

# **Yamhill-Carlton School District**

**Building Assessment** 

Carlton Elementary School Yamhill Middle School Yamhill High School The following report summaries recommendations contained within this report. The summary is organized by report area for each building; architectural civil, flooring, mechanical, and structural. The Electrical and Roofing summary are separate documents included at the end of this report.

#### **CARLTON ELEMENTARY SCHOOL**

#### Architectural Recommendations Exterior

- Tuckpointing of all brick and installation of a high quality masonry water repellant anti-graffiti
  guard like Prosoco or Professional Products of Kansas. Both of these products come with a
  factory certified warranty. We recommend requesting quotes from masons experienced in
  tuckpointing.
- Exterior painting of all wood surfaces, repair of any dry rot found

#### Architectural Recommendations Interior

Conduct an ADA Assessment of building

#### Civil Recommendations

Asphalt driveways are in poor to failing condition. District should hire civil and geo-technical
engineers to evaluate pavement sections, base rock, and soil conditions in determining upgrades
to driveways. We estimate paving improvements at \$350,000.00 to \$400,000.00.

### Flooring Recommendations

- Removal of all remaining VAT and replacement with new VCT, Vinyl, or carpet.
- Carpet throughout the High School is nearing end of life. We would recommend installing new carpet using a Tandus Powerbond product that carries a 25-year non pro-rated labor and material warranty. Estimated cost for flooring abatement and replacements is \$125,000.00.

#### Mechanical Recommendations

- Replace the existing heating system with high efficiency HVAC. The steam piping will continue to fail and the steam trap maintenance is ongoing. One recommended approach is to install individual PTAC (Packaged Terminal Air Conditioning) units or heat pumps for each area.
  - O Boiler replacement makes more sense for this school that the others. All the steam piping would have to be replaced. The boilers would be much smaller and higher efficiency that the current ones but there is a good chance that when the system is designed, existing coils in the cabinet unit heaters could be re-used. New control valves are required for hot water.
- Retro-commissioning of the DDC system. This has been done before however, the results did not correct many of the issues noted above.
- Turn on the exhaust fans and ensure all restrooms and locker rooms are exhausted to meet current code.

#### Structural Recommendations

Replace all siding that is showing signs of deterioration.

The following report summaries recommendations contained within this report. The summary is organized by report area for each building; architectural civil, flooring, mechanical, and structural. The Electrical and Roofing summary are separate documents included at the end of this report.

#### YAMHILL CARLTON INTERMEIDATE SCHOOL

#### Architectural Recommendations Exterior

- Tuckpointing of all brick and installation of a high quality masonry water repellant anti-graffiti guard like Prosoco or Professional Products of Kansas. Both of these products come with a factory certified warranty. We recommend requesting quotes from masons experienced in tuckpointing.
- Exterior painting of all wood surfaces, repair of any dry rot found
- Replacement of LP Siding with new horizontal lap siding
- Dryrot repair of covered pay area awning
- Continue with window replacement

#### Architectural Recommendations Interior

- Conduct an ADA Assessment of building
- With bond planning campaign review classroom casework, marker boards, tack boards, and interior doors of main building
- With bond planning review of exterior doors for replacement
- Provide adequate power and data drops to computer labs

#### Civil Recommendations

• Asphalt driveways are in poor to failing condition. District should hire civil and geo-technical engineers to evaluate pavement sections, base rock, and soil conditions in determining upgrades to driveways. We estimate paving improvements at \$275,000.00 to \$325,000.00.

#### Flooring Recommendations

- Removal of all remaining VAT and replacement with new VCT, Vinyl, or carpet.
- Carpet throughout the High School is nearing end of life. We would recommend installing new
  carpet using a Tandus Powerbond product that carries a 25 year non pro-rated labor and material
  warranty. Estimated cost for flooring abatement and replacements is \$105,000.00.

### Mechanical Recommendations

- Replace the existing heating system with high efficiency HVAC. The steam piping will continue to fail and the steam trap maintenance is ongoing. Because of the configuration of the building with substantial attic space, this school is a good candidate for a Variable Refrigerant Flow system that takes advantage of the temperature diversity by moving heat from hot areas to areas that need heat and cooling hot areas in the same way.
  - And alternate and recommended approach is to install individual PTAC (Packaged Terminal Air Conditioning) units or heat pumps for each area.
     Note that installation of PTACs or heat pumps will most probably require and upgrade to the electrical service to the campus.
  - Boiler replacement is a possibility but will require a complete replacement of all piping and coils in the building. Much of the heating water piping is most probably installed in 1957. High efficiency boilers would also require installation of propane to provide the best efficiency. This is NOT a recommendation.
- Retro-commissioning of the DDC system. This has been done before however, the results did not correct many of the issues noted above.
- Turn on the exhaust fans and ensure all restrooms and locker rooms are exhausted to meet current code.

#### Structural Recommendations

- Conduct periodic observation of the cracked north CMU wall in the boiler room.
- Conduct further investigation to determining whether proper ties have been installed between the roof and walls

The following report summaries recommendations contained within this report. The summary is organized by report area for each building; architectural civil, flooring, mechanical, and structural. The Electrical and Roofing summary are separate documents included at the end of this report.

### YAMHILL CARLTON HIGH SCHOOL

#### Architectural Recommendations Exterior

- Tuckpointing of all brick and installation of a high quality masonry water repellant anti-graffiti
  guard like Prosoco or Professional Products of Kansas. Both of these products come with a
  factory certified warranty. We recommend requesting quotes from masons experienced in
  tuckpointing.
- Exterior painting of all wood surfaces, repair of any dry rot found
- Replacement of Exterior door from library
- Replacement of Exterior door from room 211
- North side of Gymnasium Building wood siding needs paint

#### Architectural Recommendations Interior

- Modernization of science labs and prep room
- Have stored chemicals assessed for volatility and end of life
- Repairs to bathroom vinyl floors
- Upgrades to classroom storage and casework
- Add marker boards and tack boards to classrooms
- Move MDF switches from office to enclosed lockable room
- Improve HVAC in basement computer lab
- Gymnasium buildings needs to major modernization

#### **Architectural Program Recommendations**

• Evaluate the replacement of Voc Ag, woodshop/theater building, maintenance building with new Gymnasium, theater, shop building.

#### Civil Recommendations

• Asphalt driveways are in poor to failing condition. District should hire civil and geo-technical engineers to evaluate pavement sections, base rock, and soil conditions in determining upgrades to driveways. We estimate paving improvements at \$375,000.00 to \$425,000.00.

#### Flooring Recommendations

- Removal of all remaining VAT and replacement with new VCT, Vinyl, or carpet.
- Carpet throughout the High School is nearing end of life. We would recommend installing new carpet using a Tandus Powerbond product that carries a 25 year non pro-rated labor and material warranty. Estimated cost for flooring abatement and replacements is \$140,000.00.

#### Mechanical Recommendations

- Replace the existing heating system with high efficiency HVAC. The steam piping will continue to fail and the steam trap maintenance is ongoing. Because of the configuration of the building, this school is a good candidate for a Variable Refrigerant Flow system that takes advantage of the temperature diversity by moving heat from hot areas to areas that need heat and cooling hot areas in the same way.
  - And alternate and recommended approach is to install individual PTAC
    - (Packaged Terminal Air Conditioning) units or heat pumps for each area.
    - Note that installation of PTACs or heat pumps will probably require an upgrade of the electrical service to the campus
  - Boiler replacement is a possibility but will require a complete replacement of all piping in the building. Much of the heating water piping is most probably installed in 1936

- Retro-commissioning of the DDC system. This has been done before however, the results did not correct many of the issues noted above.
- Turn on the exhaust fans and ensure all restrooms and locker rooms are exhausted to meet current code.

#### Structural Recommendations

- Conduct periodic observation of the cracked west stairs.
- Gymnasium building northeast pilaster show sever deterioration needs immediate attention by removing loose material, cleaning rebar and installing a high quality patching mortar.
- Assessment of site drainage assuring that ground water is either running away from the building or is being collected by perforate foundation drains and conveyed away from the building.
- Replacement of downspouts and connection to storm water conveyance system.

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## **HIGH SCHOOL PANELBOARDS**

			Yamh	ll Carlton High School Panelboards							
Panel	Campus	Meter	Area	Equipment	Condition	Recommendation	Estimated Service Years Remaining	Estimated Upgrade Cos			
Main Distribution			Boiler Room	Siemens 120/208V 1200A 3P 4W	Good	Post One-Line	20+	\$0			
Α			Middle Floor	120/208V 125A 1P	Good	None	20+	\$0			
В			Middle Floor	120/208V 125A 1P	Good	None	20+	\$0			
С			Middle Floor	120/208V 125A 1P	Good	None	20+	\$0			
D			Middle Floor	120/208V 125A 1P	Good	None	20+	\$0			
F			Boiler Room	Siemens 120/208V 250A 3P	Good	None	20+	\$0			
G		9782964	Basement	Siemens 120/208V 250A 3P	Good	None	20+	\$0			
Н		9/82904	Basement	120/208V 125A 1P	Good	None	20+	\$0			
J			Boiler Room	Siemens 120/208V 250A 3P	Good	None	20+	\$0			
K			Middle Floor	Siemens 120/208V 250A 3P	Good	None	20+	\$0			
L			Middle Floor	Siemens 120/208V 250A 3P	Good	None	20+	\$0			
M			Student Store	Not Observed	Good	None	10+	\$0			
N				Library	120/208V 250A 3P	Good	None	20+	\$0		
Elev.			Elev. Mech Room	Not Observed	Good	None	10+	\$0			
Main Distribution			Gymnasium	Coast 120/208V 600A 3P 4W	Obsolete	Replace	0	\$20,000			
В		11-1		Coast 120V 225A 1P	Obsolete	Replace	0	\$3,000			
С		Unknown		Coast 120/208V 225A 3P	Obsolete	Replace	0	\$3,000			
E	Yamhill			Coast 120V 125A 1P	Obsolete	Replace	0	\$2,000			
			Facilities Building								
Α				Square D 120V XXXA 3P	Fair	Plan for replace	5	\$2,000			
В		Unknown		Trumbull 120V 200A 1P	Obsolete	Replace	0	\$2,000			
С							Federal Pacific 120V 100A 1P	Obsolete	Replace	0	\$2,000
		23782409	Stadium Fieldhouse	Unknown							
Main Distribution			Vocational AG	Unknown							
Α				Square D 120V 150A MB 1P	Fair	Plan for replace	5	\$3,000			
В		Unknown		Square D 120/208V 125A MB 3P	Fair	Plan for replace	5	\$3,000			
С				Square D 120/208V 225A MB 3P	Fair	Plan for replace	5	\$3,000			
D				Square D 120V XXXA 1P	Fair	Plan for replace	5	\$3,000			
Main Distribution			Industrial Arts/Theater	Unknown							
Α				ITE 120V 225A 1P	Fair	Plan for replace	5	\$3,000			
В		Unknown		ITE 120V 100A 1P	Fair	Plan for replace	5	\$3,000			
C				ITE 120V 100A 1P	Fair	Plan for replace	5	\$3,000			
Unlabeled				Square D 120/208V 225A 3P	Good	None	20+	\$0			
Main		21752836	Art/Health Trailer	Siemens 120/208V 225A 1P	Good	None	20+	\$0			
Main		23210280	Trailer (by greenhouse)	CH 120V 200A 1P	Good	None	20+	\$0			
			1-10-1-10-1				Total	\$55,0			

# INTERMEDIATE SCHOOL PANELBOARDS

			Yamhill Car	Iton Intermediate School Panelboa	rds												
Panel	Campus	Meter	Area	Equipment	Condition	Recommendation	Estimated Service Years Remaining	Estimated Upgrade Cost									
Main Distribution			Boiler Room	GE 120/208V 1200A 3P 4W	Good	Post One-Line	20+	\$0									
Α			South Hall 131	Fouch 120/208V 400A 1P	Obsolete	Replace	0	\$3,000									
A1			South Hall 131	Square D 120/208V XXXA 1P	Fair	Plan to replace	5+	\$3,000									
A2			Not Observed	Fed by 225A in PNL A													
В			Library Stage	Fouch 120/208V 100A 1P	Obsolete	Replace	0	\$2,000									
С			South Hall 148	Square D 120/208V 100A 1P	Fair	Plan to replace	5+	\$3,000									
E			South Hall 148	Fouch 120/208V 62A 1P	Obsolete	Replace	0	\$2,000									
G			South Hall 111	Square D 120/208V 200A 1P	Obsolete	Replace	0	\$3,000									
Н			South Hall 131	Square D 120/208V 200A 1P	Obsolete	Replace	0	\$2,000									
J									Gym/Stage	Square D 120V 200A 1P	Obsolete	Replace	0	\$5,000			
K				West Hall 108	Fouch 120/208V 200A 1P	Obsolete	Replace	0	\$3,000								
L			West Hall 108	Fouch 120/208V 200A 1P	Obsolete	Replace	0	\$3,000									
М		Unknown	Janitor 123	GE 120/208V 225A 3P	Good	None	20+	\$0									
N (Possibly 88)					North Bldg Janitor 179	GE 120/208V 225A 1P	Good	None	20+	\$0							
N1	Yamhill											North Bldg Janitor 179	GE 120/208V 225A 1P	Good	None	20+	\$0
0							North East Classroom	Siemens 120/208V 150A 1P	Good	None	10+	\$0					
P					Classroom 181	Not Observed											
Q							Boiler Room	GE 120/208V 225A 3P	Good	None	10+	\$0					
R (Possibly 91B)			Boiler Room	Square D 120/208V 400A 1P	Fair	Plan to replace	5+	\$3,000									
V				Janitor 123	Square D 120/208V 100A 1P	Obsolete	Replace	0	\$3,000								
W1 (91C)			Janitor 123	Square D 120/208V 100A 1P	Good	None	10+	\$0									
W2 (91A)			North Bldg Vest 187	Square D 120/208V 225A 1P	Good	None	10+	\$0									
SHOP			Garage	Square D 120V 100A 1P	Good	None	10+	\$0									
Sub Distribution			Janitor 123	GE 120/208V 600A 3P 4W	Good	Post One-Line	20+	\$0									
Sub A			Janitor 123	Square D 120/208V 100A 1P	Good	None	10+	\$0									
K1 (MDP)			Boiler Room	GE 120/208V 800A 3P	Good	None	20+	\$0									
K2			Boiler Room	GE 120/208V 225A 3P	Good	None	20+	\$0									
K3		9912830	Boiler Room	GE 120/208V 225A 3P	Good	None	20+	\$0									
K4			Boiler Room	GE 120/208V 225A 3P	Good	None	20+	\$0									
							Total	\$35,000									

## **ELEMENTARY SCHOOL PANELBOARDS**

			Yamhill Ca	lton Elementary School Panelboard	ds									
Panel	Campus	Meter	Meter Area Equipment		leter Area Equipment Condition		Condition	Recommendation	Estimated Service Years Remaining	Estimated Upgrade Cost				
Main Distribution			Mechanical Room	CH 120/208V 1000A 1P 3W	Obsolete	Replace	0	\$26,000						
Main Distribution 2		9911817	Boiler Room	CH 208V 600A 3P 3W	Fair	Plan for Replace	10+	\$20,000						
Sub Distribution			Boiler Room	CH 120/208V 600A 1P 3W	Obsolete	Replace	0	\$20,000						
Α			9911817		2nd Floor Center Hall	Coast 120/208V 100A 1P	Obsol/Modif	Replace	0	\$3,000				
С									Boiler Room	Coast 120/208V 200A 1P	Obsolete	Replace	0	\$3,000
F					Stage	Square D 120/208V 200A 1P	Obsolete	Replace	0	\$3,000				
G				Kitchen	CH 120/208V XXXA 1P	Good	None	10+	\$0					
Н	Carlton			5511017	Kitchen	CH 208V XXXA 3P	Good	None	10+	\$0				
J (E on Dwgs)	Cariton		2nd Floor Center Hall	Siemens 120/208V XXXA 1P	Modified	Replace Cover	10+	\$500						
K			Hall 205	CH 120/208V 225A 1P	Fair	Plan for Replace	5	\$3,000						
L (Assumption)					Outside Library, Hall 206	Coast 120/208V 200A 1P	Obsolete	Replace	0	\$3,000				
M			Boiler Room	CH 120/208V 225A 1P	Good	Blank cover missing	10+	\$0						
N			Janitor Closet	Siemens 120/208V 250A 3P	Good	None	20+	\$0						
Р			Outside New Building	120/208V 100A feed 1P	Good	Not Observed	20+	\$0						
Main		26932415	Trailer by Play area	Not Observed				\$0						
Main		26932413	Trailer by Greenhouse	ITE				\$0						
				-			Total	\$81,500						

Building	Roof Type	Square Ft. (approx.)	Age (approx.)	Maintenance Recommendations	Maintenance Estimate	Replacement Estimate	Overall Rating	Life Expectancy
District Office	Shingle (Roof A)	3,528 sf	25 yrs (1988)	Reattach loose fasteners. Seal pipe penetration. Remove moss. Schedule for replacement with the next 2-4 years.	\$350.00	\$15,000.00	Fair	2-4 years (2015-2017)
Tech Department Modular	Built-up Roof (Roof A)	1,110 sf	23 yrs (1990)	Seal lap & pipe penetration.	\$350.00	\$7,500.00	Fair	2-4 years (2015-2017)
	Built-up Roof (Roofs A & B)	20,205 sf	Unknown (15 yrs Est)	Repair Chem-curbs & pitch pans. Repair pipe penetrations. Repair base flashing.		\$160,000.00	Good to Fair	4-6 years (2017-2019)
	Built-up Roof (Roof H)	225 sf	Unknown (20+ yrs Est)	Repair holes in membrane. Reattach loose metal flashing. Schedule for replacement within the next 1-2 years.	-	\$3,500.00	Poor	1-2 years (2013-2014)
	Shingle (Roof V)	1,943 sf	Unknown (20+ yrs Est)	Repair shingles. Replace missing shingle. Schedule for replacement within the next 1-2 years.			Fair to Poor	1-2 years (2013-2014)
Carlton Elementary School	Shingle (Roofs I, J, M, O & Q)	5,474 sf	12 yrs (2001)	No problems noted.			Good	14-16 years (2027-2029)
	Metal (Roofs C, D, G & N)	6,971 sf	12 yrs (2001)	Replace caulking at chimney.			Good	16-18 years (2020-2031)
	Metal (Roofs E, L, S, T, U & W)	7,547 sf	Unknown (20+ yrs Est)	No problems noted.		\$75,000.00	Fair	3-5 years (2016-2018)
	Single-ply (Roof F)	2,024 sf	Unknown (15 yrs Est)	Repair holes in membrane.		<b>A</b> 05 000 00	Fair	3-5 years (2016-2018)
	Single-ply (Roof K, P & R)	288 sf	12 yrs (2001)	No problems noted.		\$25,000.00	Good to Fair	6-8 years (2019-2021)

Building	Roof Type	Square Ft. (approx.)	Age (approx.)	Maintenance Recommendations	Maintenance Estimate	Replacement Estimate	Overall Rating	Life Expectancy
High School	Shingle (Roofs A, E, G, J, L, P & Q)	14,875 sf	11 yrs (2002)	Reattach fasteners at ridge cap.	\$2,500.00	\$60,000.00	Good	11-15 years (2024-2028)
Main Building	Built-up Roof (Roofs B, C, D, F, H, I, K, M, N & O)	5,951 sf	11 yrs (2002)	Repair base flashing & metal coping.	\$0.00	TBD	Good	8-10 years (2021-2023)
High School Art Modular	Shingle (Roof A)	2,730 sf	16 yrs (1997)	Replace missing shingles & monitor curling shingles condition.	\$350.00	\$15,000.00	Fair	4-6 years (2017-2019)
High School Boys Batting Cage	Shingle (Roofs A & B)	3,153 sf	Unknown (15 yrs Est)	Replace missing shingles.	\$300.00	\$15,000.00	Good to Fair	8-10 years (2021-2023)
High School Girls Batting Cage	Shingle (Roofs A, B & C)	3,304 sf	18 yrs (1995)	Replace missing shingles & monitor curling shingles condition. Remove moss.	\$300.00	\$15,000.00	Good to Fair	6-8 years (2019-2021)
High School Cafeteria	Shingle (Roofs A - E)	11,015 sf	11 yrs (2002)	Reattach loose downspout.	\$200.00	\$55,000.00	Good	11-15 years (2024-2028)
High School Garage	Metal (Roof A)	1,800 sf	Unknown (20 yrs Est)	Repair fasteners that are backing out. Reattach ridge metal.	\$350.00	\$30,000.00	Fair	7-10 years (2020-2023)
	Built-up Roof (Roof A)	5,184 sf	Unknown (20+ yrs Est)	Repair cap sheet ridging, holes & laps. Replace gutters when major work is done. Schedule for replacement within the next 1-2 years.	\$500.00	\$35,000.00	Poor	1-2 years (2013-2014)
High School Grandstand	Shingle (Roof B)	225 sf	2 yrs (2011)	No problems noted.	\$0.00	TBD	Good	18-20 years (2031-2033)
	Shingle (Roofs C, D & E)	618 sf	Unknown (10 yrs Est)	No problems noted.	\$0.00	TBD	Good to Fair	8-10 years (2021-2023)

Building	Roof Type	Square Ft. (approx.)	Age (approx.)	Maintenance Recommendations	Maintenance Estimate	Replacement Estimate	Overall Rating	Life Expectancy
High School	Single-ply (Roofs A & B)	14,751 sf	15 yrs (1998)	Repair loose seam. Inspect fasteners & repair as required. Repair gaps in drip edge metal.	\$500.00	\$135,000.00	Fair	4-6 years (2017-2019)
Gymnasium	Metal (Roof C)	125 sf	15 yrs (1998)	No problems noted.	\$0.00	TBD	Good	14-16 years (2027-2029)
High School Industrial Arts-Wood Shop	Metal (Roofs A & B)	11,060 sf	Unknown (30+ yrs Est)	Repair fasteners that are backing out. Replace sealant at vent. Schedule for replacement within the next 2-5 years.		\$155,000.00	Fair	2-5 years (2015-2018)
High School Maintenance Building	Built-up Roof (Roof A, B, C & E)	5,714 sf	Unknown (25+ yrs Est)	Replace mastic at chimney. Repair membrane splits & cap sheet. Repair base flashing. Cut out roofing & seal scupper. Seal metal coping joints & nails at wood supports. Schedule for replacement within next 1-2 years.	\$2,500.00	\$60,000.00	Poor	1-2 years (2013-2014)
	Metal (Roof D)	240 sf	12 yrs (2001)	No problems noted.	\$0.00	TBD	Good	17-19 years (2020-2022)
High School Special Learning Module	Metal (Roof A)	1,450 sf	30 yrs (1983)	Remove staple and repair holes in peel & stick material at ridge line. Schedule for replacement within the next 2-5 years.		\$24,000.00	Fair	2-5 years (2015-2018)
High School Track Shed	Shingle (Roofs A & B)	1,632 sf	6 yrs (2007)	No problems noted.	\$0.00	\$6,800.00	Good	18-20 years (2021-2023)
High School Vocational-Ag Shop	Metal (Roofs A & B)	7,290 sf	Unknown (30 yrs Est)	Repair fasteners that are backing out. Clean gutters.	\$400.00	\$100,000.00	Fair	4-7 years (2017-2020)

Building	Roof Type	Square Ft. (approx.)	Age (approx.)	Maintenance Recommendations	Maintenance Estimate	Replacement Estimate	Overall Rating	Life Expectancy
	Shingle (Roofs A & I)	30,809 sf	Unknown (25 yrs Est)	Inspect and repair or replace shingles as required. Inspect and repair vent flashings & penetrations. Replace rusted gutters when major work is done. Schedule for replacement within the next 1-3 years.		\$140,000.00	Poor	1-3 years (2013-2015)
	Shingle (Roof J)	6,966 sf	1 yr (2012)	No problems noted.		TBD	Good	26-28 years (2039-2041)
	Built-up Roof (Roofs B & C)	4,369 sf	Unknown (25 yrs Est)				Poor	1-3 years (2013-2015)
Yamhill Intermediate School	Built-up Roof (Roof D & E)	7,104 sf	Unknown (25 yrs Est)	Repair cap sheet. Inspect & repair metal flashing & penetrations as required. Repair voids in mastic repairs. Schedule for replacement within the next 1-3 years.		\$250,000.00	Fair to Poor	1-3 years (2013-2015)
	Built-up Roof (Roof F)	17,157 sf	Unknown (25 yrs Est)				Fair to Poor	1-3 years (2013-2015)
	Built-up Roof (Roofs G & H)	650 sf	Unknown (25 yrs Est)				Fair to Poor	1-3 years (2013-2015)
	Single-ply (Roof K)	330 sf	Unknown (15 yrs Est)	No problems noted.		TBD	Fair	4-6 years (2017-2019)