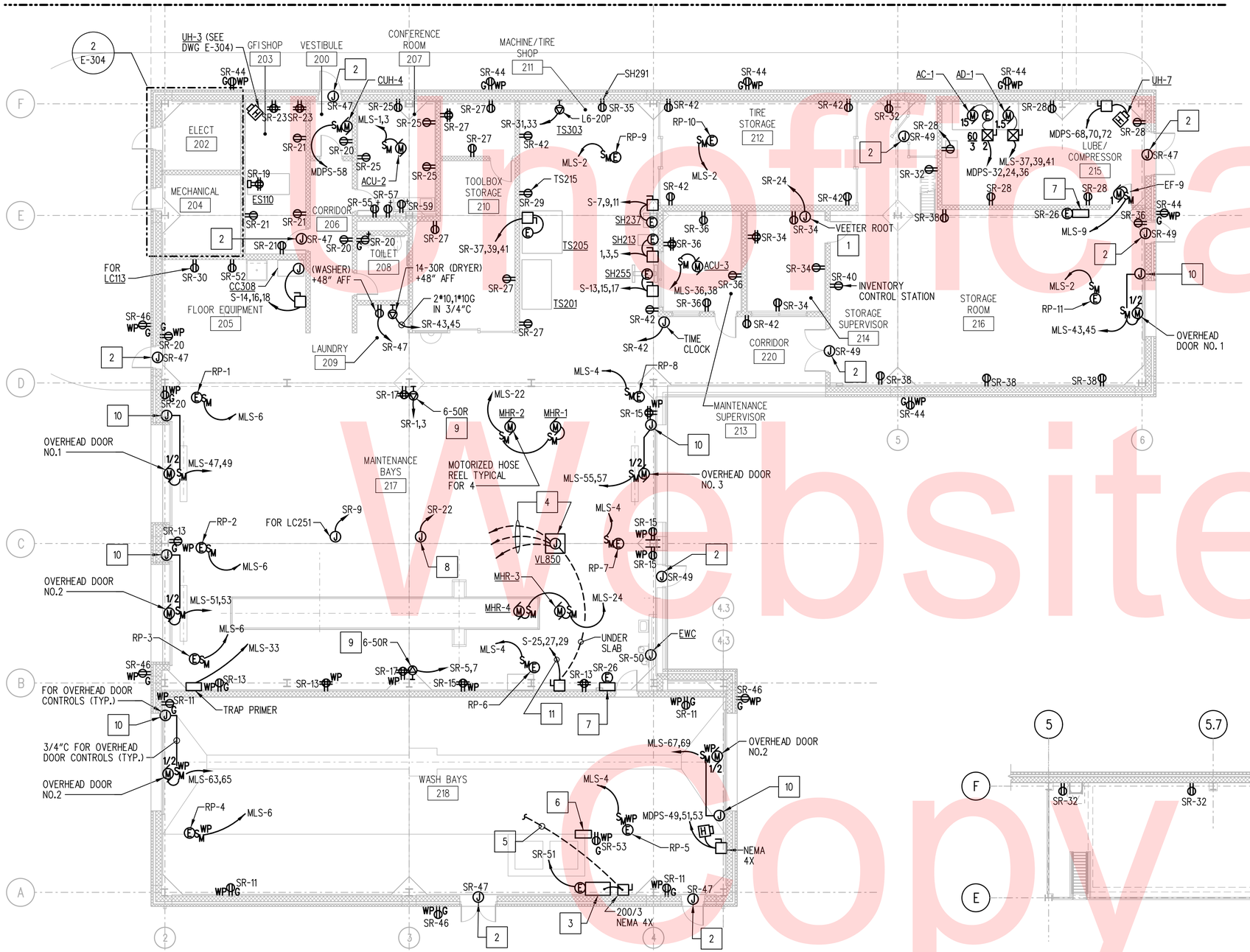
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

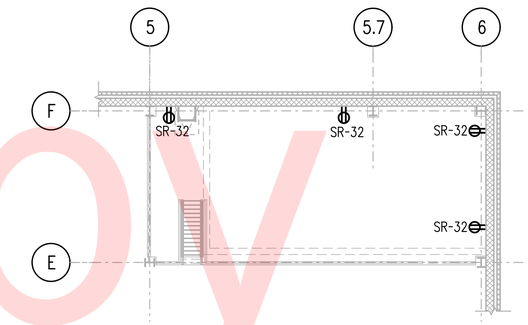
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	MSM/SMC
CHECKED BY:	AP

ELECTRICAL FLOOR PLAN NORTH BUILDING POWER

	E-301
SHEET NO.	165
TOTAL SHTS.	189



1 E-302 ELECTRICAL FLOOR PLAN - SOUTH BUILDING - POWER
SCALE: 1/8"=1'-0"



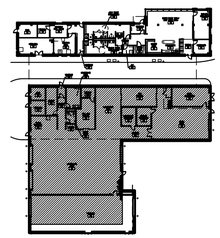
2 E-302 ELECTRICAL FLOOR PLAN - MEZZANINE - POWER
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-501 FOR SINGLE LINE DIAGRAM.
3. SEE DRAWING E-702 THRU E-705 FOR PANELBOARD SCHEDULES.
4. ALL RECEPTACLES IN THE MAINTENANCE BAY 217, FLOOR EQUIPMENT 205, CORRIDOR 206/220, TOOLBOX STAND 210, MACHINE/TIRE SHOP 211, TIRE SHOP 212 SHALL BE MOUNTED 30" AFF.
5. REFER TO EQUIPMENT ABBREVIATION, NOTES AND PLAN DRAWINGS EI-001 AND EI-101.

SPECIFIC NOTES:

1. PROVIDE CLASSIFIED SEALS ON ALL EQUIPMENT CONDUITS AND STUB-UPS AT FUEL DISPENSING EQUIPMENT AND AT PANEL.
2. POWER FOR ACCESS CONTROL EQUIPMENT. SEE DRAWINGS E-605 AND E-606 FOR INSTALLATION DETAILS.
3. BUS WASH CONTROL PANEL WITH 200 AMP, 3 POLE NON-FUSED DISCONNECT SWITCH NEMA 4X.
4. PROVIDE UNDERGROUND CONDUIT(S) FROM CONTROL PANEL TO UNIT AS REQUIRED. COORDINATE REQUIREMENTS WITH THE MANUFACTURER AND DRAWING EI-101..
5. 3*2/0, 1*6G IN 2"C TO NORTH BUILDING "MSB". (UNDERGROUND) PROVIDE ADDITIONAL TRAFFIC RATED HANDHOLE AS REQUIRED FOR CABLE PULL.
6. OZONE GENERATOR, PROVIDE GFI RECEPTACLE MOUNTED TO STAINLESS STEEL UNI-STRUT SUPPORT AT 30" AFF.
7. OIL WATER SEPARATOR MOUNTED AT 48" AFF.
8. CONNECTION TO SOLENOIDS AND PULSE METERS ABOVE. COORDINATE EXACT LOCATION IN THE FIELD.
9. FOR MIG WELDER.
10. BACK/JUNCTION BOX FOR OVERHEAD DOOR CONTROLLER. COORDINATE EXACT REQUIREMENTS AND LOCATIONS. PROVIDE 3/4"C. WITH PULLSTRING TO DOOR OPERATOR ABOVE.
11. 3*10, 1*10G IN 3/4"C.

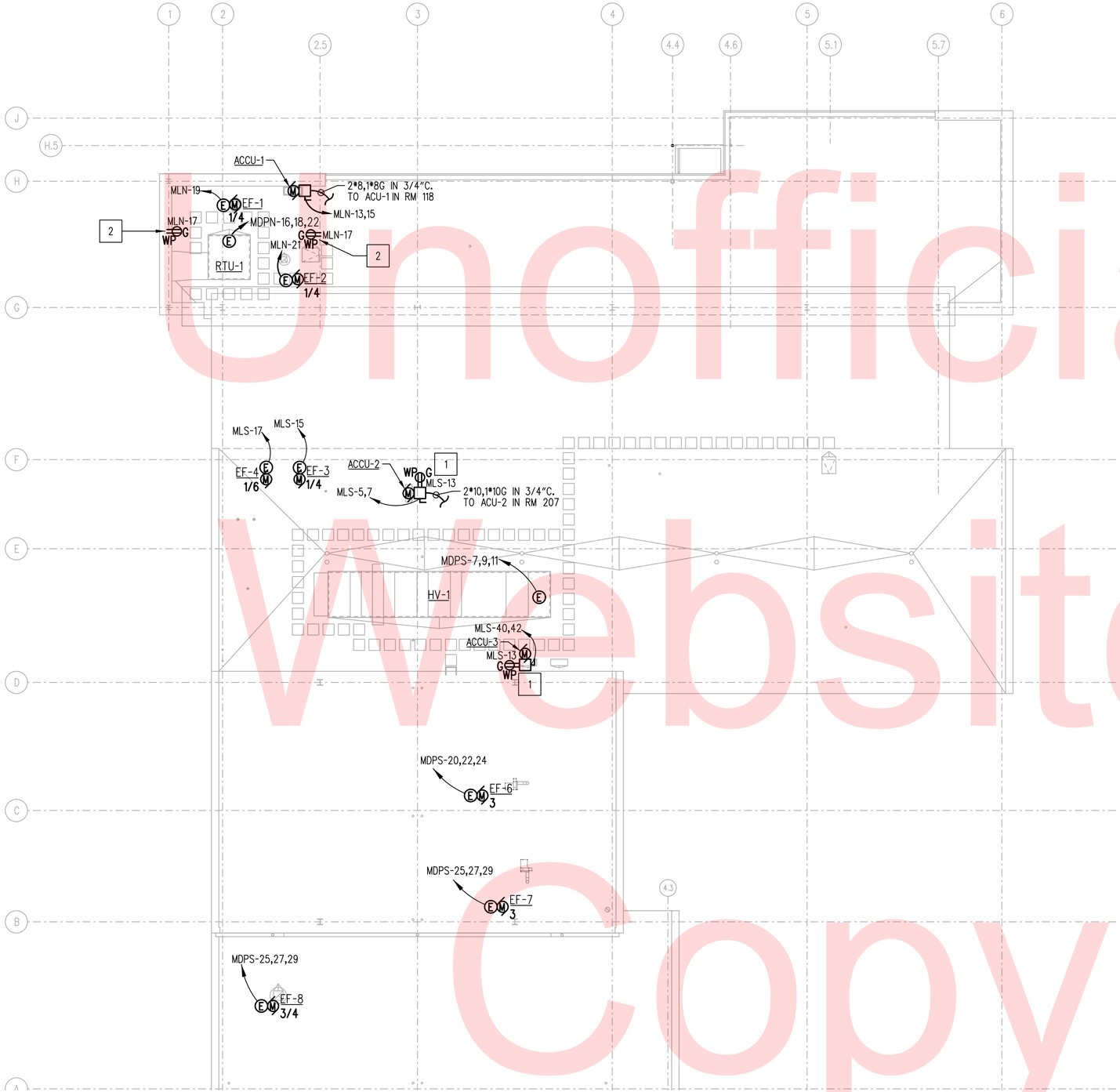


KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004E-302.dgn
10/27/2017 3:01:45 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL FLOOR PLAN SOUTH BUILDING POWER	E-302
				COUNTY SUSSEX	DESIGNED BY: MSM/SMC		SHEET NO. 166
					CHECKED BY: AP		TOTAL SHTS. 189



1 / E-303 ELECTRICAL ROOF PLAN - POWER
SCALE: 3/32" = 1'-0"

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-501 FOR SINGLE LINE DIAGRAM.
3. SEE DRAWING E-702 THRU E-705 FOR PANELBOARD SCHEDULES.
4. ALL ROOF DISCONNECT SWITCHES SHALL BE RATED NEMA 3R.

SPECIFIC NOTES:

1. MOUNT RECEPTACLE TO SUPPORT STRUCTURE FOR DISCONNECT SWITCH.
2. MOUNT RECEPTACLE TO PARAPIT WALL AT 18" AFF.

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004E-303.dgn
10/27/2017 3:01:47 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

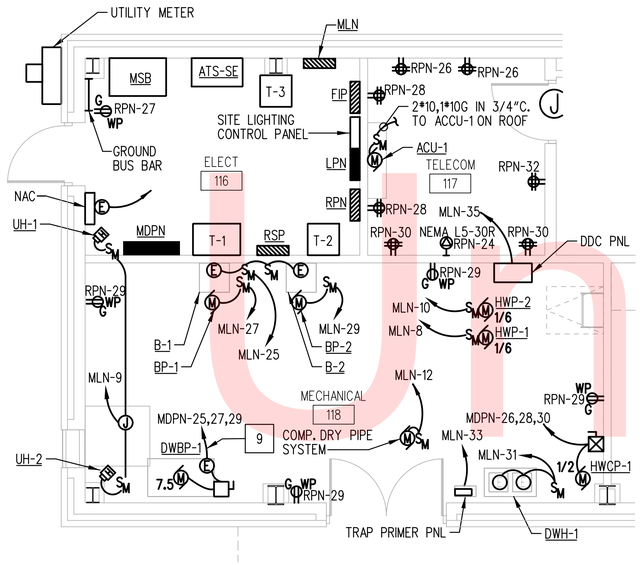
0 4' 8' 12' 20'
SCALE: 3/32" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

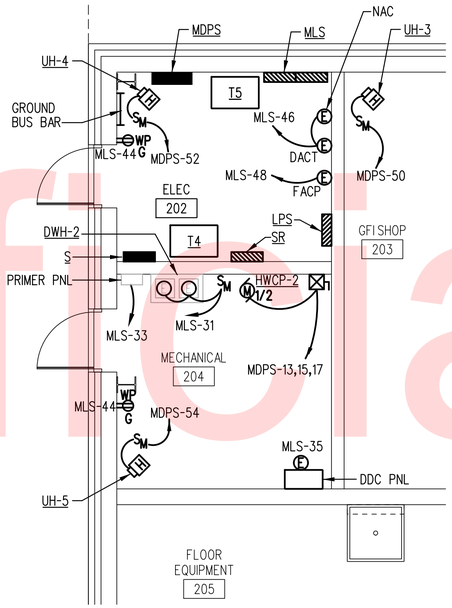
CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	MSM/SMC
CHECKED BY:	AP

ELECTRICAL ROOF PLAN
- POWER

	E-303
SHEET NO.	167
TOTAL SHTS.	189



1 / E-304 NORTH BUILDING ELECTRICAL ROOM 116 PLAN
SCALE: 1/4"=1'-0"



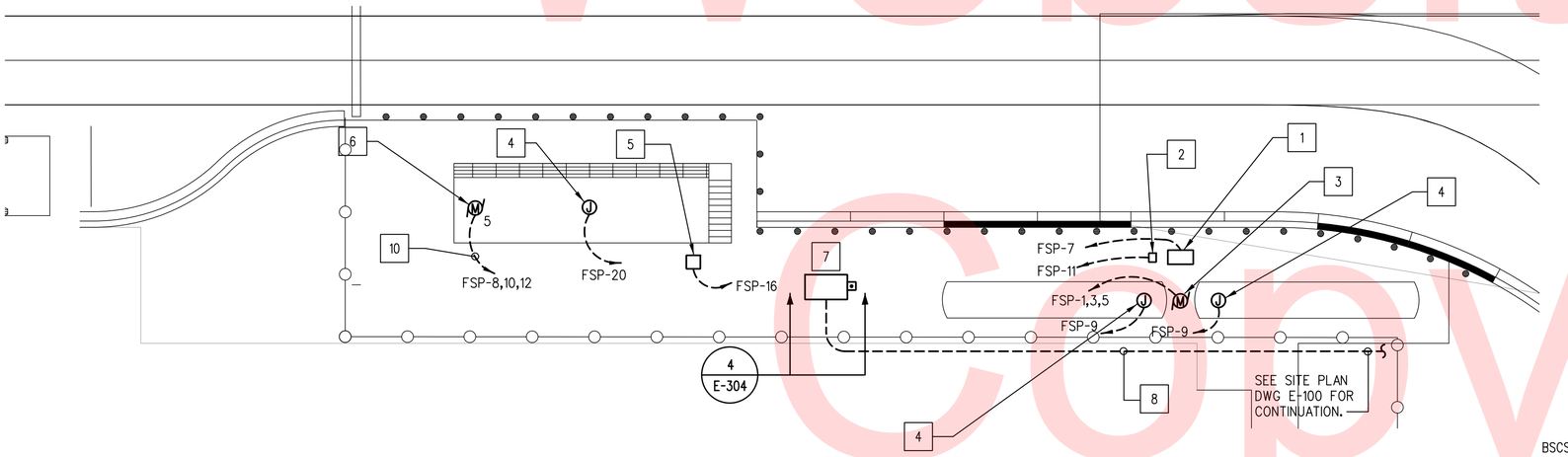
2 / E-304 SOUTH BUILDING ELECTRICAL ROOM 202 PLAN
SCALE: 1/4"=1'-0"

GENERAL NOTES:

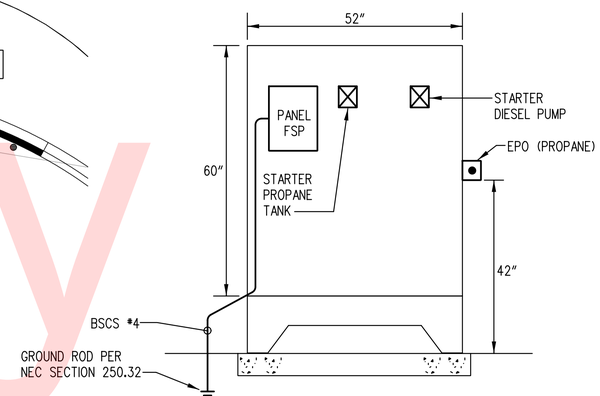
1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-501 FOR SINGLE LINE DIAGRAM.
3. SEE DRAWING E-702 THRU E-705 FOR PANELBOARD SCHEDULES.
4. CONNECT UNDERGROUND CONDUIT FOR FIRE ALARM FROM FACP RM 202 TO TERMINAL CABINET IN RM 116 IN NORTH BLDG.
5. PROVIDE GROUNDING AND BONDING SYSTEM AS REQUIRED FOR ABOVE GROUND FUEL TANKS AND PIPING TO COMPLY WITH ARTICLE 500 OF THE NEC FOR CLASS 1, DIV 1 AND DIV 2 AREAS.
6. PROVIDE CLASSIFIED SEALS ON ALL RACEWAY CONNECTIONS TO FUEL TANKS.

SPECIFIC NOTES:

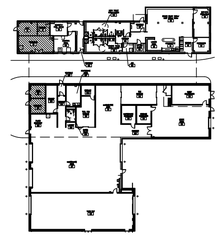
1	PROPANE DISPENSER.
2	PROPANE CONTROLLER/CARD READER.
3	PROPANE PUMP.
4	TANK ACCESSORIES, SENSORS, SOLENOID VALVES, ALARMS ETC.
5	FILL PORT.
6	DIESEL TANK PUMP.
7	FUEL TANK EQUIPMENT ENCLOSURE FREE STANDING LOCKABLE 2 DOOR 60"x52"x18" PAD MOUNTED NEMA 3R ENCLOSURE.
8	1 1/2"C (POWER) FEEDER FOR PANEL "FSP". SEE DRAWING E-501 FOR FEEDER CABLES
9	3*10, 1*10G IN 3/4"C
10	3*8, 1*8G IN 3/4"C



3 / E-304 FUEL TANK AREA POWER PLAN
SCALE: 1/8"=1'-0"



4 / E-304 FREE STANDING ENCLOSURE 8
NOT TO SCALE



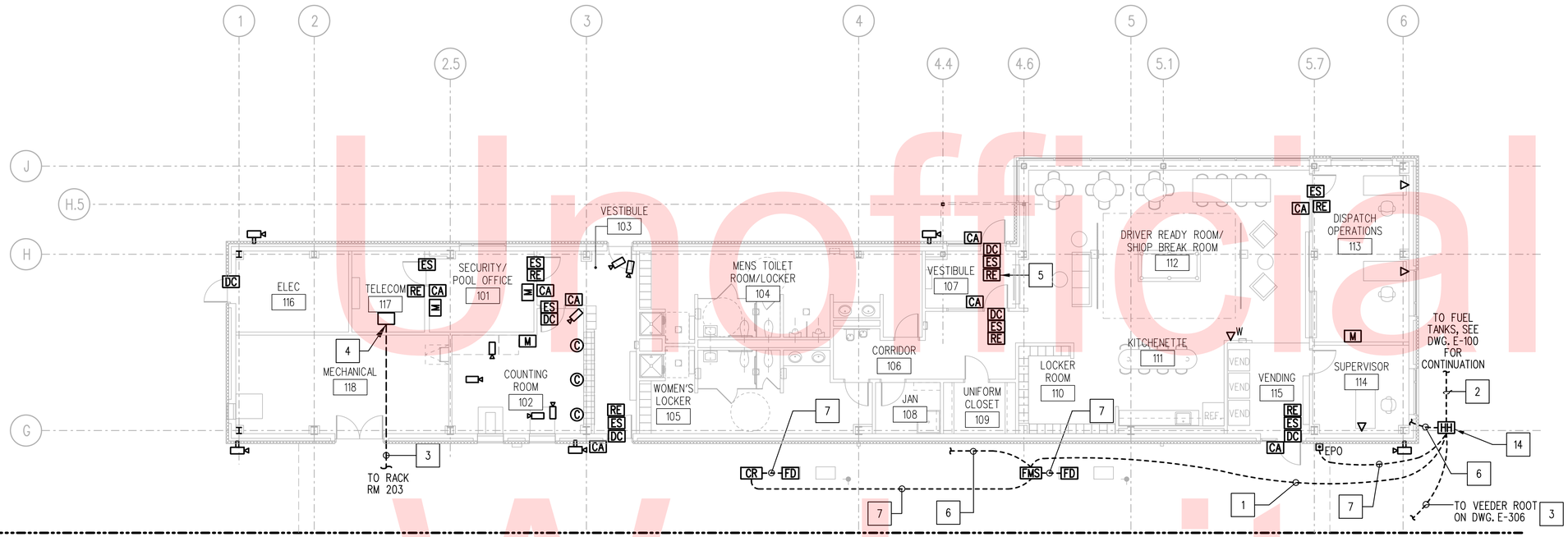
KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

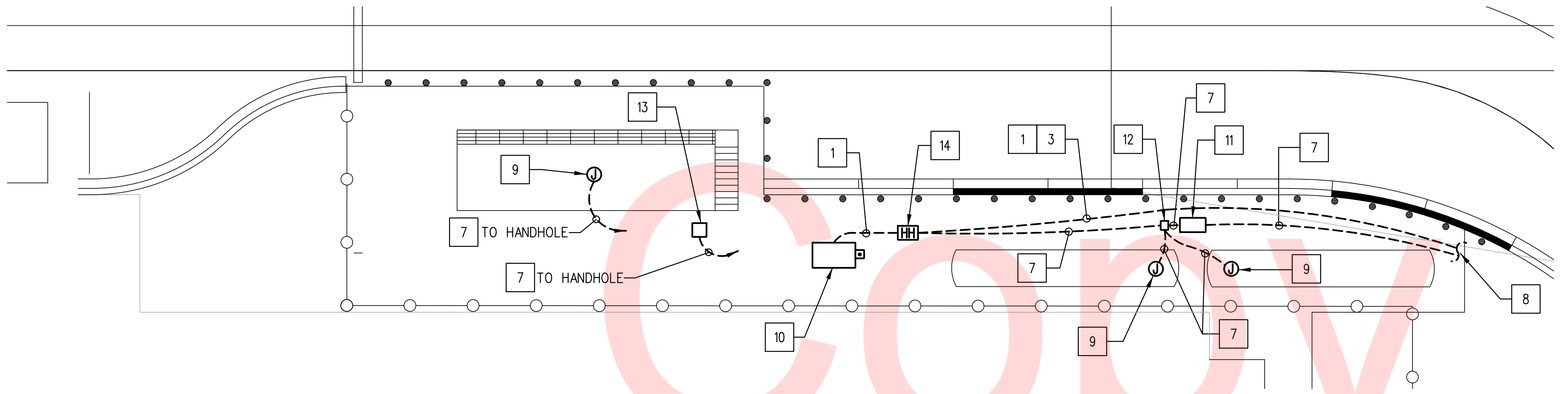
N:\9018\-019\CADD\Phase II Sheet Files\CP01-90180004E-304.dgn
10/27/2017 3:00:48 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109 / BRIDGE NO. / COUNTY SUSSEX / DESIGNED BY: KDM / CHECKED BY: EL	ELECTRICAL ENLARGEMENT PLANS POWER

E-304	
SHEET NO.	168
TOTAL SHTS.	189



1 E-305 ELECTRICAL FLOOR PLAN - NORTH BUILDING - SPECIAL SYSTEMS
SCALE: 1/8"=1'-0"



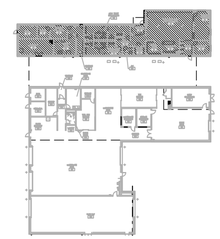
2 E-305 FUEL TANK AREA CONTROL/DATA PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. COORDINATE EXACT CAMERA ANGLE AND VIEW WITH THE OWNER PRIOR TO FINAL ACCEPTANCE. ALL EXTERIOR CAMERAS SHALL BE WEATHERPROOF TYPE.
3. PROVIDE CLASSIFIED SEALS FOR ALL CONDUIT STUBUPS TO FUEL DISPENSING EQUIPMENT.
4. SEE DRAWINGS E-605, E-606, E-607 AND E-608 AND SPECIFICATIONS FOR INSTALLATION DETAILS AND WIRING REQUIREMENTS.
5. PROVIDE 3/4" CONDUIT FROM EACH SECURITY AND ACCESS CONTROL DEVICE BACK TO RECK IN ROOM 117.

SPECIFIC NOTES:

1	2"C. WITH PULL STRING.
2	(1) 4"C., (1) 2"C., (1) 1"C. WITH PULL STRING.
3	4"C. WITH PULL STRING.
4	44U FLOOR MOUNTED RACK.
5	CARD SWIPE TO RELEASE DOOR AND ACTIVATE OPERATOR. INTERIOR DOOR TO HAVE DELAYED RELEASE UNTIL EXTERIOR DOOR IS CLOSED AND SECURED.
6	2"C. WITH PULL STRING TO TELECOM ROOM 117.
7	1"C. WITH PULL STRING.
8	SEE DRAWING E-100 FOR CONTINUATION.
9	TANK, ACCESSORIES, ALARMS SENSORS.
10	TANK CONTROL CABINET.
11	PROPANE DISP.
12	PROPANE CONTROLLER.
13	FILL PORT.
14	NEW HANDHOLE. SEE DETAIL 7/E-601 WITH NO DIVIDER.



KEY PLAN
SCALE: N.T.S.

Unofficial Website Copy

N:\99181-019\CADD\Phase II\Sheet Files\CP01-99181004E-305.dgn
10/27/2017 3:07:49 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

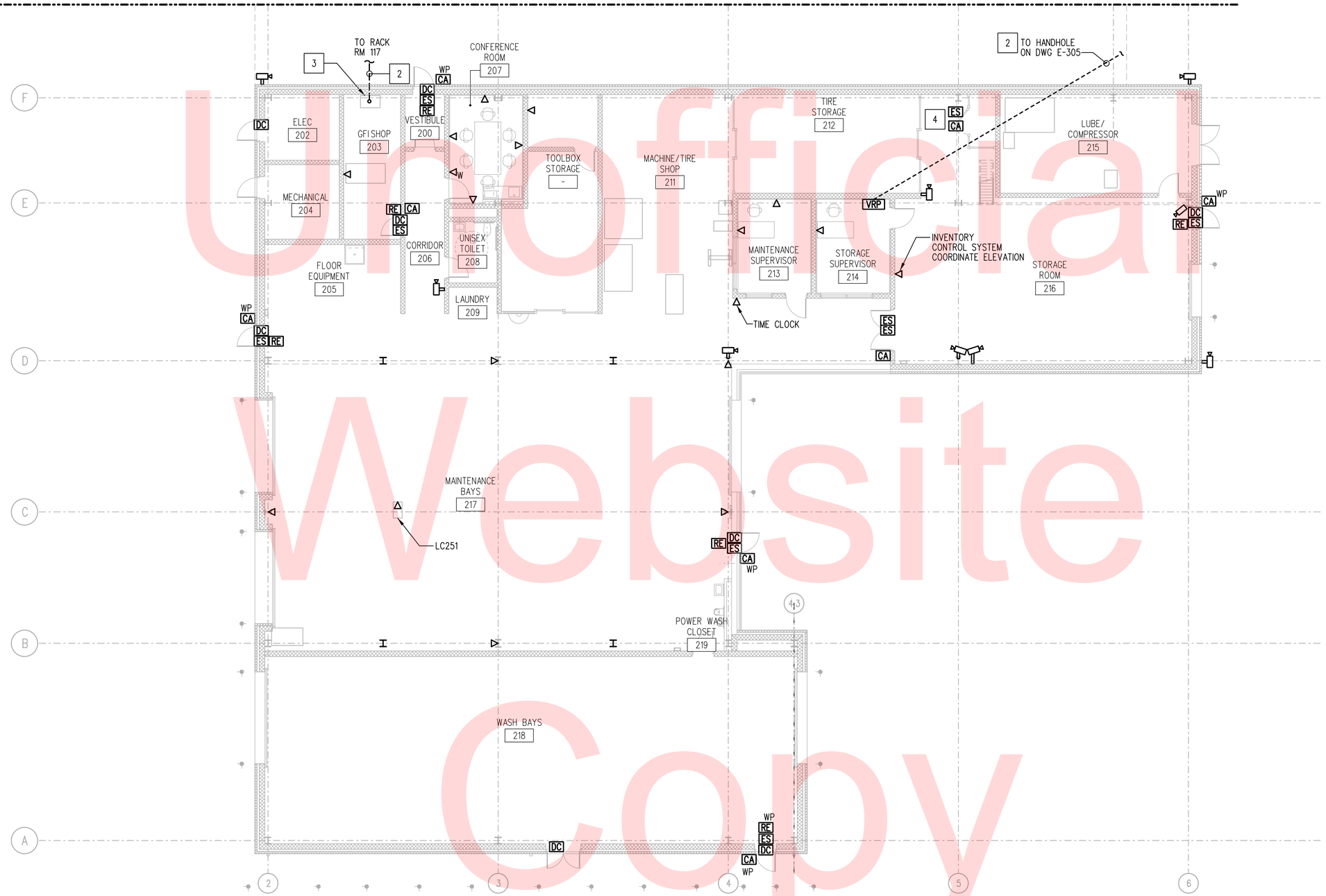
0 4' 8' 16'
SCALE: 1/8" = 1'-0"

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT	T201753109
COUNTY	SUSSEX
BRIDGE NO.	
DESIGNED BY:	MSM/SMC
CHECKED BY:	AP

ELECTRICAL FLOOR PLAN
NORTH BUILDING
SPECIAL SYSTEMS

	E-305
SHEET NO.	169
TOTAL SHTS.	189



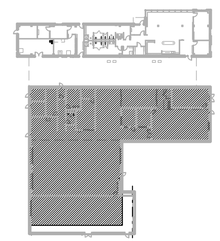
1 / E-306 ELECTRICAL FLOOR PLAN - SOUTH BUILDING - SPECIAL SYSTEMS
SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. COORDINATE EXACT CAMERA ANGLE AND VIEW WITH THE OWNER PRIOR TO FINAL ACCEPTANCE. ALL EXTERIOR CAMERAS SHALL BE WEATHERPROOF TYPE.
3. PROVIDE CLASSIFIED SEALS FOR ALL CONDUIT STUB UPS TO FUEL DISPENSING EQUIPMENT.
4. SEE DRAWINGS E-605, E-606, E-607 AND E-608 AND SPECIFICATIONS FOR INSTALLATION DETAILS AND WIRING REQUIREMENTS.
5. PROVIDE 3/4" CONDUIT FROM EACH SECURITY AND ACCESS CONTROL DEVICE BACK TO RECK IN RM 203.

SPECIFIC NOTES:

1	1"C. WITH PULL STRING.
2	4"C. WITH PULL STRING.
3	24U RACK.
4	COORDINATE HEIGHTS WITH CAGE MANUFACTURER.



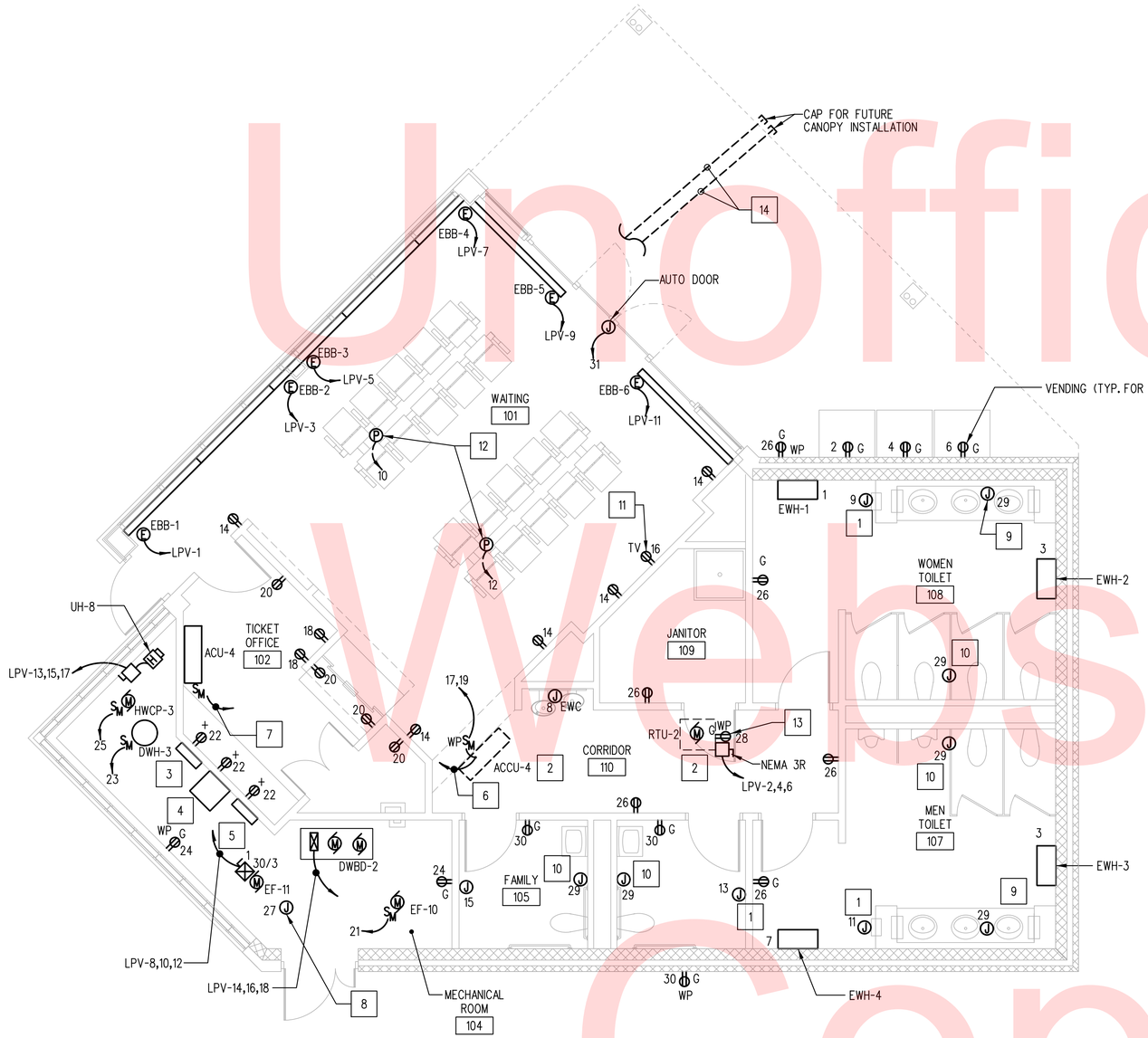
KEY PLAN
SCALE=N.T.S.

Unofficial Website Copy

N:\30181-01\CADD\Phase II\Sheet Files\CP01-80181004E-306.dgn
10/27/2017 3:01:50 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 4' 8' 16' SCALE: 1/8" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL FLOOR PLAN SOUHTH BUILDING SPECIAL SYSTEMS
				COUNTY SUSSEX	DESIGNED BY: MSM/SMC	SHEET NO. 170
					CHECKED BY: AP	TOTAL SHTS. 189

E-306



1 E-307 POWER PLAN
SCALE: 1/4"=1'-0"

DRAWING NOTES

1. SEE DWG. E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND NOTES.
2. SEE DWG. E-501 FOR SINGLE LINE DIAGRAM.
3. SEE DWG. E-702 THRU E-705 FOR PANELBOARD SCHEDULES.
4. ALL CIRCUITS SHOWN ARE CONNECTED TO PANEL RPV, UON.

CONSTRUCTION NOTES

1	HAND DRYER
2	INSTALLED ON ROOF.
3	PANEL "LPV" (PROVIDE (2) 1"C. SPARE CONDUITS UNDERGROUND TO OUTSIDE THE BUILDING).
4	TRANSFORMER T-#
5	PANEL "RPV" (PROVIDE (2) 1"C. SPARE CONDUITS UNDERGROUND TO OUTSIDE THE BUILDING).
6	DOWN TO ACU-4 2#12,1#12G IN 3/4"C.
7	UP TO ACCU-4 2#12, 1#12G IN 3/4"C.
8	DDC PANEL, COORDINATE EXACT LOCATION.
9	MOUNTED BELOW SINK TRANSFORMER FOR SENSORS.
10	MOUNTED ABOVE CEILING TRANSFORMER FOR SENSORS.
11	COORDINATE EXACT MOUNTING LOCATION WITH SMART WALL DISPLAY SYSTEM.
12	FOR CONNECTION TO FURNITURE PHONE CHARGING STATIONS. COORDINATE EXACT LOCATION AND DEVICE REQUIREMENTS WITH FURNITURE MANUFACTURER PRIOR TO INSTALLATION.
13	RECEPTACLE MOUNTED TO UNISTRUT SUPPORT AT OR UNIT.
14	SPARE UNDERGROUND CONDUITS TO PANELS LPV AND RPV. (4) 1"C.

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP02-90181019E-307.dgn
10/27/2017 3:04:26 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

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

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: IHK

POWER FLOOR PLAN - VISITOR CENTER

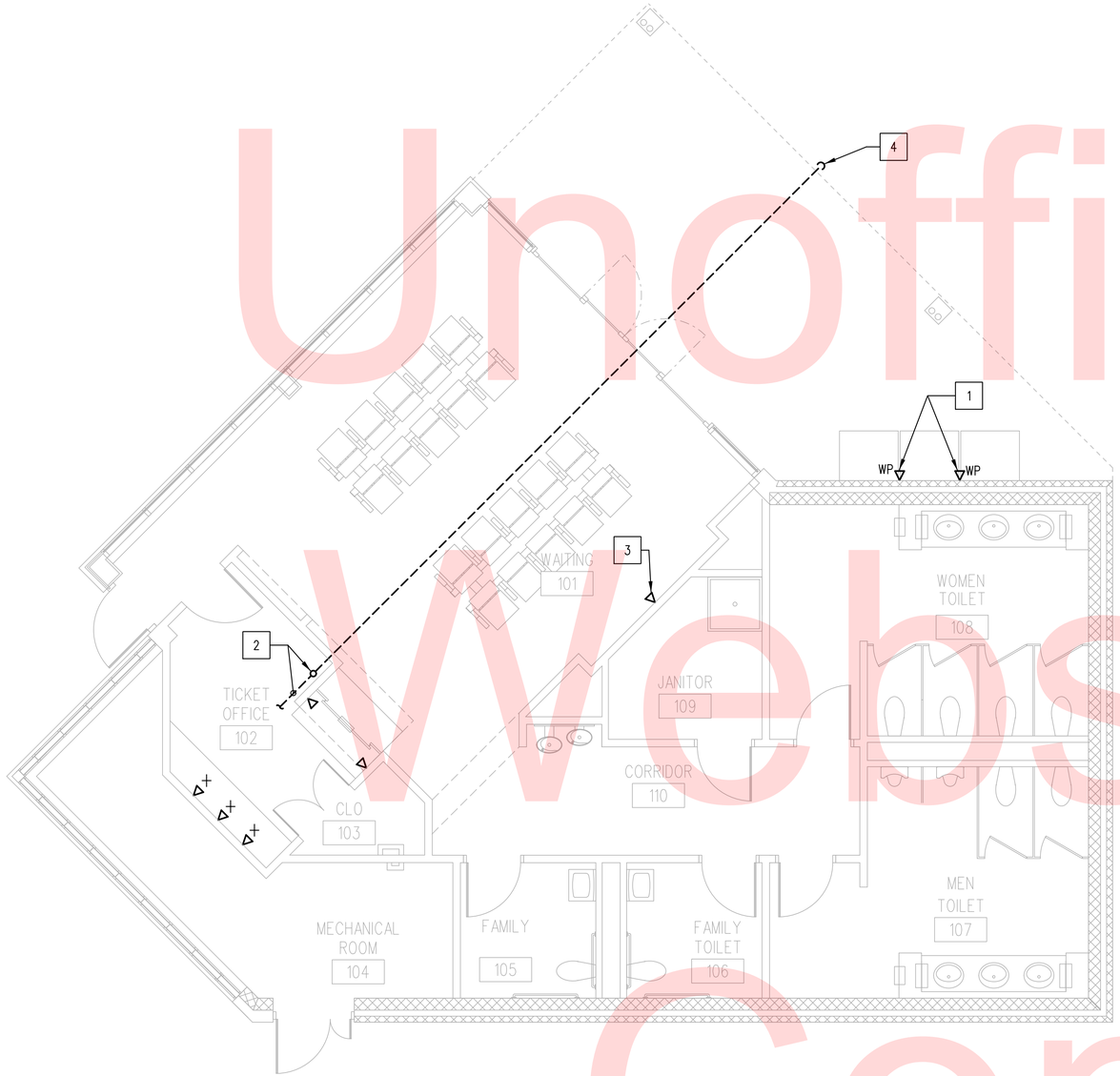
E-307
SHEET NO. 171
TOTAL SHTS. 189

DRAWING NOTES

1. SEE DWG. E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND NOTES.
2. ALL ROUGH-IN PROVIDE 1" CONDUIT BACK TO IT RACK IN RM. 102.

CONSTRUCTION NOTES

1. PROVIDE DATA ROUGH-IN FOR CARD CARD PAYMENT AND INVENTORY TRACKING EQUIPMENT FOR VENDING MACHINES.
2. 2"C STUB UP TO IT RACK. CONDUIT ROUTED UNDERGROUND TO HANDHOLE. SEE SITE PLAN FOR ROUTING.
3. COORDINATE EXACT LOCATION OF ROUGH-IN WITH SMART WALL DISPLAY SYSTEM.
4. PROVIDE (3) 1"C WITH PULL STRING UNDERGROUND AND CAP FOR FUTURE CANOPY INSTALLATION.



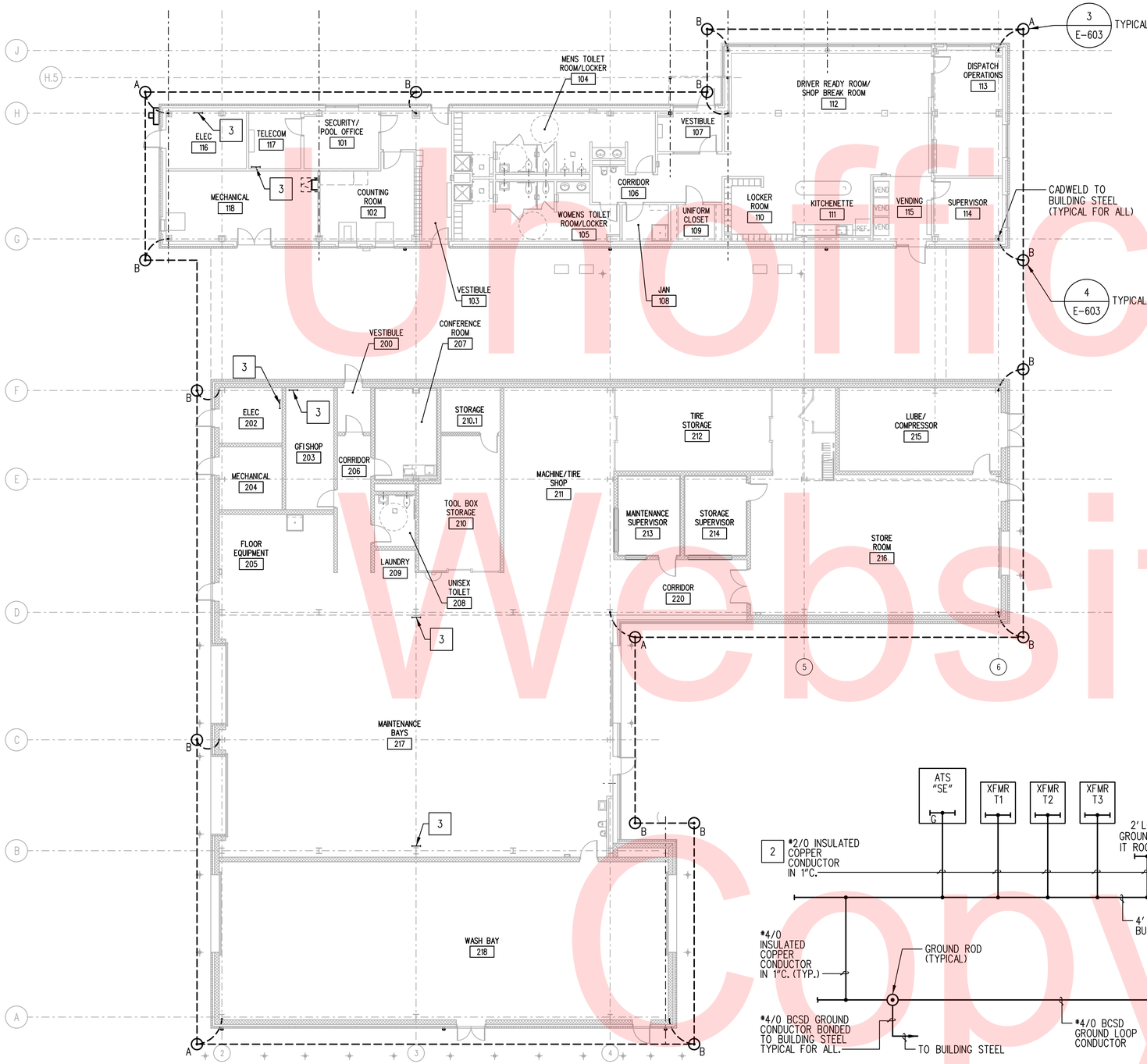
1 / E-308 SPECIAL SYSTEM PLAN
SCALE: 1/4"=1'-0"

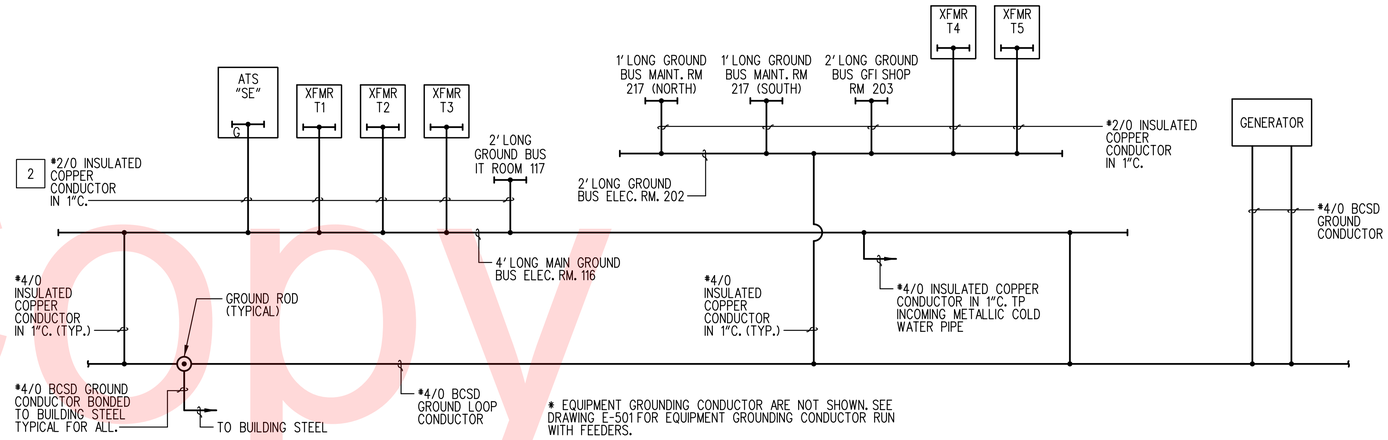
Unofficial Website Copy

N:\90181-019\CADD\Phase II\Sheet Files\CP02-90181019E-308.dgn
10/27/2017 3:04:27 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	0 2' 4' 8' SCALE: 1/4" = 1'-0"	LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2	CONTRACT T201753109	BRIDGE NO.	SPECIAL SYSTEM FLOOR PLAN – VISITOR CENTER
				COUNTY SUSSEX	DESIGNED BY: MSM	SHEET NO. 172
					CHECKED BY: IHK	TOTAL SHTS. 189

E-308





2 E-401 GROUNDING RISER DIAGRAM 1
SCALE: NOT TO SCALE

1 E-401 ELECTRICAL PLAN - GROUNDING
SCALE: 3/32" = 1'-0"

GENERAL NOTES:

1. SEE DRAWING E001 THROUGH E003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-603 FOR ADDITIONAL GROUNDING DETAILS.
3. ALL UNDERGROUND CONNECTIONS SHALL BE EXOTHERMIC.

SPECIFIC NOTES:

1. ALL GROUNDING MATERIAL SHALL BE UL RATED.
2. ALL CONNECTIONS TO GROUND BUS SHALL BE DONE BY IRREVERSIBLE COMPRESSION TYPE, UL RATED CONNECTORS ON CONDUCTORS AND BOLTED CONNECTION GROUND BUS.
3. GROUND BUS, COORDINATE EXACT LOCATION IN FIELD. SEE DETAIL 8 ON SHEET E-603.

Unofficial Website Copy

N:\90181-019-CADD\Phase 1\Sheet Files\CP01-90181004E-401.dgn
10/27/2017 3:09:59 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

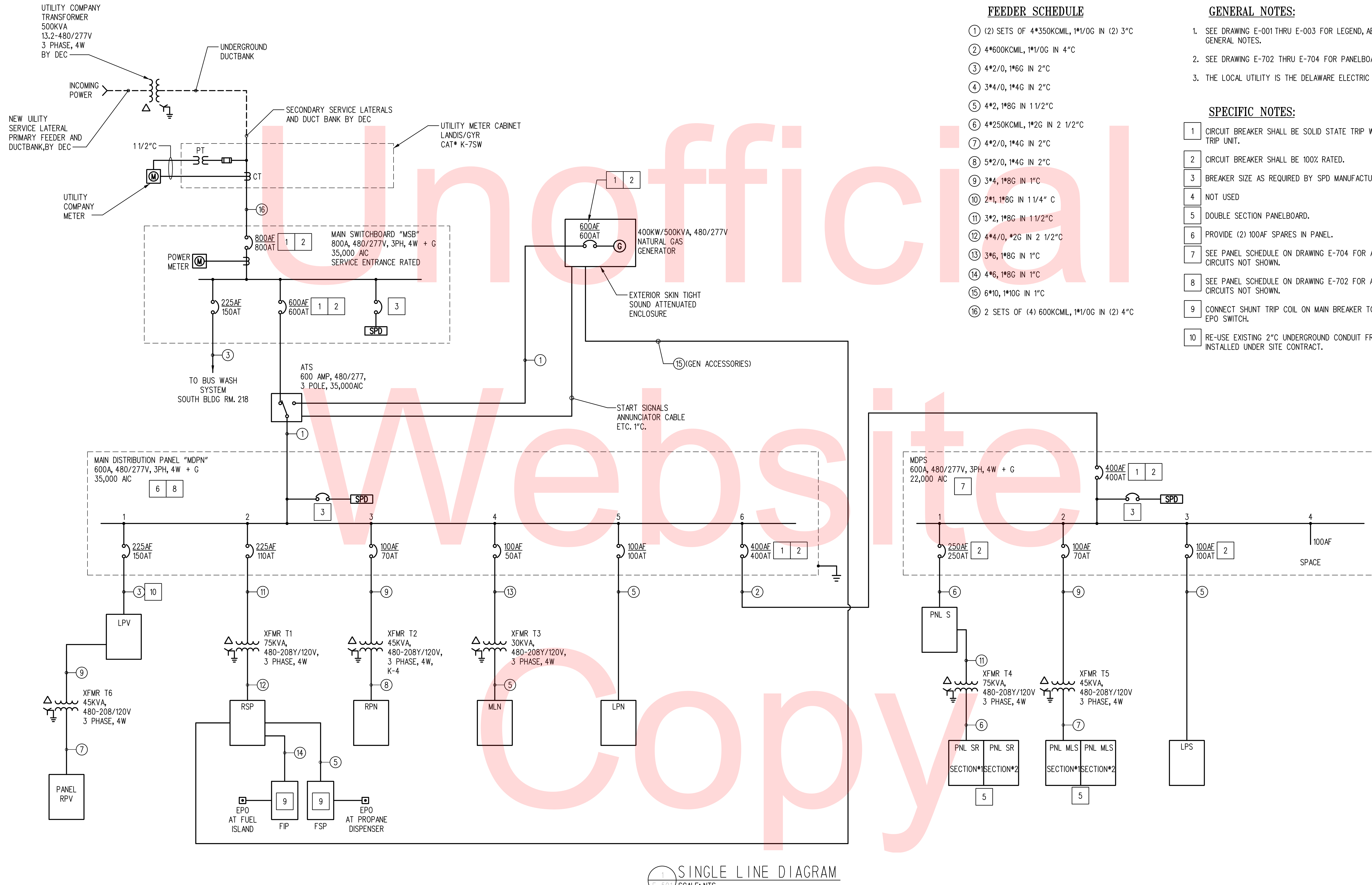
0 4' 8' 12' 20'
SCALE: 3/32" = 1'-0"

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: MSM	
COUNTY		
SUSSEX	CHECKED BY: AP	

ELECTRICAL PLAN - GROUNDING

E-401
SHEET NO.
173
TOTAL SHTS.
189



1 / E-501 SINGLE LINE DIAGRAM
SCALE: NTS

FEEDER SCHEDULE

1. (2) SETS OF 4#350KCMIL, 1#1/0G IN (2) 3"C
2. 4#600KCMIL, 1#1/0G IN 4"C
3. 4#2/0, 1#6G IN 2"C
4. 3#4/0, 1#4G IN 2"C
5. 4#2, 1#8G IN 1 1/2"C
6. 4#250KCMIL, 1#2G IN 2 1/2"C
7. 4#2/0, 1#4G IN 2"C
8. 5#2/0, 1#4G IN 2"C
9. 3#4, 1#8G IN 1"C
10. 2#1, 1#8G IN 1 1/4" C
11. 3#2, 1#8G IN 1 1/2"C
12. 4#4/0, #2G IN 2 1/2"C
13. 3#6, 1#8G IN 1"C
14. 4#6, 1#8G IN 1"C
15. 6#10, 1#10G IN 1"C
16. 2 SETS OF (4) 600KCMIL, 1#1/0G IN (2) 4"C

GENERAL NOTES:

1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE DRAWING E-702 THRU E-704 FOR PANELBOARD SCHEDULES.
3. THE LOCAL UTILITY IS THE DELAWARE ELECTRIC CO-OP(DEC).

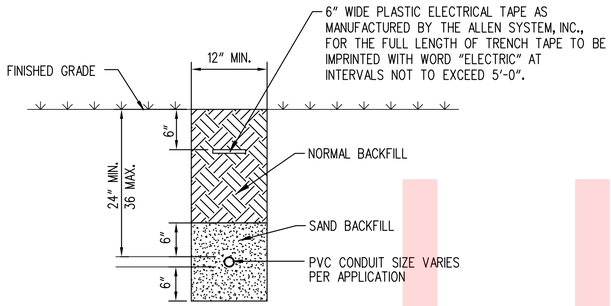
SPECIFIC NOTES:

1. CIRCUIT BREAKER SHALL BE SOLID STATE TRIP WITH A LSI TRIP UNIT.
2. CIRCUIT BREAKER SHALL BE 100% RATED.
3. BREAKER SIZE AS REQUIRED BY SPD MANUFACTURER.
4. NOT USED
5. DOUBLE SECTION PANELBOARD.
6. PROVIDE (2) 100AF SPARES IN PANEL.
7. SEE PANEL SCHEDULE ON DRAWING E-704 FOR ADDITIONAL BRANCH CIRCUITS NOT SHOWN.
8. SEE PANEL SCHEDULE ON DRAWING E-702 FOR ADDITIONAL BRANCH CIRCUITS NOT SHOWN.
9. CONNECT SHUNT TRIP COIL ON MAIN BREAKER TO ASSOCIATED EPO SWITCH.
10. RE-USE EXISTING 2"C UNDERGROUND CONDUIT FROM HANDHOLES INSTALLED UNDER SITE CONTRACT.

Unofficial Website Copy

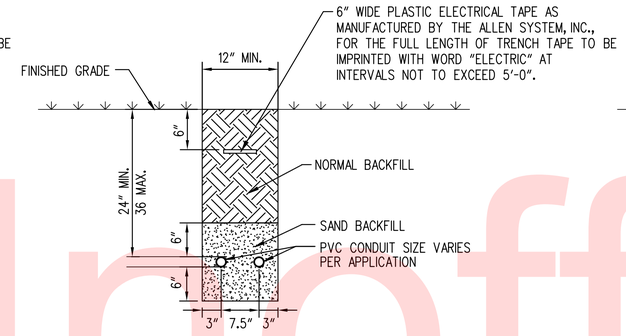
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL SINGLE LINE DIAGRAM	E-501
			COUNTY SUSSEX	DESIGNED BY: MSM/SMC		SHEET NO. 174
				CHECKED BY: AP		TOTAL SHTS. 189

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004E-501.dgn
10/27/2017 3:02:01 PM



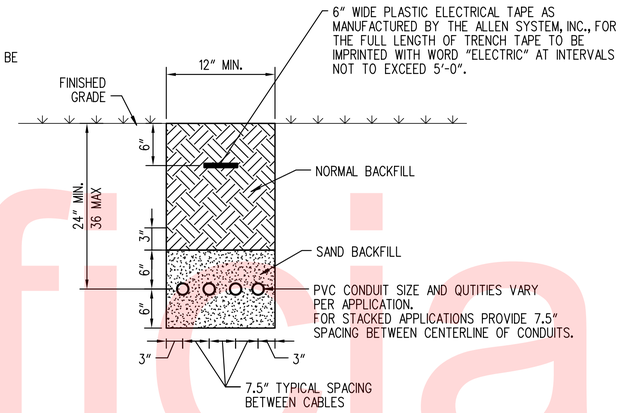
SINGLE DIRECT BURIED CONDUIT INSTALLATION DETAIL

1 / E-601 SCALE: NTS



2 WAY DIRECT BURIED CONDUIT INSTALLATION DETAIL

2 / E-601 SCALE: NTS

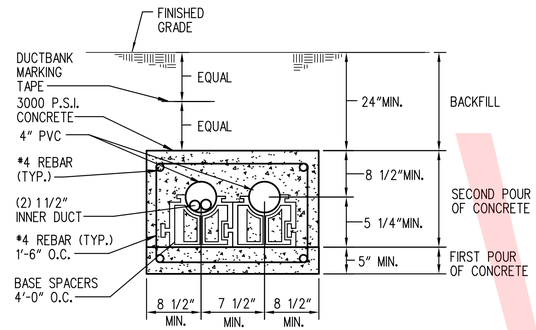


MULTIPLE DIRECT BURIED CONDUIT INSTALLATION TYPICAL DETAIL

3 / E-601 SCALE: NTS

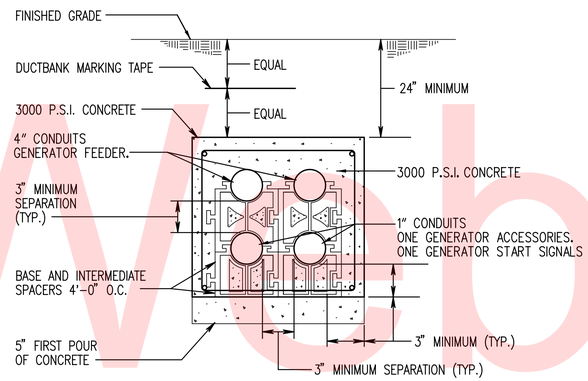
GENERAL NOTES:

1. SEE DRAWING E001 THRU E003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.



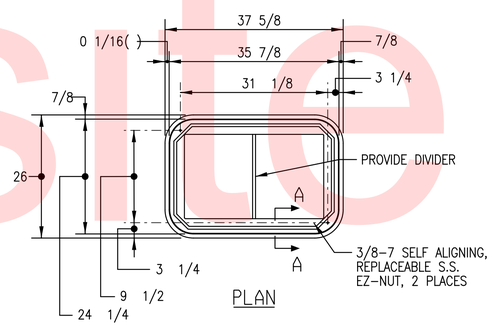
DUCTBANK DETAIL TELE/DATA W/INNERDUCT

4 / E-601 SCALE: NTS

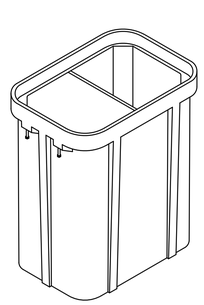


GENERATOR POWER/CONTROLS

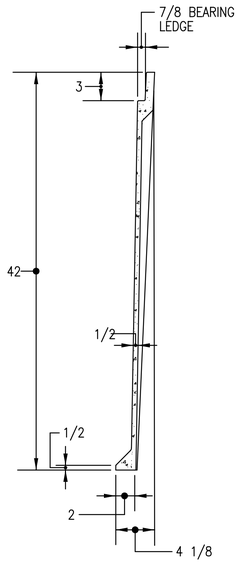
5 / E-601 SCALE: NTS



PLAN



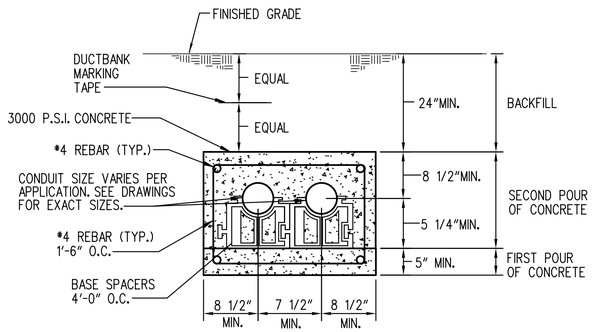
ISOMETRIC



SECTION A-A

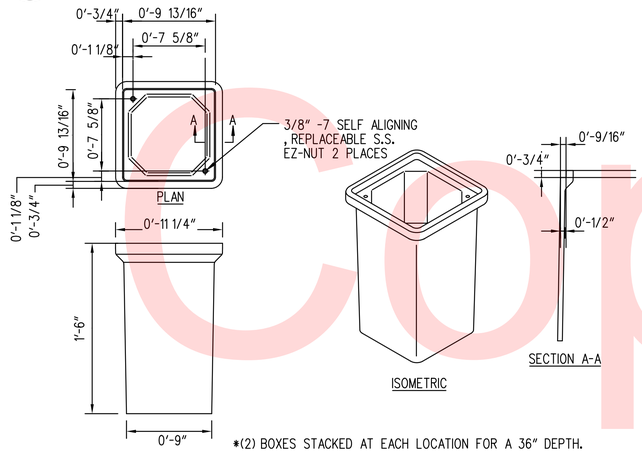
NOTE:

1. PROVIDE 2 PIECE COVER;
   LOGO 1 : ELECTRIC
   LOGO 2 : COMMUNICATIONS



TYPICAL TWO WAY DUCTBANK DETAIL

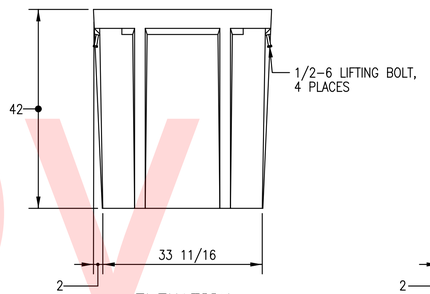
8 / E-601 SCALE: NTS



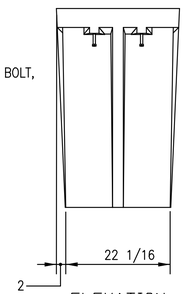
*(2) BOXES STACKED AT EACH LOCATION FOR A 36" DEPTH.

HANDHOLE DETAIL

6 / E-601 SCALE: NTS



ELEVATION



ELEVATION

DIVIDED HANDHOLE DETAIL

7 / E-601 SCALE: NTS

Unofficial Website Copy

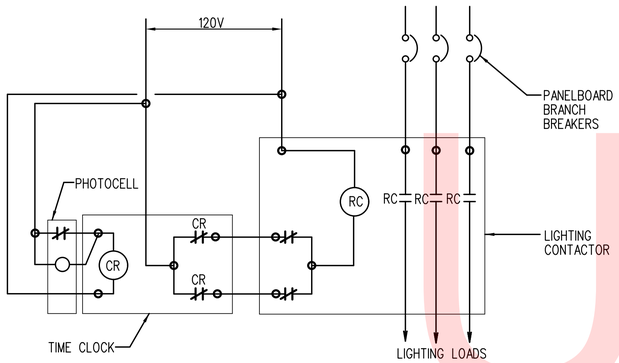
N:\90181-010\CADD\Phase II Sheet Files\CP01-90181004E-601.dgn
10/27/2017 3:02:01 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109 / BRIDGE NO. / DESIGNED BY: MSM / COUNTY SUSSEX / CHECKED BY: AP	ELECTRICAL DETAILS

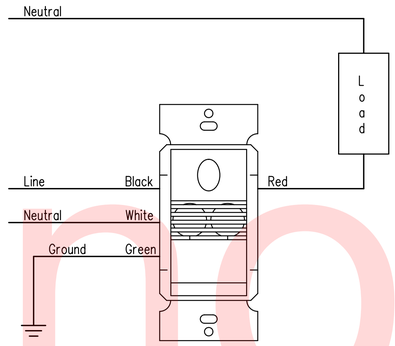
	E-601
SHEET NO.	175
TOTAL SHTS.	189

GENERAL NOTES:

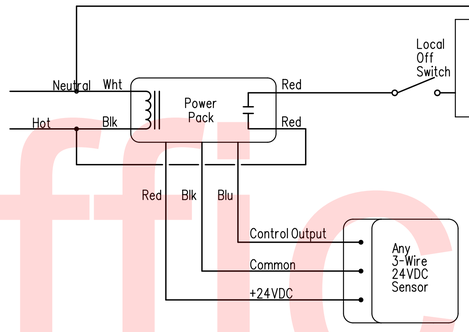
1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.



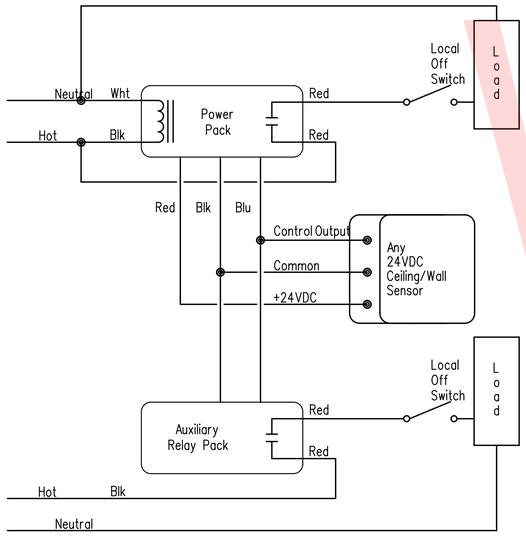
1 E-602 EXTERIOR LIGHTING CONTROL SCHEMATIC
SCALE: NTS



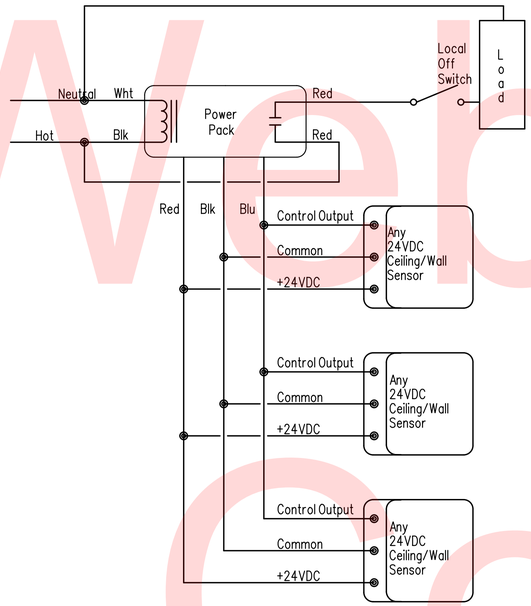
WALL MOUNTED SENSOR AND SWITCH DIAGRAM
2 E-602 SCALE: NTS



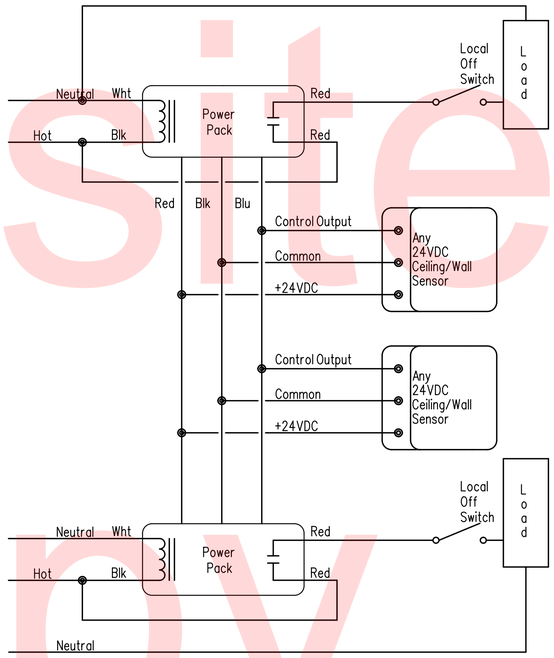
3 E-602 CEILING SENSOR SCHEMATIC DIAGRAM
SCALE: NTS



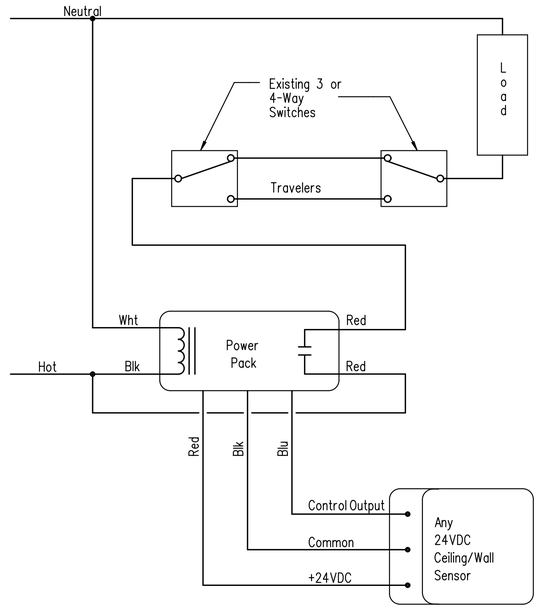
4 E-602 TWO CIRCUIT SENSOR CONTROL DIAGRAM
SCALE: NTS



MULTIPLE OCCUPANCY SENSORS DIAGRAM CONTROLLING SINGLE CIRCUITS
5 E-602 SCALE: NTS



MULTIPLE OCCUPANCY SENSORS DIAGRAM CONTROLLING TWO CIRCUITS
6 E-602 SCALE: NTS



CEILING SENSOR DIAGRAM WITH 3 OR 4 WAY SWITCHING
7 E-602 SCALE: NTS

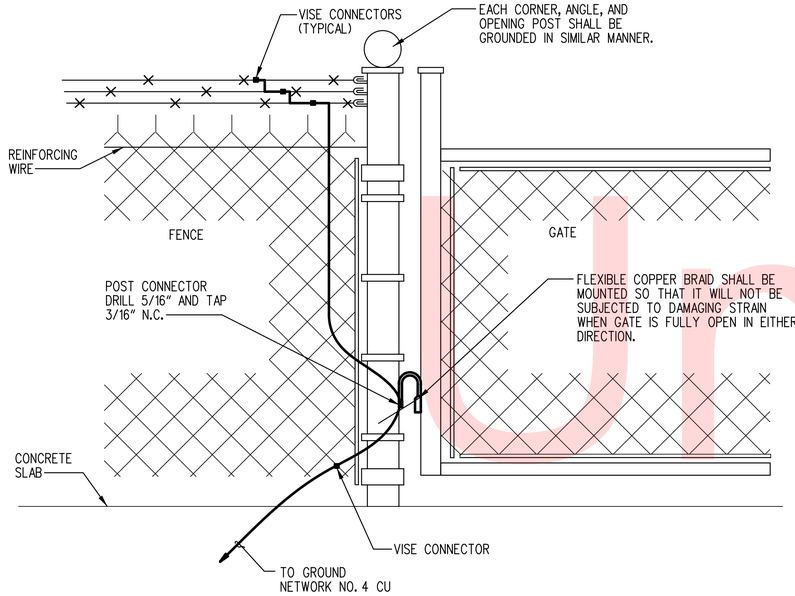
Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004E-602.dgn
10/27/2017 3:02:02 PM

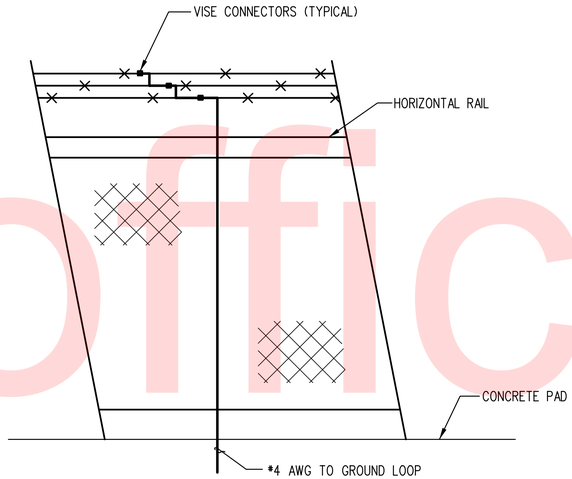
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL DETAILS	E-602
			COUNTY SUSSEX	DESIGNED BY: MSM		SHEET NO. 176
				CHECKED BY: AP		TOTAL SHTS. 189

GENERAL NOTES:

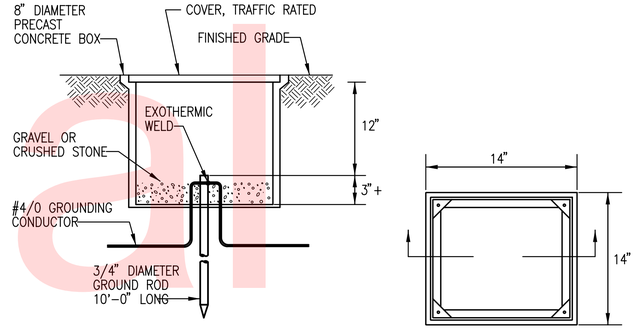
1. SEE DRAWING E-001 THRU E-003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.



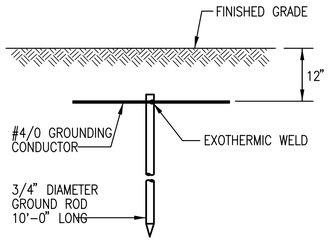
1 E-603 FENCE GATE GROUNDING DETAIL
SCALE: NTS



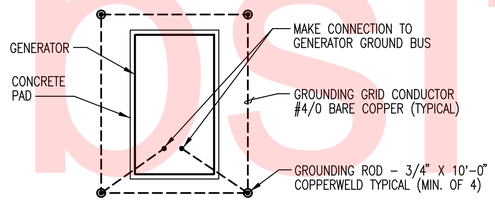
2 E-603 FENCE GROUNDING DETAIL
SCALE: NTS



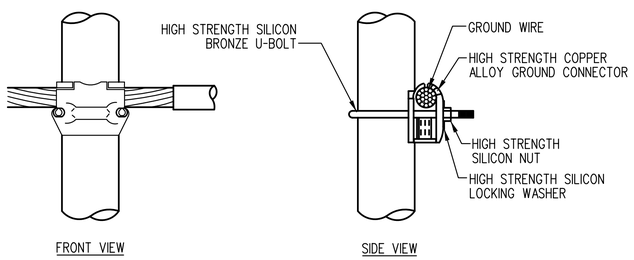
3 E-603 GROUND ROD TYPE "A" DETAIL
SCALE: NTS



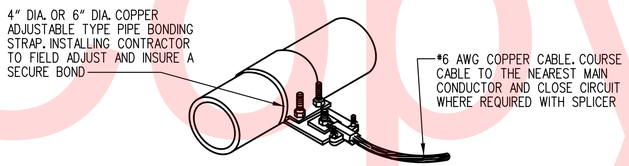
4 E-603 GROUND ROD TYPE "B" DETAIL
SCALE: NTS



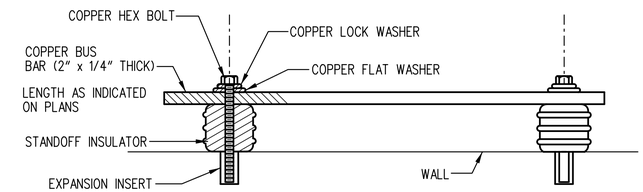
5 E-603 EMERGENCY GENERATOR GROUNDING GRID DETAIL
SCALE: NTS



6 E-603 GROUNDING WIRE TO PIPE DETAIL
SCALE: NTS



7 E-603 TYPICAL PIPE GROUNDING DETAIL
SCALE: NTS



8 E-603 GROUND BUS DETAIL
SCALE: NTS

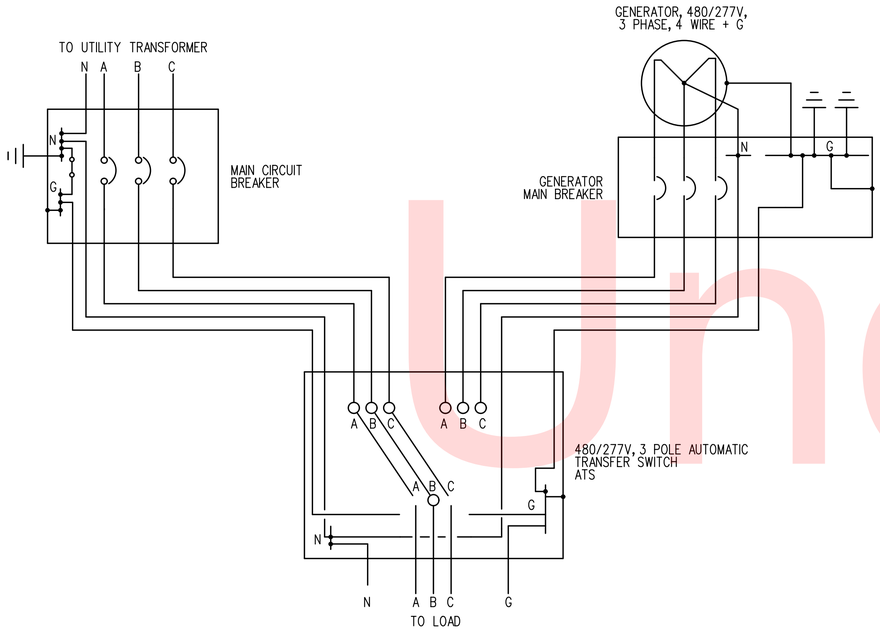
Unofficial Website Copy

N:\90181-010\CADD\Phase II Sheet Files\CP01-90181004E-603.dgn
10/27/2017 3:02:02 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL DETAILS
				COUNTY SUSSEX	DESIGNED BY: MSM	
					CHECKED BY: AP	

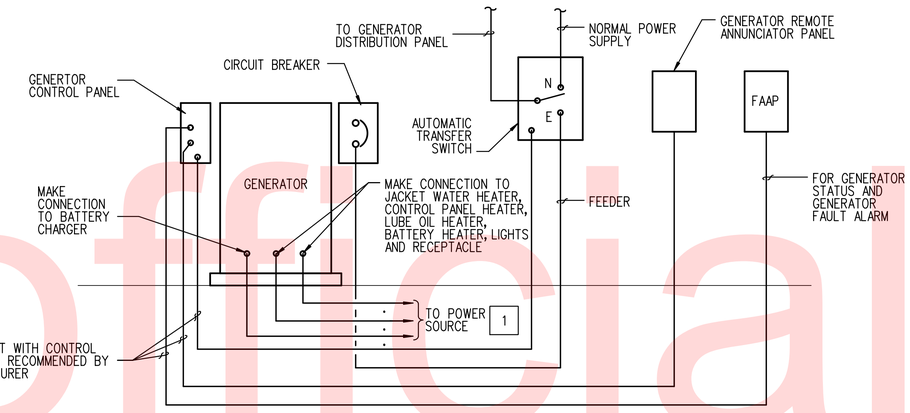
E-603

SHEET NO.	TOTAL SHTS.
177	189



EMERGENCY GENERATOR, ATS, AND MAIN CIRCUIT BREAKER CONNECTION DETAIL - 3 PHASE, 4 WIRE SYSTEM

1 / E-604 SCALE: NTS



NOTE FOR DESIGNER

CHECK WITH MANUFACTURER, KVA, PHASE, VOLTAGE FOR JACKET WATER HEATER, CONTROL PANEL HEATER, LUBE OIL HEATER, BATTERY HEATER, BATTERY CHARGER, LIGHTS.

GENERAL NOTES:

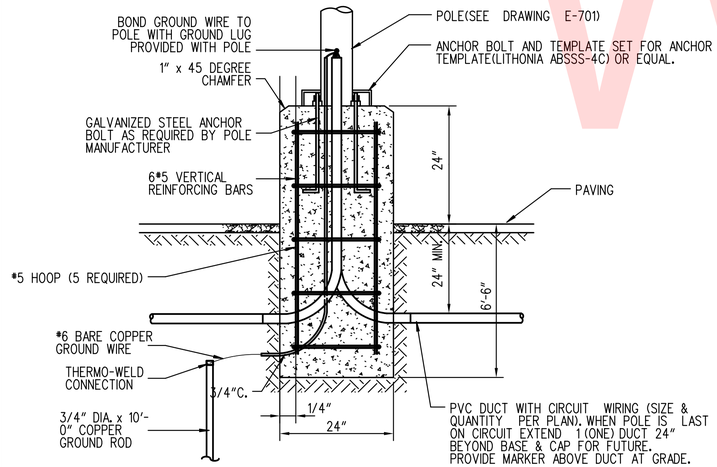
1. SEE DRAWING E001 THRU E003 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.

SPECIFIC NOTES:

1 CONNECTED TO CIRCUITS
RSP-2 (GEN BLOCK HEATER)
RSP-4 (GEN BATTERY CHARGER)
RSP-6 (GEN LIGHT, REC ETC.)
6*10, 1*10G IN 1"C FROM GENERATOR TO PANEL "RSP".

GENERATOR CONNECTION WIRING DIAGRAM

2 / E-604 SCALE: NTS



NOTE:
FOUNDATION SHALL BE POURED ON UNDISTURBED SOIL.

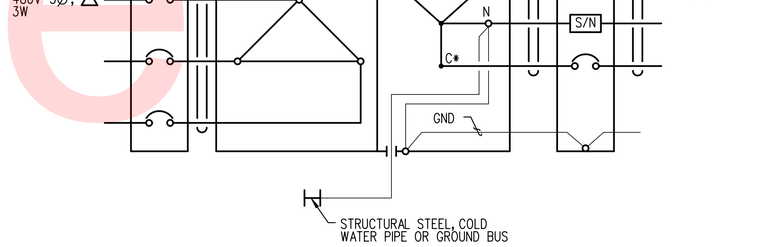
ELEVATION/SECTION

POLE BASE DETAIL

3 / E-604 SCALE: NTS

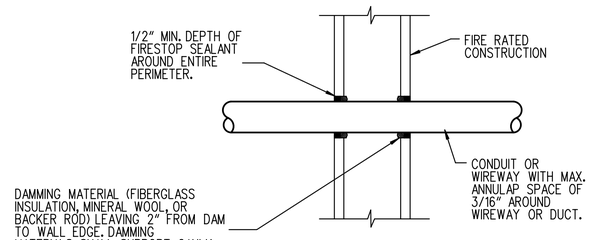
NOT USED

4 / E-604 SCALE: NTS



DRY TYPE TRANSFORMER WIRING

5 / E-604 SCALE: NTS



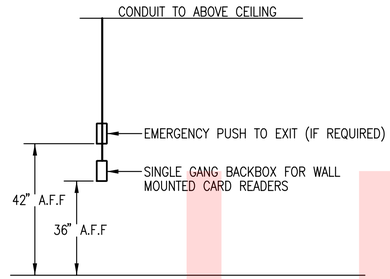
DETAIL - FIRE STOP THROUGH WALL

6 / E-604 SCALE: NTS

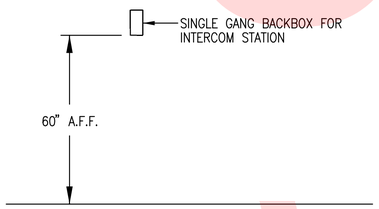
Unofficial Website Copy

N:\90181c01P\C4D\Phase II Sheet Files\CP01-90181004E-604.dgn
10/27/2017 3:02:03 PM

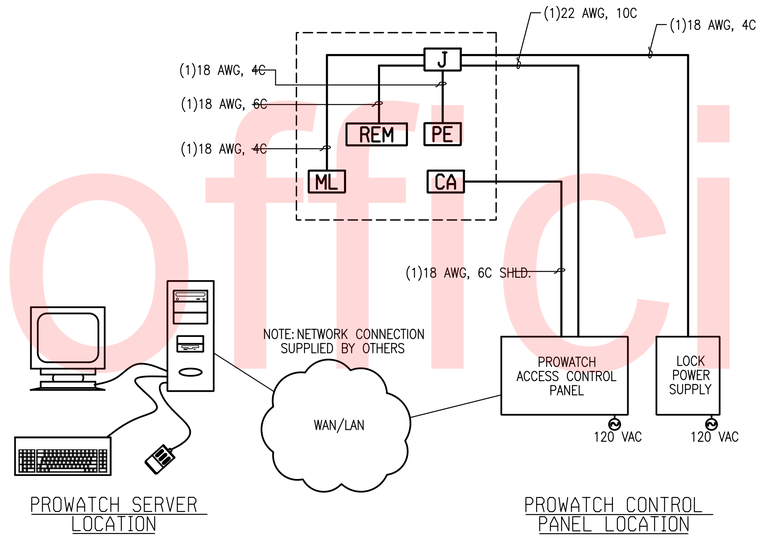
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL DETAILS	E-604
			COUNTY SUSSEX	DESIGNED BY: MSM		SHEET NO. 178
				CHECKED BY: AP		TOTAL SHTS. 189



1 E-605 CARD READER BACKBOX DETAIL (TYPICAL)
SCALE: NTS



2 E-605 INTERCOM VIDEO STATION BACKBOX DETAIL
SCALE: NTS



4 E-605 TYPICAL ACCESS CONTROL RISER (MAGNETIC LOCK)
SCALE: NTS

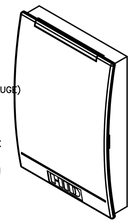
ACCESS CONTROL WIRING		
CARD READER	CA	18AWG, 6C SHLD
REQUEST TO EXIT MOTION	REM	18AWG, 4C
ELECTRONIC STRIKES	ES	18AWG, 4C
PUSH TO EXIT BUTTON	PE	18AWG, 4C
MAGNETIC LOCK	ML	18AWG, 4C
DOOR CONTACT	DC	22AWG, 4C
DOOR RELEASE	DR	18AWG, 4C

CARD READER (SHIELDED, 6 CONDUCTOR / 18 GAUGE)

THIS CABLE IS RUN FROM THE CARD READER INTO THE ACCESS CONTROL PANEL.

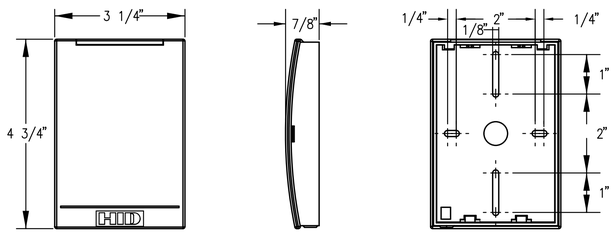
RED.....RED
BLACK.....BLACK
BROWN & ORANGE.....BROWN
WHITE.....WHITE
GREEN.....GREEN

TAPE OFF AT READER.....SHIELD
BLUE.....BLUE



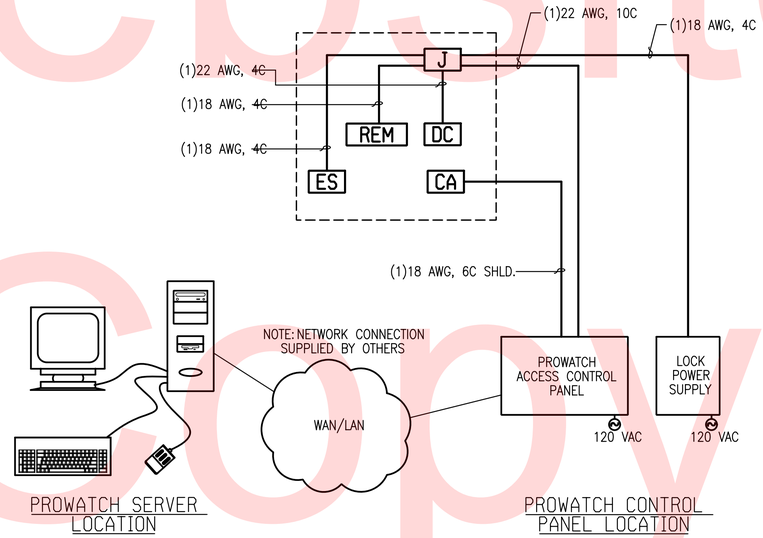
WIRE COLOR	FUNCTION
RED	+DC (10-16 VDC)
BLACK	GROUND
GREEN	DATA0 (DATA)
WHITE	DATA1 (CLOCK)
DRAIN*	SHIELD GROUND
ORANGE	GREEN LED
BROWN	RED LED
YELLOW	SPEAKER
BLUE	HOLD

* DRAIN WIRE CAN BE "DATA RETURN" WHEN A SEPARATE POWER SOURCE IS USED



FRONT VIEW SIDE VIEW BACK VIEW

3 E-605 RP-40 I-CLASS CARD READER DETAIL
SCALE: NTS



5 E-605 TYPICAL ACCESS CONTROL RISER (ELECTRONIC STRIKE)
SCALE: NTS

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004E-605.dgn
10/27/2017 3:02:04 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

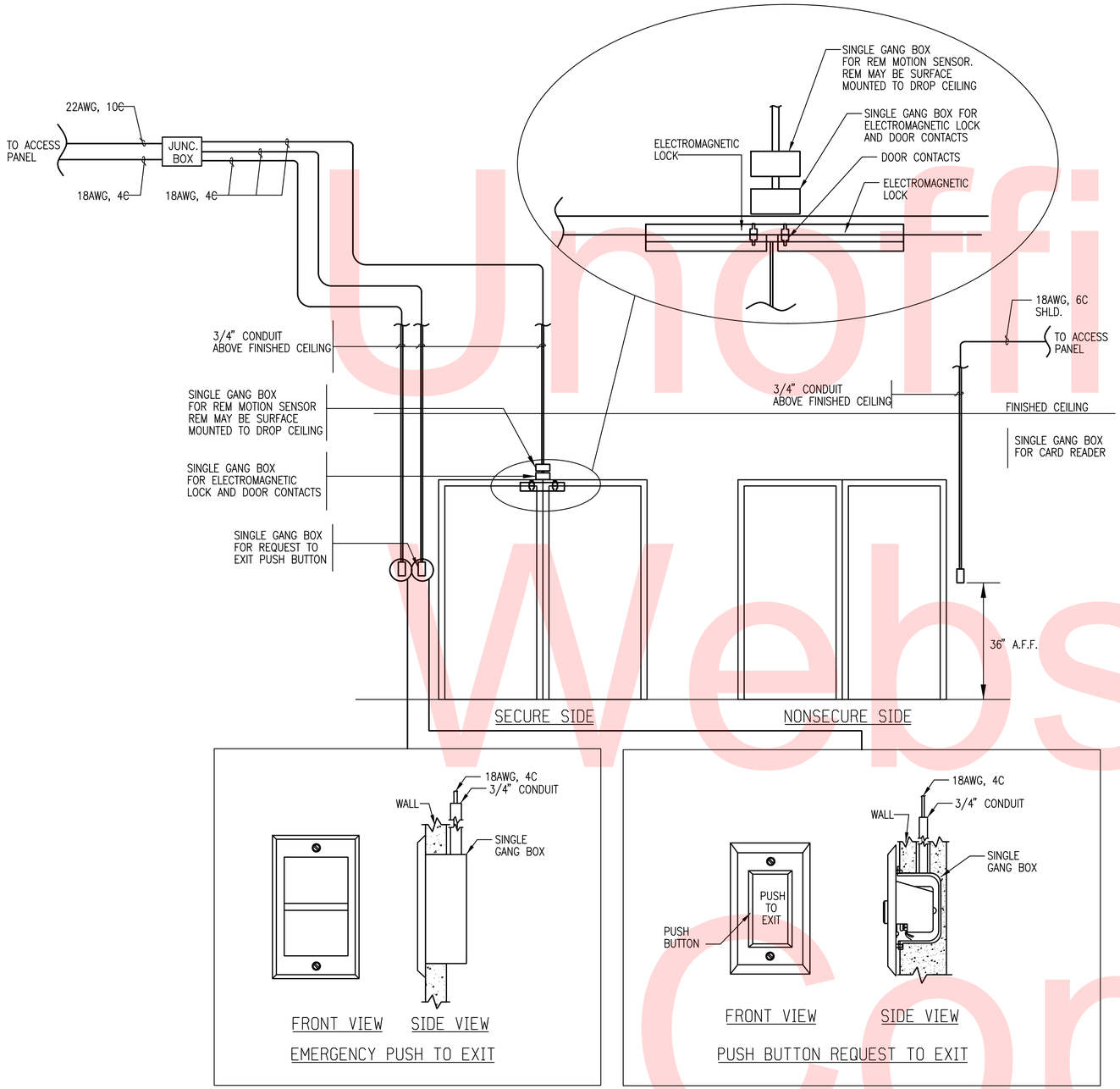
ADDENDUMS / REVISIONS	

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: MSM	
COUNTY	CHECKED BY: AP	
SUSSEX		

ELECTRICAL DETAILS

E-605
SHEET NO. 179
TOTAL SHTS. 189

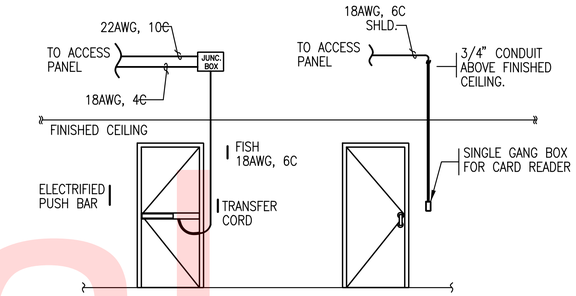


NOTE: AN EMERGENCY PUSH TO EXIT MAY BE REQUIRED BY THE A.H.J.

WIRE GUIDE: – (1) 18AWG 6C SHLD.
– (1) 22AWG 10C
– (1) 18AWG 4C

HOME RUN TO EACH DOOR LOCATION.

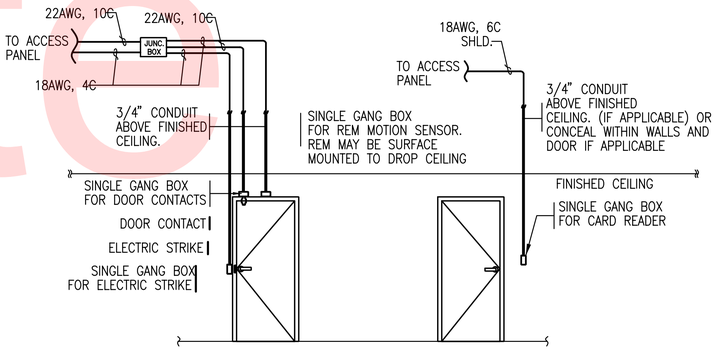
1 / E-606 TYPICAL DOOR WITH ELECTROMAGNETIC LOCK AND 1 READER
SCALE: NTS



WIRE GUIDE: – (1) 18AWG 6C SHLD.
– (1) 22AWG 10C
– (1) 18AWG 4C

HOME RUN TO EACH DOOR LOCATION.

2 / E-606 TYPICAL DOOR W/ ADVANTECH PROVIDED ELECTRIFIED PUSH BAR
SCALE: NTS



WIRE GUIDE: – (1) 18AWG 6C SHLD.
– (1) 22AWG 10C
– (1) 18AWG 4C

HOME RUN TO EACH DOOR LOCATION.

3 / E-606 TYPICAL DOOR W/ ELECTRIC STRIKE
SCALE: NTS

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004E-606.dgn
10/27/2017 3:02:04 PM

DELAWARE DEPARTMENT OF TRANSPORTATION

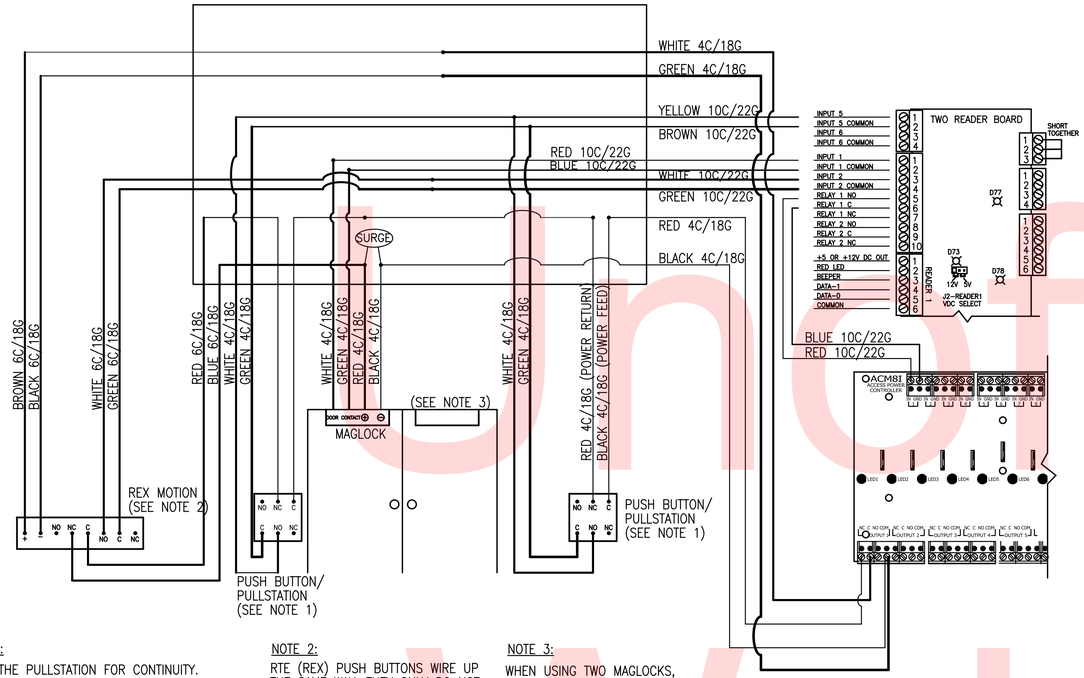
ADDENDUMS / REVISIONS	

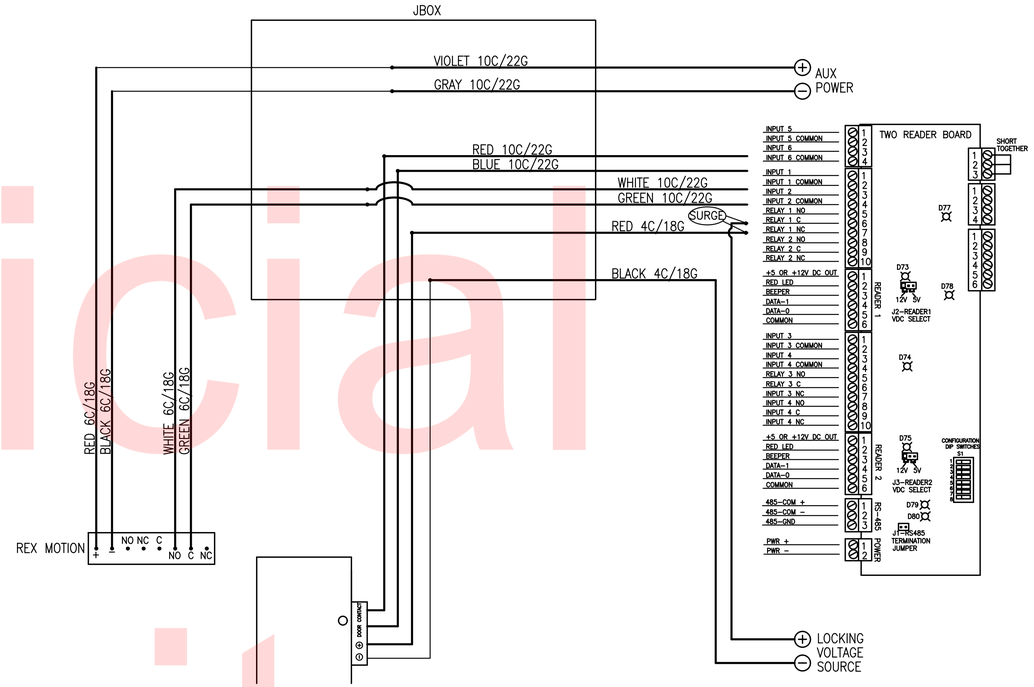
LEWES PARK & RIDE AND MAINTENANCE FACILITY – PHASE 2

CONTRACT	BRIDGE NO.	
T201753109	DESIGNED BY: MSM	
COUNTY		
SUSSEX	CHECKED BY: AP	

ELECTRICAL DETAILS

E-606	
SHEET NO.	180
TOTAL SHTS.	189





NOTE 1:

METER THE PULLSTATION FOR CONTINUITY.

THE SIDE THAT READS CONTINUITY WHEN THE PULLSTATION IS CLOSED, IS FOR THE MAGLOCK POWER (RED & BLACK).

THE SIDE THAT READS CONTINUITY WHEN THE PULLSTATION IS OPEN, IS FOR THE PULLSTATION MONITOR INPUT.

NOTE 2:

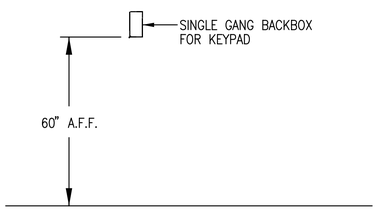
RTE (REX) PUSH BUTTONS WIRE UP THE SAME WAY, THEY ONLY DO NOT REQUIRE AUX POWER TO DEVICE.

NOTE 3:

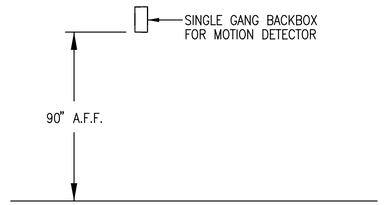
WHEN USING TWO MAGLOCKS, PARALLEL THE POWER TO THE LOCKS & SERIES THE DOOR CONTACTS ON THE WHITE & GREEN.

1 / E-607 ACM TYPICAL MAGLOCK WIRING DETAIL
SCALE: NTS

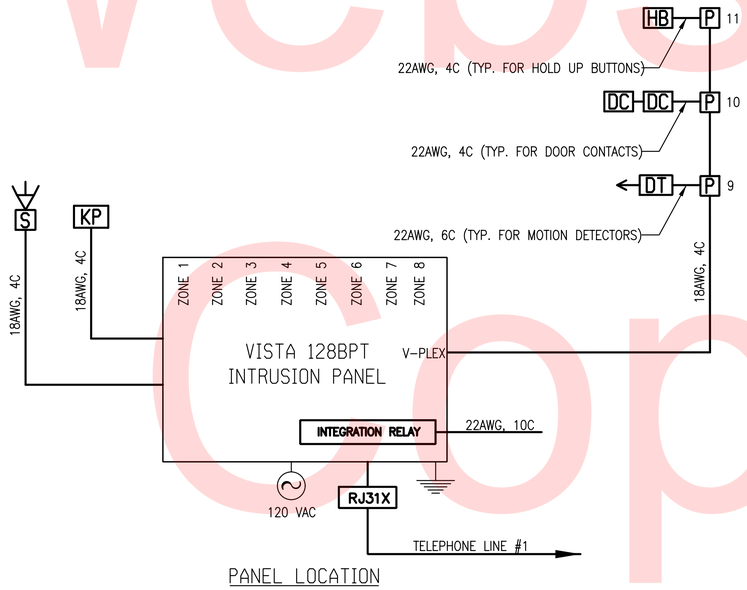
2 / E-607 NON-ACM TYPICAL ELECTRONIC STRIKE WIRING DETAIL
SCALE: NTS



3 / E-607 INTRUSION KEYPAD BACK BOX DETAIL
SCALE: NTS



4 / E-607 WALL-MOUNT MOTION DETECTOR BACK BOX DETAIL
SCALE: NTS



PANEL LOCATION

5 / E-607 INTRUSION DETECTION SYSTEM
SCALE: NTS

INTRUSION DETECTION	
KEYPAD	KP
POINT MODULE	P
DOOR CONTACT	DC
MOTION DETECTOR	DT
INTRUSION SIREN	S
KEYPAD	HB

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004E-607.dgn
10/27/2017 3:02:05 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

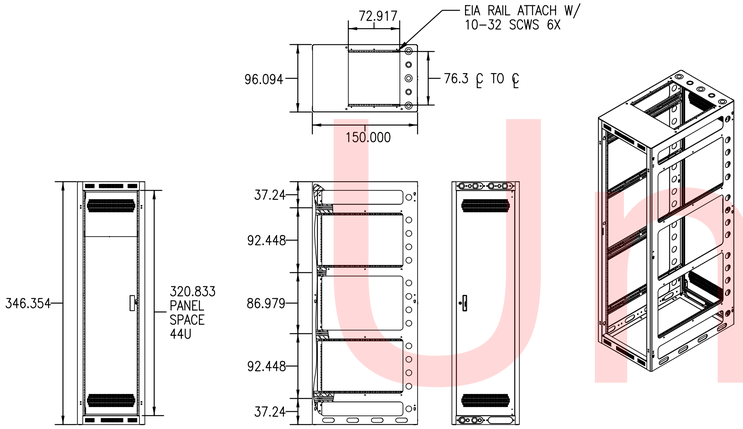
ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

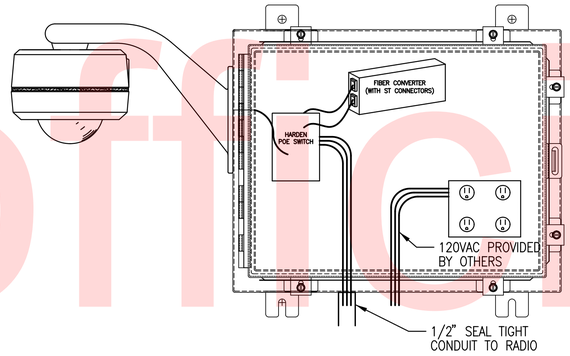
CONTRACT	BRIDGE NO.
T201753109	
COUNTY	DESIGNED BY: MSM
SUSSEX	CHECKED BY: AP

ELECTRICAL
DETAILS

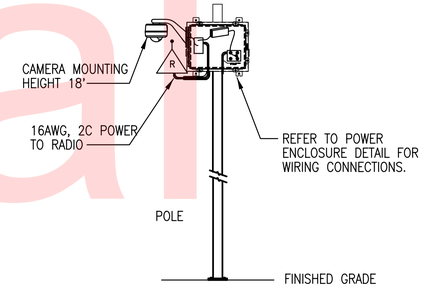
E-607	
SHEET NO.	181
TOTAL SHTS.	189



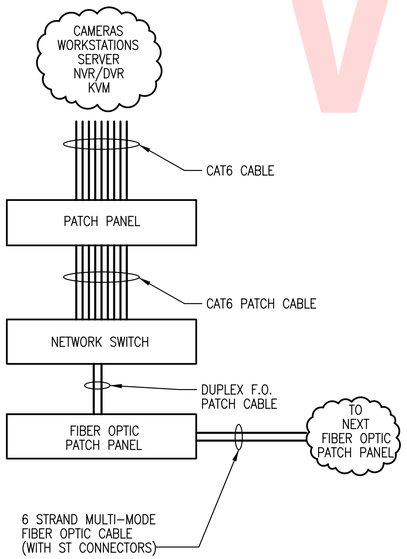
1 / E-608 LOWELL (LGR-4432) RACK DETAIL
SCALE: NTS



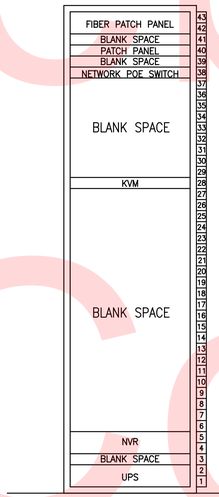
2 / E-608 TYPICAL NEMA ENCLOSURE DETAIL
SCALE: NTS



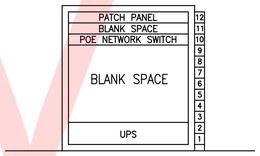
3 / E-608 TYPICAL POLE-MOUNT CAMERA
SCALE: NTS



4 / E-608 TYPICAL VIDEO MGMT. WIRING DIAGRAM
SCALE: NTS



5 / E-608 VIDEO MANAGEMENT LARGE RACK DETAIL
SCALE: NTS



6 / E-608 VIDEO MANAGEMENT RACK DETAIL
SCALE: NTS

CAMERA/VIDEO MGMT.	
NETWORK VIDEO RECORDER	NVR
NETWORK SWITCH	NS
PATCH PANEL	PP
KEYBOARD / VIDEO / MOUSE	KVM
BUILDING CAMERA	
POLE MOUNTED CAMERA	
WORKSTATION	WKST

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90180004E-608.dgn
10/27/2017 3:02:06 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

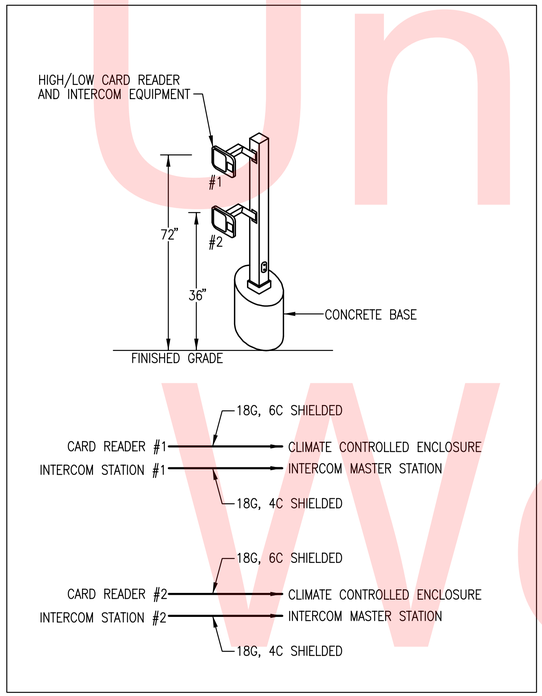
LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

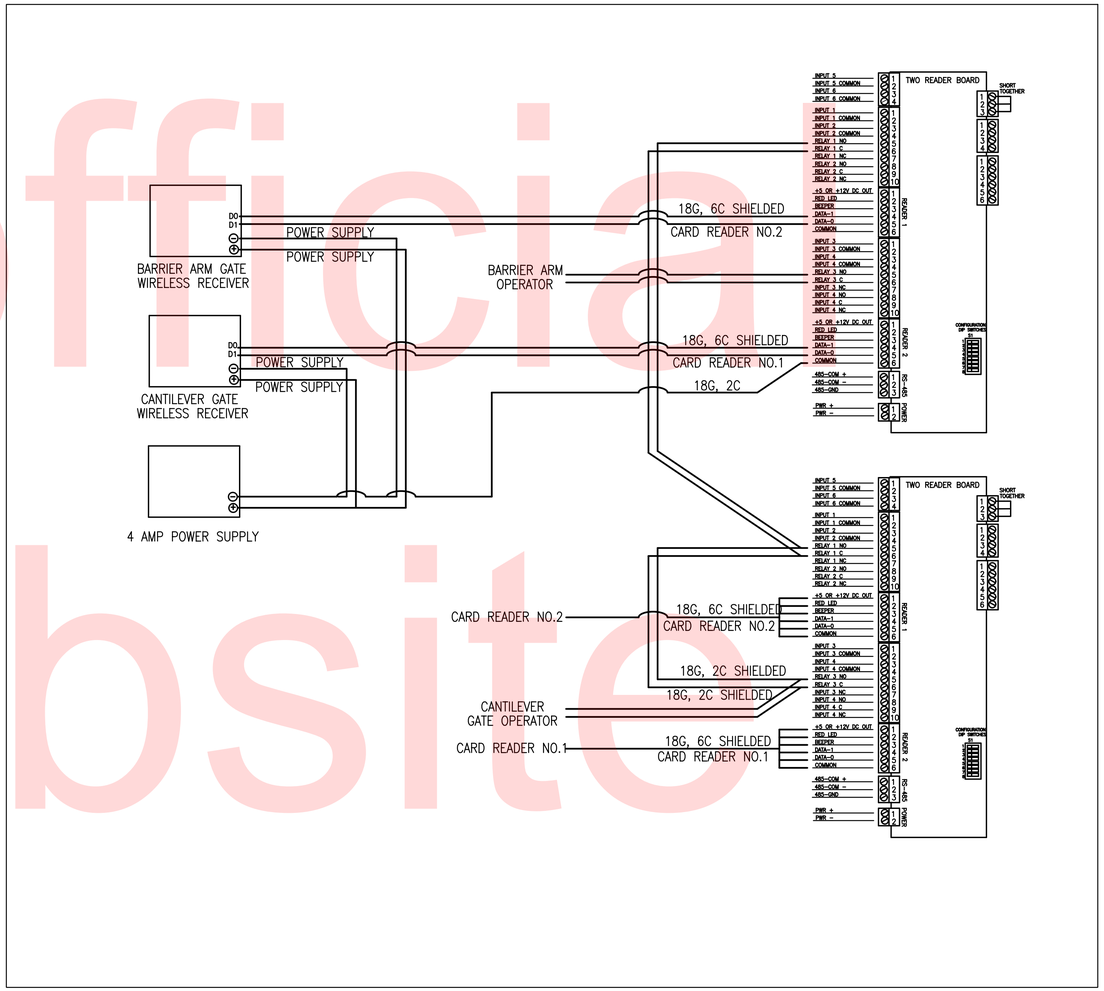
ELECTRICAL
DETAILS

E-608
SHEET NO. 182
TOTAL SHTS. 189

Unofficial Website Copy



2 E-609 GATE OPERATOR CARD READER/INTERCOM STATION
SCALE: NTS



1 E-609 GATE OPERATOR WIRING DIAGRAM
SCALE: NTS

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004E-609.dgn
10/27/2017 3:02:06 PM

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2	CONTRACT T201753109	BRIDGE NO.	ELECTRICAL DETAILS
				COUNTY SUSSEX	DESIGNED BY: MSM	
					CHECKED BY: AP	

E-609
SHEET NO. 183
TOTAL SHTS. 189

LIGHTING FIXTURE SCHEDULE

FIX. TYPE	DESCIRPTION	MOUNTING	LAMPS NO.	LAMPS WATTS	LAMPS TYPE	VOLTS	MAUNFACTURER AND CATALOG NUMBER	REMARKS	
A	2' X 4' ENERGYMAX INTERSECT FULL DISTRIBUTION RECESSED ARCHITECTURAL LUMINAIRE WITH 2 X 6 CELL MATTE WHITE LOUVER	RECESSED	2	32	T8	277	COLUMBIA LIGHTING EMI24-232G-E104U		
B	4' LINEAR FLUORESCENT, FROSTED ARCYLIC LENS, CORROSION RESISTANCE STEEL HOUSING, DIMMABLE	SURFACE	2	32	T8	277	BARTCO IPR8MS2UISFSMWH		
C	4' PREMIUM TURRET INDUSTRIAL FLUORESCENT FIXTURE	SUSPENDED	2	32	T8	277	COLUMBIA LIGHTING IC4-232-ST-EUICFC	MOUNT AT 12' AFF	
D	4' PREMIUM INDUSTRIAL FLUORESCENT FIXTURE	SUSPENDED	2	32	T8	277	COLUMBIA LIGHTING KL4-232-ST-E-U	MOUNT AT 12' AFF (UON)	
E	6" COMPACT FLUORESCENT DOWN LIGHT, PRISMATIC GLASS LENSE, WHITE PAINTED RELECTOR	RECESSED	1	26	26TRT	277	GOTHAM LGF1/26TRT6RWT73MVOLT		
F	HIGH BAY LED, SPECULAR REFLECTOR AND CLEAR CURVED ACRYLIC LENS	PENDANT	-	146	LED	277	DIALIGHT HB1C4N-LM79	MOUNT AT 25' AFF	
G	2' X 4' SPECIFICATION GRADE STATIC TROFFER WITH ACRYLIC PRISMATIC PATTERN 12 LENS	RECESSED	2	32	T8	277	COLUMBIA LIGHTING 4PS24-232G-FSA12-EU		
H	4'LONG X 4"X5" SLIM WALL MOUNT LIGHT WITH OPAL ACRYLIC LENS	WALL	2	32	T8	277	COLUMBIA LIGHTING W4-232-EU	MOUNT AT 8'-0" AFF TO BOTTOM OF FIXTURE	
J	4' FLOURESCENT, ENCLOSED AND GASKETED FIBERGLASS INDUSTRIAL FIXTURE WITH CLEAR ACRYLIC CREPE LENS, UL LISTED FOR WET LOCATIONS.	PENDANT	3	32	T8	277	COLUMBIA LIGHTING FNPH4-332-EU2H3S	MOUNT AT 14' AFF (UON) PROVIDE PVC COATED SUPPORTS	
K	DESIGNER EMERGENCY LIGHT	SURFACE	2	12	LED	277	Dual Light CV2NI		
K2	HIGH CAPACITY EMERGENCY LIGHTING UNIT, UL LISTED FOR DAMP LOCATIONS	SURFACE	2	56	LED	277	Dual Light LM56NDI		
L	(2) HEAD LED AREA LUMINAIRE, WIDE THROW DISTRIBUTION, ENERGY EFFICIENT, BLACK FINISH.	POLE	100C	436	LED	277	LITHONIA DSX2 LED 100C 700 40K T5W MVOLT SPA DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	1
M	LED AREA LUMINAIRE, FORWARD THROW MEDIUM DISTRIBUTION, ENERGY EFFICIENT, BLACK FINISH.	POLE	100C	218	LED	277	LITHONIA DSX2 LED 100C 700 40K T4M MVOLT SPA DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	2
N	LED AREA LUMINAIRE, FORWARD THROW MEDIUM DISTRIBUTION, ENERGY EFFICIENT, BLACK FINISH.	POLE	80C	37	LED	277	LITHONIA DSX2 LED 80C 530 40K T4M MVOLT SPA DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	2
P	LED AREA LUMINAIRE, MEDIUM THROW DISTRIBUTION, HOUSE-SIDE SHIELD, ENERGY EFFICIENT, BLACK FINISH.	POLE	100C	218	LED	277	LITHONIA DSX2 LED 100C 700 40K T3M MVOLT SPA HS DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	2
R	LED AREA LUMINAIRE, SHORT THROW DISTRIBUTION, HOUSE-SIDE SHIELD, ENERGY EFFICIENT, BLACK FINISH.	POLE	80C	142	LED	277	LITHONIA DSX2 LED 80C 530 40K T1S MVOLT SPA HS DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	2
S	LED AREA LUMINAIRE, MEDIUM THROW DISTRIBUTION, ENERGY EFFICIENT, BLACK FINISH.	WALL	30C	54	LED	277	LITHONIA DSXW2 LED 30C 530 40K T4M MVOLT DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	
T	LED AREA LUMINAIRE, REGULAR THROW DISTRIBUTION, ENERGY EFFICIENT, WHITE FINISH.	SURFACE	30C	67	LED	277	LITHONIA DSXSC LED 30C 700 40K T5R MVOLT DWHXD	CONNECT TO FIELD LOCATED EXTERNAL PHOTOCELL	
U	LED FLOOD LIGHT LUMINAIRE, HORIZONTAL FLOOD DISTRIBUTION, SINGLE "COB" ENGINE, ENERGY EFFICIENT, BLACK FINISH.	POLE	COB	21	LED	277	LITHONIA DSXF1-LED-1-A530/40K-HMF-MVOLT-THK-PE-DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	3
W	LED WALL LUMINAIERE, MEDIUM DISTRIBUTION, SINGLE ENGINE, ENERGY EFFICIENT, BLACK FINISH.	WALL	10C	39	LED	277	LITHONIA LIGHTING TWH LED 10C T3M MVOLT PE DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	
W2	LED WALL LUMINAIERE, MEDIUM DISTRIBUTION, DOUBLE ENGINE, ENERGY EFFICIENT, BLACK FINISH.	WALL	20C	72	LED	277	LITHONIA LIGHTING TWH LED 20C T3M MVOLT PE DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	
W3	LED WALL LUMINAIERE, MEDIUM DISTRIBUTION, TRIPLE ENGINE, ENERGY EFFICIENT, BLACK FINISH.	WALL	30C	104	LED	277	LITHONIA LIGHTING TWH LED 30C T3M MVOLT PE DBLXD	PROVIDE WITH INTERNAL PHOTOCELL	
X	CAST ALUMINUM LED EXIT SIGN WITH RED LETTERING	SURFACE	1	3.8	LED	277	DUAL LITE SESRWEI		4
X1	CAST ALUMINUM LED EXIT SIGN WITH RED LETTERING, UL LISTED FOR DAMP LOCATIONS	SURFACE	1	7.22	LED	277	DUAL LITE LED2EMRWW		4
X2	CAST ALUMINUM LED EXIT SIGN WITH RED LETTERING, UL LISTED FOR WET LOCATIONS	SURFACE	1	3.8	LED	277	DUAL LITE LN4XRWE		4
Y	LED LENSED DOWN LIGHT, 6" APPATURE, SHALLOW HOUSING, UL LISTED FOR DAMP LOCATIONS, 1100 LUMENS	RECESSED	1	16	LED	277	SPECTRUM LIGHTING SGSI6LEDOS 10L DS10 2 AR6221OS 10L 40K ?? GS	HOUSING HEIGHT CAN NOT EXCEED 4" FOR INSTALLATION INTO CANOPY. COORDINATE TRIM/FINISH OPTION WITH ARCH PIOR TO ORDERING	
Z	SUSPENDED DIRECT LED 1"-WIDE, FIXTURE WITH EXTRUDED ALUMINUM HOUSING AND IMPACT-RESISTANT, ACRYLIC OPAL LENS.	SUSPENDED	1	17.3	LED	277	ALW LP1/MR1SD-Q30-DÉCOR/4000K 0/10V/10-EXT-F	PROVIDE ALL SECTIONS, SEGMENTTS AND CONNECTORS TO COMPLETE THE FORM SHOWN ON THE DRAWINGS. MOUNTED AT 11'-4" AFF TO BOTTOM OF FIXTURE	
AA	LED WALL GRAZING RGB LINEAR STRIP FIXTURE	SURFACE	1		LED	277	PHILIPS COLORGRAZE QLX POWERCORE 5W	PROVIDE ALL REQUIRED LEADER CABLES WITH TERMINATORS, JUMPER CABLES, GLARE SHIELDS, AND DATA ENABLER FOR A COMPLETE AND OPERATIONAL SYSTEM.	
BB	LED SURFACE MOUNTED SCONCE	SURFACE	1	12.6	LED	277	BEGA 50 090.1	MOUNTED AT 8'-0" AFF TO BOTTOM OF FIXTURE	
CC	EXTERIOR LED SURFACE MOUNTED SCONCE	SURFACE	1	12.6	LED	277	BEGA 66516	PROVIDE WIRING BOX 79547. MOUNTED AT 8'-0" AFF TO BOTTOM OF FIXTURE	
DD	LINEAR WALL FLUORESENT FIXTURE	WALL	2	32	T8	277	BARTCO BC03732/277/LNP/ 2X32WT848	MOUNT AT 8'-0" AFF TO BOTTOM OF FIXTURE	

SPECIFIC NOTES:

1. MOUNT FIXTURE TO 40FT, DUAL LUMINAIRE, SITE POLE RATED FOR 140MPH. LITHONIA CAT* (6)RTS 40 9-0B DM28 FBC VD-SNAKE DDB/GALV L/AB.
2. MOUNT FIXTURE TO 40FT, SINGLE LUMINAIRE, SITE POLE RATED FOR 140MPH. LITHONIA CAT* (5)RTS 40 9-0B DM19 FBC VD-SNAKE DDB/GALV L/AB.
3. STEM MOUNTED TO RGS PIPE 12 INCHES ABOVE FINISHED GRADE.
4. SEE LIGHTING PLANS FOR EXIT SIGN MOUNTING AND FACING REQUIREMENTS.

BASIS OF DESIGN NOTE:

PRODUCTS LISTED ARE THE BASIS OF DESIGN, CONTRACTOR MAY SUBMIT EQUALS FOR REVIEW AND APPROVAL.

CONTRACTOR MUST VERIFY, ANY EQUAL FIXTURE SUBMITTED WILL MEET THE MINIMUM REQUIRED FOOT-CANDLE LEVEL LISTED IN THE IES STANDARDS FOR EACH ROOM OR AREA. AT THE REQUEST OF THE ENGINEER THE CONTRACTOR SHALL PROVIDE FOOT-CANDLE CALCULATIONS TO SUPPORT COMPLIANCE. THIS APPLIES TO BOTH INTERIOR AND EXTERIOR APPLICATIONS.

Unofficial Website Copy

N:\90181-019-CADD\Phase II Sheet Files\CP01-90181004E-701.dgn
10/27/2017 3:02:14 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE AND MAINTENANCE FACILITY - PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

LIGHT FIXTURE SCHEDULE

E-701
SHEET NO. 184
TOTAL SHTS. 189

PANELBOARD MDPN

600 AMPS BUS
480Y/277 VOLTS
SURFACE MOUNTED

35, 000 RMS
NEMA ENCLOSURE: TYPE 1

600 AMP MLO
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - ELEC 116

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
116 XFMR T1 (PNL RSP)	58			110	SEE SLD	1				2	SEE SLD	70	30			116 XFMR T2 (PNL RPN)
		58				3				4				30		
			58			5				6					30	
116 XFMR T3 (PNL MLN)	27			50	SEE SLD	7				8	SEE SLD	100	13			116 PNL LPN
		27				9				10				13		
			27			11				12					13	
✳ XFMR T (PNL TRAILER)	78			100	SEE SLD	13				14	8	45	32.4			NORTH ROOF RTU-1
		78				15				16				32.4		
SPACE			0			17				18					32.4	
SPARE				15		19				20		15				SPARE
						21				22						
						23				24						
118 DWBP-1	22			35	8	25				26	12	15	1.1			118 HWCP-1
		22				27				28				1.1		
			22			29				30					1.1	
SPARE				20		31				32		20				SPARE
						33				34						
						35				36						
SPARE				20		37				38	SEE SLD	400	272			PNL MDPS
						39				40				273		
						41				42					262	
TOTAL	185	185	107										349	350	339	TOTAL

TOTAL CONNECTED AMPS: A= 534 B= 535 C= 446

✳ CIRCUIT RELOCATED FROM TEMP UTILITY BUILDING

PANELBOARD RSP

225 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

225 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 116 ELEC

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
✳ FORNT PARKING LOT CCTV CAMERAS	1			20	10	1				2	10	20	16			GENERATOR BLOCK HEATER
✳ REAR PARKING LOT CCTV CAMERAS		0.5		20	10	3				4	10	20		5		GENERATOR BATTERY CHARGER
SPARE				20		5				6	10	20			4	GENERATOR LIGHTS AND REC
SPARE				20		7				8	4	40	32			PV STATION #1 ✳
GATE ARM NORTH		5.4		20	8	9				10				32		
✳ GATE ARM SOUTH			5.4	20	10	11				12	4	40			32	PV STATION #1 ✳
MOTORIZED GATE FRONT	4.8					13				14			32			
		4.8		20	8	15				16	4	40		32		PV STATION #2 ✳
			4.8			17				18					32	
MOTORIZED GATE REAR	4.8					19				20	4	40	32			PV STATION #2 ✳
		4.8		20	8	21				22				32		
			4.8			23				24	12	20				SPARE
SPARE				20		25				26	12	20				SPARE
SPARE				20		27				28	12	20				SPARE
SPARE				20		29				30	12	20				SPARE
SPARE				20		31				32	12	20				SPARE
SPARE				20		33				34	12	20				SPARE
SPARE				20		35				36	10	20				SPARE
PANEL FIP	12			50	6	37				38	3	100	44			PANEL FSP
		4				39				40				41		
			4			41				42					41	
TOTAL	22.6	19.5	19										156	142	109	TOTAL

TOTAL CONNECTED AMPS: A= 179 B= 162 C= 128

✳ CIRCUIT RELOCATED FROM TEMP UTILITY BUILDING

PANELBOARD RPN

225 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

10, 000 RMS
NEMA ENCLOSURE: TYPE 1
200% NEUTRAL BUS

150 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 110 ELEC

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
REC EXTERIOR	7.5			20	8	1				2	12	20	1.2			REC 105
REC EXTERIOR		6.0		20	8	3				4	12	20		1.2		REC 105
REC RM 101			10.5	20	12	5				6	12	20			1.2	REC 104
REC 102	6.0			20	12	7				8	12	20	1.2			REC 104
REC 101, 102, 103		6.0		20	12	9				10	12	20		10.0		VENDING 112 DRINK
REC 102			6.0	20	12	11				12	12	20			10.0	VENDING 112 DRINK
REC 105, 108, 109, 110	9.0			20	12	13				14	12	20	3.0			VENDING 112 SNACK
REC 104,107, 112		6.0		20	12	15				16	12	20		12.0		REC COUNTER 112 MICRO
REC 112			4.6	20	12	17				18	12	20			1.2	REC COUNTER 112
REC 114	7.5			20	12	19				20	12	20	14.0			REC COUNTER 112 COFFEE
REC SECURITY EQUIP/MONITORS 113		6.0		20	12	21				22	12	20		10.0		REC REFRIG 112
REC 113			4.6	20	12	23				24	10	30			18.0	REC RACK 117
REC 113	6.0			20	12	25				26	12	20	6.0			REC 117
REC 116		1.2		20	12	27				28	12	20		6.0		REC 117
REC 118			6.0	20	12	29				30	12	20			6.0	REC 117
MOTORIZED DOOR 107	5.0			20	12	31				32	12	20	3.0			REC 117
SPARE				20		33				34	12	20		1.0		ACCESS CONTROL DOOR
SPARE				20		35				36	12	20			5.0	NAC PANEL 116
SPARE				20		37				38		20				SPARE
SPARE				20		39				40		20				SPARE
SPARE				20		41				42		20				SPARE
TOTAL	41.0	25.2	31.7										28.4	40.2	41.4	TOTAL

SECTION 1 TOTAL CONNECTED AMPS: A= 69 B= 65 C= 73

PANELBOARD MLN

100 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

100 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 116 ELEC

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
SPARE				20		1				2	12	20	5.8			NORTH ROOF EF-5 (105)
103 CUH-1		6.2		20	12	3				4		20				SPARE
107 CUH-2			6.2	20	12	5				6	12	20			4.7	106 ELEC WATER COOLER
111B CUH-3	6.2			20	12	7				8	12	20	4.4			HWP-1 (118)
116 UH-1, 118 UH-2		0.3		20	12	9				10	12	20		4.4		HWP-2 (118)
SPARE				20		11				12	12	20			2.0	COMP. DRY PIPE SYSTEM
ROOF/117 SPLIT A/C UNIT	25.0			40	8	13				14		20	4.0			NAC
ACU-1/ACCU-1		25.0				15				16		20				SPARE
NORTH ROOF REC (HVAC)			4.5	20	12	17				18		20				SPARE
NORTH ROOF EF-1 (116)	5.8			20	12	19				20		20				SPARE
NORTH ROOF EF-2 (117)		5.8		20	12	21				22		20				SPARE
SPARE				20		23				24		20				SPARE
118 B-1,B-2	3.0			20	12	25				26		20				SPARE
118 BP-1		2.8		20	12	27				28		20				SPARE
118 BP-2			2.8	20	12	29				30		20				SPARE
118 DWH-1	1.5			20	12	31				32		20				SPARE
118 TRAP PRIMER PNL		2.0		20	12	33				34		20				SPARE
118 ATC PNL			10.0	20	12	35				36		20				SPARE
SPARE				20		37				38		20				SPARE
SPARE				20		39				40		20				SPARE
SPARE				20		41				42		20				SPARE
TOTAL	41.5	42.1	23.5										14.2	4.4	6.7	TOTAL

TOTAL CONNECTED AMPS: A= 56 B= 46 C= 30

Unofficial Website Copy

N:\9018\-01\D\CADD\Phase II Sheet Files\CP01-9018004E-702.dgn
10/27/2017 3:02:33 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

ELECTRICAL
PANEL SCHEDULES

E–702
SHEET NO. 185
TOTAL SHTS. 189

PANELBOARD LPN

22, 000 RMS
NEMA ENCLOSURE: TYPE 1

100 AMPS BUS
480Y/277 VOLTS
SURFACE MOUNTED

100 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 116 ELEC

	LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
✳	FRONT PARKIN LOT SOUTH LIGHTING	5.2			20	8	1				2	8	20	3.8			EXTERIOR N. AND S. BUILDING LGTS
✳	FRONT PARKIN LOT NORTH LIGHTING		3.7		20	10	3				4	10	20		5.4		CANOPY LIGHTING
	REAR PARKIN LOT SOUTH LIGHTING			2.9	20	10	5				6	12	20			4.9	INTERIOR LIGHTING
✳	REAR PARKIN LOT NORTH LIGHTING	1.6			20	12	7				8	12	20	5.4			INTERIOR LIGHTING
	EXIT SIGNS/EMERGENCY LIGHTING		1.0		20	12	9				10	12	20		2.5		INTERIOR LIGHTING
	SPARE				20		11				12	12	20			4.6	INTERIOR LIGHTING
	SPARE				20		13				14		20				SPARE
	SPARE				20		15				16		20				SPARE
	SPARE				20		17				18		20				SPARE
	SPARE				20		19				20		20				SPARE
	SPARE				20		21				22		20				SPARE
	SPARE				20		23				24		20				SPARE
	SPARE				20		25				26		20				SPARE
	SPARE				20		27				28		20				SPARE
	SPARE				20		29				30		20				SPARE
	TOTAL	6.81	4.67	2.87										9.2	7.85	9.45	TOTAL

TOTAL CONNECTED AMPS: A= 16 B= 12.5 C= 12.3

✳ CIRCUIT RELOCATED FROM TEMP UTILITY BUILDING

PANELBOARD FSP

10,000 RMS
NEMA ENCLOSURE: TYPE 1

100 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

100 AMP MCB SHUNT TRIP ✳
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - ENCLOSURE AT FUEL TANKS

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
	17.5					1				2						
5 HP PROPANE TANK		17.5		35	8	3				4		15				SPARE
			17.5			5				6						
PROPANE TANK DISPENSER	3.0			20	12	7				8			17.5			
PROPANE TANK ALARMS MONITORS		3.0		20	12	9				10	8	35		17.5		5 HP DIESEL TANK PUMP
PROPANE CP/CARD READER			5.0	20	12	11				12					17.5	
SPARE				20		13				14		20				SPARE
SPARE				20		15				16	12	20		5.0		DIESEL FILL PORT
SPARE				20		17				18		20				SPARE
SPARE				20		19				20	12	20	3.0			TANK ALARMS/MONITORS DIESEL
SPARE				20		21				22		20				SPARE
SPARE				20		23				24		20				SPARE
TOTAL	20.5	20.5	22.5										20.5	22.5	17.5	TOTAL

TOTAL CONNECTED AMPS: A= 41 B= 43 C= 40

✳ SHUNT TRIP COIL ACTIVATED BY ASSOCIATED EPO SWITCH

PANELBOARD FIP

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

100 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

50 AMP MCB SHUNT TRIP ✳
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 116 ELEC

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
FUEL DISP. #1 DIESEL	2.0			20	12	1				2	12	20	2.0			FUEL DISP. #2 DIESEL
FUEL MANAGEMENT PANEL		5.0		20		3				4		20		3.0		FUEL CARD READER
SPARE				20		5				6		20				SPARE
SPARE				20	12	7				8	12	20				SPARE
SPARE				20		9				10		20				SPARE
SPARE				20		11				12		20				SPARE
TOTAL	2	5	0										2	3	0	TOTAL

TOTAL CONNECTED AMPS: A= 4 B= 8 C= 0

✳ SHUNT TRIP COIL ACTIVATED BY ASSOCIATED EPO SWITCH

Unofficial Website Copy

N:\90181-01P\CADD\Phase II Sheet Files\CP01-90181004E-703.dgn
10/27/2017 3:02:54 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

ELECTRICAL
PANEL SCHEDULES

E-703
SHEET NO. 186
TOTAL SHTS. 189

PANELBOARD MDPS

35, 000 RMS
NEMA ENCLOSURE: TYPE 1

600 AMPS BUS
480Y/277 VOLTS
SURFACE MOUNTED

400 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - ELEC 202

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
202 PNL S	111			250	SEE SLD	1				2	SEE SLD	70	43			202 XFMR T5 (PNL MLS)
		111				3				4				43		
			111			5				6					43	
SOUTH ROOF HV-1	30.4			45	8	7				8						
		30.4				9				10	10	30				SPARE (FUTURE SOUTH ROOF HV-2)
			30.4			11				12						
204 HWCP-2	2.1					13				14						
		2.1		15	12	15				16		15				SPARE
			2.1			17				18						
SPARE						19				20			4.8			
				15		21				22	12	15		4.8		217 EF-6 (RROF)
						23				24					4.8	
217 EF-7 (ROOF)	4.8					25				26						
		4.8		15	12	27				28		15				SPARE (FUTURE 217 EF-9)
			4.8			29				30						
SPARE (FUTURE 217 EF-10)						31				32			21.0			
				15		33				34	10	50		21.0		215 AC-1
						35				36					21.0	
SPARE						37				38						
				15		39				40		15				SPARE
						41				42						
218 EF-8 (ROOF)	1.6					43				44	SEE SLD	100	10.9			
		1.6		15	12	45				46				12.6		PANEL FEED "LPS"
			1.6			47				48					13.1	
UH-6	6.0					49				50	12	20	12			UH-3
		6.0		20	10	51				52	12	20		12		UH-4
			6.0			53				54	12	20			12	UH-5
SPARE						55				56		20				SPARE
				20		57				58	12	20		12		CUH-4 (206)
						59				60						SPARE
SPARE						61				62						
				20		63				64		20				SPARE
						65				66						
SPARE						67				68			6			
				20		69				70	12	20		6		UH-7
						71				72					6	
TOTAL	155.9	155.9	155.9										97.7	111.4	99.9	TOTAL
TOTAL CONNECTED AMPS: A= 254 B= 267 C= 256																

PANELBOARD S

22, 000 RMS
NEMA ENCLOSURE: TYPE 1

400 AMPS BUS
480Y/277 VOLTS
SURFACE MOUNTED

250 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 110 ELEC

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
211 10" BUFFER/GRINDER SH213	4.8			15	12	1				2						SPACE
		4.8				3				4						SPACE
			4.8			5				6						SPACE
211 20" DRILL PRESS SH237	3.0					7				8						SPACE
		3.0		15	12	9				10						SPACE
			3.0			11				12						SPACE
211 20" 50 TON PRESS SH255	3.4					13				14			26.0			PARTS WASHER (205) CC308
		3.4		15	12	15				16	6	20		26.0		
			3.4			17				18					26.0	
SPARE						19				20						
				15		21				22		20				SPARE
						23				24					0.0	
217 LIFT VL850 NO.1 CP	19.0					25				26		20				SPARE
		19.0		25	10	27				28		20				SPARE
			19.0			29				30		20				SPARE
SPARE (FUTURE 217 LIFT VL850 NO.2)						31				32		20				SPARE
				20	10	33				34		20				SPARE
						35				36		20				SPARE
SPARE				20		37				38			55			
SPARE				20		39				40	4	110		55		75KVA XFMR T-2 (PNL SR)
SPARE				20		41				42					55	
TOTAL	30.2	30.2	30.2										81.0	81.0	81.0	TOTAL
TOTAL CONNECTED AMPS: A= 111 B= 111 C= 111																

PANELBOARD LPS

22, 000 RMS
NEMA ENCLOSURE: TYPE 1

100 AMPS BUS
480Y/277 VOLTS
SURFACE MOUNTED

100 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 202 ELEC

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
INTERIOR LIGHTING	6.0			20	12	1				2	10	20	3.0			EXTERIOR BUILDING LGTS
INTERIOR LIGHTING		6.3		20	12	3				4	10	20		6.3		WASH BAY AND CLOSET LIGHTING
INTERIOR LIGHTING			5.3	20	12	5				6	10	20			7.8	MAINT. BAYS LIGHTING
EXIT SIGNS/EMERGENCY LIGHTING	0.2			20	12	7				8	12	20	1.6			MEZZANINE LIGHTING
EXIT SIGNS/EMERGENCY LIGHTING		0.1		20	12	9				10		20				SPARE
SPARE				20		11				12		20				SPARE
SPARE				20		13				14		20				SPARE
SPARE				20		15				16		20				SPARE
SPARE				20		17				18		20				SPARE
TOTAL	6.22	6.33	5.34										4.63	6.25	7.8	TOTAL
TOTAL CONNECTED AMPS: A= 10.9 B= 12.6 C= 13.1																

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP01-90181004E-704.dgn
10/27/2017 3:03:13 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

ELECTRICAL
PANEL SCHEDULES

E-704
SHEET NO. 187
TOTAL SHTS. 189

PANELBOARD MLS (SECTION 1)

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

225 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED
ACESSORIES

150 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 116 ELEC
FEED-THRU LUGS

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
AC-2 (207	1.8			15	12	1				2	12	20	3.6			RP-9, 10, 11
		1.8				3				4	12	20		2.2		RP-5, 6, 7, 8
ACCU-2 (ROOF)			10.3	20	12	5				6	12	20			7.2	RP-1, 2, 3, 4
	10.3					7				8		20				SPARE
EF-9 (215)				20		9				10		20				SPARE
SPARE				20		11				12		20				SPARE
NORTH ROOF REC (HVAC)	4.5			20	12	13				14		20				SPARE
SOUTH ROOF EF-3 (202)		5.8		20	12	15				16		20				SPARE
SOUTH ROOF EF-4 (204)			4.4	20	12	17				18		20				SPARE
SPARE				20		19				20		20				SPARE
SPARE				20		21				22	12	20		5.4		217 MHR-1, MHR-2
SPARE				20		23				24		20			5.4	217 MHR-3, MHR-4
SPARE				20		25				26		20	5.4			SPARE (FUTURE MHR-5, 6)
SPARE				20		27				28		20		5.4		SPARE (FUTURE MHR-7, 8)
SPARE				20		29				30		20				SPARE
204 DWH-2	1.5			20	12	31				32		20				SPARE
204 TRAP PRIMER PNL		2.0		20	12	33				34		20				SPARE
204 DDC PNL			5.0	20	12	35				36	12	15			1.6	AC-3 (213)
215 AD-1	6.6					37				38			1.6			
		6.6		20	12	39				40	12	20		7.1		ACCU-3 (ROOF)
			6.6			41				42					7.1	
TOTAL	24.7	16.2	26.3										10.6	20.1	21.3	TOTAL

SECTION 1 TOTAL CONNECTED AMPS: A= 35 B= 36 C= 48

PANELBOARD MLS (SECTION 2)

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

225 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

MLO
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 116 ELEC

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
216 OVERHEAD DOOR	2.4			20	12	43				44	12	20	3.0			REC 202, 204
		2.4				45				46	12	20		8.0		NAC, DAC 202
217 OVERHEAD DOOR NO.1			2.4	20	12	47				48	12	20			8.0	FACP 202
	2.4					49				50		20				SPARE
217 OVERHEAD DOOR NO.2		2.4		20	12	51				52		20				SPARE
			2.4			53				54		20				SPARE
217 OVERHEAD DOOR NO.3	2.4			20	12	55				56		20				SPARE
		2.4				57				58		20				SPARE
SPARE (FUTURE 217 OVERHEAD DOOR NO.4)			2.4	20		59				60		20				SPARE
	2.4					61				62		20				SPARE
218 OVERHEAD DOOR NO.1		2.4		20	12	63				64		20				SPARE
			2.4			65				66		20				SPARE
218 OVERHEAD DOOR NO.2	2.4			20	12	67				68		20				SPARE
		2.4				69				70		20				SPARE
SPARE				20		71				72		20				SPARE
SPARE				20		73				74		20				SPARE
SPARE				20		75				76		20				SPARE
SPARE				20		77				78	10	35				SPARE
SPARE				20		79				80						SPARE
SPARE				20		81				82	10	35				SPARE
SPARE				20		83				84						SPARE
TOTAL	12.0	12.0	9.6										3.0	8.0	8.0	TOTAL

SECTION 2 TOTAL CONNECTED AMPS: A= 15 B= 20 C= 18

PANELBOARD SR (SECTION 1)

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

400 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

250 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 110 ELEC
FEEED-THRU LUGS

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
217 REC MIG WELDER WF331	42.0			50	8	1				2	8	50				SPARE (FUTURE 217 REC MIG
		42.0				3				4						WELDER WF331)
217 REC MIG WELDER WF331				50	8	5				6	8	50				SPARE (FUTURE 217 REC MIG
						7				8						WELDER WF331)
217 DROP LC251		5.0		25	12	9				10	12	25		5.0		SPARE (FUTURE 217 DROP LC251)
211 REC			3.0	20	12	11				12	12	20				SPARE (FUTURE REC)
217 REC	9.0			20	12	13				14	12	20				SPARE (FUTURE REC)
217 REC		6.0		20	12	15				16	12	20				SPARE (FUTURE REC)
217 REC			6.0	20	12	17				18	12	20				SPARE (FUTURE REC)
203 WORKBENCH	16.0			25	12	19				20	12	20	7.5			REC 205, 206
203 REC		9.0		25	12	21				22	12	20		5.0		PULSE METERS AND SOLENOIDS
RACK 203			9.0	20	12	23				24	12	20			5.0	VEETER ROOT
REC 207	6.0			20	12	25				26	12	20	2.0			OIL METER SEPARATOR
REC 210		7.5		20	12	27				28	12	20		12.5		REC 215
REC 211 TS215			3.0	20	12	29				30	12	20			15.0	205 REC OIL FILTER PRESS LC113
211 REC WHEEL BALANCER TS303	10.0			20	12	31				32	12	20	9.0			REC 215, MEZZ
		10.0		20		33				34	12	20		7.5		REC 214
211 REC SH291			12.0	20	12	35				36	12	20			7.5	REC 215
211 TIRE MNTR/DEMTR TS205	10.6			20	12	37				38	12	20	7.5			REC 216
		10.6		20		39				40	12	20		3.0		REC 216 INVINTORY CONTROL
			10.6	20		41				42	12	20			9.0	REC 212, 211
TOTAL	93.6	90.1	43.6										26.0	33.0	36.5	TOTAL

SECTION 1 CONNECTED AMPS: A= 120 B= 123 C= 80

PANELBOARD SR (SECTION 2)

10, 000 RMS
NEMA ENCLOSURE: TYPE 1

400 AMPS BUS
208Y/120 VOLTS
SURFACE MOUNTED

250 AMP MCB
3 PHASE, 4 WIRE + GROUND
PANEL LOCATION - 110 ELEC

LOAD SERVED	LOAD (AMPS) A	B	C	CB TRIP	WIRE SIZE	CKT	PHASE A	B	C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	B	C	LOAD SERVED
EXTERIOR REC	9.0			20	8	43				44	10	30	21.0			DRYER
EXTERIOR REC		6.0		20	8	45				46				21.0		
ACCESS CONTROL DOORS			3.0	20	10	47				48	12	20			12.0	WASHER
ACCESS CONTROL DOORS	3.0			20	10	49				50	12	20	5.0			ECW (GFI TYPE BREAKER)
BRUSH MOD PUMP		1.0		20		51				52	12	20				SPARE
OZONE GEN.			5.0	20		53				54		20				SPARE
REC 207 UC REFRIG	6.0			20		55				56		20				SPARE
REC 207 COUNTER		5.0		20		57				58		20				SPARE
REC 207 COUNTER			5.0	20		59				60		20				SPARE
SPARE				20		61				62		20				SPARE
SPARE				20		63				64		20				SPARE
SPARE				20		65				66		20				SPARE
SPARE				20		67				68		20				SPARE
SPARE				20		69				70		20				SPARE
SPARE				20		71				72		20				SPARE
SPARE				20		73				74		20				SPARE
SPARE				20		75				76		20				SPARE
SPARE				20		77				78		20				SPARE
SPARE				20		79				80		20				SPARE
SPARE				20		81				82		20				SPARE
SPARE				20		83				84		20				SPARE
TOTAL	18.0	12.0	13.0										26.0	21.0	12.0	TOTAL

SECTION 2 TOTAL CONNECTED AMPS: A= 44 B= 33 C= 25

Unofficial Website Copy

N:\90181-01P\C4D\Phase II Sheet Files\CP01-90181004E-705.dgn
10/27/2017 3:03:32 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

ELECTRICAL
PANEL SCHEDULES

E–705
SHEET NO. 188
TOTAL SHTS. 189

PANELBOARD LPV

225 AMPS BUS | 150 AMP MCB
14, 000 RMS | 480Y/277 VOLTS | 3 PHASE, 4 WIRE + GROUND
NEMA ENCLOSURE: TYPE 1 | SURFACE MOUNTED | PANEL LOCATION -VISITOR CENTER RM 104

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
EBB-1	8.2			20	12	1				2			13.1			
EBB-2		8.2		20	12	3				4	12	20		13.1		RTU-2
EBB-3			8.2	20	12	5				6					13.1	
EBB-4	8.2			20	12	7				8			2.1			
EBB-5		10.8		20	12	9				10	12	15		2.1		EF-11
EBB-6			10.8	20	12	11				12					2.1	
	6.0					13				14			6.0			
UH-8		6.0		15	12	15				16	12	15		6.0		DWBP-2
			6.0			17				18					6.0	
LTG 101, 102, 103,				20		19				20		20				SPARE
LTG				20		21				22		20				SPARE
SPARE				20		23				24		20				SPARE
SPARE				20		25				26			82.1			
SPARE				20		27				28	12	15		48.0		XFMR T-# FEED PNL "RPV"
SPARE				20		29				30					69.6	
TOTAL	22.4	25.0	25.0										103	69.2	90.8	TOTAL

TOTAL CONNECTED AMPS: A= 126 B= 94 C= 116

PANELBOARD RPV

225 AMPS BUS | 150 AMP MCB
14, 000 RMS | 208/120 VOLTS | 3 PHASE, 4 WIRE + GROUND
NEMA ENCLOSURE: TYPE 1 | SURFACE MOUNTED | PANEL LOCATION -VISITOR CENTER RM 104

LOAD SERVED	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	CB TRIP	WIRE SIZE	CKT	PHASE A	PHASE B	PHASE C	CKT	WIRE SIZE	CB TRIP	LOAD (AMPS) A	LOAD (AMPS) B	LOAD (AMPS) C	LOAD SERVED
EWH-1	4.2			20	12	1				2	12	20	8.0			VENDING
EWH-2		4.2		20	12	3				4	12	20		8.0		VENDING
EWH-3			4.2	20	12	5				6	12	20			8.0	VENDING
EWH-4	4.2			20	12	7				8	12	20	6.0			EWC (GFI TYPE BREAKER)
HAND DRYER 108		4.2		20	12	9				10	12	20		9.0		FLOOR BOX 101
HAND DRYER 107			4.2	20	12	11				12	12	20			9.0	FLOOR BOX 101
HAND DRYER 106	4.2			20	12	13				14	12	20	9.0			REC 101
HAND DRYER 105		4.2		20	12	15				16	12	20		4.0		REC 101, TV
ACCU-4/ACU-4			15.0	20	12	17				18	12	20			12.0	REC IT EQUIPMENT 102
	15.0					19				20	12	20	6.0			REC 102
EF-10		3.4		20	12	21				22	12	20		4.5		REC 102
DWH-3			2.0	20	12	23				24	12	20			4.5	REC 104
HWCP-3	1.0			20	12	25				26	12	20	9.0			REC 107, 108, 109, 110
DDC PANEL		5.0		20	12	27				28	12	20		1.5		REC ROOF
SENSORS FLUSH AND FAUCET			6.2	20	12	29				30	12	20			4.5	REC 105, 106, EXTERIOR
AUTO DOOR	15.5			20	12	31				32		20				SPARE
SPARE				20		33				34		20				SPARE
SPARE				20		35				36		20				SPARE
SPARE				20		37				38		20				SPARE
SPARE				20		39				40		20				SPARE
SPARE				20		41				42		20				SPARE
TOTAL	44.1	21.0	31.6										38.0	27.0	38.0	TOTAL

TOTAL CONNECTED AMPS: A= 82 B= 48 C= 70

Unofficial Website Copy

N:\90181-019\CADD\Phase II Sheet Files\CP02-90181019E_706.dgn
2/6/2018 3:46:07 PM

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

LEWES PARK & RIDE
AND MAINTENANCE FACILITY -
PHASE 2

CONTRACT T201753109
COUNTY SUSSEX
BRIDGE NO.
DESIGNED BY: MSM
CHECKED BY: AP

ELECTRICAL
PANEL SCHEDULES

E-706
SHEET NO. 189
TOTAL SHTS. 189