

# PROJECT STATUS

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## Emergency Communication System Upgrade (ECSU)

C800 Project Leader: John Hartsock

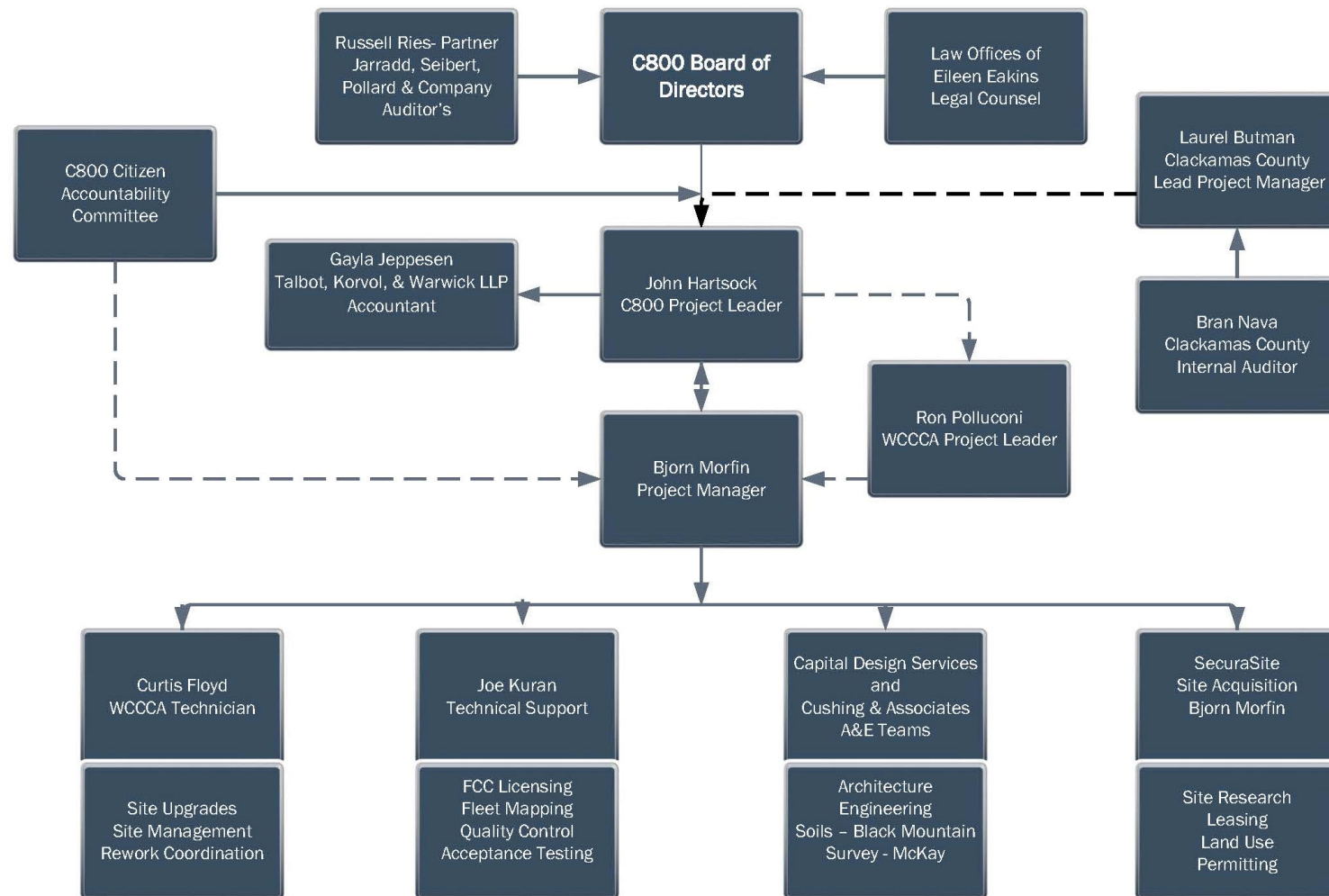
WCCCA Project Leader: Ron Polluconi

C800 Project Manager: Bjorn Morfin

Date: November 1, 2018



# C800 ECSU Project Team



# Project Status Summary

	C800
<ul style="list-style-type: none"><li>New Site Acquisition / Design / Construction:</li></ul>	<ul style="list-style-type: none"><li><b>Barton (Carver):</b> Land use approved submitting for permits project bid on August 7, 2018. Anticipate construction start in December.</li><li><b>Cooks Butte:</b> Finalizing land use submittal for submitting by late November</li><li><b>Kerr Parkway Water Tank:</b> Base on neighborhood meeting we analyzing the site and looking at alternative sites.</li><li><b>Damascus:</b> Construction complete.</li><li><b>Wilsonville:</b> Possible movement on access easement / researching a new sites.</li><li><b>Sandy:</b> Construction complete.</li><li><b>Canby:</b> Construction complete.</li></ul>

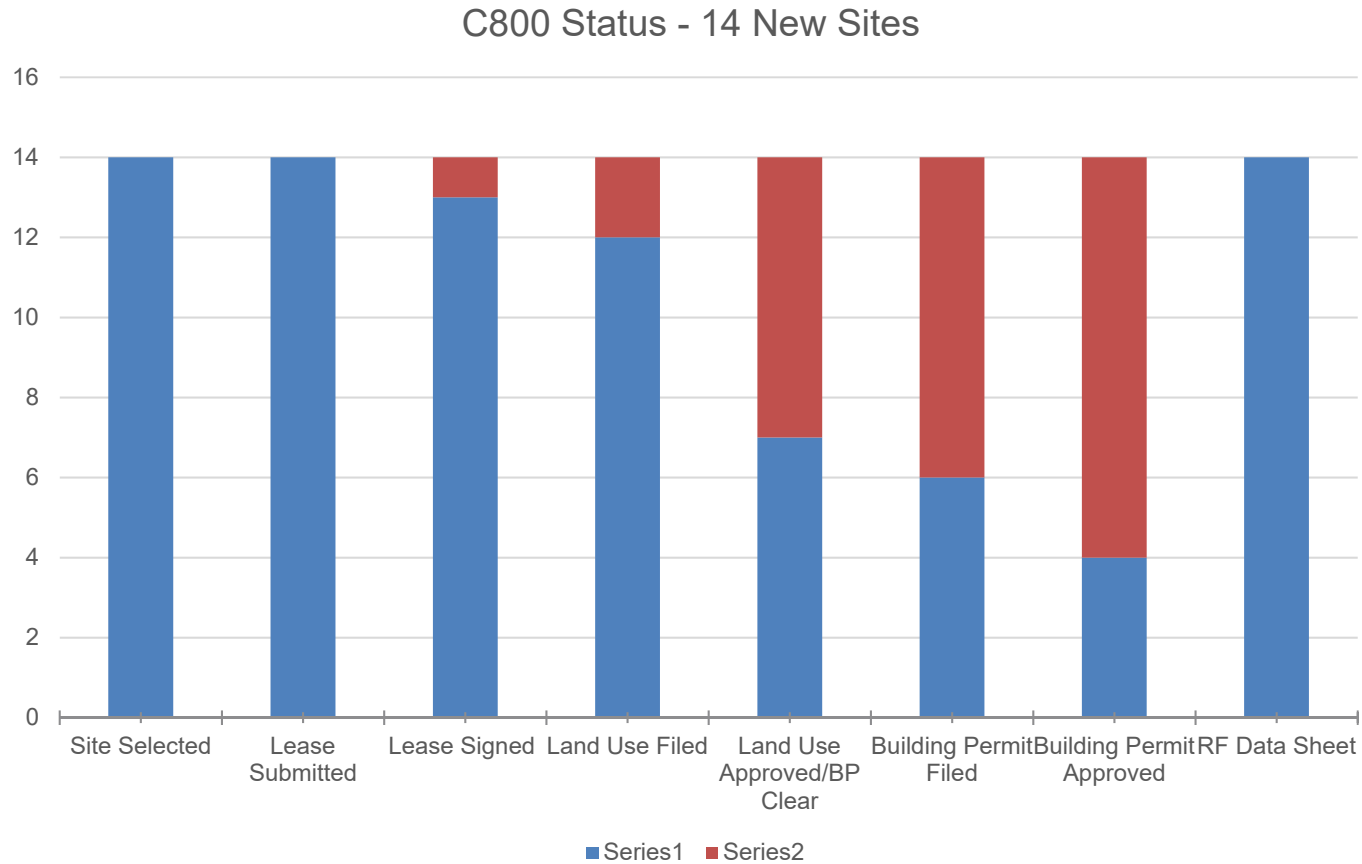


# Project Status Summary

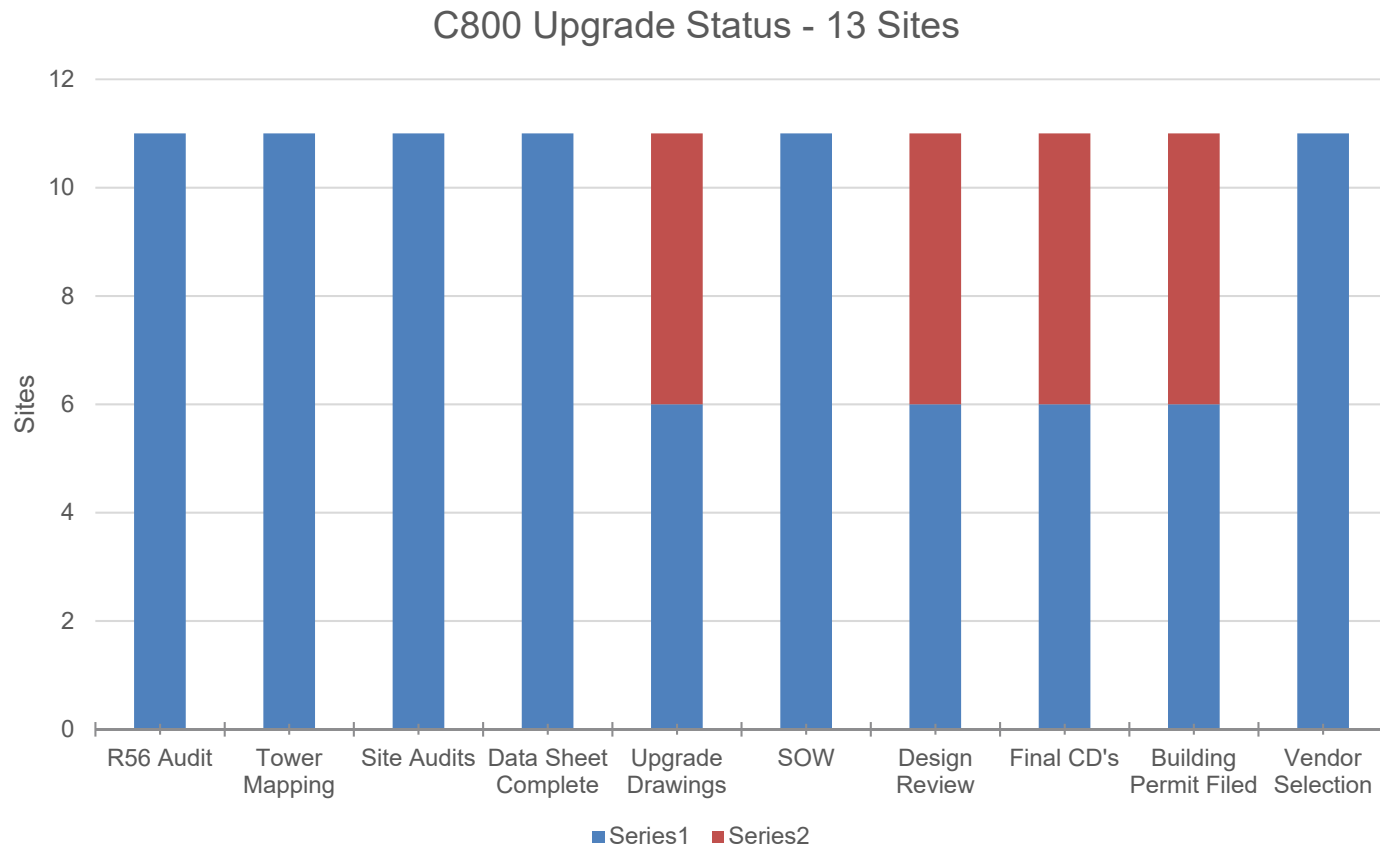
	C800
<ul style="list-style-type: none"> <li>New Site Acquisition / Design / Construction:</li> <li>Existing Site Design / Construction</li> </ul>	<ul style="list-style-type: none"> <li><b>Crutcher Bench (BLM):</b> Construction to begin at completion of access bridge repair – estimated to be late November</li> <li><b>Highland Butte (BLM):</b> Construction to begin by mid November – finalizing tree sale with BLM</li> <li><b>Tom Dick &amp; Harry (USFS):</b> NEPA work underway - awaiting USFS review.</li> <li><b>Memaloose (USFS):</b> NEPA work underway - awaiting USFS review.</li> <li><b>Oak Grove Butte (USFS):</b> NEPA work underway - awaiting USFS review. .</li> <li><b>Whale Head (USFS):</b> NEPA work underway - awaiting USFS review.</li> <li><b>Existing Sites</b>—Tower upgrades underway on five sites. Balance of existing sites, seven, to start construction mid November.</li> </ul>



# Site Acquisition Status – C800



# Site Upgrade Status – C800



# Project Schedule

Task Name				2016				2017				2018				2019			
	Half Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4
C800 Radio Systems Upgrade 6-1-2018																			
Site Acquisition & Design & Construction																			
Aquisition - Land Leases / Survey / Soils / Geotech																			
Site Designs, Engineering /Architecture / Land Use / Permits / Bid Award Contract																			
Construct New Site																			
Upgrade Existing Communications Sites																			
Site Designs, Engineering /Architecture / Land Use / Permits/ Bid & Award Construction																			
Construct Existing Site																			
WCCCA/C800 Phase IV P25 System (Voice/Data/Paging)																			
P25 LMR System and Subscribers																			
Upgrade or Replace P25 Subscriber Radios																			
Upgrade P25 LMR Infrastructure																			
New/upgraded alarms, security, telemetry, site management systems, procurment																			
Upgrade or Replace P25 IV&D Radio/Dispatch Consoles																			
Recording/Logging equipment upgrade/replacement																			



# Project Schedule

Task Name	2016								2017				2018				2019			
	Half Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	1st Half Qtr 1	Qtr 2	2nd Half Qtr 3	Qtr 4	
Backup Dispatch (Wide and Control Station modes)																				
Site on Wheels (wide and ST modes)																				
Microwave Backhaul Systems																				
New/Upgrade 48 VDC and Battery Backup Systems																				
Paging, Messaging Systems upgrade/replacement																				
IP based Fire Station Alerting System																				
Video and Security systems																				
Interoperable RF Systems and Links																				
System Operational November 15, 2019																				

- New Site Design & Construction complete: July 2019
- Existing Sites Upgrade complete: April 2019
- System Operational Date: November 2019





# C800 Radio System Upgrade Budget <sup>(1)</sup>

Project:	<b>C800 Radio System Upgrade</b>		
Date Original:	10/1/2015	Date Updated:	Nov 1, 2018
Project Manager:	Bjorn Morfin		

Item	Budget	Original Encumbrance	Additional Encumbrance / Change Order	Estimate to Complete	Percent Complete	Estimated Total	(Over) Under Budget	Expended
<b>Soft Cost</b>								
Site Acquisition Consulting - Quest	60,000	30,000	40,000	0	95.81%	70,000	(10,000)	67,069.81
Site Acquisition Consulting / Permits - Securasite	320,000	268,500	50,000	0	90.73%	318,500	1,500	288,981.31
Site Planning A&E - Cushing/Capital	725,000	317,178	380,100	30,000	90.56%	727,278	(2,278)	658,622.45
Geotechnical+13:45 / Environmental Consulting - Black Mtn	250,000	89,100	315,992	30,000	87.62%	435,092	(185,092)	381,219.27
Survey - McKay	75,000	50,160	59,880	20,000	56.14%	130,040	(55,040)	73,005.00
USFS Land Use Fees	15,000	10,000	24,000	5,000	85.48%	39,000	(24,000)	33,338.70
Land Use Fees	25,000	8,379	2,500	15,000	36.09%	25,879	(879)	9,339.00
Plan Check / Permit Cost	60,000	5,800	5,000	45,000	17.07%	55,800	4,200	9,525.20
Printing	2,500			2,500	0.00%	2,500	0	0.00
Bid Advertising	3,500	60	730	1,000	47.06%	1,790	1,710	842.44
Materials Testing & Inspection	40,000	1,200	2,500	20,000	11.07%	23,700	16,300	2,623.75
Project Management	300,000	80,000	165,200	25,000	67.65%	270,200	29,800	182,794.99
Legal Fees	30,000	12,000	10,000	8,000	42.63%	30,000	0	12,787.60
Licensing	20,000	67,000		20,000	76.19%	87,000	(67,000)	66,286.50
Miscellaneous	30,000	6,800	70,000	4,000	92.53%	80,800	(50,800)	74,760.88
<b>Sub-Total Soft Cost</b>	<b>1,956,000</b>	<b>946,177</b>	<b>1,125,902</b>	<b>225,500</b>	<b>81.01%</b>	<b>2,297,579</b>	<b>(341,579)</b>	<b>1,861,197</b>
<b>Construction Cost</b>								
Site Construction	8,895,000	1,681,161	3,587,967	1,290,000	36.87%	6,559,128	2,335,872	2,418,181.40
Buildings	1,350,000	2,710,369	101,639	(818,002)	86.13%	1,994,006	(644,006)	1,717,352.60
Towers	660,000	511,282	461,207	250,000	62.84%	1,222,489	(562,489)	768,213.20
Generator	500,000	428,750	84,446	35,000	62.67%	548,196	(48,196)	343,542.21
48VDC	1,065,000	1,004,051		50,000	9.15%	1,054,051	10,949	96,466.64
Lake Oswego Antenna	18,000	17,500	0	0	100.07%	17,500	500	17,511.75
Existing Sites	In Construction	0		0	0.00%	0	0	6,400.00
<b>Sub-Total Construction Cost</b>	<b>12,488,000</b>	<b>6,353,113</b>	<b>4,235,259</b>	<b>806,998</b>	<b>47.10%</b>	<b>11,395,370</b>	<b>1,092,630</b>	<b>5,367,667.80</b>



# C800 Radio System Upgrade Budget (2)

Project:	<b>C800 Radio System Upgrade</b>		
Date Original:	10/1/2015	Date Updated:	Nov 1, 2018
Project Manager:	Bjorn Morfin		

Item	Budget	Original Encumbrance	Additional Encumbrance / Change Order	Estimate to Complete	Percent Complete	Estimated Total	(Over) Under Budget	Expended
<b>Equipment Costs</b>								
Simulcast Equipment	20,726,000	\$22,203,399		200,000	63.65%	22,403,399	(1,677,399)	14,259,038.02
Master Site Equipment	in Simulcast			0		0		0.00
Console	in Simulcast			0		0		0.00
Back up Dispatch	in Simulcast			0		0		0.00
Spares	in Simulcast			0	0.00%	0	0	0.00
Paging	373,000			373,000	2.02%	373,000	0	7,523.31
Subscriber Radios	5,000,000	5,911,102	1,288,896	(2,199,998)	109.18%	5,000,000	0	5,459,115.80
Unified Push to Talk	in Simulcast				0.00%	0		0.00
Asset Management	119,000			119,000	0.00%	119,000	0	0.00
Post Warranty / System Refresh	5,800,000	5,812,058		0	100.00%	5,812,058	(12,058)	5,812,058.44
Test Equipment	100,000			100,000	0.00%	100,000	0	0.00
Microwave	3,368,000	406,169	2,671,467	250,000	17.83%	3,327,636	40,364	593,477.01
Security System	1,364,000			500,000	0.22%	500,000	864,000	1,079.96
<b>Subtotal Equipment Costs</b>	<b>36,850,000</b>	<b>34,332,728</b>	<b>3,960,363</b>	<b>(657,998)</b>	<b>69.44%</b>	<b>37,635,093</b>	<b>(785,093)</b>	<b>26,132,293</b>
Bond Cost	300,000	290,372		0	111.43%	290,372	9,628	323,547
<b>Subtotal Project Cost</b>	<b>51,594,000</b>	<b>41,922,390</b>	<b>9,321,524</b>	<b>374,500</b>	<b>65.26%</b>	<b>51,618,414</b>	<b>(24,414)</b>	<b>33,684,705</b>
<b>Contingency</b>	<b>7,403,739</b>			<b>7,378,739</b>	<b>0.00%</b>	<b>7,378,739</b>	<b>25,000</b>	
<b>Total Project Cost</b>	<b>58,997,739</b>	<b>41,922,390</b>	<b>9,321,524</b>	<b>7,753,239</b>	<b>57.10%</b>	<b>58,997,153</b>	<b>586</b>	<b>33,684,704.67</b>

Premium 7,165,794

Bond Proceeds	5,845,000	Taxable
	53,155,000	Non Taxable
	<b>59,000,000</b>	



# Q4'18 Quarterly Outlook

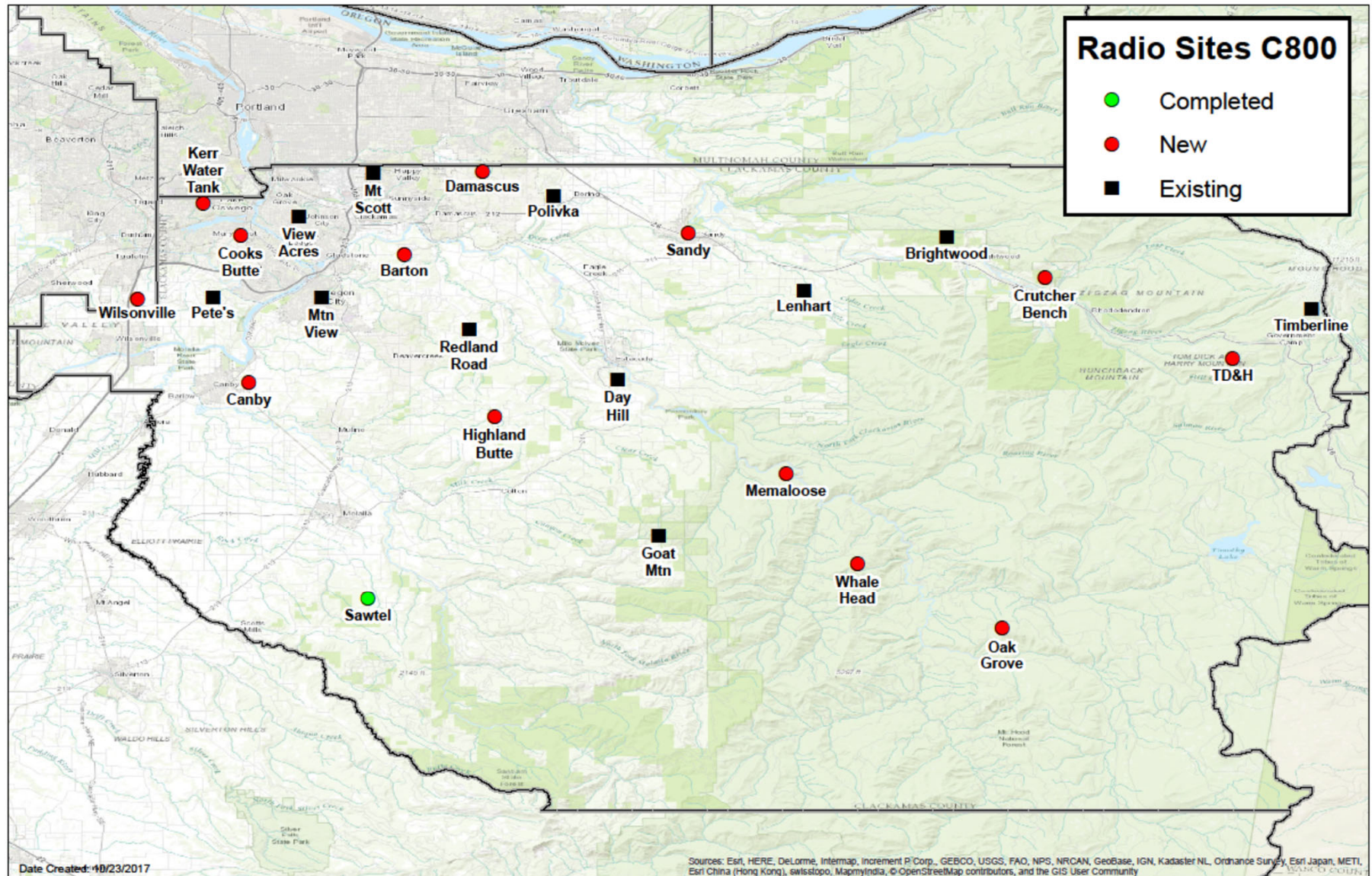
	<b>C800</b>
<ul style="list-style-type: none"> <li>• Procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Bid and award tower upgrade at existing sites</li> <li>• Bid and award asset management system</li> </ul>
<ul style="list-style-type: none"> <li>• Leases &amp; Land Use Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Submit Cooks Butte location for land use</li> <li>• Submit new Wilsonville site for land use and building permits</li> </ul>
<ul style="list-style-type: none"> <li>• Existing Site &amp; Building Upgrades</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to construct civil work relating to shelter/generator foundation upgrades, doors, electrical, and related site compound renovations.</li> <li>• Construct tower upgrades at existing sites</li> </ul>
<ul style="list-style-type: none"> <li>• Radio / Microwave</li> </ul>	<ul style="list-style-type: none"> <li>• Continue radio infrastructure install</li> <li>• Stage microwave system and begin install</li> <li>• Finalize subscriber template design and distribute radios</li> </ul>





# Appendix C

## C800 Site Locations



**PROJECT SUMMARY:** To create an efficient, dependable public safety radio communications system that works in all parts of Clackamas County!

## What's Happening With the Communications Upgrade Project?

