

Product Based CAD for MIME Capstone Design
March 15, 2024
Team # 24-11
MusicBot

MusicBot

Noah Bamberger

Sean Bullock

Peyton Francisco

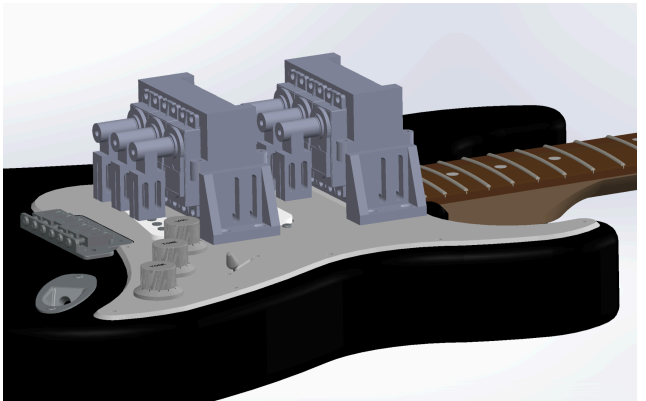
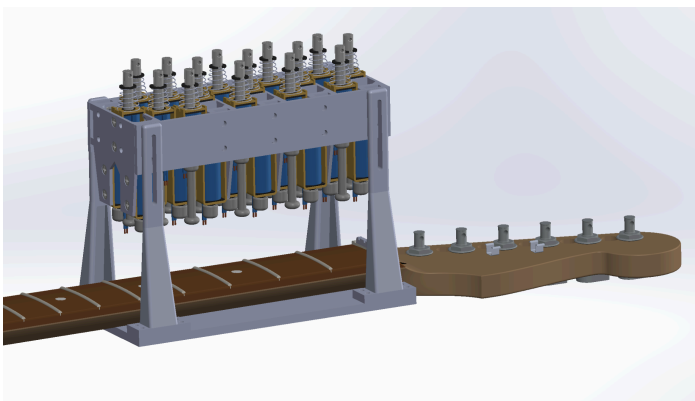
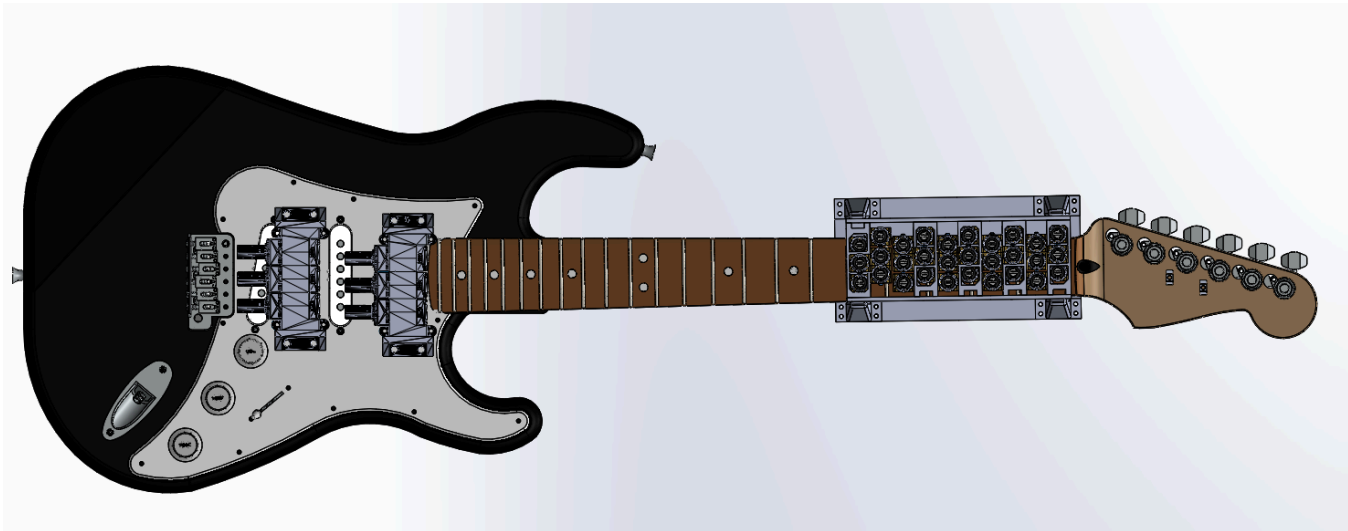
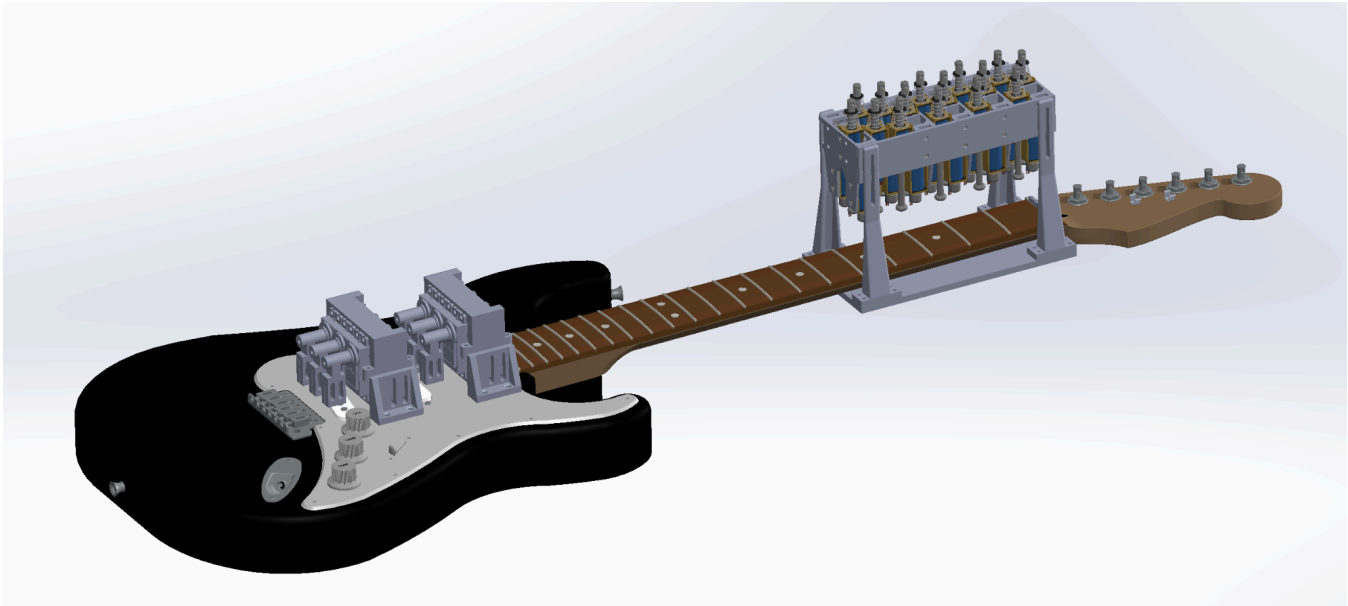
Noah Holloran

Michael Orton

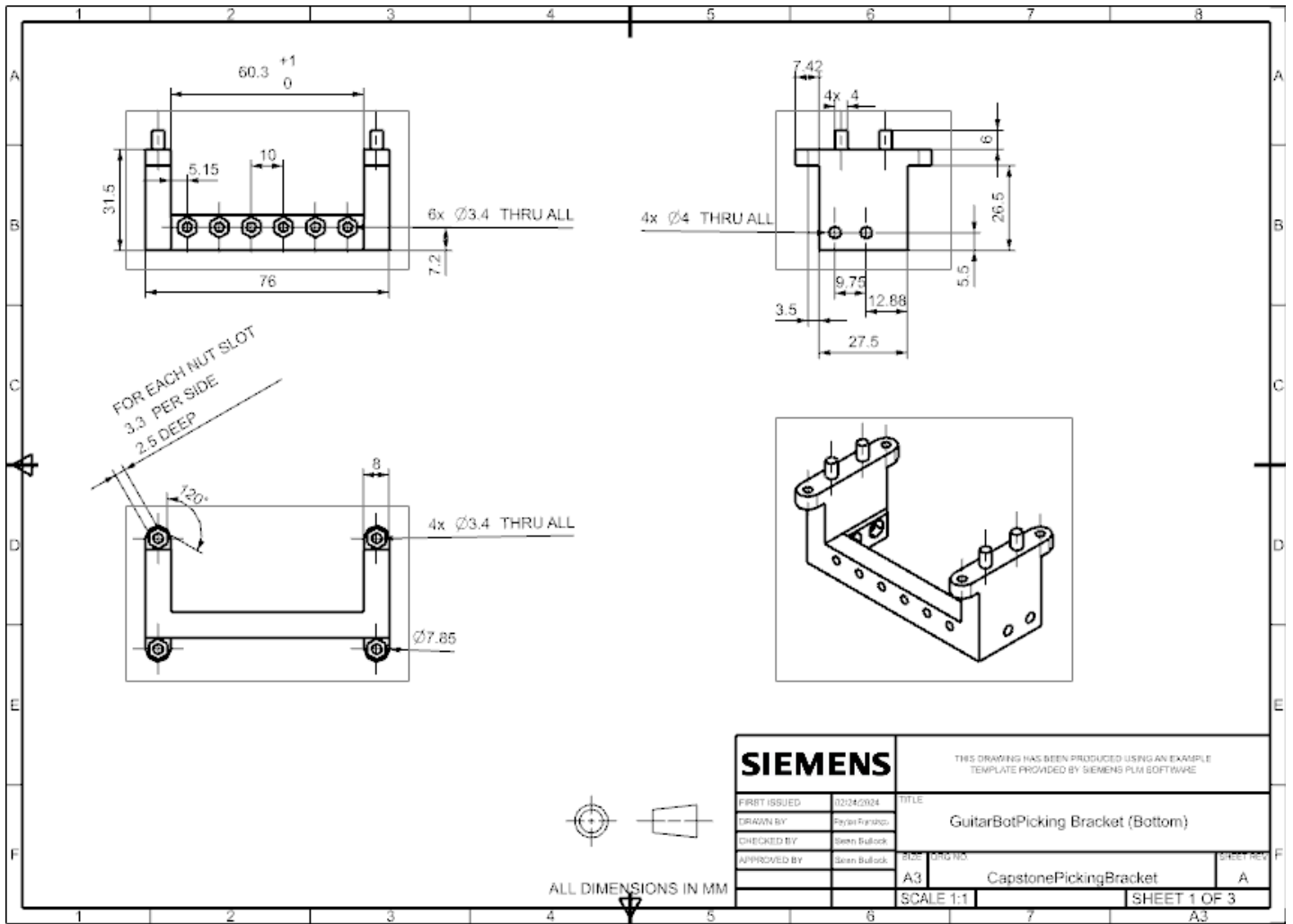
School of Mechanical, Industrial, and Manufacturing Engineering (MIME)

Oregon State University

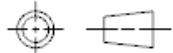
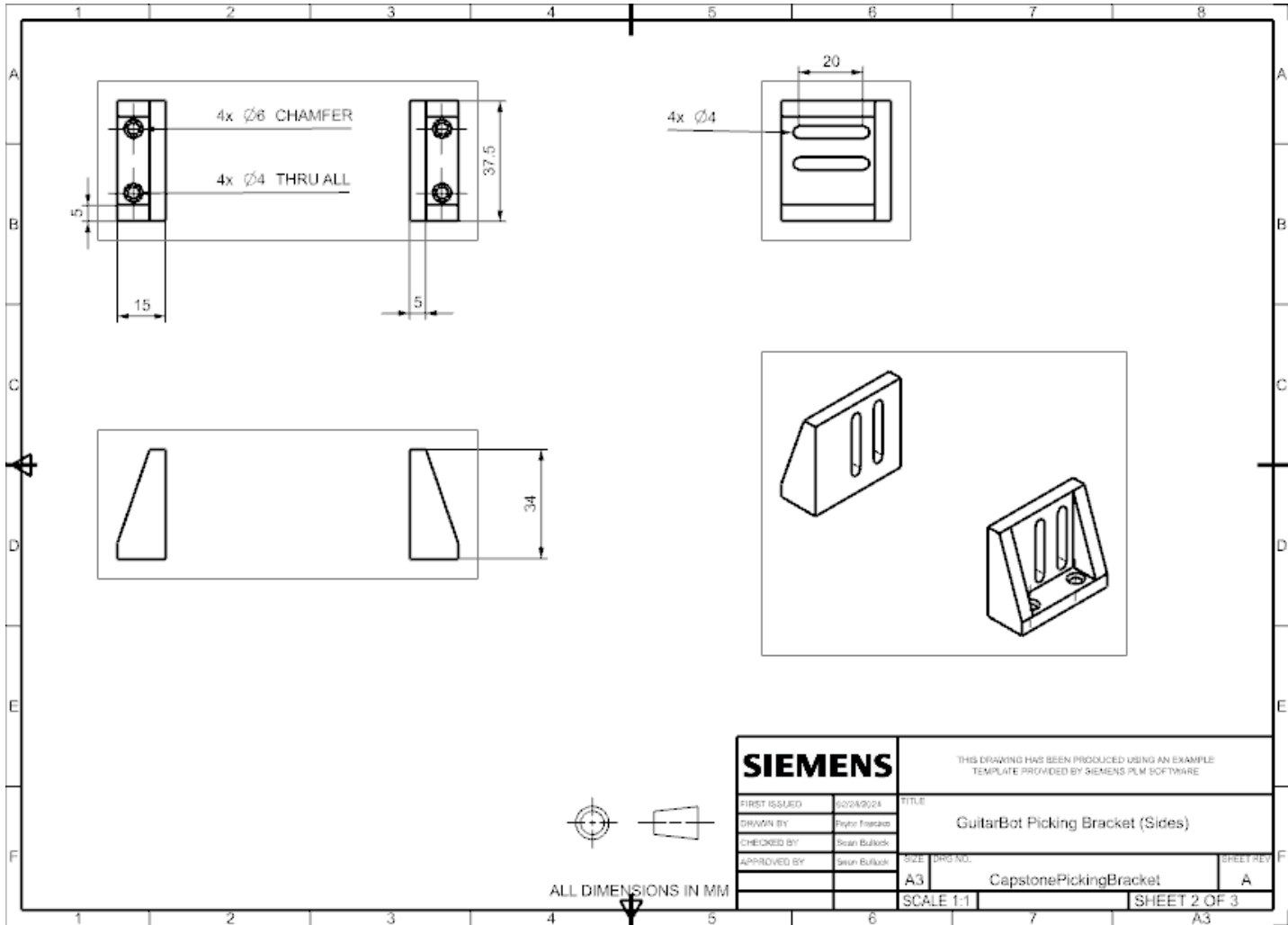
Assembly



Drawings

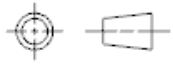
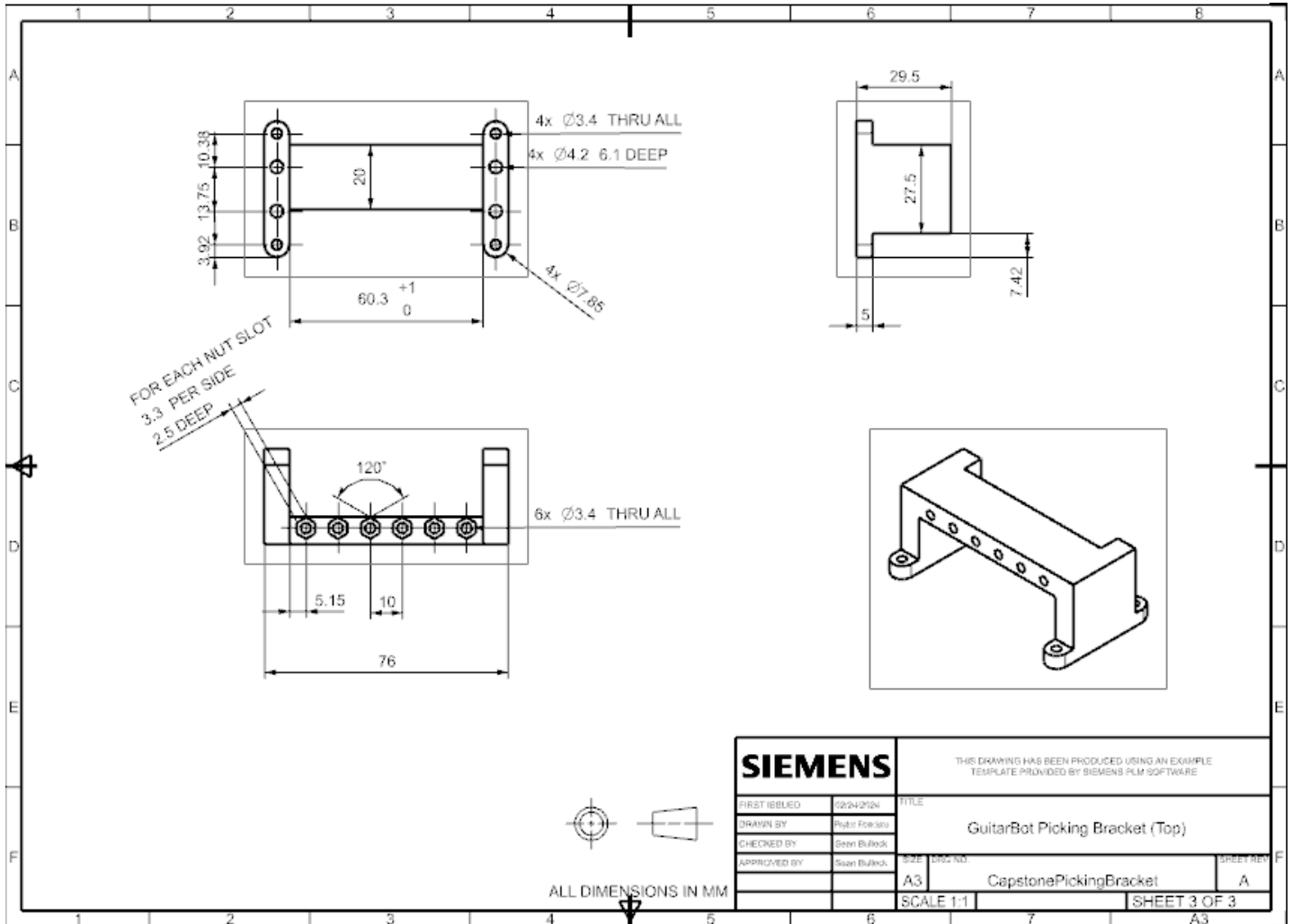


SIEMENS		THIS DRAWING HAS BEEN PRODUCED USING AN EXAMPLE TEMPLATE PROVIDED BY SIEMENS PLM SOFTWARE	
FIRST ISSUED	0224/2024	TITLE	
DRAWN BY	Fayal Farooq	GuitarBotPicking Bracket (Bottom)	
CHECKED BY	Sean Bullock	SIZE	ORG NO
APPROVED BY	Sean Bullock	A3	CapstonePickingBracket
		SCALE 1:1	SHEET 1 OF 3
			A3



ALL DIMENSIONS IN MM

SIEMENS		THIS DRAWING HAS BEEN PRODUCED USING AN EXAMPLE TEMPLATE PROVIDED BY SIEMENS PLM SOFTWARE	
FIRST ISSUED	02/04/2024	TITLE	
DRAWN BY	Piero Fratello	GuitarBot Picking Bracket (Sides)	
CHECKED BY	Sean Bullock	SIZE	
APPROVED BY	Sean Bullock	A3	
		SCALE 1:1	SHEET 2 OF 3
		A3	



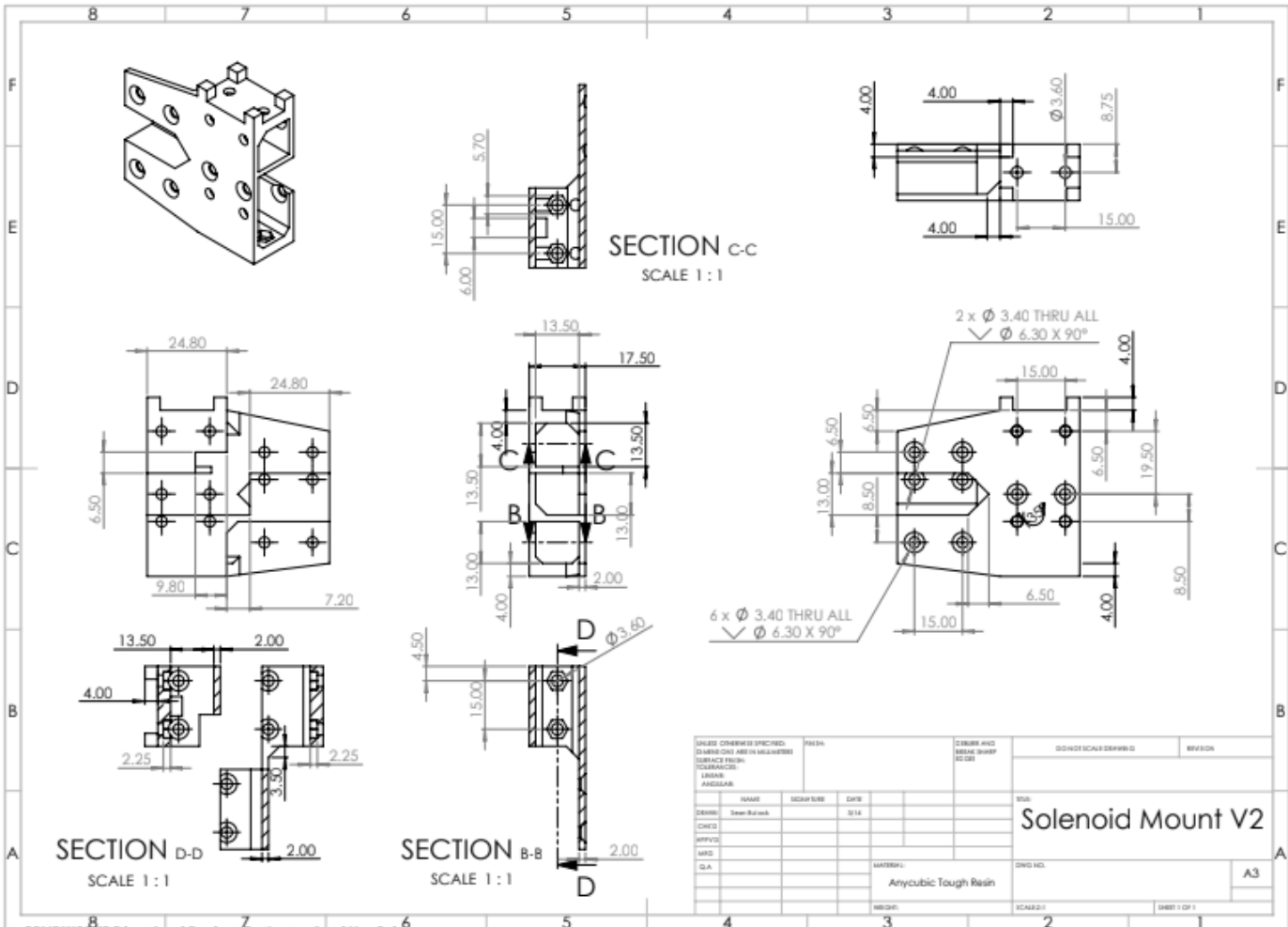
ALL DIMENSIONS IN MM

SIEMENS		THIS DRAWING HAS BEEN PRODUCED USING AN EXAMPLE TEMPLATE PROVIDED BY SIEMENS PLM SOFTWARE	
FIRST RELEASED	02/24/2024	TITLE	
DRAWN BY	Rafael Pires Neto	GuitarBot Picking Bracket (Top)	
CHECKED BY	Sevan Bullock	SIZE	DWG. NO.
APPROVED BY	Sevan Bullock	A3	CapstonePickingBracket
		SCALE 1:1	SHEET 3 OF 3

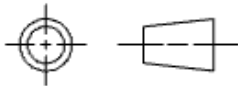
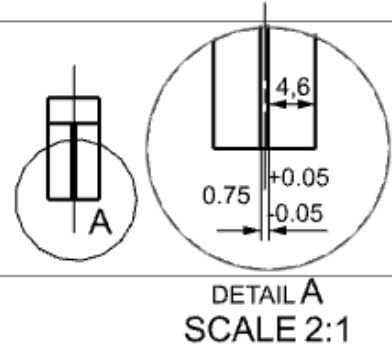
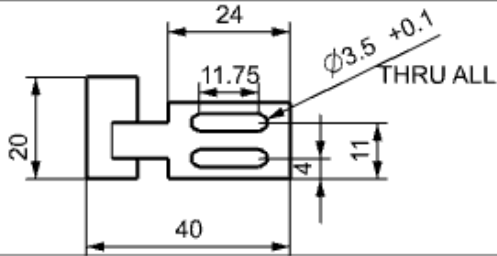
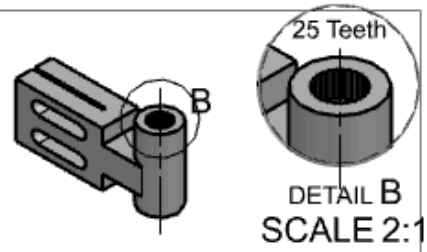
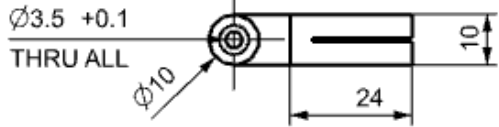
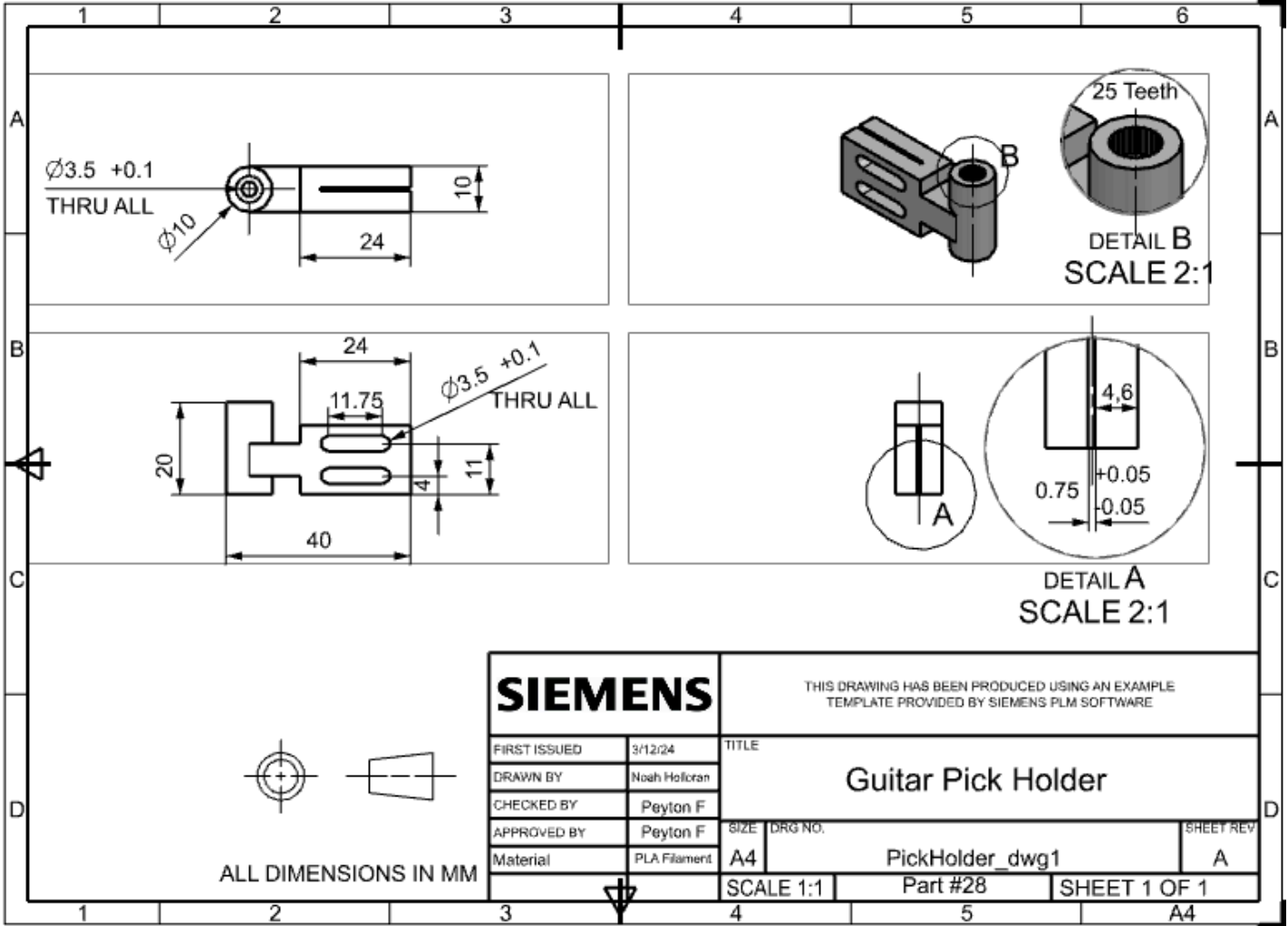
SHEET REV

A

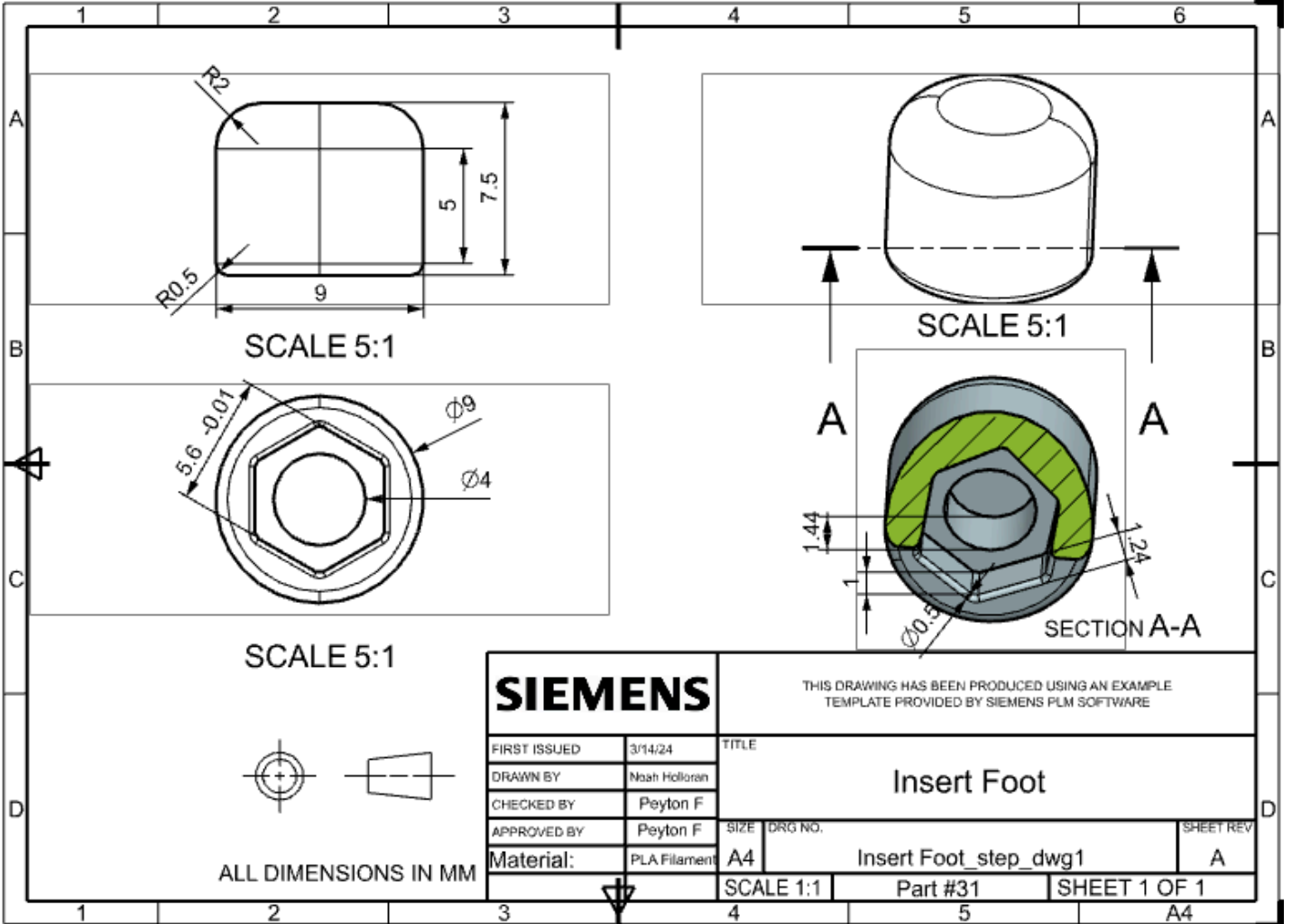
A3



SOLIDWORKS Educational Product. For Instructional Use Only.



ALL DIMENSIONS IN MM



SIEMENS

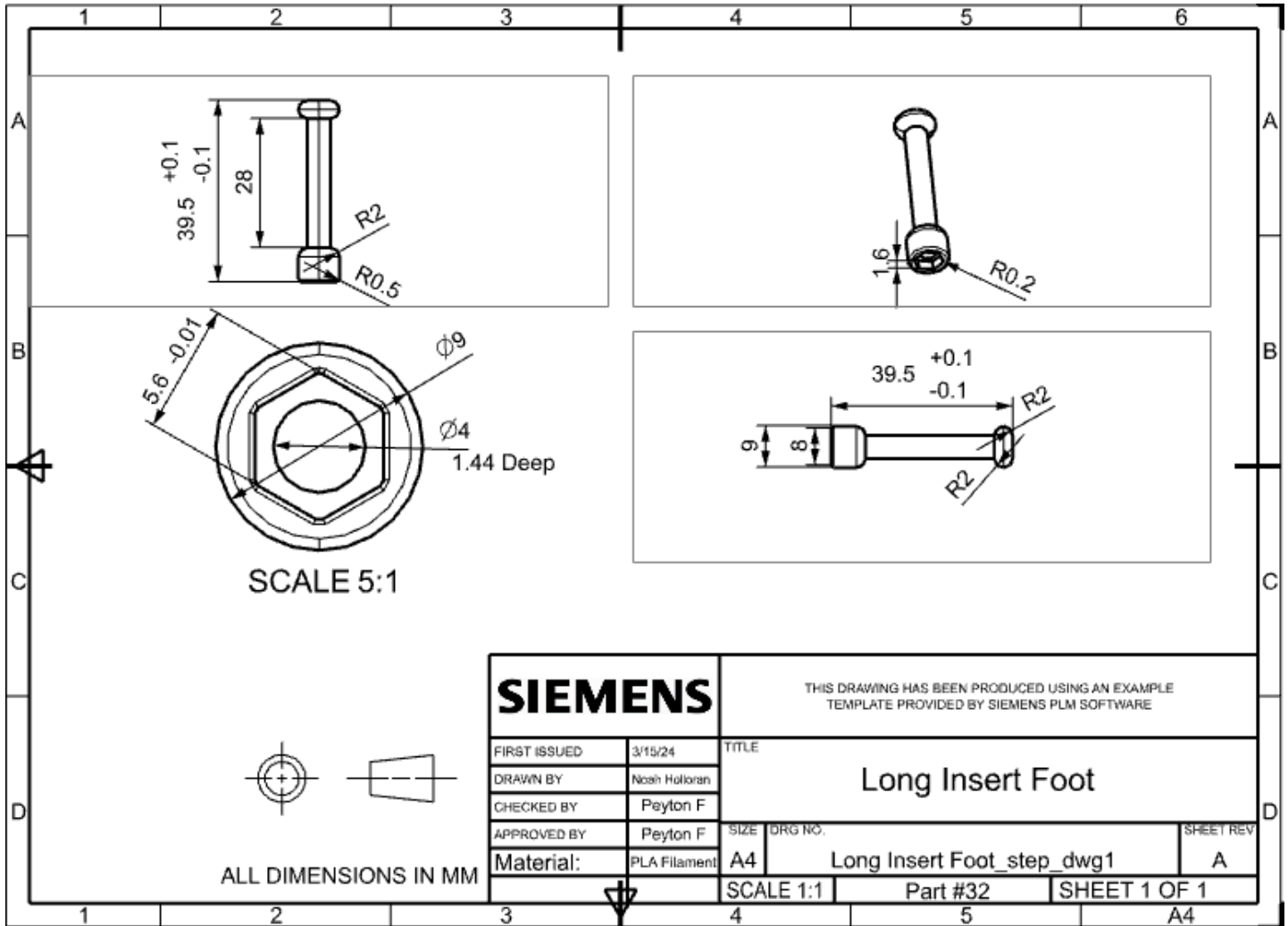
THIS DRAWING HAS BEEN PRODUCED USING AN EXAMPLE TEMPLATE PROVIDED BY SIEMENS PLM SOFTWARE

FIRST ISSUED	3/14/24
DRAWN BY	Nash Holloran
CHECKED BY	Peyton F
APPROVED BY	Peyton F
Material:	PLA Filament

TITLE		Insert Foot	
SIZE	DRG NO.	SHEET REV	
A4	Insert Foot_step_dwg1	A	

ALL DIMENSIONS IN MM

SCALE 1:1	Part #31	SHEET 1 OF 1
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SIEMENS		THIS DRAWING HAS BEEN PRODUCED USING AN EXAMPLE TEMPLATE PROVIDED BY SIEMENS PLM SOFTWARE	
FIRST ISSUED	3/15/24	TITLE	
DRAWN BY	Noah Holloran	Long Insert Foot	
CHECKED BY	Peyton F	SIZE ORG NO.	
APPROVED BY	Peyton F	A4	Long Insert Foot_step_dwg1
Material:	PLA Filament	SCALE 1:1	Part #32 SHEET 1 OF 1
			A4

Bill of Materials

Part #	Item	Cost	Quantity	Total	Source	Recycled/Found? (1 if recycled), empty if not)	Bought New (1 if bought new, empty if not)
1	MG996R Servo	\$4.75	6	\$28.50	Amazon		1
2	12V Solenoid	\$4.00	30	\$120.00	Amazon		1
3	PCA9685 Driver	\$7.00	1	\$7.00	Amazon		1
4	2A Circuit Breaker	\$3.50	6	\$21.00	Amazon		1
5	MOSFET Board	\$7.13	8	\$57.04	Amazon		1
6	Arduino MEGA	\$0.00	1	\$0.00	Noah Bamberger	1	
7	Arduino Power Supply	\$0.00	1	\$0.00	Noah Bamberger	1	
8	20A Power Strip	\$40.69	1	\$40.69	Amazon		1
9	5V Power Supply	\$23.99	1	\$23.99	Amazon		1
10	12V Power Supply	\$19.60	1	\$19.60	Amazon		1
11	Guitar	\$89.99	1	\$89.99	Amazon		1
12	Guitar Strings	\$0.00	6	\$0.00	Peyton Franciso	1	
13	22 AWG GRN/YLW Ground Wire	\$0.00	30	\$0.00	Automation Solutions	1	
14	22 AWG BLK Wire	\$0.00	30	\$0.00	Automation Solutions	1	
15	18 AWG BLK Wire	\$0.00	10	0	Rogers 222	1	
16	18 AWG White Wire	\$0.00	10	0	Rogers 222	1	
17	F-F Arduino Jumper Wires	\$0.00	10	\$0.00	Rogers 222	1	
18	Arduino Pin Crimps	\$0.00	60	\$0.00	Rogers 222	1	
19	String Ferrules	\$29.99	1	\$29.99	Amazon		1
20	Bracket Leg	\$0.00	4	\$0.00	Custom 3D Printed	1	1
21	Bracket Base	\$0.00	1	\$0.00	Craft Center	1	
22	Solenoid Group Mount Bracket	\$0.00	2	\$0.00	Custom 3D Printed	1	
23	Solenoid Group Mount	\$0.00	5	\$0.00	Custom 3D Printed	1	
24	Picking Bracket Top	\$0.00	2	\$0.00	Custom 3D Printed	1	
25	Picking Bracket Bottom	\$0.00	2	\$0.00	Custom 3D Printed	1	
26	Picking Bracket Left	\$0.00	2	\$0.00	Custom 3D Printed	1	
27	Picking Bracket Right	\$0.00	2	\$0.00	Custom 3D Printed	1	
28	Pick Holder	\$0.00	6	\$0.00	Custom 3D Printed	1	
29	Wood Screws	\$0.00	8	\$0.00	Craft Center	1	
30	M3 Bolts	\$21.99	1	\$21.99	Amazon		1
31	Insert Foot	\$0.00	15	\$0.00	Custom 3D Printed	1	
32	Long Insert Foot	\$0.00	15	\$0.00	Custom 3D Printed	1	
33	Tremolo Springs	\$0.00	2	\$0.00	Noah Bamberger	1	
					Total Recycled/Non Recycled:	22	12
Grand Total:				\$459.79	Percentage Recycled:	64.70588235	