ENVIROPLEX, INC.

STEEL ORDINARY MOMENT RESISTING FRAME MODULAR BUILDING
(1) 12'x40' RELOCATABLE RESTROOM BUILDING FOR LA CANADA COLLEGE
SAN MATEO COMMUNITY COLLEGE DISTRICT

(REFERENCE P.C. – 02 – 112290) – (REFERENCE P.C. – 02 – 112284)

TEST & INSPECTION GUIDELINE

TYPE OF MODULAR STEEL MOMENT FRAME BUILDING PROJECT (X–INDICATES TEST OR INSPECTION TO BE DONE)

TEST and INSPECTIONS (as listed on Form DSA–103)				STOCKPILE		CONSTRUCTION OF (diaphragm material–foundation material)			RELOCATION OF CERTIFIED BUILDING	
MATERIAL TYPE		DSA 103 ITEM #	DESCRIPTION	WOOD FLOOR ONLY	CONCRETE FLOORS	PLYWOOD FLOOR ONLY -WOOD FOUNDATION	PLYWOOD FLOOR CONCRETE FOUNDATION	CONCRETE FLOOR - CONCRETE FOUNDATION	WOOD FOUNDATION	CONCRETE FOUNDATION
SOILS Verify the necessity of the Tests and/ or Inspections with the requirements of the application that this PC is part of.	GENERAL	1	-Site has been prepared properly prior to fill placement/excavations -Fdn excavations extended to proper depth and material -Materials below footing are adequate				X	X		X
	COMPACTED FILL	2a	Perform qualification testing of materials				X	X		X
		2b	Proper fill materials, lift thickness placement and compaction during placement.				X	X		X
		2c	Compaction test				X	X		X
CONCRETE	LT WT FILL OVER METAL DECK	7a	Verify required design mix		X			X		
		7c	Perform slump and (where required) air content test; determine temperature of concrete		X			X		
		7d	Test concrete - compression tests		X			X		
		7e	inspect batching of concrete -		X			X		
		12	Waiver of Batch Plant Inspection See Note 1 for conditions and requirements.		X			X		
		7f	Inspect placement of concrete, reinforcing and embedded items over steel deck - by RBIP		X			X		
	FOUNDATION	7a	Verify required Design Mix				X	X		X
		7b	Test reinforcing Steel - See Note 1 for Waiver for one Story Bldgs.				X	X		X
		7c	Perform slump and (where required) air content test; determine temperature of concrete				X	X		X
		7d	Test concrete - compression tests				X	X		X
		7e	inspect batching of concrete -				X	X		X
		7e	Inspect placement of formwork, concrete, reinforcing steel and embedded items - by Project inspector				X	X		X
	POST INSTALLED ANCHORS NOTE 2		Inspect installation of post installed anchors				X	X		X
			Test post-installed anchors				X	X		X
STRUCTURAL STEEL	MATERIAL VERIFICATION	17a	-Materials are appropriately marked -Mfr. certified mill test reports -Material sizes, types and grades comply with requirements	X	X	X	X	X		
		17b	Sample and test all unidentified structural steel and steel deck	X	X	X	X	X		
		17c	Examine seam welds of structural tubes and pipes	X	X	X	X	X		
		17d	Verify member locations, bracing and all details constructed in the field	X	X	X	X	X		
		17e	Verify stiffener locations, connection tab locations and all construction details fabricated in the shop.	X	X	X	X	X		
	VERIFICATION OF MATERIALS EQUIPMENT, WELDERS, ETC	19a	Verify weld filler material identification marking per AWS designation listed on the DSA approved documents and the WPS	X	X	X	X	X		
		19b	Verify weld filler material manufactures's certificate of compliance	X	X	X	X	X		
		19c	Verify WPS, welder qualifications and equipment	X	X	X	X	X		
	SHOP WELDING	19.1a	Inspect groove, multi-pass, and fillet welds > 5/16"	X	X	X	X	X		
		19.1b	Inspect single-pass fillet welds ≤ 5/16"	X	X	X	X	X		
		19.1c	Inspect welding of stairs and railing systems. Note 3.	X	X	X	X	X		
	FIELD WELDING See Note 3	19.2a	Inspect groove, multi-pass, and fillet welds > 5/16"			X	X	X		X
		19.2b	Inspect single-pass fillet welds ≤ 5/16"			X	X	X		X
		19.2f	Inspect welding of stairs and railing systems.			X	X	X		X
	OTHER	24a	Shop Welding - Inspection welding of cold-formed steel Periodic/Special Inspector	X	X	X	X	X		
		24b	Shop Welding - Inspect welding of steel floor deck welds Periodic/Special Inspector		X			X		
OTHER - SHOT PINS (Two Story Modular)		27c	Ceiling wire hangers (pins in metal deck with concrete fill) Test/Lab		X			X		
INSPECTOR CLASS (minimum requirements)				RBIP or Class 1		In Plant RBIP or Class 1 Site: Class 4 for Single Story Site: Class 2 for Two-story			Class 4 for Single Story Class 2 for Two-story	
SELECTION OF THE PROJECT INSPECTOR AND TESTING AGENCY				By the Owner and approved by DSA, A/E of Record and Structural Engineer		By the School District and approved by DSA, A/E of Record and Structural Engineer				
COST OF THE PROJECT INSPECTOR (Title 24, Part1,Section 4–333(b) AND TESTING AGENCY (Title 24, Part 1, Section 4–335))				By the Owner		By the School District				

NOTE 1: Reinforcing steel tests may be waived for one-story buildings.
NOTE 2: Required only where the details of the PC specify the use of this type of anchor
NOTE 3: Required only where the details of the PC specify this Welding

The Example form DSA-103's shown on this sheet are for illustration purposes only to assist in the completion of future project-specific form DSA-103's. A form DSA-103 is to be completed for each Application that this PC is being incorporated into and all Example form DSA-103's are to be crossed out on this drawing.

PC GENERAL NOTES

1. THIS PC IS NOT APPROVED FOR "A" OCCUPANCY USES.
2. PC BUILDING CLASSIFIED AS OCCUPANCY "A" WITH OCCUPANT LOAD 100 OR MORE CAN NOT BE REVIEWED OVER THE COUNTER (OTC).
3. PC BUILDING APPROVED ONLY FOR OCCUPANCY E, or B, or A (STRUCTURAL CATEGORY I & II) WITH OCCUPANT LOAD LESS THAN 300.
4. PC BUILDING EXITING IS BASED ON THE USE OR OCCUPANCY AND WILL BE REVIEWED AS SITE SPECIFIC.
5. PC BUILDING LOCATED IN FIRE HAZARD SEVERITY ZONES PER WILDLAND URBAN INTERFACE FIRE AREAS (WUI) SHALL CONFORM TO CBC CHAPTER 7A.
6. THIS PC IS NOT APPROVED FOR FIRE HAZARD SEVERITY ZONES PER C.B.C. CHAPTER 7A.
7. SITE AND USE SPECIFIC REQUIREMENT FOR AUTOMATIC SPRINKLER SYSTEM AND FIRE ALARM SYSTEM MIGHT BE REQUIRED BUT NOT INCLUDED IN THIS PC APPROVAL.
8. THIS BUILDING IS STRUCTURALLY DESIGNED TO SUPPORT THE WEIGHT OF A FUTURE FIRE SPRINKLER SYSTEM (EQUIVALENT TO 1.5 psf MAXIMUM), IF REQUIRED.
9. THIS PC IS APPROVED FOR CLIMATE ZONES 1 THROUGH 16.

DSA GENERAL NOTES

1. ALL MATERIALS & WORKMANSHIP SHALL CONFORM TO THE 2010 CALIFORNIA BUILDING CODE (C.B.C.). A COPY OF THE CALIFORNIA BUILDING CODE SHALL BE KEPT ON THE SITE AT ALL TIMES.
2. CHANGES TO THE APPROVED DRAWINGS & SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR A CHANGE ORDER APPROVED BY THE ARCHITECT OF RECORD, OWNER, & THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED.
3. A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) & APPROVED BY THE ARCHITECT OF RECORD & THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-333(b) OF 2010 TITLE 24, PART 1.
4. MATERIAL TESTING AS NOTED IN THE STRUCTURAL TESTS & INSPECTIONS AT THE LEFT SHALL BE PERFORMED AS REQ. PER SECTION 1704A & 2212A, & 1916A FOR CONCRETE OF 2010 C.B.C. MATERIAL TESTING REQUIRED BY FIRE REGULATIONS SHALL BE PERFORMED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
5. VERIFIED REPORTS (DSA/SSS FORM 6) SHALL BE SUBMITTED PER SECTION 4-336, 4-341(f), 342(b)(8), AND 4-343 (c) BY THE MANUFACTURER, INSPECTOR, STRUCTURAL ENGINEER.
6. A SEPARATE DSA APPLICATION NUMBER MUST BE OBTAINED BEFORE MANUFACTURING ANY ENVIROPLEX UNIT IN ACCORDANCE WITH THESE DRAWINGS.
7. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD & ACCESS REQUIREMENTS & ENVIROMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
8. SPECIAL INSPECTIONS PER CHAPTER 17A, 2010 C.B.C.

OPT. COMBINATIONS ALLOWED

Option combination table 12'x40' PC

(shaded) not applicable / not allowed

		Roof		Foundation			
		Bi-Pitch	Shed	Concrete	50# wood	70# wood	125# wood
Exterior finish	Standard MDO, lap siding, wood clad siding	X	X	X	X	X	X
	Stucco-flex	X	X	X	(shaded)	(shaded)	(shaded)
	3-coat stucco	X	X	X	(shaded)	(shaded)	(shaded)
Roof slope	Bi-pitch	(shaded)	(shaded)	X	X	X	X
	Shed	(shaded)	(shaded)	X	X	X	X
Roof load/column	20 psf. TS 5 x 5 x 1/4"	X	X	X	X	X	X
	30 psf. TS 5 x 5 x 1/4"	X	X	X	(shaded)	X	X
Floor load	50 psf (joist spacing at 32" or 24"o.c.)	X	X	X	X	X	X
	70 psf (joist spacing at 32" or 24"o.c.)	X	X	X	(shaded)	X	X
	125 psf (joist spacing at 24"o.c.)	X	X	X	(shaded)	(shaded)	X
Fire rated const.	NR / Sprinklered	X	X	X	X	X	X
	1-hour throughout (entire roof & all walls)	X	X	X	(shaded)	(shaded)	(shaded)
	Fire barriers (int & ext., multiple walls)	X	X	X	X	X	X

GOVERNING CODES

2010 CALIFORNIA ADMINISTRATIVE CODE (CAC) (PART 1, TITLE 24, CCR)

2010 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, 2 (PART 2, TITLE 24, CCR) (2009 EDITION INTERNATIONAL BUILDING CODE WITH 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR) (2008 EDITION NATIONAL ELECTRICAL CODE WITH 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA MECHANICAL CODE (CMC) (PART 4, TITLE 24, CCR) (2009 EDITION IAPMO UNIFORM MECHANICAL CODE WITH 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA PLUMBING CODE (CPC) (PART 5, TITLE 24, CCR) (2009 EDITION IAPMO UNIFORM PLUMBING CODE WITH 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR). (2008 EDITION CALIFORNIA ENERGY COMMISSION BUILDING ENERGY EFFICIENCY STANDARDS)

2010 CALIFORNIA FIRE CODE (CFC) (PART 9, TITLE 24, CCR). (2009 EDITION OF INTERNATIONAL FIRE CODE WITH 2010 CALIFORNIA AMENDMENTS)

2010 CALIFORNIA GREEN CODE (PART 11, TITLE 24, CCR)

2010 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR)

NFPA 13 - 2010

NFPA 72 - 2010

DESIGN CRITERIA

DEAD AND LIVE LOADS

FLOOR: LIVE LOAD - ☒ 50.0 PSF ☐ 65.0 PSF ☐ 125.0 PSF

FLOOR: DEAD LOAD - 8.0 PSF

ROOF: LIVE LOAD - ☒ 20.0 PSF (SNOW) ☐ 30.0 PSF (SNOW)

ROOF: DEAD LOAD - 8.0psf (14.0psf W/1HR ROOF)

ALLOWABLE SOIL PRESSURE

DL (WOOD FOOTING) ☐ 900 PSF
DL + LL (WOOD FOOTING) ☐ 1000 PSF

DL + LL + SEISMIC (WOOD FOOTING) ☐ 1333 PSF
DL + LL (CONCRETE FOOTING) ☐ 1500 PSF
DL + LL + SEISMIC (CONCRETE FOOTING) ☒ 3000 PSF

ROOF SNOW LOAD

ROOF SNOW LOAD ☐ FLAT P_s 30 PSF ☐ SLOPED P_f 30 PSF
SNOW EXPOSURE FACTOR, C_e 1.2
SNOW LOAD IMPORTANCE FACTOR, I ☐ 1.0 ☐ 1.1 > 250
THERMAL FACTOR, C_t 1.0

FLOOD DESIGN

BUILDINGS IN THIS PC ARE NOT DESIGNED TO BE LOCATED IN A FLOOD HAZARD AREA

WIND DESIGN

BASIC WIND SPEED (3 SECOND GUST), V 85 MPH
WIND EXPOSURE FACTOR C
METHOD 1 ASCE 7-05, SEC 6.4 - SIMPLIFIED PROCEDURE
ADJUSTMENT FACTOR, λ 1.21
SIMPLIFIED WIND PRESSURE, P_{s30}

SEISMIC DESIGN

LATERAL FORCE RESISTING SYSTEM ORDINARY STEEL MOMENT FRAMES
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC DESIGN CATEGORY (SDC) D
SEISMIC IMPORTANCE FACTOR, I 1.0

V=EQUIV. LATERAL FORCE PROCEDURE BASE SHEAR (STRENGTH DESIGN)

$V = C_s W = 0.286W$

$C_s = \frac{S_{DS}}{(R/I)} = 0.286$

BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY STEEL MOMENT FRAMES

$R = 3.5$ $P = 1.0$ SITE CLASS: D
$I = 1.0$ $C_d = 3.0$ $*S_s = 1.5$ $F_A = 1.0$ $S_{DS} = 1.0$
$\Omega = 3.0$ $S_1 = N/A$ $F_V = 1.0$ $S_{D1} = 1.0$

* MAXIMUM S_s FOR REGULAR STRUCTURES FIVE STORIES OR LESS WITH PERIOD OF 0.5 SECONDS OR LESS PER ASCE 7-05 12.8.1.3

MAPPED MCE, 5% DAMPED, SPECTRAL RESPONSE ACCELERATION ACCELERATION AT ONE SECOND PERIOD, S_1 N/A
LONG PERIOD SITE COEFFICIENT, F_V 1.0
DESIGNED, 5% DAMPED, SPECTRAL RESPONSE ACCELERATION ACCELERATION AT ONE SECOND PERIOD, S_{D1} 1.0
HORIZONTAL OR VERTICAL IRREGULARITIES TYPE(S) N/A

BUILDING DATA

CONSTRUCTION TYPE:	V-B
OCCUPANCY:	E
BUILDING AREA:	480 S.F. NOMINAL
NUMBER OF STORIES:	1

SHEET INDEX

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REGISTERED PROFESSIONAL ENGINEER ARTHUR ERNEST ROSS No. S2030 EXP. 9/30/13 STRUCTURAL STATE OF CALIFORNIA

THESE DRAWINGS ARE PRELIMINARY AND NOT FOR CONSTRUCTION UNLESS STAMPED & SIGNED BY THE ENGINEER OF RECORD.

ENVIROPLEX, INC.
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(1) 12'x40' RELOCATABLE RESTROOM BUILDINGS FOR LA CANADA COLLEGE SAN MATEO COMMUNITY COLLEGE DISTRICT

COVER SHEET, BUILDING CODES & C.B.C. DATA, SHEET INDEX

PRELIMINARY

REV / DATE: BY:

JOB No.:	12-[illegible]19
DRAWN BY:	JM
DATE:	07-18-12

THIS MODULAR BLDG. HAS BEEN ENGINEERED BY A REGISTERED STRUCTURAL ENGINEER AND PREVIOUSLY REVIEWED & APPROVED BY THE DIVISION OF THE STATE ARCHITECT, FIRE & LIFE SAFETY AND ACCESS COMPLIANCE SECTION

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