Renovation and Expansion of Welcome Center
Lower Chichester Township, Delaware County, PA

Governing Codes:
IBC-2006
ICC/ANSI A117.1-2003
ADA-ABA Accessibility Guidelines, July 23, 2004 and Amended August 5, 2005.
NFPA 101, 2003.

Code Chapter — **Chapter Heading**

3 **Use and Occupancy Classification**
303.1 A-3 Exhibition Halls

4 Special Detailed Requirements Based on Use and Occupancy
Not applicable

5 **General Building Heights and Areas**
Table 503
Use Group A-3 and Type of Construction IIB permits 2 stories or 55 feet above grade plan and 9,500 sq. ft. per floor. Without noted exceptions or frontage increases.

The proposed building footprint is approximately 9,200

6 **Type of Construction**
Table 601 Type IIB

Table 601	**Fire Resistance Rated Construction**
Structural frame	0
Bearing walls-exterior	0 if ≥ 30 foot fire separation.
Bearing walls – interior	0
Non bearing walls and Partitions	0
Floor construction	0
Roof construction	0
Including support Beams and joist	

7 **Fire Resistance-Rated Construction**
Table 704.8 – Maximum Area of Exterior Wall Openings.
Maximum area of Exterior Wall Openings when opening is protected
No limit if separation is greater then 20 to 25 feet.
704.11 Parapets, Parapets are not required due to exception 1. The wall is note required to be fire-resistance rated in accordance with table 602 because of fire separation distance.

8 **Interior Finishes**
803, Wall and Ceiling Finishes

Class A	Flame Spread 0-25	Smoke Developed 0-450
Class B	Flame Spread 26-75	Smoke Developed 0-450
Class C	Flame Spread 76-200	Smoke Developed 0-450

803.6.1 Textile Wall Coverings shall be Class A.

Table 803.5, Interior Wall and Ceiling Finish Requirements by Occupancy for sprinklered buildings

Group	Exit Enclosures & Exit passageways	Corridors	Rooms & enclosed spaces
A-3	**B**	**B**	**C**

Lobby shall not be less than Class B Material

806, Decorative Materials and Trim
806.1, Curtains, draperies, hangings, and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.

9 **Fire Protection Systems**
903 Automatic Sprinkler Systems
903.2.1.2 Group A-3 – Automatic Sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:
2. The fire area has an occupant load of 300 or more.
903.3.1.1 NFPA 13 Sprinkler Systems
Sprinklers shall be installed throughout in accordance with NFPA 13.

903.4 Sprinkler System Monitoring and Alarms
All valves controlling the water supply for automatic sprinkler systems, pumps, tank, water levels and temperatures, critical air pressures and water-flow switches on all sprinklers shall be electrically supervised.

903.4.1 Signals, Alarm, supervisory and trouble signals shall be distinctly different and automatically transmitted to an approved central station, remote supervising station or proprietary supervising station as defined in NFPA 72 or when approved by the fire code official, shall sound an audible signal at a constantly attended location.

903.4.2 Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Alarm devices shall be provided on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

903.5 Testing and Maintenance, Sprinkler systems shall be tested and maintained in accordance with the International Fire Code.

906 Portable Fire Extinguishers – shall be as required by the International Fire Code. Fire Code Exception 1, In Group A, B and E occupancies equipped throughout with quick-response sprinklers, fire extinguishers shall be required only in special hazard areas:
Kitchenette,
Mechanical Room
Storage Shed / Generator Building.

10 **Means of Egress**
Table 1004.1.1, Maximum Floor Area Allowances per Occupant

Use Group	Occupancy Factor	Sq. Ft.	Occupancy
A	5 net	3,714	743
Storage	300 gross	391	2
B	100 gross	949	10
Storag/Mech	300 gross	988	4
N/A	0 (toilets)	1,753	0
N/A	0 (circulation)	379	0
Totals		8174	759 occupants

1003.2.3 Egress Width – Fully Sprinklered Buildings.

IBC	Stairs	0.2
	Other, doors/ Ramps	0.15
NFPA 101		
	Stairs	0.3
	Other, doors/ Ramps	0.2

1006.2 Illumination Level, The means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface.

1007.1 Accessible Means of egress required. Accessible spaces shall be provided with not less than accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion shall be served by not less than two accessible means of egress.

1008.1.1
Doors, Minimum door width is 32" clear opening.

1008.1.3.2
Power-operated doors.
Where means of egress doors are operated by power, such doors with a photoelectric-actuated mechanism to open the door upon the approach of a person or doors with power assisted manual operation, the design shall be such that in the event of power failure, the door is capable of being opened manually to permit means of egress travel or closed where necessary to safeguard means of egress.

1015.2.1
Where two or more exits or exit access doorways are required from any portion of the exit access the exit doors shall be placed a distance apart as noted in exception 2 for buildings equipped with an automatic sprinkler system. The separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

Table 1016.1 Exit Access Travel Distance, Fully sprinklered

Occupancy	feet
A, M	250 feet.

1017 Corridor Fire Resistance Rating, with sprinklers.

A, M - serving occupant loads greater than 30 = 0 hours.

1017.3, Dead Ends
A, M use groups = 20 feet with sprinklers.

1019 Exits

Occupants	number of exits.
1-500	2
500-1000	3

1024.2 Assembly Main Exit
Group A with occupancy greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. The main exit shall front on at least one street or an unoccupied space of not less than 10 feet.

759 occupants divided by 2 = 380 occupants, therefore the main exit must accommodate 380 occupants. The documented width of 72" accommodates 480 occupants.

1025.3
Assembly other exits. In addition to having access to a main exit, each level in a group A occupancy having an occupancy load greater than 300 shall be provided with additional means of egress that shall provide an egress capacity for at least one-half of t otal occupant load served by that level and comply with Section 1015.2.

Door width of 72" x .15 will yield 480 occupants.
Door Width of 84" x .15 will yield 540 occupants
Door Width of 36" x. 15 will yield 240 occupants
Door Width of 42" x .15 will yield 280 occupants

11 **Accessibility**

1103.1
Where required. Sites, Buildings, structures, facilities, elements, and spaces, temporary or permanent, shall be accessible to persons with physical disabilities.

1104
Accessible Route. Site Arrival Points. Accessible routes within the site shall be provided from public transportation stops, accessible parking, accessible passenger loading zones and public streets or sidewalks to the accessible building entrance served.

1105 Accessible Entrances, At least 60 percent of all public entrances shall be accessible.

1106 Parking and Passenger Loading Facilities
Table 1106.1
Total parking spaces - cars
76-100 4 required accessible parking spaces. One must be a van accessible parking space.
Total Truck parking spaces
1-25 1 required accessible truck parking space required, to conform to Penn DOT standards.

1108 Special Occupancies
Table 1108.2.2.1
Capacity of seating
in assembly areas minimum required accessible wheelchair spaces
4-25 1 required

1110 Signage
Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations;
Accessible parking spaces
Accessible passenger loading zones
Unisex toilet rooms

12 **Interior Environment**

1204.1 Minimum heating at 68 degrees f. measured at 3 feet above the floor. Minimum cooling at 12 degrees less than ambient exterior temperature.

1205.3, Artificial light. Artificial light shall be provided that is adequate to provide an average illumination of 10 foot-candles (107 Lux) over the area of the room at a height of 30 inches above the floor.

13 **Energy Efficiency**
Buildings shall be designed and constructed in accordance with the International Energy Conservation Code.

16 **Structural Design**
Verify and determine Seismic Force category.

17 **Structural Tests and Special Inspections**
Steel Construction
Concrete Construction
Masonry construction
Soils Inspection
Curtain Wall assembly
Roof Assemblies

29 **Plumbing Systems**
A-3 Exhibition Halls - Minimum number of Plumbing Fixtures required by code. Actual toilet totals will be per the Waste Water Flow Calculations and Design Parameters established by PENNDOT Publication 13M (DM-2) Chapter 9 – Safety Rest Areas and Welcome Centers
Table 2902.1 IBC 2006
International Plumbing Code 419.2 states, In each toilet room, urinals shall not be substituted for more than 67 percent of the required water closets.

	Water Closets		Lavatories		Drinking Ftn	Service Sink
	Male 1 per 125/ Urinals	Female 1 per 65	Male 1 per 200	Female 1 per 200	1 per 500	1
Min Req'd	4/2	6	2	2	2	1
PennDOT Requested Fixture Totals	10/8	18	18	18	2	1

Family Assisted Toilet Room 1 WC and 1 Lav.

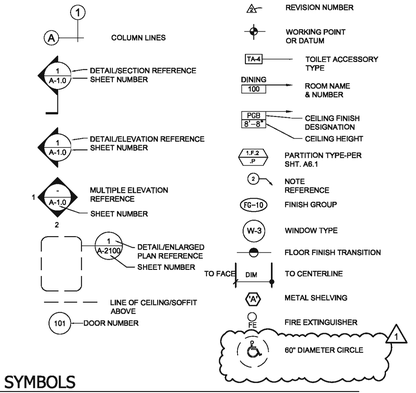
Employee Toilet Room 1 WC and 1 Lav

Kitchenett 1 Sink

34 **Existing Structures**

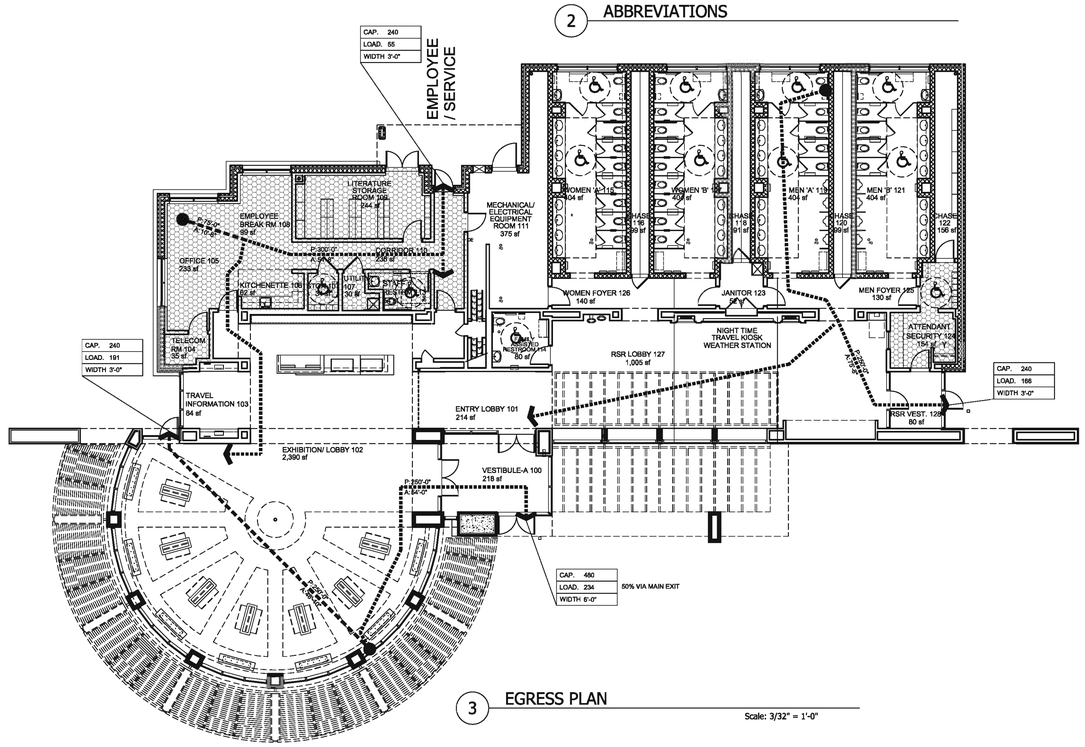
End

1 SYMBOLS



2 ABBREVIATIONS

ACT	ACOUSTICAL TILE	CJ	CONTROL JOINT	E	EAST
AHU	AIR HANDLING UNIT	CLG	CEILING	EA	EACH
ALUM	ALUMINUM	CMU	CONCRETE MASONRY UNIT	EF	EXHAUST FAN
APC	ACOUSTICAL PANEL CEILING	COL	COLUMN	EJ	EXPANSION JOINT
ASPH	ASPHALT	CONC	CONCRETE	ELEC	ELECTRICAL
		CONSTR	CONSTRUCTION	EMER	EMERGENCY
BLKG	BLOCKING	CONT	CONTINUOUS	ENGR	ENGINEER(ING)
BM	BENCH MARK	CO	CLEANOUT	ENTR	ENTRANCE
		CPT	CARPET	EQ	EQUAL
C	CENTER	CS	CAST STONE	EQUIP	EQUIPMENT
CAB	CABINET	CT	CERAMIC TILE	EWC	ELECTRIC WATER COOLER
CB	CAP			EXIST	EXISTING
CB	CATCH BASIN	DBL	DOUBLE	EXT	EXTERIOR
CCTV	CLOSED CIRCUIT TELEVISION	DEPT	DEPARTMENT		
CD	CRITICAL DIMENSIONS	DET	DETAIL	FEC	FIRE EXTINGUISHER CABINET
CEM	CEMENT, CEMENTITIOUS	DIFF	DIFFUSER	FIN	FINISH
CFMF	COLD FORMED METAL FRAMING	DH	DOUBLE HUNG	FIXT	FIXTURE
CW	CURTAIN WALL	DIA	DIAMETER	FLR	FLOR, FLOORING
		DIM	DIMENSION	FLUOR	FLUORESCENT
EF	EXHAUST FAN	DN	DOWN	FPRF	FIREPROOFING
EWC	ELECTRIC WATER COOLER	DWG	DRAWING	FT	FOOT OR FEET
FD	FLOOR OUTLET	LAM	LAMINATE	GH	GUTHEAD
FTR	FIN TUBE RADIATION	LAV	LAVATORY	GPNG	GROUND
FURR	FURRING	LL	LIVE LOAD	GYP	GYPSUM
FUT	FUTURE	LOC	LOCATION		
				P	PAINT
GA	GAGE	MANUF	MANUFACTURER	PERF	PERFORATED
GALV	GALVANIZED	MASNRY	MASONRY	PL	PLATE
GL	GLASS	MAX	MAXIMUM	PLAM	PLASTIC LAMINATE
GWB	GYPSUM WALL BOARD	MECH	MECHANICAL	PLBG	PLUMBING
		MEMB	MEMBRANE	PLWD	PLYWOOD
HB	HOSE BIB	MEP	MECHANICAL, ELECTRICAL, & PLUMBING	PREFAB	PREFABRICATED
HC	HANDICAPPED			PREFIN	PREFINISHED
HDWE	HARDWARE	MH	MANHOLE	PSF	POUNDS PER SQUARE FOOT
HM	HOLLOW METAL	MIN	MINIMUM	PSI	POUNDS PER SQUARE INCH
HORIZ	HORIZONTAL	MISC	MISCELLANEOUS	PTD	PAINTED
HT	HEIGHT	MO	MASONRY OPENING	PVC	POLYVINYL CHLORIDE
HVAC	HEATING, VENTILATING & AIR CONDITIONING	MTD	MOUNTED	QT	QUARRY TILE
		MTL	METAL		
INSIDE DIAMETER, INSIDE DIMENSION				R	RISER
		N	NORTH	RAD	RADIUS
INSUL	INSULATION	NIC	NOT IN CONTACT	RD	ROOF DRAIN
INT	INTERIOR	NO	NUMBER	RECT	RECTANGLE
INV	INVERT	NTS	NOT TO SCALE	REF	REFERENCE
				REFR	REFRIGERATOR
JC	JANITOR'S CLOSET	OA	OVERALL	REINF	REINFORCED(ING)(MENT)
		OC	ON CENTER	REQD	REQUIRED
KIT	KITCHEN	OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION	RESIL	RESILIENT
		OH	OPPOSITE HAND	RM	ROOM
S	SOUTH	O.S.	OVERFLOW SCUPPER	RMTU	ROOF MOUNTED TIE OFF
SC	SOLID CORE			RO	ROUGH OPENING
SHR	SHOWER	UL	UNDERWRITERS LABORATORIES	RTU	ROOF TOP UNIT
SPEC	SPECIFICATIONS			ROW	RIGHT OF WAY
SPKLR	SPRINKLER	VCT	VINYL COMPOSITION TILE	RWC	ROOF WATER CONDUCTOR
ST. STL.	STAINLESS STEEL	VERT	VERTICAL		
STC	SOUND TRANSMISSION CLASS	VEST	VESTIBULE		
STD	STANDARD	VIF	VERIFY IN FIELD		
STL	STEEL	VR	VAPOR RETARDER		
STOR	STORAGE	VTR	VENT THROUGH ROOF		
STRUCT	STRUCTURAL				
SUSP	SUSPENDED	W	WEST, WIDE, WIDTH, WINDOW	SYMBOLS USED AS ABBREVIATIONS	
		WF	WITH	&	AND
TC	TOP OF CONCRETE, CURB	WO	WITHOUT	@	AT
TEL	TELEPHONE	WC	WATER CLOSET	℄	CENTERLINE
T&G	TONGUE & GROOVE	WD	WOOD	Ø	DIAMETER OR ROUND
TO	TOP OF	WMFD	WALL MOUNTED FOLDING SEAT	#	POUND OR NUMBER
TYP	TYPICAL	WMTD	WALL MOUNTED TIE OFF		
		WNDW	WINDOW		
		WT	WEIGHT		



3 EGRESS PLAN

Scale: 3/32" = 1'-0"

NOTE: THE AREA CALCULATIONS PROVIDED IN THIS TABLE ARE PROVIDED SOLELY FOR THE PURPOSE OF THE CODE OFFICIAL IN ESTABLISHING OCCUPANCY LOADS. THE CONTRACTOR SHALL NOT RELY ON FIGURES IN THIS TABLE FOR QUANTITY TAKE-OFFS. THE CONTRACTOR SHALL RETAIN HIS CONTRACTUAL RESPONSIBILITY FOR MEASURING AND CALCULATING, USING FIGURED DIMENSIONS, QUANTITIES OF MATERIALS AND LABOR ADEQUATE TO COMPLETE THE WORK IN ACCORDANCE WITH THE DESIGN INTENT DESCRIBED ON THE CONTRACT DRAWINGS.

LEGEND

OCCUPANCY B 1,089 SF

OCCUPANCY A-3 6,990 SF

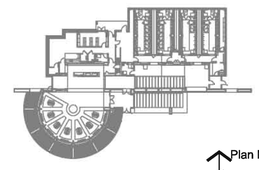
OCCUPANCY BY SPACE

Number	Name	Occupancy	Area	Egress basis	Occupant load
100	ENTRY VESTIBULE A	A-3	218 SF	5 SF / per	44
101	ENTRY LOBBY	A-3	214 SF	5 SF / per	43
102	EXHIBITION LOBBY	A-3	2,390 SF	5 SF / per	478
103	TRAVEL INFORMATION	A-3	84 SF	5 SF / per	17
104	TELECOM ROOM	S-1	35 SF	300 SF / per	1
105	OFFICE (4 PERSON)	B	233 SF	100 SF / per	4
106	KITCHENETTE	B	62 SF	100 SF / per	1
107	STORAGE	S-1	34 SF	300 SF / per	1
108	EMPLOYEE BREAK AREA	B	99 SF	15 SF / per	7
109	LITERATURE STORAGE	S-1	244 SF	300 SF / per	1
110	CORRIDOR	B	236 SF		
111	MECH./ELEC./ ROOM		375 SF	300 SF / per	2
112	UTILITY ROOM	B	30 SF	100 SF / per	4
113	STAFF RESTROOM	B	54 SF	100 SF / per	1
114	FAMILY-ASSIST TOILET ROOM	A-3	80 SF	2 x FIXTURES	36
115	WOMEN'S TOILET ROOM 'A'	A-3	404 SF	2 x FIXTURES	36
116	MECH. CHASE		99 SF		
117	WOMEN'S TOILET ROOM 'B'	A-3	404 SF	2 x FIXTURES	36
118	MECH. CHASE		91 SF		
119	MEN'S TOILET ROOM 'A'	A-3	404 SF	2 x FIXTURES	36
120	MECH. CHASE		99 SF		
121	MEN'S TOILET ROOM 'B'	A-3	404 SF	2 x FIXTURES	36
122	MECH. CHASE		156 SF		
123	JANITOR'S CLOSET	A-3	52 SF	300 SF / per	1
124	ATTENDANT / SECURITY OFC.	A-3	154 SF	100 SF / per	2
125	MEN'S TOILET ROOM FOYER	A-3	130 SF	5 SF / per	26
126	WOMEN'S TOILET ROOM FOYER	A-3	140 SF	5 SF / per	28
127	ROADSIDE REST LOBBY	A-3	1,005 SF	5 SF / per	201
128	ROADSIDE REST VESTIBULE	A-3	80 SF	5 SF / per	16
201	MECH. MEZZANINE		124 SF	300 SF / per	2
Total			8,134 SF		1,060

OCCUPANCY - AGGREGATE

Number	Name	Occupancy	Area	Egress basis	Occupant load	Drinking fountains Actual	Reqd	WCs - M Actual	Reqd	WCs - F Actual	Reqd	Urinals Actual	Reqd	Lavatories Actual	Reqd	Telephones	Access. parking Actual	Acces. Reqd
	OFFICE	B	1,181 SF	100 SF / per	12	Kitch.		1 Uni	1	1 + 1 Uni	2	1	2	2 M + 2 F	2 M + 2 F			
	ROTUNDA	A-3	2,474 SF	15 SF / per	164													
	ASSEMBLY, INCL. RESTROOMS	A-3	3,237 SF	15 SF / per	216													
	MECHANICAL	A-3	375 SF	300 SF / per	2													
	TOTAL ASSEMBLY		7,267 SF		394	2	1	10	1	17	4	7	4	14 M + 14 F	3 M + 3 F			
	TOTAL	MIXED	7,267 SF		394	2	1	11	2	18	6	8	6	16 M + 16 F	5 M + 5 F	1 TTY	90	4

KEY PLAN



22 MAY 2009 ISSUED FOR BUILDING PERMIT

1	REVISION NO.1 - 08 JULY 2009		
	DESCRIPTION		DESCRIPTION

AS-BUILT REVISIONS

Professional's Signature Date

Consultant's Signature Date

ARCHITECTS:
DAROFF DESIGN
DAROFF DESIGN INC + DDI ARCHITECTS, PC
2121 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19103

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

PROJECT NO. D.G.S. 657-17

RENOVATE AND EXPAND EXISTING FACILITIES AT I-95 WELCOME CENTER
PENNDOT WELCOME CENTER FACILITY
LOWER CHICHESTER TOWNSHIP
DELAWARE COUNTY, PENNSYLVANIA

CODE ANALYSIS, SYMBOLS & ABBREVIATIONS

DRAWN BY	DATE	DRAWING NO.
DC	22 MAY 2009	CS-2
CHECKED BY DC	SCALE AS NOTED	