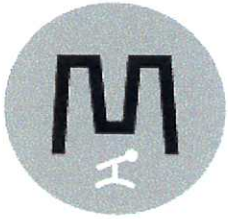


**MURRAY**  
CITY COUNCIL

# Council Meeting July 16, 2019



# Murray City Municipal Council

## Notice of Meeting

July 16, 2019

Murray City Center

5025 South State Street, Murray, Utah 84107

### Meeting Agenda

**4:45 p.m.**      **Committee of the Whole** - Conference Room #107  
Dave Nicponski conducting

### **Approval of Minutes**

Committee of the Whole – April 2, 2019

### **Discussion Items**

1. New Murray City Hall Schematic Design Update – Mayor Camp, GSBS Architects, Layton Construction (20 minutes)
2. Carbon Free Power Project/Small Modular Reactor – Mayor Camp, Blaine Haacke (25 minutes)
3. Election Code Amendments – Mayor Camp, Jennifer Kennedy (10 minutes)
4. Title 16 Subdivision Ordinance Amendments – Melinda Greenwood, Jared Hall (10 minutes)
5. Rezone 5729 South 700 West – Melinda Greenwood, Jared Hall (10 minutes)
6. Rezone 347 East Winchester Street – Melinda Greenwood (10 minutes)
7. Public Safety Officer and Firefighter Line-of-Duty Death Act Compliance – Mayor Camp, G.L. Critchfield (10 minutes)

### **Announcements**

### **Adjournment**

The Council Meeting may be viewed live on the internet at <http://murraycitylive.com/>

**6:30 p.m.**      **Council Meeting** – Council Chambers  
Diane Turner conducting.

### **Opening Ceremonies**

Call to Order

Pledge of Allegiance

### **Approval of Minutes**

Council Meeting – June 18, 2019

### Special Recognition

1. Murray City Council **Employee of the Month, Tyson Wendel**, Police Officer/Patrol Division - Chief Burnett and Brett Hales

### Citizen Comments

Comments will be limited to three minutes, step to the microphone, state your name and city of residence, and fill out the required form.

### Public Hearings

Staff and sponsor presentations, and public comment prior to Council action on the following matter.

1. Consider an ordinance relating to land use; amends the Zoning Map for the property located at 770 East Vine Street, Murray City, Utah from the R-1-8 (Low Density Single Family) Zoning District to the R-1-6 (Low/Medium Density Single Family) Zoning District. Melinda Greenwood; Sunny Vines/Bryan Muriel applicant.

### Business Items

1. Consider a resolution approving the Local Public Safety and Firefighter Surviving Spouse Trust Fund cost-sharing agreement by and between Murray City and the Commissioner of the Utah Department of Public Safety, Jess L. Anderson. - G.L. Critchfield.

### Mayor's Report and Questions

### Adjournment

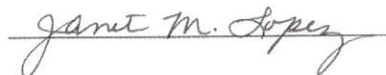
#### NOTICE

Supporting materials are available for inspection in the City Council Office, Suite 112, at the City Center, 5025 South State Street, Murray, Utah, and on the Murray City internet website.

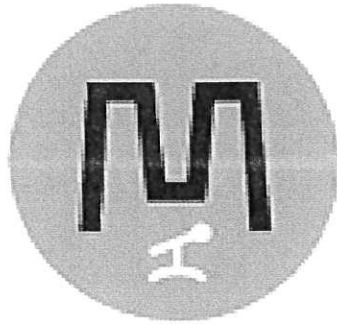
SPECIAL ACCOMMODATIONS FOR THE HEARING OR VISUALLY IMPAIRED WILL BE MADE UPON A REQUEST TO THE OFFICE OF THE MURRAY CITY RECORDER (801-264-2663). WE WOULD APPRECIATE NOTIFICATION TWO WORKING DAYS PRIOR TO THE MEETING. TDD NUMBER IS 801-270-2425 or call Relay Utah at #711.

Council Members may participate in the meeting via telephonic communication. If a Council Member does participate via telephonic communication, the Council Member will be on speaker phone. The speaker phone will be amplified so that the other Council Members and all other persons present in the Council Chambers will be able to hear all discussions.

On Friday, July 12, 2019, at 9:00 a.m., a copy of the foregoing notice was posted in conspicuous view in the front foyer of the Murray City Center, Murray, Utah. Copies of this notice were provided for the news media in the Office of the City Recorder. A copy of this notice was posted on Murray City's internet website [www.murray.utah.gov](http://www.murray.utah.gov) and the state noticing website at <http://pmn.utah.gov>.



Janet M. Lopez  
Council Executive Director  
Murray City Municipal Council



MURRAY  
CITY COUNCIL

# Committee of the Whole





**MURRAY**  
CITY COUNCIL

# Committee of the Whole Minutes



**MURRAY**  
CITY COUNCIL

**DRAFT**

## **MURRAY CITY MUNICIPAL COUNCIL COMMITTEE OF THE WHOLE**

The Murray City Municipal Council met as a Committee of the Whole on Tuesday, April 2, 2019 in the Murray City Center, Conference Room #107, 5025 South State Street, Murray Utah.

### **Council Members in Attendance:**

Dave Nicponski - Chair	District #1
Dale Cox – Vice Chair	District #2
Jim Brass	District #3
Diane Turner	District #4
Brett Hales	District #5

### **Others in Attendance:**

Blair Camp	Mayor	Jan Lopez	Council Director
G.L. Critchfield	City Attorney	Jennifer Kennedy	City Recorder
Doug Hill	Chief Administrative Officer	Kim Sorensen	Parks & Rec. Director
Jennifer Heaps	Comm. & PR Director	Pattie Johnson	Council Office
Rob White	IT Director	Danny Astill	Public Works Director
Melinda Greenwood	CED Director	Danny Hansen	IT
Jon Harris	Fire Chief	Mike Dykman	Assist. Fire Chief
George Zboril	Deputy Fire Marshal	Mark Vlasic	Landmark Design
Brenda Moore	Finance	Lane Page	Cemetery
Jennifer Brass	Resident	Jann Cox	Resident
Janice Strobell	Resident	Kat Martinez	Resident
Brent Barnett	Resident		

Mr. Nicponski called the Committee of the Whole meeting to order at 4:45 p.m.

**Approval of Minutes** - Mr. Nicponski asked for comments or a motion on the minutes from:

- ° Council Retreat – January 17, 2019

Mrs. Turner moved approval. Mr. Hales seconded the motion. (Approved 5-0)

### **Discussion Items**

**Murray Central Station Small Area Plan** – Jared Hall, Jim McNulty, and Mark Vlasic

Mr. Hall gave a brief background related to the small area planning process when the General Plan was adopted in May of 2017. He explained TOD (transit-oriented developments) are key projects to be located at TRAX and Frontrunner Stations, and up to a 1-mile radius that include: Murray North, Murray Central Station, and Fashion Place West. Murray was awarded a TLC (Transportation & Land Use Connection) grant by the WFRC (Wasatch Front Regional Council) in March of 2018, which allowed for developing a small area plan. As a result, when the opportunity came to receive funding, the first choice for planning was the Murray Central Station, which is the city's biggest and busiest TRAX station. The following timeline was reviewed:

- Murray was awarded \$70,000, with \$10,000 matching funds.
- The WFRC is the grant administrator for all TLC grant projects.
- An RFP was put out for the project.
- Professional consultants submitted a number of proposals.
- Landmark Design was selected by the steering committee as the lead consultant for the project.
- On August 1, 2017, the Murray City Council approved an Interlocal Cooperation Agreement between the city and the WFRC.
- This included \$75,000 from the WFRC with a match of \$10,000 to be provided by Murray City.
- Funds would be utilized for a small area plan, including a market study for Murray Center Station.
- Murray City Council held a retreat on August 27, 2017, to discuss a number of items including future development of the downtown area, and the TLC grant funding allowance.
- A notification about the plan was noted in a weekly council newsletter stating: "The Community Development Division worked in conjunction with IHC, UTA, and other entities on the small area plan project around the Murray Central Station." The grant was mentioned, as well as, two public open houses held at city hall.

Mr. McNulty noted all communication came late to Murray Councilmembers, and an apology was extended for the miscommunication; he stressed city staff desires to work closely with the city council on future projects. Two public open house events occurred: one on September 27, 2018 that councilmembers were not aware of; and the second, held on October 25, 2018, which Councilmembers Mr. Brass, and Mr. Cox attended. The draft Murray Central Station Master Plan was presented at both well attended public meetings; public input was received during the question and answer period, and residents understood details related to what landowners had planned.

Mr. Vlasic said the draft plan was created in December 2018 by a team consisting of consultants from Landmark Design, GSBS Architects, economic sub-consultants; and Parametric, consultants for transportation. He explained the market potential to understand how the project would connect with the downtown area and support new development in the area.

- Align planning and design.
- Leverage investments.
- Balance the creation of a quality station with environmental constraints and limitation.
- Create a great station, associated public spaces, superlative pedestrian spaces and destinations.
- Provide an iconic station.

A map was shared to summarize the SSOD (Smelter Site Overlay District) and convey environmental key principles intended to protect human health and the environment, accommodate compatible uses, and acknowledge mitigation and cleanup requirements.

An additional map was noted to compare population, with projected demographics in 2040, when the city's population is expected to double. This is significant, so providing housing should be a priority. Mr. Vlasic said discovering underdeveloped areas did not always mean finding vacant land to be developed, but locating land considered a low value to ratio, which is land already developed, but not serving the current market. As a result, the study determined how much land would be required for future population needs, as well as, current conditions. The following key findings were noted:

- An estimated total of 325 acres is required to meet population needs in 2040; approximately 235 acres for future residential and the remaining for commercial/retail.
- Creating a flexible network is essential, as well as, working with other partners like UTA, and private market developers.
- The environmental analysis eliminated residential development in core area.
- Most of the remediated portions will remain 'as is.'
- Economic analysis indicates significant residential and some business demand in the area.
- IMC (Intermountain Medical Center) properties - eliminated as significant contributors to the plan.
- Lack of developable land shifts focus to Vine Street and the station area.
- Uncontaminated outlying areas would be developed many ways like residential, commercial, office, mixed use; residential uses are encouraged in the vicinity of study area.
- Vine Street transformation must be aligned with current transportation planning visions, policies and projects.

In addition, the following guiding principles for land use and urban design were noted:

- IMC properties are not necessarily aligned with the creation of a great station area.
- Acknowledge the zone of influence by understanding where the station begins and how far it can impact and carefully transition to adjacent neighborhoods.
- Do the project in a memorable way by putting this part of Murray on the map.

Mr. Vlasic discussed analysis and shared conceptual drawings to explain the current status of the site, and possibilities for the future. Another map and photos were shared to depict intensity of development where the project begins at the station, moves onward to existing proposed destinations, with a walkable urban place; then transforming Vine Street, and enveloping the rest of the downtown area and historic district. He presented two alternative concepts for the station area, both providing flexibility for unanticipated changes and needs.

Both concepts include structured parking garages, with the first option focusing on combining parking and transit, to provide access to the station with a non-traditional bridge. An elevated bridge would cross over train tracks, connecting the main parking lot to development west of the TRAX station.

The second option accommodates areas east of train tracks, with a connection to the station and the building itself would be a traditional station; focusing on the street, so pedestrians walk up to the station and access various transportation options, like a bus.

Ms. Turner asked who would be funding the project. Mr. Vlastic said funding resources were not yet identified at this stage, but noted partners, such as, UTA, and the federal government. He explained funding analysis to construct the project confirmed that since UTA owns the property, they would initiate the partner process. However, with improvements needed to the street, parking lots, and, surrounding buildings, the entire funding venture would involve public and private entities.

Mr. McNulty noted a good example of this project was in South Jordan, where the Frontrunner station has Class A office space, a parking deck, and multi-family residential elements all within close proximity; partnerships included public/private organizations, the city, and UTA.

Mr. Vlastic confirmed Sandy City accomplished this type of development, and Clearfield was in the process. He said train station areas are finally recognized as places where more intense development, particularly residential, is needed to create a new kind of cluster neighborhood. He said Murray's station was unique where two modes of transit come together, and this only occurred at one other station.

Mr. McNulty said the first option with a bridge to the westside, offered unique characteristics by connecting to EMI Health offices on the corner of Vine Street and Commerce, and Murray Crossing, 300 apartments are located there, so the bridge proposed more opportunity for future development.

Mr. Vlastic confirmed and reviewed guiding principles for transportation, such as, connecting the station to existing and proposed destinations, transforming Vine Street into a great multi-modal urban boulevard, and reconfiguring the station to emphasis walkability.

Mr. Brass noted IMC as a Level-1 Trauma Center that generates high traffic, with both ambulance and vehicular; he expressed concern related to life safety issues should the area become a pedestrian walkway. Mr. Vlastic clarified walkable areas would be situated parallel to the street, behind the hospital – not by way of crossing the street. Mr. Brass wondered with existing sidewalks and buildings on both sides of the street from 500 West to Vine Street, how increased pedestrian use would fit-in with flowing traffic. He was concerned about enough room in the roadway to situate tower firetrucks if a fire broke out in a tall building. He thought the concept was interesting, but experienced heavy traffic congestion in the area already. Mr. Vlastic confirmed engineering and public safety needs for traffic would be implemented.

Mr. Hall explained Vine Street would not lose any lane width with new development, so there would be no impact to traffic volume with the proposed plan; he noted most of Vine Street has a 90' right-of-way width. Mr. Vlastic confirmed. Mr. McNulty pointed out bike lanes and sidewalks; he confirmed Mr. Stokes was involved on the steering committee when walkability was first considered, where he stressed the importance of traffic flow as related to pedestrian walkways.

Mr. Brass observed the plan conveyed one lane of traffic would be eliminated in each direction, where currently two lanes move traffic each way; this implied a bike lane would remove one car lane. Mr. Vlastic confirmed preliminary plans could change and what he presented was only visionary. Mr. Brass reported public concern about existing streets handling more traffic during the open house he attended, because citizens thought there was not much room as it is.

Mr. Hall appreciated feedback from the council so adjustments to the plan could be made accordingly

and said moving traffic effectively occurred often to accommodate density increases. He explained with high density located in this area, around the edges of public transit stations, the focus was on the pedestrian aspect. For example, like Murray Crossing, the area should be inviting and encourage residents to walk to public transit, creating less traffic.

Mr. McNulty confirmed the hope was for residents in the area to have one vehicle instead of two. He said the congestion issue was reviewed with the planning commission on February 21, 2019, when previous concerns obtained from the Murray Council were shared, regarding diagrams, and conceptual drawings that needed to be changed. Since planning documents were still in draft format, he asked what else the council would like to see adjusted.

Mr. Brass requested all cars of city employees, police station vehicles, as well as, firetrucks and ambulances, be included in the traffic study, due to the location of the new city hall, nearby fire station, and general hospital traffic. He reiterated public safety traffic challenges must be considered if emergency vehicles could not get out fast and maneuver through heavy traffic. He said as increased housing occurs in the area, major traffic problems would become similar to Fireclay, where more cars than anticipated get parked in streets. Besides gridlock, he wondered if the city had sewer, power, and water capacity to handle the increased population.

Ms. Turner asked if environmental issues controlled the number of residents allowed in the area. Mr. Vlasic confirmed redevelopment was well controlled in and around the station and contaminated areas.

Mr. Nicponski wondered if a rezone was necessary, due to residential planning. Mr. Hall said the current area was zoned for mixed-use. Mr. Nicponski was pleased and thought goals were being met.

Mr. Cox favored bridge access to the westside. Mr. Vlasic said both plans worked well and neither plan prioritized the other; and as things change, having two options was beneficial.

Mr. Brass wondered why IMC was not involved with future planning. Mr. McNulty said detailed meetings occurred when plans were shared, however, IMC expressed contentment for the next 50+ years and conveyed satisfaction with how things are. Although, constructing additional buildings at the south end near the parking garage might be considered, and their plan for future expansion east would only happen in 30 years if Costco ever closed.

Mr. Brass said as busy as IMC continues to be - future development was inevitable. He thought since new growth would impact this location, IMC should be more interested in all development important to the area. Mr. Vlasic confirmed a discussion occurred with IMC about connecting the main entrance to the station with better alignment, and walkable space. UTA favored increased housing, even though they understood housing was not allowed on property they own south of the station.

Ms. Greenwood stated as part of funding, WFRC requested a resolution from Murray in support, which would come to the council for consideration soon.

**Set-Back for Outdoor Dining** – Jared Hall and Jim McNulty



Prohibition Management, LLC requested a text amendment to the land use ordinance. City Code establishes a required 20' building setback in the C-D (Commercial Development) Zone. The proposed revision would allow for covered outdoor dining areas to encroach within 10' of the required 20' setback, with a 10' landscape buffer requirement. The organization also asked that a new Murray Restaurant & Entertainment District be created in the area of 5900 South and East Winchester Street, and from to State Street to Fashion Boulevard.

Mr. McNulty shared photos of the the current outdoor dining area and noted conceptual drawings to convey a new covered patio; an aerial map was provided to explain the area involved for a proposed restaurant and entertainment zone. He said aspects of the proposed text could be supported by the General Plan, and research indicated a number of other cities allow a similar exemption into required setbacks of traditional corridor commercial environments and zoning districts. Staff would conduct analysis about potential impacts to other businesses, traffic patterns and appropriate methods of potentially allowing the exception.

Mr. Brass thought establishments in other C-D Zones of the city would also favor the proposed outdoor dining text amendment. Mr. Hall agreed and led a discussion about changing text to affect C-D Zones overall, and not just this location. As a result, it was decided to postpone a decision for Prohibition, to ensure appropriate language was carefully thought out. Mr. Hall confirmed other cities like Sandy and Midvale had this language also.

Mr. Hales and Ms. Turner favored postponement, so text was changed all at once. Other council members agreed. Staff would return to the council with proposed text to be considered in April 2019.

**Proposed Budget Amendment FY 2019** – Mayor Camp and Brenda Moore

Mayor Camp said the proposed amendment would be presented to the council for their consideration on April 16, 2019. (See Attachment #1)

Ms. Moore reviewed proposed items in detail for the fiscal year 2019 budget. For example, increases and decreases to the budget, a decrease to the Library Fund, grant funding information, other funding for various purposes, and staffing changes to name a few.

Ms. Turner wondered about and read #3 that stated: "Request authorization to transfer from the GF (General Fund) to the CIP (Capital Improvements Fund) any amount which exceeds the fund balance maximum amount per state law."

Ms. Moore confirmed the request would solve a problem that occurred last year when the city received a finding during an audit. Ms. Moore explained the amendment would prevent another finding from happening, allow a transfer to occur, and permit an adjustment to the budget two months after the year ended; the GF balance cannot reflect more than 25% at years end.

Mr. Nicponski agreed the council needed to be notified when a transfer to the CIP was necessary. Ms. Moore agreed.

Ms. Turner wanted to be sure the council would be notified this year when and if a transfer was needed, as well as, the amount; last year the council was not informed until the finding was reported. Ms. Moore confirmed; however, the amount would be uncertain until the time came in August or September.

Ms. Turner noted the city would provide two employees to the DEA (Drug Enforcement Administration) Metro Task Force, and the city was no longer the fiscal fiduciary. Ms. Moore confirmed Murray employees would continue to work there as before.

#### **Cemetery Fee Increases** – Mayor Camp and Kim Sorensen

A proposed ordinance amendment would increase fees charged for burial and cremation niches. It was suggested that fee adjustments be adopted prior to the completion of new niche spaces being installed. Mr. Sorensen discussed various fees, pricing, noted language cleanup, and reviewed the proposed ordinance. (See Attachment #2)

Ms. Turner perceived double depth plots would now be allowed. Mr. Sorensen confirmed the fee would increase; however, money could be saved if graves are initially dug this deep.

Mr. Cox asked the depth of double plots. Mr. Sorensen replied eight feet.

Mr. Hill reported a subsidy still occurred from the GF to the Murray City Cemetery, and therefore, revenue collected for services was not considered for-profit.

Mr. Nicponski asked the amount of the subsidy and wondered if niches revenue would pay back the GF. Mr. Hill estimated approximately \$150,000 each year. Mr. Sorensen confirmed niches revenue would not come close to repaying the subsidy.

Mayor Camp said he and staff reviewed all fee increases in great detail and he was comfortable with the recommendation.

#### **Fire Code Modifications** – Mayor Camp, Mike Dykman

Mayor Camp explained the city opted to put ordinances in place 35 years ago that are more restrictive than the current fire code. One ordinance in particular relates to fire sprinklers, giving Murray a reputation of having the strictest sprinkler system fire code; reasoning at the time was due to low staffing levels, although, when changes to the fire code occurred over the years, the ordinance was not updated.

Assistant Fire Chief Dykman gave a presentation to confirm outdated language, past staffing levels, and reviewed changes. He reported new revisions of both the International Fire Code, and industry standards, related to fire sprinkler systems and alarm systems were recently approved by the legislature. As a result, with council approval, Murray City Code would now state that the city adopts the International Fire Code, as adopted by the State of Utah.

Mr. Dykman explained a detailed process of code review conducted by several committees at the state

level, along with the Utah State Fire Prevention Board, and Fire Marshalls Association, where significant input and study were conducted. He noted deleted language and said fees charged for day to day normal permitting processes would not change. He said the greatest benefit of the proposed modifications would be having updated code that puts the city in agreement with all entities. He said the Murray City attorney's office requested the item be considered by the council in April.

In conclusion, he added the council would consider another proposed ordinance for a permanent ban on fireworks in hazardous areas at tonight's council meeting. As part of the permanent ban, he did not include two additional areas the council expressed concern about previously; the Canal Trail, and the Utah Power and Light right-of-way, because after evaluation they did not qualify. However, a careful watch on these areas would occur.

**Announcements:** Ms. Lopez made several announcements related to coming events for the council members.

**Adjournment:** 5:54 p.m.

**Pattie Johnson**  
**Council Office Administrator II**

# ATTACHMENT #1



**MURRAY CITY CORPORATION  
FINANCE & ADMINISTRATION**

To: Murray City Municipal Council

From: Brenda Moore, Interim Director of Finance & Administration

Date: March 19, 2019

Re: Fiscal Year 2019 Budget Opening

A budget opening has been requested for April 16<sup>th</sup>. This opening will request funds for the following purposes:

The following outlines the items that have been requested for your approval for the fiscal year 2019 budget:

**General Fund**

**Total Reserve Request: \$0**

1. Receive and appropriate the following General Fund revenue and expenditures with no financial impact:
  - a. The City was reimbursed by various state agencies for use of the City's equipment in response to the California Wildfire deployments.  
  
Request receipt of (\$84,289) be added to Other Intergovernmental Revenue.
  - b. The City was awarded a Salt Lake County Zoo Arts and Parks (ZAP) grant to help fund arts projects.  
  
Request receipt of (\$85,000) be added to Zoo Arts and Parks Revenue.
  - c. The City has experienced an increase in passport activity for the year.  
  
Request receipt of (\$30,000) be added to Passport Revenue.
  - d. The City received payment of \$26,133 from the High Intensity Drug Trafficking Areas (HIDTA) Grant for administrative and accounting services for the DEA Metro Task Force.  
  
Request receipt of (\$26,133) be added to Intergovernmental Revenue.
  - e. The City has entered into an agreement with American International School of Utah (AISU) to partially reimburse the city for a Police officer within the school.  
  
Request receipt of (\$12,000) be added to School Resource Officer Revenue.
  - f. State liquor tax received in previous years has an accumulated balance which is restricted for use in support of alcohol and drug-related enforcement and education. This request is for those funds to be added to the budget.  
  
Request appropriation of \$104,629 be added to Police Alcohol Funds.





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- g. During fiscal year 2018 the Jimmy Johns sponsored recreation programs for the Parks Center. The total sponsorship was not spent prior to year-end. This request is for those funds to be added to the budget.

Request appropriation of \$2,372 be added to Park Center Supplies - Sponsorships.

- h. The part-time office administrator position previously used to support the ADS Department was transferred to the City Recorder's Office to assist in passport processing. The demand for service has increased and the Recorder has requested the hours for this position be increased. The cost of this increase is more than offset by the increase in passport revenue.

Request appropriation of \$5,000 be added to Part-time Wages, and \$383 to Social Security.

- i. The City added a Database Analyst position at mid-year due to a military deployment. There was a difference in cost to employ a more experienced analyst to fill the vacancy.

Request appropriation of \$12,000 be added to FT Wages, \$1,000 be added to Social Security, \$8,000 be added to Insurance, \$3,000 be added to Retirement, and \$100 be added to Workers Compensation.

- j. The Courts are preparing to consolidate services into exclusively City-owned facilities on the first floor of the building. They will be vacating the 2<sup>nd</sup> floor and cancelling the lease. In order to cancel the lease, some improvements will need to be done. Annual cost of the lease is \$60,000.

Request appropriation of \$15,000 be added to Courts Building & Grounds Maintenance.

- k. The City released a senior staff member from service which resulted in a payout of accrued leave time and severance.

Request appropriation of \$50,000 be added to FT Wages, \$5,000 to Social Security, and \$5,000 to Insurance.

- l. The aforementioned requests net to a gain of \$25,939.

Request appropriation of \$25,939 be added to Non-departmental Miscellaneous Expense.

2. Receive and appropriate the following General Fund grants and related expenditures with no financial impact:

- a. The City received payment from the FY2018 Edward Byrne Memorial Justice Assistance Grant (JAG) to purchase supplies and/or equipment for the Police Department.

Request (\$36,067) be added to the JAG Revenue, and \$36,067 be added to the Police JAG Supplies.

- b. The City received payment from the State Home Land Security Program (SHSP) purchase supplies and/or equipment for the Fire Department. There is no financial impact to the City.

Request (\$14,592) be added to Emergency Management Program Revenue, and \$14,592 be added to the Police State SHSP Small Equipment.





**MURRAY CITY CORPORATION  
FINANCE & ADMINISTRATION**

- c. The City received a grant from the Emergency Medical Services Population Grant (EMS) to reimburse the City for ambulance service equipment.

Request (\$3,706) be added to EMS Grants Revenue, and \$3,706 be added to Fire Small Equipment.

- d. The City received a sponsorship from Jimmy Johns Corporation for recreation programs through the Park Center.

Request (\$6,000) be added to Park Sponsorship/Donations, and \$6,000 be added to Park Center Supplies – Sponsored.

- e. The city received payment from the Division of State History CLG Grant to reimburse a portion of the Murray theater feasibility study and historic preservation projects within the city.

Request (\$16,615) be added to State Art & History Grants, and \$16,615 be added to the History Contract Fees.

- f. The City received a grant from the Utah Department of public safety, Alcohol & Drug free Committee for police equipment.

Request (\$5,000) be added to the State Grants Revenue, and \$5,000 be added to Police Small Equipment.

- g. The city received Federal Asset Forfeiture Sharing funds from the DEA Metro Task Force for police equipment.

Request (\$56,556) be added to Asset Forfeiture Revenue, and \$56,556 be added to Police Equipment.

- h. The City was awarded a grant from the Division of Forestry, Fire and State Lands for a vegetation improvement project on the Jordan River Parkway.

Request (\$22,500) be added to the State Grants Revenue, and \$22,500 be added to Parks Grant Supplies.

- i. The City was reimbursed by the State of Utah for its response to the Pole Creek fire.

Request (\$40,881) be added to State Grants Revenue, \$37,753 be added to Fire Reimbursed Overtime, and \$3,128 be added to Social Security.

- j. The City was reimbursed by the State of Utah for its response to the California Wildfires.

Request (\$118,310) be added to Other Intergovernmental Revenue, and \$109,902 be added to Fire Reimbursed Overtime and \$8,408 be added to Social Security.



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- k. The City is no longer the fiscal fiduciary of the DEA Metro Narcotics Task Force. The City is contracting two employees to the DEA Metro Task Force.

Request (\$165,000) be added to Metro DEA Reimbursement Revenue, and \$112,000 be added to FT Wages, \$9,000 be added to Social Security, \$14,000 be added to Insurance, \$29,500 be added to Retirement, and \$500 be added to Workers Compensation.

- l. The City entered into an agreement with the State Division of Forestry, Fire and State Lands to provide overtime reimbursement for additional law enforcement patrols along the Jordan River Parkway.

Request (\$12,500) be added to the State Grants Revenue, and \$12,500 be added to Police Overtime.

- m. The City received payment of the FY19 State Liquor Tax Allotment. The amount exceeded the budget.

Request (\$11,555) be added to State Liquor Allotment Revenue, and \$11,555 be added to Police Alcohol Funds.

3. Request authorization to transfer from the General Fund to the Capital Improvement Projects Fund any amount which exceeds the fund balance maximum amount per state law.

**Capital Improvement Projects Fund**

**Total Reserve Contribution: \$129,956**

4. Receive and appropriate the following Capital Projects Fund revenue and expenditures with no financial impact:

- a. The Valley Emergency Communications Center (VECC) alerting system for new fire station will be partially reimbursed by VECC at 50%.

Request (\$23,644) be added to Miscellaneous Fire revenue, and \$23,644 be added to the Fire Station Project.

- b. The Parks & Recreation Director has requested an expansion to the Cemetery Niche project.

Request (\$19,100) be added to Perpetual Care Transfer Revenue, and \$19,100 be added to the Project.

5. The MUNIS conversion project has been funded out of the Capital Projects Fund for many years and included the utility billing module. This module should be funded out of the utility funds. This request will restore funds to the Capital Projects Fund and move them to the five utility funds.

Request \$153,600 be removed from the IT Equipment.

6. The City will need to match the contribution from Valley Emergency Communications Center (VECC) for the alerting system for the new fire station.

Request appropriation of (\$23,644) to the Fire Station Project.



**MURRAY CITY CORPORATION  
FINANCE & ADMINISTRATION**

**Cemetery Perpetual Care Fund**

**Total Reserve Request: \$0**

7. The Parks & Recreation Director has requested an expansion to the Cemetery Niche project.

Request (\$3,000) be added to Perpetual Care Fees Revenue, (\$16,100) be added to Interest Income Revenue, and \$19,100 be added to Capital Projects Transfer.

**Water Fund**

**Total Reserve Request: \$35,000**

8. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

Request \$35,000 be added to Software Maintenance.

**Wastewater Fund**

**Total Reserve Request: \$35,000**

9. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

Request \$35,000 be added to Software Maintenance.

**Power Fund**

**Total Reserve Request: \$35,000**

10. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

Request \$35,000 be added to Software Maintenance.

**Solid Waste Fund**

**Total Reserve Request: \$35,000**

11. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

Request \$35,000 be added to Software Maintenance.

**Storm Water Fund**

**Total Reserve Request: \$35,000**

12. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

Request \$35,000 be added to Software Maintenance.



**MURRAY CITY CORPORATION  
FINANCE & ADMINISTRATION**

**Murray Parkway Golf Fund**

**Total Reserve Request: \$0**

13. The Golf Fund's online scheduling software is paid for by allowing the software company to keep the revenue of some tee times.

Request (\$21,115) be added to Green Fees Revenue, and \$21,115 be added to Professional Services.

**Library Fund**

**Total Reserve Request: \$0**

14. The Library custodians have requested to be added as part-time employees of the City. The Library has received high quality service from these individuals and wishes to continue receiving services.

Request (~~\$15,200~~) be removed from Building & Grounds Maintenance and ~~\$15,200~~ be added to PT Wages.

10,000

Contractor -

10,000

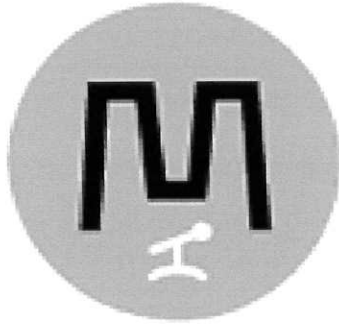
# ATTACHMENT #2



	Resident Fee	Nonresident Fee	Resident Perpetual Care Fee
Disinterment:			
Standard and monument lot-	<del>\$1,000.00</del> <u>\$1,300</u>	\$1,300.00	n/a
<u>Re-burial to</u> Double depth lot	<del>1,300.00</del> <u>\$2,000</u>	<del>1,600.00</del> <u>\$2,000</u>	n/a
Infant and cremains lot	200.00	300.00	n/a
Lot:			
Standard	n/a	n/a	\$ 900.00
Monument	n/a	n/a	1,200.00
Infant and cremains	n/a	n/a	200.00
Marker inspection fee	\$ 50.00	\$50.00	n/a
Niche:			
Lettering for niche	<del>150.00</del> <u>\$200</u>	<del>n/a</del> <u>\$200</u>	n/a
<u>Opening and Closing</u>	<u>\$100</u>	<u>\$100</u>	
Niche for cremains	<del>n/a</del> <u>800.-</u>	<del>n/a</del> <u>900.-</u>	
Opening and closing:			
Standard and monument lot-	\$500.00	\$750.00	n/a
Double depth lot-	<del>\$700.00</del> <u>\$750.00</u> for the first and \$500.00 for the second	\$1,000.00 for the first and \$750.00 for the second	n/a



	Infant and cremains lot	\$200.00	\$300.00	n/a
	After 3:00 P.M.	\$100.00/hour	\$100.00/hour	n/a
	Weekend and holidays	\$100.00/hour with 3 hour minimum	\$100.00/hour with 3 hour minimum	n/a
	Title transfer or duplicate title fee	\$40.00	\$50.00	n/a



**MURRAY**  
CITY COUNCIL

# Discussion Item #1



**MURRAY**


## Mayor's Office

### New Murray City Hall Schematic Design Update

#### Council Action Request

Committee of the Whole

Meeting Date: July 16, 2019

<b>Department Director</b> Mayor Blair Camp	<b>Purpose of Proposal</b> Update on schematic design process for a new Murray City Hall
<b>Phone #</b> 801-264-2600	<b>Action Requested</b> n/a
<b>Presenters</b> Mayor Camp GSBS Layton Construction	<b>Attachments</b> New City Hall Renderings
	<b>Budget Impact</b> n/a
<b>Required Time for Presentation</b> 20 Minutes	<b>Description of this Item</b> GSBS Architects, Layton Construction, MOCA and UNVC have been meeting with the City Hall Steering Committee and department representatives since January to develop schematic plans for a new city hall to be located at 10 East 4800 South.
<b>Is This Time Sensitive</b> No	The consultants will present the schematic plans and cost estimate at this meeting.
<b>Mayor's Approval</b> 	
<b>Date</b> July 2, 2019	

REVISIONS	



NOT FOR CONSTRUCTION



DRC  
MURRAY CITY  
HALL

10 E. ARDEN S.  
MURRAY, UT 84003  
MURRAY CITY

SOUTH S. STATE STREET  
MURRAY, UT 84003  
OWNER PROJECT NO.: 2019-001-00  
GSBS PROJECT NO.: 06.19.2019  
ISSUED DATE:  
LANDSCAPE PLAN

A  
LANDSCAPE PLAN  
SCALE: 1" = 30'-0"



FINAL SD WORKSHOP // JUNE 19, 2019



MURRAY CITY HALL // 5TH AVE. PERSPECTIVE

SCALE // NTS

GSBS  
ARCHITECTS



FINAL SD WORKSHOP // JUNE 19, 2019



MURRAY CITY HALL // 4800 PERSPECTIVE

SCALE // NTS

GSBS  
ARCHITECTS



FINAL SD WORKSHOP // JUNE 19, 2019



MURRAY CITY HALL // LOBBY PERSPECTIVE

SCALE // NTS

GSBS  
ARCHITECTS



[illegible]

NOT FOR CONSTRUCTION

## SCHEMATIC DESIGN

MURRAY CITY  
HALL

41 E 48th St  
Murray, UT 84107

MURRAY CITY

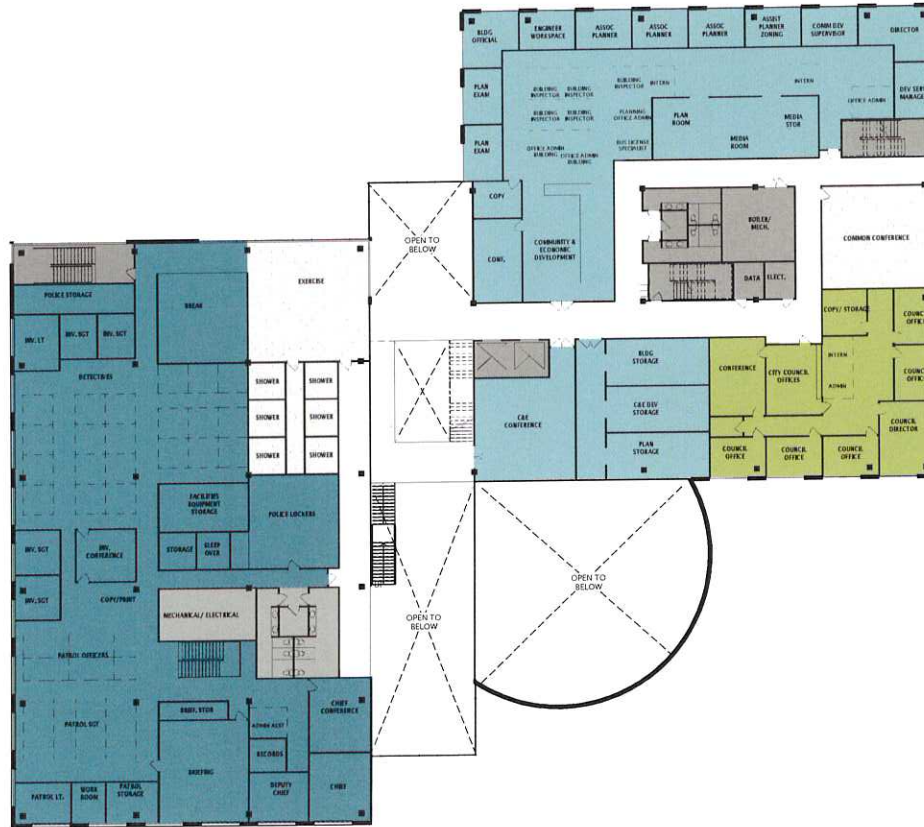
OWNER PROJECT NO.:  
GSBS PROJECT NO.:  
ISSUED DATE:

**FLOOR PLAN - LEVEL 1**

AE111 | REV



REVISION	



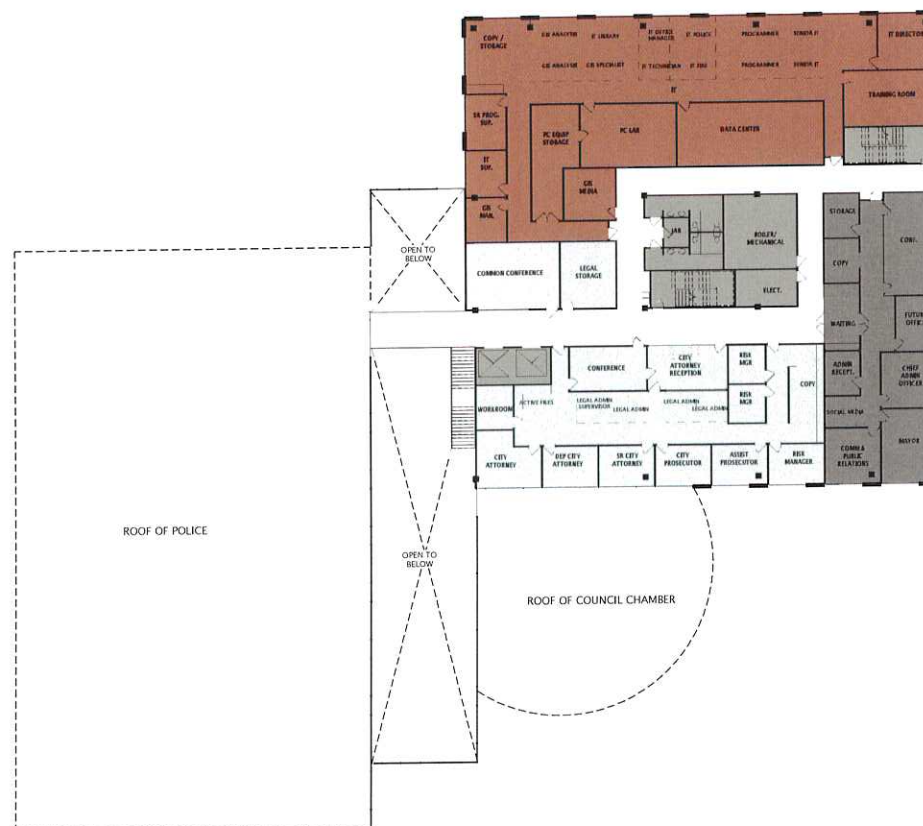
NOT FOR CONSTRUCTION

SCHEMATIC DESIGN  
MURRAY CITY  
HALL

410 E 4th St  
Murray, UT 84103  
MURRAY CITY

OWNER PROJECT NO.: 0114-001-01  
GSBS PROJECT NO.: 2514-001-01  
ISSUED DATE: 05/14/2014  
FLOOR PLAN - LEVEL 2

REVISION	

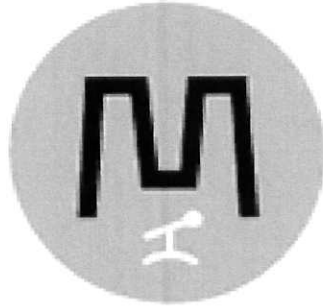


NOT FOR CONSTRUCTION

SCHEMATIC DESIGN  
MURRAY CITY  
HALL

AS E 4/11/13  
Murray, UT 84103  
MURRAY CITY

OWNER PROJECT NO.:  
GSBS PROJECT NO.: 2714-10801  
ISSUED DATE: 04/30/2014  
FLOOR PLAN - LEVEL 3



**MURRAY**  
CITY COUNCIL

# Discussion Item #2





**MURRAY**


## Power Department

### Discussion of Murray's interest in UAMPS CFPP/SMR Project

#### Council Action Request

Committee of the Whole

Meeting Date: July 16, 2019

<b>Department Director</b> Blaine Haacke	<b>Purpose of Proposal</b>  Discuss Murray's commitment to the CFPP/SMR technology and the resolutions increasing Murray City's share.
<b>Phone #</b> 801-264-2715	<b>Action Requested</b>  Adoption of two resolutions requested in the August 6, 2019 Council Meeting.
<b>Presenters</b> Blaine Haacke	<b>Attachments</b>  Resolution draft authorizing increase in Entitlement Share. Resolution draft authorizing increase in JUMP lay-off Agreement.
	<b>Budget Impact</b>  Financial commitment will be based on Murray's Entitlement subscription. Details given in COW Meeting.
<b>Required Time for Presentation</b> 15 Minutes	<b>Description of this Item</b>  UAMPS has commitments to the developers of the Carbon Free Power Project (CFPP) or Small Modular Reactor (SMR) technology. Murray City has been asked to consider the following resolutions by August 21, 2019: 1-Increase Murray City's interest from 1,000 kw to 10,250 kw 2-Increase Murray's participation in the Joint Use Module Plant (JUMP) Agreement. The JUMP Agreement is a document between UAMPS and the DOE. After the DOE completes its testing of Unit One, Murray City would then be able to receive additional energy without having to participate in the entire financial aspect of the unit.
<b>Is This Time Sensitive</b> Yes	
<b>Mayor's Approval</b> 	
<b>Date</b> July 2, 2019	

RESOLUTION NO. \_\_\_\_\_

A RESOLUTION APPROVING AN INCREASE IN MURRAY CITY'S  
ENTITLEMENT SHARE UNDER THE CARBON FREE POWER PROJECT  
POWER SALES CONTRACT

\*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*

WHEREAS, by Resolution No. R1841, the Governing Body of Murray City, Utah (the "Participant") has previously approved the Carbon Free Power Project Power Sales Contract (the "Power Sales Contract") with Utah Associated Municipal Power Systems ("UAMPS"), including an Entitlement Share of up to 1,000 kW of the capacity of the Carbon Free Power Project (the "Project"); and

WHEREAS, the Participant has reviewed its future power supply resource needs, and the Governing Body now desires to authorize an increase such Entitlement Share;

NOW, THEREFORE, BE IT RESOLVED by the Governing Body of Murray City, Utah, as follows:

*Section 1. Approval of Increased Entitlement Share.* An increased Entitlement Share representing up to 10,250 kW of capacity in the Project, as such capacity amount may be rounded upon the approval of the Project Management Committee and the Participant's Representative pursuant to the Power Sales Contract to provide a whole number of small modular reactors is hereby authorized and approved.

*Section 2. Miscellaneous; Effective Date.* (a) Except as amended by this resolution, Resolution No. R1841 shall remain in full force and effect.

(b) This resolution shall take effect immediately upon its adoption and approval.

ADOPTED AND APPROVED this \_\_\_\_ day of \_\_\_\_\_, 2019.

MURRAY CITY, UTAH

By \_\_\_\_\_  
City Council Chair

ATTEST:

\_\_\_\_\_  
City Recorder

[SEAL]

RESOLUTION NO. \_\_\_\_\_

A RESOLUTION AUTHORIZING AND APPROVING AN INCREASE IN THE PARTICIPANT'S ENTITLEMENT SHARE UNDER THE CARBON FREE POWER PROJECT POWER SALES CONTRACT FOR THE LAY-OFF POWER SALES AGREEMENT ASSOCIATED WITH JOINT USE MODULE PLANT OPERATIONS AT THE CARBON FREE POWER PROJECT; AND RELATED MATTERS.

\*\*\*\*\*      \*\*\*\*\*      \*\*\*\*\*

WHEREAS, Murray City, Utah (the "*Participant*") is a member of Utah Associated Municipal Power Systems ("*UAMPS*") pursuant to the provisions of the Utah Associated Municipal Power Systems Amended and Restated Agreement for Joint and Cooperative Action, as amended (the "*Joint Action Agreement*");

WHEREAS, the Participant has previously approved, executed and delivered the Carbon Free Power Sales Contract dated as of April 1, 2018 (the "*Power Sales Contract*") with UAMPS, including an Entitlement Share of 10,250 kW of the capacity of the Project (initially capitalized terms used and not defined herein have the meanings assigned to them in the Power Sales Contract);

WHEREAS, UAMPS, the U.S. Department of Energy and Batelle Energy Alliance, as DOE's prime contractor at the Idaho National Laboratory (together, "*DOE*") entered into a Memorandum of Understanding in December 2018 (the "*MOU*"), under which one of the small modular reactors at the Project ("*JUMP SMR*") will be utilized by DOE for research and development purposes under its "*JUMP*" program;

WHEREAS, the MOU calls for definitive agreements for the JUMP SMR be negotiated by October 2019 (collectively, these agreements are referred to herein as the "*JUMP Lay-Off Power Sales Agreement*");

WHEREAS, UAMPS and the Project Management Committee believe that the JUMP Lay-Off Power Sales Agreement will provide substantial benefits to the Participants and the Project as a whole, including accelerating the development of the Project, achieving cost savings and other benefits;

WHEREAS, certain Participants in the CFPP desire to facilitate this transaction by electing to increase their Entitlement Shares in a total amount sufficient to enable UAMPS to make the JUMP SMR available to DOE and thus enabling UAMPS to enter into JUMP Lay-Off Power Sales Agreement with DOE; and

WHEREAS, the Participant now desires to increase its Entitlement Share in the amount set forth below to facilitate the JUMP Lay-Off Power Sales Agreement;

NOW, THEREFORE, BE IT RESOLVED by the Governing Body of Murray City, Utah, as follows:

*Section 1. Increase of Participant Entitlement Share for JUMP Lay-Off Power Sales Agreement.* (a) The Participant hereby authorizes and approves increasing its Entitlement Share in the CFPP by and up to 10,000 kW of capacity.

(b) Upon the completion of negotiations with DOE, UAMPS shall submit the JUMP Lay-Off Power Sales Agreement to the Project Management Committee for approval as provided in the Power Sales Contracts. Upon the approval or disapproval of the JUMP Lay-Off Power Sales Agreement by the Project Management Committee, UAMPS shall send written notice to each of the Participants that has elected to increase its Entitlement Share of the action taken by the Project Management Committee and, if the Project Management Committee has approved the JUMP Lay-Off Power Sales Agreement, a copy of the JUMP Lay-Off Power Sales Agreement.

(c) If the JUMP Lay-Off Power Sales Agreement is approved by the Project Management Committee but is not executed by UAMPS for any reason, UAMPS shall give additional written notice of such fact to such Participants.

(d) Upon its receipt of the written notice from UAMPS described in (b) above, the Participant shall, in its sole discretion, have the right to rescind its election to increase its Entitlement Share as provided in 1(a) above or to modify the increase in its Entitlement Share as provided in 1(a) above upon its determination that the final terms of the JUMP Lay-Off Power Sales Agreement are unacceptable. Upon its receipt of the written notice from UAMPS described in (c) above, the Participant shall, in its sole discretion, have an additional right to rescind its election to increase its Entitlement Share as provided in 1(a) above or to modify the increase in its Entitlement Share as provided in 1(a) above. The Participant shall exercise these rights upon the approval of its Governing Body and by written notice to UAMPS which shall be given not later than 30 days after UAMPS gives notice to the Participant under (b) or (c) above.

*Section 2. Miscellaneous; Effective Date.* (a) Notwithstanding the rights provided to the Participant Section 1(b) of this resolution, this resolution shall be and remain irrevocable until the expiration or termination of the Power Sales Contract in accordance with its terms.

(b) All previous acts and resolutions in conflict with this resolution or any part hereof are hereby repealed to the extent of such conflict.

(c) In case any provision in this resolution shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

(d) This resolution shall take effect immediately upon its adoption and approval.

ADOPTED AND APPROVED this \_\_\_\_ day of \_\_\_\_\_, 2019.

MURRAY CITY, UTAH

By \_\_\_\_\_  
City Council Chair

ATTEST:

\_\_\_\_\_  
City Recorder

[SEAL]



# The Risky Economics of Small Modular Nuclear Reactors



1

## Intro to HEAL

A Utah-based advocacy non-profit since 1999

- Policy areas:
  - Clean Air
  - Energy and Climate
  - Radioactive Waste
- Operations:
  - Grassroots and Community
  - Legislative
  - Regulatory

2

## Overview

HEAL UTAH

What are Small Modular Nuclear Reactors?

Economics of the Nuclear Industry

Economic Outlook of SMNRs in Utah

Q&A

3

## What are Small Modular Nuclear Reactors?

HEAL UTAH

- A first-of-its-kind, untested nuclear reactor
- They rely on the same traditional technology as older reactors
- They produce just as much high-level radioactive waste as traditional reactors
- They have the same economic risks as traditional reactors
- As a UAMPS member, you are being asked to contract into the Carbon Free Power Project (CFPP) that will build the world's first SMNR facility

4

## Economics of the Nuclear Industry: Background

- More than half of all nuclear plants ever announced in the U.S. were cancelled
  - Including many with NRC licenses and hundreds of millions already spent
  - Including 29 of the 31 plants identified as part of the “nuclear renaissance” in the US
  - Several featured modular construction

5

## Economics of the Nuclear Industry: Case Studies

### Vogtle Plant, Jacksonville, FL

- 5 years behind schedule and \$15 billion over budget
- Ratepayers liable for \$3 billion in additional costs

### Virgil C. Summer Plant, Jenkinsville, SC

- Project cancelled mid-construction after \$5 billion spent
- Customers will pay \$13/month for 40 years to retire debt without any power ever being generated

### Seabrook/MMWEB Plant, Seabrook, NH

- First reactor completed 10 years later than expected and \$7 billion over budget
- Second reactor proposed by cancelled when it was already 22% complete
- Town of Seabrook enacted a 9.9% tax increase in 2017 to offset loss tax revenue from the plant due to plant value declines

### Marble Hill Power Plant, Hanover, IN

- Abandoned at 50% completion and \$2.5 billion in debt
- The Wabash Valley Power Association (municipal power co-op similar to UAMPS) committed to 17% share in the plant but left with \$500 million in debt and had to declare bankruptcy

6

## Economic Outlook of SMNRs in Utah: Background

- With this history in mind, HEAL contracted with Energy Strategies for an independent study on the economics of SMNRs
- Energy Strategies is a Salt Lake City-based energy modeling firm
  - Clients include: Industry/trade associations such as Utah Association of Energy Users (UAE), numerous renewable developers, and industrial customers such as Chevron/ExxonMobil, among others
- HEAL had no input on the findings of the study, which was contracted with no preconceived outcome and was done completely independently of HEAL

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## Economic Outlook of SMNRs in Utah: Background

The study compared the cost of the 185 MW of SMNRs proposed for UAMPS members against comparable portfolios of low- or non-carbon emitting portfolios of resources (solar, wind, energy storage, market purchases, and natural gas).



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## Economic Outlook of SMNRs in Utah: Background

HEAL UTAH

- Almost all of the study assumptions were source from Rocky Mountain Power's 2019 Integrated Resource Plan (IRP) materials
- Other data came from public UAMPS and NuScale information, as well as the National Renewable Energy Laboratory and other sources
- All prices are derived from real world projects which meet the Federal Electric Regulatory Commission (FERC) reliability requirements

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## Economic Outlook of SMNRs in Utah: Key Findings

HEAL UTAH

### Levelized Portfolio Costs

Alternative levelized portfolios costs were roughly 40% less costly than SMNRs (around \$24-\$28/MWh)

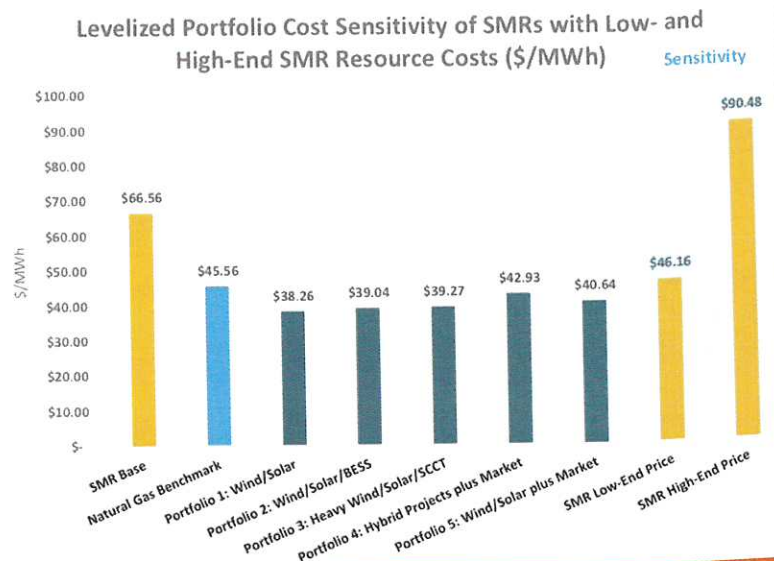


10



## Economic Outlook of SMNRs in Utah: Key Findings

Even when the lowest levelized cost sensitivity scenario for SMNR's was considered, alternative portfolios remained less expensive



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## Economic Outlook of SMNRs in Utah: Key Findings

**Present Value Saving Relative to SMNR Base Case Over 20 Years Starting in 2026 (\$M)**

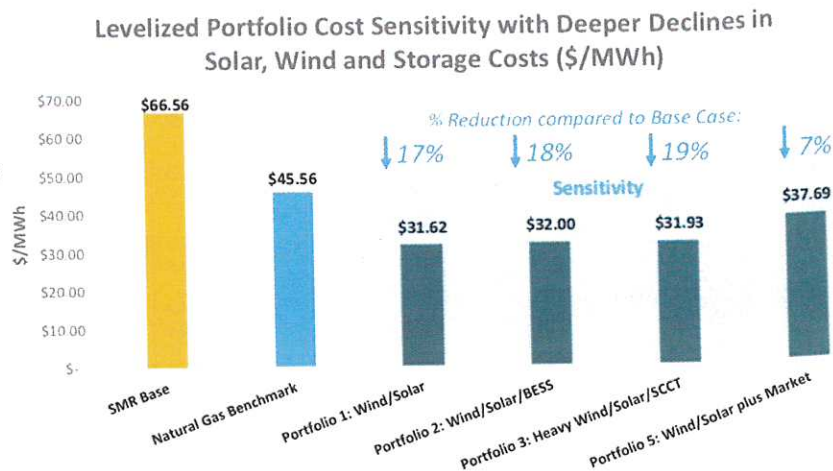
Alternative present value portfolios represent hundreds of millions in savings over a 20-year period in comparison to SMNRs

Portfolio	Present Value of Savings Relative to SMR Base Case (\$M)
Natural Gas Benchmark	\$259
Portfolio 1: Wind/Solar	\$355
Portfolio 2: Wind/Solar/BESS	\$350
Portfolio 3: Heavy Wind/Solar/SCCT	\$345
Portfolio 4: Hybrid Projects plus Market	\$298
Portfolio 5: Wind/Solar plus Market	\$338

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## Economic Outlook of SMNRs in Utah: Key Findings

If costs of wind, solar, and energy storage decline more than expected the economics of the alternative portfolios improve further in comparison with the SMNR option



13

## Economic Outlook of SMNRs in Utah: HEAL's Conclusions

- SMNRs are unproven, a high-risk project and an unnecessary source of power
- Utah towns and cities should not be asked to commit to 40 years of speculative investment in them
- There are cleaner, cheaper, and safer alternatives
- SMNRs will cost municipal ratepayers hundreds of millions more over a 20-year period
- SMNRs could cost these ratepayers billions more over the possible 80-year lifetime of SMNRs

*These policy conclusions are those of HEAL Utah. Energy Strategies conducted the cost analysis will respond to questions about the report's assumptions and methodology but they do not take a position on whether any particular community should or should not subscribe to the CFPP.*

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## Economic Outlook of SMNRs in Utah: Recommendations

UAMPS members should **delay further investment until an objective and independent cost comparison study is completed** for their community that includes all other options as would be done by any major utility

*These policy recommendations are those of HEAL Utah. Energy Strategies conducted the cost analysis will respond to questions about the report's assumptions and methodology but they do not take a position on whether any particular community should or should not subscribe to the CFPP.*

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## Questions?

The Healthy Environment Alliance of Utah

Michael Shea

michael@healutah.org

801-355-5055

www.healutah.org

16



# Analyzing the Cost of Small Modular Reactors and Alternative Power Portfolios

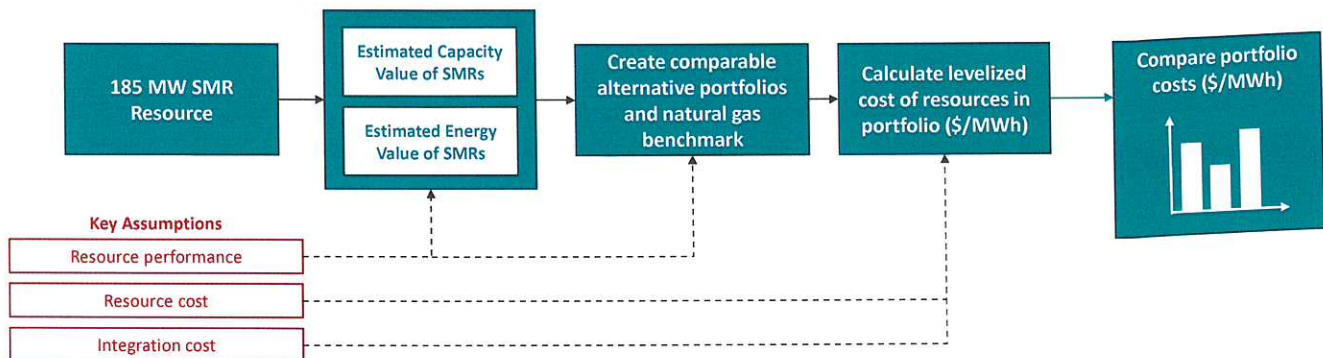
Prepared for Healthy Environment Alliance of Utah (HEAL Utah)  
May 2019

## Background & Purpose

- **HEAL Utah commissioned Energy Strategies to conduct an independent study comparing the cost of small modular reactors (SMR) with comparable portfolios made up of other low or non-carbon emitting resources, such as wind, solar, and energy storage**
  - ❖ NuScale Power is developing 600 MW of SMR nuclear technology (12 SMR units that are 50 MW each) located at the Idaho National Laboratory, with an expected operational date in 2026
  - ❖ Utah Associated Municipal Power Systems (UAMPS) members are considering participation in 185 MW of this capacity
  - ❖ This analysis compares the cost of alternative resource portfolios that would provide similar grid services and environmental attributes as 185 MW of SMRs, focusing primarily on energy and capacity value
  - ❖ The analysis also includes market purchases and new thermal generation in the alternative portfolios
  - ❖ An all natural gas “benchmark” portfolio was created for reference purposes
- **The study seeks to create data surrounding the relative costs of the SMR resources and alternatives by:**
  - ❖ Developing alternative energy resource portfolios that have comparable energy and capacity values
  - ❖ Developing total cost estimates for each portfolio
- **Energy Strategies conducted this analysis objectively and independently**
  - ❖ Energy Strategies does not take a position regarding UAMPS member’s resource decisions nor does it advocate for or against any of the portfolios evaluated in this analysis
  - ❖ This analysis does not make assumptions with regards to the long-term needs of UAMPS members, but instead focuses on cost tradeoffs between specific resource portfolios



# Study Method



- **Cost comparison is founded on resource-specific leveled cost of energy (LCOE) values**
  - ❖ Total portfolio LCOEs are calculated based on total energy associated with portfolio, but also take into account fixed leveled cost of resources that we assume provide no energy value and are to be used for capacity purposes only (energy storage and simple cycle combustion turbine)
- **LCOE combines capital costs, fixed and variable operation and maintenance costs, expected energy output (capacity factor), and other costs over the generator's anticipated lifetime to calculate the "average price" of energy from that resource on a leveled basis**

# High-Level Study Assumptions

- **185 MW SMR is a carbon-free generation asset that may supply a portion of UAMPS members' capacity and energy needs starting in 2026**
  - ❖ SMR may be able to provide additional services, such as certain ancillary services and renewable integration; however, these additional benefits are not considered in this analysis
- **The study assumes that UAMPS members receive power from the SMRs and alternative portfolios through Network Integration Transmission Service on PacifiCorp's system and, therefore, transmission service costs for all alternatives are comparable and not considered in the analysis**
  - ❖ Interconnection costs are discussed but do not factor into the overall cost analysis given the significant uncertainty and case-by-case nature of these costs
  - ❖ The study does assume an integration cost consistent with PacifiCorp's Integrated Resource Plan (IRP) cost assumptions, but no other ancillary services are included in this assessment
- **Most data was gathered from a single publicly-available source: PacifiCorp's 2019 IRP assumptions**
  - ❖ Resource performance and leveled cost of energy assumptions for the alternative resources was sourced from PacifiCorp's 2019 IRP materials
  - ❖ Energy Strategies includes a cost sensitivity to capture possible deeper declines in renewable energy and storage costs not captured in the PacifiCorp IRP assumptions
- **All portfolios were designed to match the energy and capacity values of the 185 MW SMR portfolio**
  - ❖ Alternative portfolios were not optimized for least-cost
  - ❖ The capacity contribution and energy content of the alternative resources is based on PacifiCorp IRP assumptions. While these values are not specific to UAMPS member load and resource portfolio, they serve as a reasonable proxy for this study
- **Interconnection costs for the SMR and alternative portfolios are not explicitly included in the analysis, but estimated cost impacts are addressed**
  - ❖ The SMR units will require the Antelope Transmission Projects to interconnect and deliver SMRs to UAMPS members
  - ❖ Alternative resources may also require new transmission upgrades to interconnect, but these upgrade costs are not known at this time
- **This study did not analyze UAMPS members' entire resource portfolio, nor is it focused on the cost of accomplishing certain clean energy goals, such as 80% or 100% renewables**
  - ❖ The study considers the SMR units in isolation and assumes they will continue to be a part of a broader resource mix that includes non-renewable dispatchable resources
  - ❖ If UAMPS members do adopt aggressive GHG reduction goals (or are forced to), and emission reduction goals are drastic (versus marginal) the analysis of SMR economics relative to other options should be performed under this specific policy context

# Key Study Findings

1. **On a levelized cost basis, the alternative resource portfolios, including those that are emissions-free, were approximately 40% (\$24-\$28/MWh) less costly than the SMR generation assumed in the Base Case of this study**
  - ❖ This means that the SMRs will cost at least \$35 million per year more than the alternative portfolios
2. **On a present value basis, the alternative portfolios offer between \$298M - \$355M in savings compared to the SMR Base Case portfolio**
  - ❖ This estimate is based on cost differentials starting in 2026 and continuing for 20 years of portfolio operation
3. **Even after considering a \$45/MWh low-end LCOE sensitivity for the SMR technology, the alternative portfolios are still less expensive than SMRs**
  - ❖ The average cost of the alternative portfolios is \$40/MWh, which means that the alternative options are more than 10% less expensive than the lower-bound SMR cost estimate
  - ❖ Based on a \$90/MWh high-end cost sensitivity for SMR resources, the SMR portfolio is more than twice as expensive as any of the alternative portfolios
4. **Deeper capital cost declines for solar, wind, and battery energy storage resources as reported by NREL may reduce the costs of studied portfolios with these resources by 7 – 19%, which further increases the likelihood that these resources would be less costly than the SMR project**
5. **Even with a carbon allowance price based on the Energy Information Administration's 2018 Annual Energy Outlook forecast, the SMR Base Case portfolio is slightly more expensive than the natural gas benchmark**
  - ❖ Adding a carbon price to the alternative portfolios that include market purchases or natural gas capacity resources does not significantly change their cost



## SMR & Alternative Portfolios



# Portfolio Composition by Nameplate Capacity

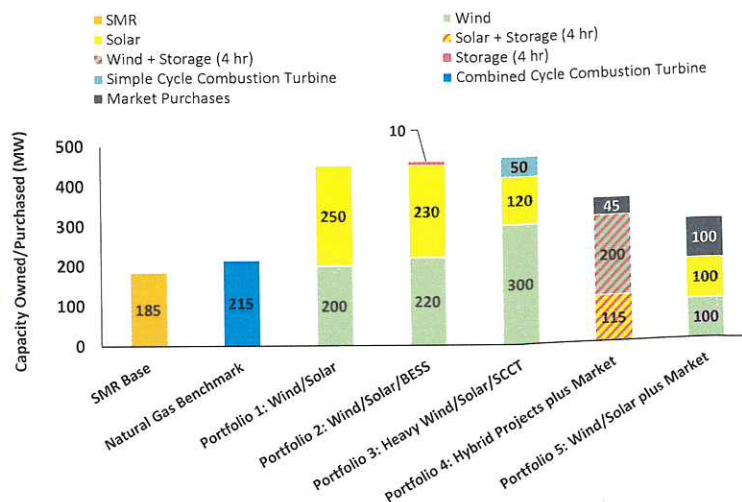
## Resource Assumptions

- ❖ SMR located at Idaho National Lab in Idaho
- ❖ Solar located near Milford, Utah
- ❖ Wind located in Wyoming
- ❖ Battery energy storage system (BESS) assumed to be a 4-hour capacity resource
- ❖ Combined cycle combustion turbine (CCCT) assumed at 5,050' at Hunter power plant location
- ❖ Simple cycle combustion turbine (SCCT) assumed at 5,050' at Hunter power plant location
- ❖ Market purchases assumed to be at Four Corners

## Alternative resource portfolios and natural gas benchmark were developed to match energy and capacity value of the SMR portfolio

## GHG Considerations

- ❖ Portfolios 1 and 2 are completely GHG-free, while Portfolio 3 includes SCCT as a capacity resource that would drive minimal GHG emissions
- ❖ Portfolios 4 and 5 include "brown" market power purchases that would cause these portfolios to have material GHG emissions; ~170,000 metric tons and 375,000 metric tons, respectively, of CO<sub>2</sub> per year
- ❖ Natural Gas Benchmark portfolio contains a CCCT which runs at a relatively high capacity factor and thus would produce material GHG emissions; ~500,000 metric tons of CO<sub>2</sub> per year
- ❖ While not considered in this analysis, GHG emissions associated with these portfolios could be offset through the procurement of unbundled renewable energy credits (RECs) to meet voluntary renewable goals



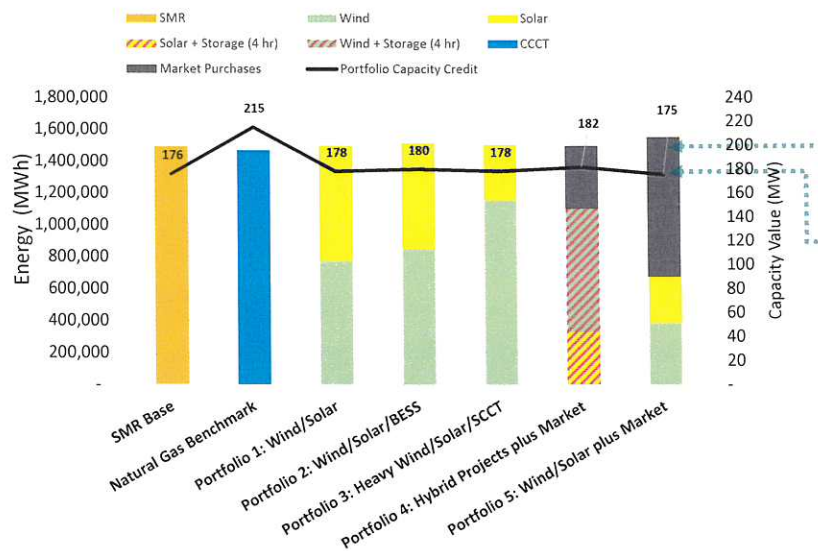
# Energy and Capacity Value Assumptions

## Each resource type was assigned a capacity value and capacity factor in order to develop comparable portfolios comprised of various resource types

- ❖ Capacity value reflects the resource's ability to reliably serve system peak demand
- ❖ Capacity factor is the amount of energy output the resource will provide

Resource Type	Capacity Value	Capacity Factor	Data Source/Assumption
SMR	95%	92%	<ul style="list-style-type: none"> <li>Capacity value based on assumed summer de-rate and capacity factor based on "The Economics of Small Modular Reactors" by SMR Start (September, 2017)</li> <li>Capacity factor based on "Examination of Federal Financial Assistance in the Renewable Energy Market" prepared by Scully Capital and KutakRock for the DOE Office of Nuclear Energy (October, 2018)</li> </ul>
CCCT	100%	78%	PacifiCorp 2019 IRP Supply Side Resource Assumptions
Wind	21%	44%	PacifiCorp 2019 IRP Supply Side Resource Assumptions
Solar	54.4%	33%	PacifiCorp 2019 IRP Supply Side Resource Assumptions
Solar + Storage (4-hr)	65%	33%	PacifiCorp 2019 IRP Supply Side Resource Assumptions; Assumed addition of storage results in 10% increase in capacity value
Wind + Storage (4-hr)	31%	44%	PacifiCorp 2019 IRP Supply Side Resource Assumptions; Assumed addition of storage results in 10% increase in capacity value
Storage (4-hr)	85%	0%	Based on NREL Report: <a href="#">The Potential for Energy Storage to Provide Peaking Capacity in California under Increased Penetration of Solar Photovoltaics</a> (March 2018); No energy content assigned – value is entirely capacity driven
SCCT	100%	0%	Capacity value based on WECC Pro Forma Capital Cost Model; No energy content assigned – value is entirely capacity driven
Market Purchases	100%	100%	Assumes firm capacity contract with 100% availability

# Portfolio Composition by Energy and Capacity Value



- Multiple resource types were drawn upon to form alternative portfolios that, combined, have comparable energy and capacity value to the SMR portfolio
- Energy content is consistent
- Capacity value is consistent



## Portfolio Costs



# Levelized Cost Assumptions

- SMR cost is based on publicly-available materials from the project developer and UAMPS
- Other resource cost estimates are sourced from PacifiCorp's IRP, Lazard, OTC Global
  - ❖ Costs in this analysis do not include Production Tax Credits (PTC) for wind; but do include 10% Investment Tax Credits (ITC) for solar
  - ❖ Forward market prices are derived from Energy Strategies long-term forecasting models combined with futures pricing published by OTC Global
- LCOE values were adjusted for capacity factors and inflation but not for tax treatment or cost of capital

Resource Type	Cost*	Unit	Source	Notes
SMR	\$66.30	\$/MWh	UAMPS and NuScale materials	Cost after DOE support funding, cost of capital associated with municipality customers, and <b>tax support including production tax credits (PTCs)</b>
CCCT	\$45.56	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	Energy and capacity resource
Wind	\$33.28	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	No PTC
Solar	\$39.50	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	10% ITC
Solar + Storage (4-hr)	\$48.49	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	10% ITC for solar only
Wind + Storage (4-hr)	\$37.95	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	No PTC/ITC
Storage (4-hr)	\$160.24	\$/kW-year	Lazard LCOS, Version 4.0	No ITC
SCCT	\$82.00	\$/kW-year	PacifiCorp 2019 IRP Supply Side Table	Capacity resource
Market Purchases	\$42.77	\$/MWh	Energy Strategies forecast/OTC Global	Used Four Corners as proxy market, 20-year price average

Keegan - Are we sure NuScale's price (\$65) includes PTC for SMR?



\*All costs are in 2019\$

# Integration Cost Assumptions

- Integration costs are used to represent the cost required to incorporate the resource output into the overall resource mix of the balancing area on a sub-hourly basis
- Schedule 3/3a "Regulation and Frequency Response" charges from PacifiCorp's tariff were used to estimate potential integration costs for resources
  - ❖ Escalated costs at 3% per year
  - ❖ Assumed "committed scheduling" construct for all new resources, and assumed the SMR was a non-variable resource and all other non-dispatchable resources were variable resources
  - ❖ Energy storage and combustion turbines were not assigned an integration cost
- Estimated values were checked against integration costs in PacifiCorp's IRP for consistency

Schedule 3/3a Costs (Committed Scheduling) (\$/MW-yr)		
	VER	Non-VER
2019 \$	5,631	1,794
2020 \$	5,744	1,830
2021 \$	5,858	1,866
2022 \$	5,976	1,904
2023 \$	6,095	1,942
2024 \$	6,217	1,981
2025 \$	6,341	2,020
2026 \$	6,532	2,081

Rates escalated in real-terms to anticipate future cost increases  
Used to calculate \$/MWh costs

Resource Type	Integration Cost (\$/MWh)
SMR	\$ 0.26
Wind	\$ 1.69
Solar	\$ 2.26
Solar + Storage (4-hr)	\$ 2.26
Wind + Storage (4-hr)	\$ 1.69
Storage (4-hr)	\$ -
CCCT/SCCT	\$ -
Market Purchases	\$ -

Integration costs in PacifiCorp's IRP are all less than \$1/MWh, confirming the conservative nature of this estimate

# Levelized Portfolio Cost

- **Total portfolio cost includes cost of energy and capacity resources and resource integration costs**

❖ Interconnection/transmission costs not included



SMR portfolio levelized cost in the Base Case was \$24 - \$28/MWh higher than alternative portfolios analyzed

## Present Value Savings Relative to SMR Base Case

- Differences in the present value cost between portfolio represent the estimate savings (or costs) between portfolio choices
- **Present value analysis was performed for 20 years, capturing total costs from 2026-2045**
  - ❖ Differences in costs between SMR Base Case and each portfolio were totaled, then discounted at 4.91% (real discount rate)
  - ❖ Present values brought back to today (2019)
- **By assuming a 20-year timeframe, analysis of savings is a conservative estimate**
  - ❖ SMR LCOEs are "locked in" for 40 years, while wind, solar and energy storage resources would need to either repower or be replaced after 20-30 years
  - ❖ Given that these resources are declining in costs, not increasing, the LCOE value of the alternative portfolios in year 30 or 40 would likely be lower than what is captured in year 20 of this analysis
- **Alternative portfolio 1 (wind and solar) offers the highest level of savings compared to the SMR Base Case, \$355M**
  - ❖ Even though this portfolio would require the installation of more MWs of resource capacity (e.g. >400 MW of wind/solar vs 185 MW of SMR), there are substantial cost savings that can be realized due to the lower per unit cost of wind and solar resources
- **Natural Gas Benchmark portfolio offers significant savings over the SMR portfolio, though not as great as other alternative portfolios analyzed**

Present Value Savings Relative to SMR Base Case Over 20 Years Starting in 2026 (\$M)

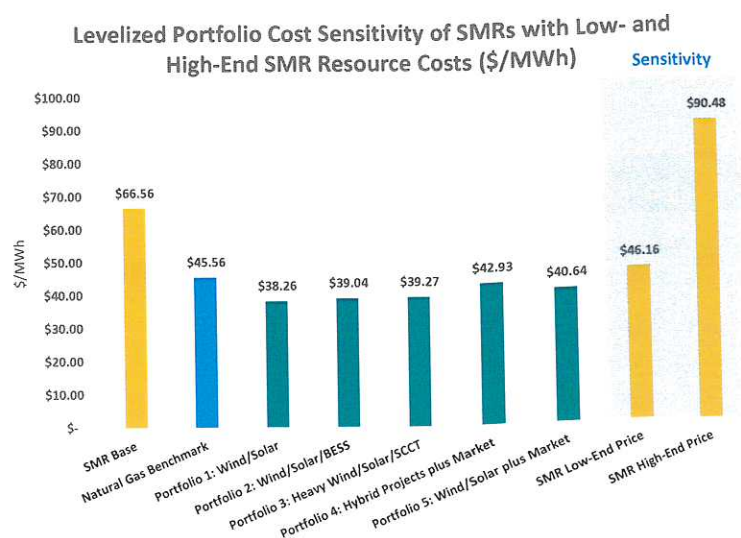
Portfolio	Present Value of Savings Relative to SMR Base Case (\$M)
Natural Gas Benchmark	\$259
Portfolio 1: Wind/Solar	\$355
Portfolio 2: Wind/Solar/BESS	\$350
Portfolio 3: Heavy Wind/Solar/SCCT	\$345
Portfolio 4: Hybrid Projects plus Market	\$298
Portfolio 5: Wind/Solar plus Market	\$338



# Sensitivities

## SMR Cost Sensitivity

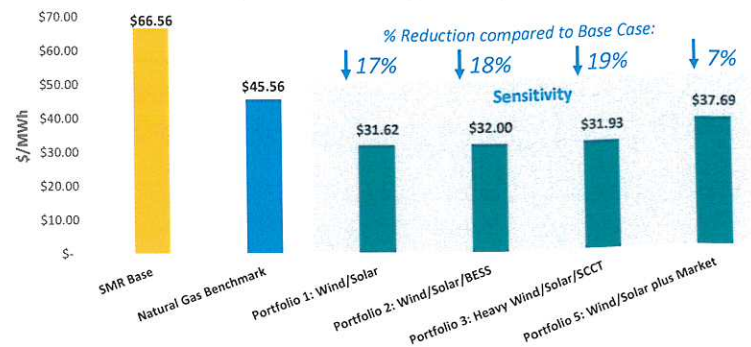
- SMR technology has not been demonstrated in a commercial application and there is uncertainty surrounding the actual cost of the future SMR project
- This analysis evaluated two alternative SMR LCOE cost scenarios:
  - ❖ \$45/MWh: Low-end cost represents low ranging SMR cost as reported in recent NuScale/UAMPS presentations
  - ❖ \$95/MWh: High-end cost represents PacifiCorp's 2019 IRP cost assumption for SMR
    - Adjusted in this analysis (to \$90/MWh) to account for a slightly lower capacity factor
- High-end SMR cost is more than twice the cost of the wind/solar alternative portfolio 1
- Low-end SMR cost is on par with the cost of the natural gas benchmark



# Deeper Cost Reductions for Renewables and Storage

- This study used PacifiCorp's 2019 IRP resource cost projections in its Base Case analysis which do account for future costs declines; however, these are a "mid" level costs and given extreme historic decreases in costs, it is prudent to account for a future where these cost declines are lower than current forecasts
- Reduced costs for renewables were imputed based on capital expenditure ranges developed by NREL's 2018 Annual Technology Baseline (ATB)
  - ❖ An LCOE was derived from NREL's capital expenditure projection using the WECC 2017 *pro forma* capital cost model
- Deeper cost reduction sensitivity development approach:
  - ❖ The imputed low-end solar capital cost in 2026 was 13% less than its mid-level cost, thus resulting in a solar resource LCOE sensitivity of \$34/MWh
  - ❖ Wind lower-bound cost compared a mid-level 2023 capital cost against a low-end 2026 cost to account for the PacifiCorp IRP's assumed 2023 installation year; resulting in a wind resource LCOE sensitivity of \$25/MWh
  - ❖ Storage cost declines were projected by comparing a January 2019 Joule report's BESS cost forecast for 2026 to Lazard's 2020 base BESS cost; resulting in a BESS levelized cost of storage sensitivity of \$122/kW-year

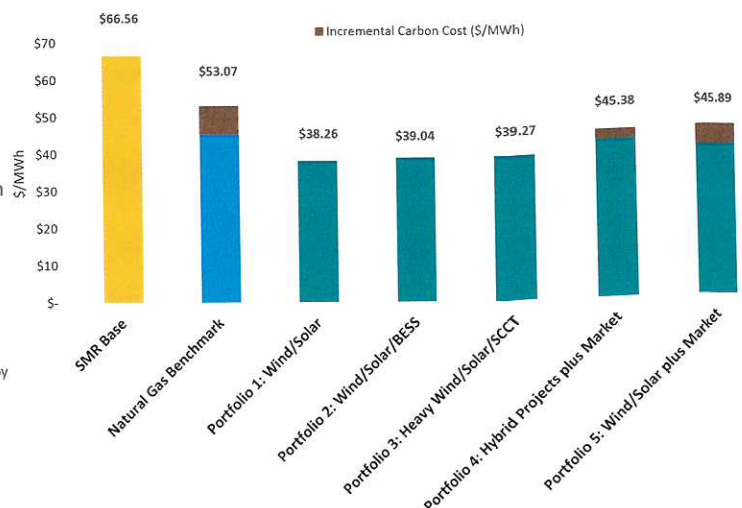
Levelized Portfolio Cost Sensitivity with Deeper Declines in Solar, Wind and Storage Costs (\$/MWh)



## Carbon Price Sensitivity

- Many load-serving entities, including PacifiCorp, consider a future carbon price in their resource planning processes as a way to capture future risk associated with potential regulation
- Therefore, this analysis also considered a carbon price as a sensitivity to the Base Case analysis
  - ❖ Utilized Energy Information Administration's 2018 Annual Energy Outlook (AEO) carbon price forecast for a \$15 Carbon Allowance price, which was surveyed as a medium carbon price sensitivity in PacifiCorp's 2019 IRP process
- Carbon pricing was applied to resources with emissions
  - ❖ Natural Gas Benchmark: CCCT resource
    - 117 lbs of CO<sub>2</sub>/MMBTU with a heat rate of 6510 Btu/kWh as reported by PacifiCorp's 2019 IRP supply side assumptions
  - ❖ Portfolio 4 and 5: Market Purchases
    - 0.427 Metric Tons/MWh, which is the California Air Resources Board emissions rate for WECC-wide unspecified power

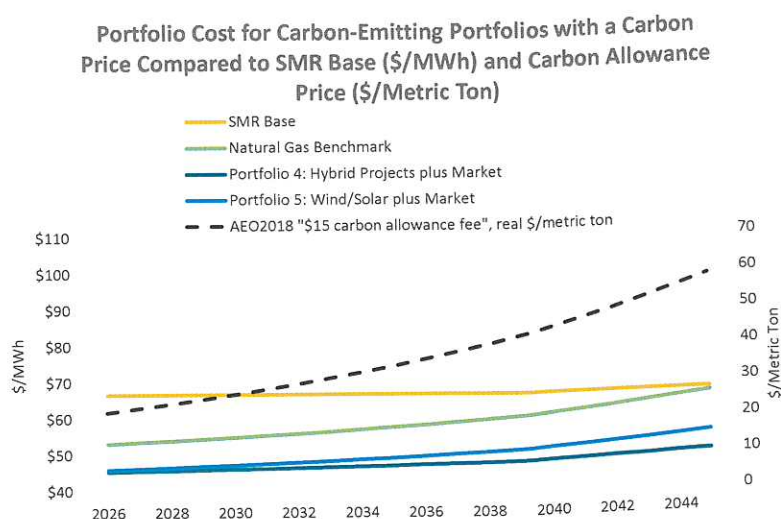
Levelized Portfolio Cost Sensitivity with AEO 2018 "\$15 Carbon Allowance Price" (\$/MWh)





## Carbon Price Sensitivity (continued)

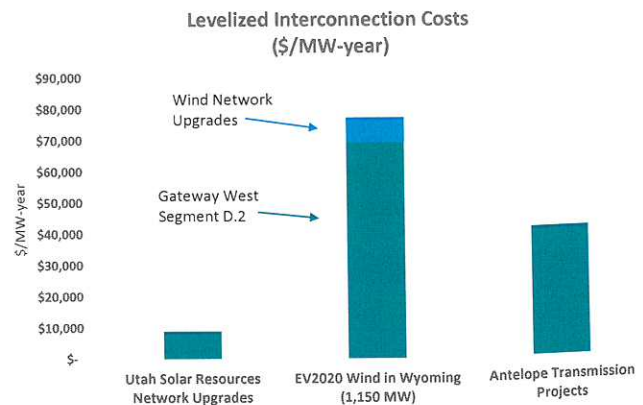
- Over a 20-year time horizon, annual carbon cost impacts on each portfolio will increase at different rates depending on their respective carbon emissions rates
- Relative to the SMR Base portfolio, the natural gas benchmark is projected to become more expensive shortly after 2045 (in real terms)
- However, even with the incremental carbon cost associated with market purchases in portfolios 4 and 5, these portfolios costs are still significantly lower than the SMR Base Case at the end of the 20-year time horizon that starts in 2026 on a levelized basis
- Given that these portfolios have relatively low carbon intensity, including carbon costs does not significantly change the economic efficiency of these options compared with SMR resources



## Interconnection & Transmission Cost Assessment

# Interconnection & Transmission Costs

- Interconnection costs were not considered in the cost analysis portion of the study
- However, PacifiCorp's transmission customers will ultimately pay the costs for network transmission upgrades required to connect new generation to grid
  - ❖ Transmission customers include load associated with PacifiCorp, UAMPS, and UMPA service territories
- Studies performed by PacifiCorp and Northern Tier Transmission Group indicate the 345-kV Antelope Transmission Project is required for the 600 MW SMR interconnection
  - ❖ The project is beyond the point of interconnection of the facility, so it will likely be a Network Upgrade
- Recent solar projects in Utah have completed interconnection studies that indicate lower network upgrade costs compared to costs required to bring Wyoming EV2020 wind online and costs potentially associated with the SMR interconnection
  - ❖ Network upgrade costs identified in an interconnection study give an indication of the network transmission costs necessary to deliver the resource to load
- Interconnection and transmission cost analysis for this study used WECC *Pro Forma* Transmission Cash Flow model with capital cost input data compiled by Energy Strategies
- Results indicate that network upgrade costs are highly dependent on location and ratepayers are potentially less impacted by Utah solar



## Data source:

- Utah Solar: Energy Strategies PPA database and research/review of interconnection studies in PacifiCorp interconnection queue.
- EV2020 transmission costs based on public information from PacifiCorp testimony and estimate Segment D.2 cost at \$739 million
- Antelope Transmission Project costs are estimated using WECC Capital Cost Calculator and assume 97 miles of 345-kV single circuit lines at \$2.11 million per mile (excluding substation costs)



## Findings & Recommendations for Additional Analysis



## Base Case Findings

- **On a levelized cost basis, the alternative resource portfolios, including those that are carbon-free, were at least \$24/MWh less costly than the SMR generation assumed in the Base Case of this study**
  - ❖ The average cost of the alternative portfolios was roughly 40% less than the SMR resource option.
  - ❖ Compared with SMR generation, wind, solar and BESS (along with market purchases and a small SCCT) represent lower cost options for UAMPS' members to add resources to meet energy needs while *incrementally* reducing total GHG emissions in its overall resource portfolio
- **On a present value basis, the alternative portfolios offer between \$298M – \$355M savings over a 20-year time horizon starting in 2026 compared to the SMR Base Case portfolio**
  - ❖ The wind and solar only portfolio (alternative portfolio 1) offers the highest potential savings
  - ❖ The natural gas benchmark portfolio, without a future carbon price, offers a \$259M savings compared to the SMR Base Case portfolio on a present value basis
- **Integration costs are not a significant factor in the cost analysis as they add roughly \$2/MWh to the cost of the alternative portfolios**
  - ❖ The development of these cost assumptions were very conservative and including them in the cost analysis does not change the conclusion outlined above, which is that portfolios of wind and solar are lower cost compared to the SMR resource option



## Additional Findings from Sensitivity Analysis

- **Cost sensitivity analyses reveal that the “Base Case” findings are robust:**
  - ❖ Based on a \$45/MWh low-end levelized cost sensitivity for SMR resources, the alternative portfolios are still roughly 10% cheaper than SMRs. An all-natural gas portfolio is roughly the same price as the SMR assuming this lower-bound SMR cost.
  - ❖ Based on a \$90/MWh high-end levelized cost sensitivity for SMR resources, the SMR portfolio is more than twice as expensive as any of the alternative portfolios, and approximately \$45/MWh more costly than the all-natural gas portfolio
- **If renewable and storage resources experience deeper capital cost reductions, there may be additional “upside” cost savings associated with the alternative portfolios**
  - ❖ Deeper cost declines for future solar, wind, and BESS resources may reduce the costs of portfolios with these resources by 7 – 19%
  - ❖ If these lower renewable and storage costs are achieved, the portfolios with these resources may cost less than half as much as the SMR portfolio
- **Including a carbon price does not change any of the Base Case findings because:**
  - ❖ (1) the alternative portfolios require no or low carbon-emissions, and
  - ❖ (2) the natural gas benchmark portfolio is much less costly to begin with, so it has “headroom” to absorb the incremental carbon cost through 2045





# Recommendations for Additional Analysis

- **Portfolio cost-effectiveness in the context of achieving specific emissions reduction goals**

- ❖ This study did not analyze UAMPS members' entire resource portfolio, nor did it focus on the cost of accomplishing certain clean energy goals, such as 80% or 100% renewables or achieving specific carbon reductions. The study considers the SMR units in isolation and assumes they will continue to be a part of a broader resource mix that includes non-renewable, dispatchable resources.
- ❖ While not considered in this study, other Energy Strategies analyses suggest that the total cost of serving load with 80-100% renewables using wind, solar, energy storage, and balancing with market purchases/sales may cost more than a \$65/MWh SMR resource. The cost for a small entity to completely eliminate carbon is an area of ongoing research.
- ❖ This leads to the conclusion that, if UAMPS members adopt aggressive GHG reduction goals or are required to by legislative fiat, and those reduction goals are aggressive (versus incremental or marginal), the analysis of SMR economics relative to other options should be studied under this specific policy context and the results of that analysis may indeed have different conclusions than the resource-to-resource comparison considered in this study

- **Accounting for the ancillary benefits offered by SMRs and other portfolios**

- ❖ Integration benefits of SMRs have not been considered, nor were investment risk, among other potential costs and benefits across the portfolios
- ❖ A more thorough analysis could include a line-by-line accounting of all portfolio costs and benefits

- **Consideration of transmission upgrade costs required for various portfolios**

- ❖ The Antelope Transmission Projects represent a significant upgrade, although its costs would eventually be borne by all of PacifiCorp's transmission customers
- ❖ Regardless, any increase in UAMPS' member transmission rates could be incorporated in the economic analysis of the generation project (as could any transmission rate impact associated with other resources requiring substantial Network Upgrades)

- **Reliability impacts**

- ❖ While we believe reasonable parameters were used to approximate the capacity credit for renewable resources, additional work could be performed to estimate more granular capacity credit assumptions

- **Operational modeling**

- ❖ It would be informative to evaluate the SMR resources and the alternative portfolios as a part of the UAMPS' generation mix through hourly production cost modeling or another analysis method that captures the variable nature of wind and solar generation.



## THANK YOU

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## Analyzing the Cost of Small Modular Reactors and Alternative Power Portfolios

Prepared for  
Healthy Environment Alliance of Utah

May 2019

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## EXECUTIVE SUMMARY

Utah Associated Municipal Power Systems (UAMPS) members are considering the purchase of a portion of a 600 MW small modular reactor (SMR) power generation facility under development by NuScale Power at the Idaho National Laboratory near Idaho Falls, Idaho. The expected commercial operation date of the project is 2026. The Healthy Environment Alliance of Utah commissioned Energy Strategies, LLC (Energy Strategies) to conduct an independent, high-level assessment of the cost competitiveness of delivered power from the SMR plant relative to the costs of power from comparable alternative low- or non-carbon emitting resource portfolios that include wind, solar, and energy storage. The alternative portfolios were constructed in a manner such that they would provide the same energy and capacity value as the SMR resource being considered by UAMPS members.

The primary metric used to compare costs was the levelized cost of energy (LCOE). The LCOE of the SMR project was compared with the total LCOE of the low- or non-carbon emitting alternative portfolios, as well as a natural gas benchmark portfolio. The LCOE metric allows for a consistent comparison of different generation technologies as it accounts for each technology's lifetime, capital cost, operations and maintenance expenses, fuel expenditures (if any), and energy production. In addition to LCOE comparison, the study also presents the 20-year present value cost of each portfolio relative to the SMR project total cost.

Fundamental to the analysis are assumptions on the performance of resources used to develop the alternative portfolios. This analysis relied on publicly-available sources to derive all assumptions and, where possible, utilized sources that were both recent and relevant to the Intermountain West region where the SMRs are being developed. The majority of cost and performance assumptions were based on data from PacifiCorp's 2019 Integrated Resource Plan (IRP) development.

The study considers a number of sensitivities to assess the potential uncertainty of future cost assumptions and environmental policies. These sensitivities include:

- A low-end and high-end range for potential SMR costs, consistent with cost estimates presented by NuScale and UAMPS.
- Lower-bound cost forecasts for renewable energy and battery storage, accounting for deeper cost declines for these technologies.
- Carbon cost impacts on portfolios that contain resources with carbon-emitting technologies (natural gas) or “brown power” market purchases.

The assessment led to a number of findings regarding the relative costs of the SMR projects as well as recommendations for future analysis. The primary findings of the analysis include:

- On a levelized cost basis, the alternative resource portfolios, including those that are emissions-free, were approximately 40% (\$24-\$28/MWh) less costly than the SMR generation assumed in the Base Case of this study. This means that the SMRs will cost at least \$35 million per year more than the alternative portfolios.
- On a present value basis, the alternative portfolios offer between \$298 - \$355 million in savings compared to the SMR Base Case portfolio. This estimate of present value savings is based on cost differentials starting in 2026 and continuing for 20 years of portfolio operation.
- After considering a \$45/MWh low-end LCOE sensitivity for the SMR technology, the study finds that the alternative portfolios are still less expensive than SMRs. The average cost of the alternative portfolios is \$40/MWh, which means that the alternative options are more than 10% less expensive than the lower-bound SMR cost estimate. Based on a \$90/MWh high-end cost sensitivity for SMR resources, the SMR portfolio is more than twice as expensive as any of the alternative portfolios.
- Deeper capital cost declines for solar, wind, and battery energy storage resources as reported by NREL may reduce the costs of studied portfolios with these resources by 7 – 19%, which further increases the potential for these resources to be more cost-effective than the SMR project.
- After including a carbon allowance price based on the Energy Information Administration’s 2018 Annual Energy Outlook forecast, the SMR Base Case portfolio is slightly more expensive than the natural gas benchmark. Adding a carbon price to the alternative portfolios that include market purchases or gas capacity resources does not significantly change their cost.

## 1.0 INTRODUCTION

UAMPS is partnering with NuScale Power, Energy Northwest and the U.S. Department of Energy (DOE) to develop a SMR plant at DOE’s Idaho National Laboratory using NuScale’s new SMR technology. The plant, which will be the first of its kind, includes twelve 50 MW SMR units that combined would create a single 600 MW facility.<sup>1</sup> Thirty UAMPS members have approved Power Sales Contracts to participate in 185 MW of the project, which is referred to as the Carbon Free Power Project. The project is slated to begin construction in 2023 with commercial operation scheduled for 2026. The closest point of interconnection to transmission, PacifiCorp’s Antelope substation, is approximately 3.5 miles away from the project site. In addition to the facilities connecting the project to the Antelope substations, transmission planning studies indicate there will likely be a need for additional 345-kV transmission lines beyond the Antelope substation.<sup>2</sup> These additional upgrades will enable the projects’ output to flow onto PacifiCorp’s transmission system and be delivered to UAMPS members.

At the request of the Healthy Environment Alliance of Utah, Energy Strategies conducted an independent analysis comparing the cost of UAMPS’ 185 MW portion of the proposed SMR plant to alternative resource portfolios. Five portfolios were developed, consisting of different combinations of market purchases, natural gas-fired generation, and/or non-carbon emitting wind, solar, and energy storage technologies. A sixth portfolio consisting of a natural gas-fired combined-cycle combustion turbine (CCCT) was considered as a benchmark portfolio. Each alternative resource portfolio was designed to have equivalent energy and capacity values as

<sup>1</sup> Note that the UAMPS website and initial documentation describe the project as a 600 MW design (twelve units at 50 MW each); however, a presentation made by Chris Colbert, Chief Strategy Officer at NuScale, on April 18, 2019, at the Committee on Regional Electric Power Cooperation meeting, indicated that each SMR unit produces “up to 60 MW equivalent.” To maintain consistency with posted UAMPS and PacifiCorp IRP assumptions, this study assumes a project size of 600 MW with each unit’s nameplate capacity at 50 MW. It is unknown if the ultimate project size will have any impact on the total number of MW allocated to UAMPS. We do not believe this information materially impacts this analysis.

<sup>2</sup> These studies include those performed by Northern Tier Transmission Group, which identifies the Antelope Project as being needed for “Nuclear Resource Integration” in its 2018-19 draft Regional Transmission Plan published on December 28, 2018.



UAMPS' 185 MW SMR allocation. The study assumes that all portfolios begin providing energy and capacity at the beginning of 2026.

Two cost metrics were used to compare the cost of the portfolios: the LCOE in dollars per MWh and the 20-year present value of the portfolio cost, both reported in 2019 dollars.<sup>3</sup> The study included sensitivities considering how the LCOE of each resource portfolio might change based on potential future carbon regulations and different costs assumptions for SMR, wind, solar and battery energy storage system (BESS) technologies.

This study provides an independent, high-level investigation into the cost competitiveness of power from the SMR plant relative to the costs of power from alternative low- or non-carbon emitting resource portfolios likely to be available to UAMPS members in the 2026 timeframe. Energy Strategies does not take a position regarding UAMPS member's resource decisions nor does it advocate for or against any of the portfolios evaluated in this analysis. Rather, the findings are intended to be viewed as indicative of the relative economics of several resource portfolios that may be available to UAMPS members and to contribute to an informed conversation on the economics of SMR technology compared to other available resource options.

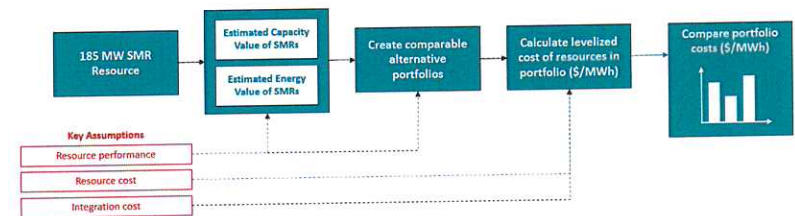
The following sections describe the assumptions and methods used to develop the portfolios and analyze their costs. The bulk of the report is focused on the portfolios, their costs, and sensitivities that may impact the total cost of the portfolios. While not a focus on this study, the report does include a high-level discussion of interconnection and transmission cost implications for the various portfolios. Finally, the report concludes with a summary of technical findings and areas to consider for additional analysis.

<sup>3</sup> Unless otherwise stated, all dollar values in this report are in 2019 dollars. An approximate 2% inflation rate was also assumed in this analysis.

## 2.0 ASSUMPTIONS AND ANALYTICAL METHOD

The study is based around a "Base Case" portfolio of SMR resources, five alternative portfolios with various low- or non-carbon emitting resources, as well as a natural gas benchmark portfolio. To develop the portfolios, the first step was to calculate the energy and capacity value of the Base Case SMR portfolio. Each alternative portfolio was created to have similar energy and capacity values as the SMR portfolio. This ensures that all portfolios provide the same energy and expected ability to serve system peak demand. Finally, the levelized and present value cost of each portfolio was calculated and compared. A summary of this study methodology is depicted in **Figure 1**.

Figure 1: SMR and Alternative Power Study Methodology



### 2.1 Resource Performance Assumptions

Performance assumptions, including energy and capacity values for the gas-fired, wind, solar, standalone BESS and hybrid (i.e., solar plus BESS and wind plus BESS), resources were derived primarily from PacifiCorp's 2019 IRP Supply Side Assumptions and are summarized in **Table 1**.<sup>4</sup> Capacity value (or "capacity credit") represents the percentage of a generators' capacity that

<sup>4</sup> See PacifiCorp IRP public presentation, dated November 1, 2018, "2019 Supply Side Table": [http://www.pacifiCorp.com/content/dam/pacifiCorp/doc/Energy\\_Sources/Integrated\\_Resource\\_Plan/2019\\_IRP/Table\\_6.1-6.3-TRC\\_for\\_Supply-Side\\_Resource\\_Options\\_19\\_IRP\\_for\\_PDF.pdf](http://www.pacifiCorp.com/content/dam/pacifiCorp/doc/Energy_Sources/Integrated_Resource_Plan/2019_IRP/Table_6.1-6.3-TRC_for_Supply-Side_Resource_Options_19_IRP_for_PDF.pdf)



can be relied on meet system peak demands. The capacity factor, which represents energy output, is the ratio of annual energy expected to be produced by a facility as compared with the facility running at its maximum nameplate capability for the entire year.

The study focused on performance parameters reported for solar resources located near Milford, Utah, wind resources located in Wyoming, and market purchases made at Four Corners. BESS was assumed to be a lithium-ion four-hour capacity resource and the gas-fired resources were assumed to be a simple cycle combustion turbine (SCCT) in the alternative portfolio and a CCCT in the natural gas benchmark portfolio.

Table 1: Energy and Capacity Value Assumptions

Resource Type	Capacity Value	Capacity Factor	Data Source/Assumption
SMR	95%	92%	<ul style="list-style-type: none"> <li>Capacity value based on assumed summer de-rate and capacity factor based on "The Economics of Small Modular Reactors" by SMR Start (September 2017)</li> <li>Capacity factor based on "Examination of Federal Financial Assistance in the Renewable Energy Market" prepared by Scully Capital and KutakRock for the DOE Office of Nuclear Energy (October 2018)</li> </ul>
CCCT	100%	78%	PacifiCorp 2019 IRP Supply Side Resource Assumptions
Wind	21%	44%	PacifiCorp 2019 IRP Supply Side Resource Assumptions
Solar	54.4%	33%	PacifiCorp 2019 IRP Supply Side Resource Assumptions
Solar + Storage (4-hr)	65%	33%	PacifiCorp 2019 IRP Supply Side Resource Assumptions <sup>5</sup>
Wind + Storage (4-hr)	31%	44%	PacifiCorp 2019 IRP Supply Side Resource Assumptions <sup>6</sup>

<sup>5</sup> Assumed addition of storage results in 10% increase in capacity value

<sup>6</sup> *Id.*

Resource Type	Capacity Value	Capacity Factor	Data Source/Assumption
Storage (4-hr)	85%	0% <sup>7</sup>	Based on NREL Report: <u>The Potential for Energy Storage to Provide Peaking Capacity in California under Increased Penetration of Solar Photovoltaics</u> (March 2018)
SCCT	100%	0% <sup>8</sup>	Capacity value based on WECC <i>Pro Forma</i> Capital Cost Model
Market Purchases	100%	100%	Assumes firm capacity contract with 100% availability

The cost of those resources that we assume provide zero energy value (storage and SCCT) is captured in the portfolio LCOE analysis even though those resources are assumed to not produce any energy in the portfolio.

## 2.2 Additional Assumptions

Additional technical considerations important to the study method are summarized below:

- The 185 MW SMR project is a carbon-free, baseload generation asset that is being proposed to supply a portion of UAMPS members capacity and energy needs beginning in 2026 as a replacement for retiring coal-fired baseload plants currently in UAMPS portfolio. While the SMRs may be able to provide additional grid services, such as certain ancillary services and renewable integration, these operational issues are not considered in this analysis (although incremental integration costs are captured for each portfolio).
- Most data for the analysis was gathered from a single public source: PacifiCorp's 2019 IRP assumptions. The study also included a cost sensitivity to capture the potential for greater than expected declines in renewable energy costs, which are not fully reflected in PacifiCorp's IRP "base case" assumptions.
- LCOE values sourced from PacifiCorp's IRP are assumed to be real dollar values. We also assume that the SMR LCOE estimate is in real dollar terms.

<sup>7</sup> No energy content assigned – value is entirely capacity driven

<sup>8</sup> *Id.*

- Interconnection costs for the SMR and alternative portfolios are not explicitly included in the analysis, but estimated cost impacts are addressed in **Section 4.0**. The SMR units will likely require the Antelope Transmission Project to interconnect and/or deliver power from the SMR project to UAMPS members. Alternative resources analyzed in this study may also require new transmission upgrades to interconnect, but the specifics of these upgrades would be dependent on the location of each new resource and are not known at this time.
- The study assumes that UAMPS members receive power from the SMR and alternative portfolios through Network Integration Transmission Service (NITS) on PacifiCorp's transmission system and, therefore, transmission service costs are not considered in the analysis since they are assumed to not vary across resource portfolios. However, any network upgrades required to deliver the resources via NITS would be spread across all users of the PacifiCorp system, including UAMPS members, so only very expensive transmission projects would have a material impact on the resource's overall economics. This analysis did not consider these potential costs and we do not provide any conclusions on this basis.

## 2.3 Portfolio Development

All portfolios analyzed in this study represent alternatives to the proposed Carbon Free Power Project and as such, were designed to match the energy and capacity values of UAMPS' 185 MW SMR plant. The capacity contribution and energy content of the resources in the alternative portfolios are detailed below.

### *Base Case Portfolio – SMR Resources Only*

The UAMPS 185 MW SMR plant is the Base Case Portfolio in this analysis. Estimated capacity and energy value of a 185 MW SMR portfolio was developed using resource performance assumptions that have been publicly reported by NuScale and UAMPS. The study assumes a 92% capacity factor and a 95% capacity credit for the SMR facilities. This means that each portfolio was designed to include roughly 1,490,950 MWh and 176 MW of capacity value because this is the expected output and capacity value of the SMR facility.



### *Natural Gas Benchmark Portfolio*

A natural gas portfolio was developed as a benchmark to compare the cost impact of SMRs versus portfolios based on renewables. The portfolio assumes the performance and cost parameters for a CCCT at 5,050 feet above sea level, consistent with PacifiCorp's 2019 IRP Supply Side Assumptions.<sup>9</sup> We assume a 215 MW portion of a larger CCCT with a capacity credit of 100% and a capacity factor of 78% for this generator that would be co-owned by UAMPS and another utility like PacifiCorp.<sup>10</sup>

### *Alternative Portfolios*

Five alternative portfolios were developed with total energy and capacity values comparable to that of the SMR Base Case portfolio. The portfolios contained varying levels of renewable and non-renewable resources, as well as capacity-only and energy and capacity resources, including: wind, solar, standalone BESS, and hybrid wind/solar plus BESS, market purchases, and natural gas-fired resources<sup>11</sup>.

Figure 2 shows the type and capacity of resources that make up each portfolio in this study.

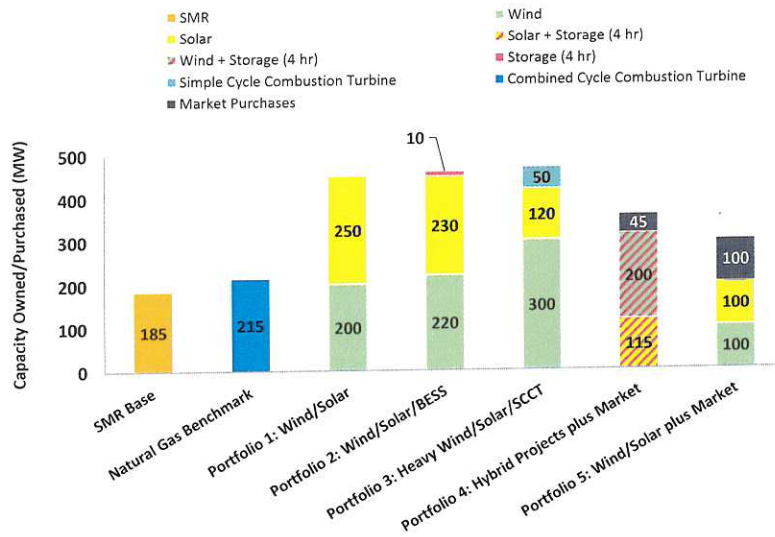
<sup>9</sup> Assumptions are consistent with the "Hunter Brownfield" dry-cooled CCCT 1x1 generator.

<sup>10</sup> PacifiCorp's 2019 IRP Supply Side table identifies a 344 MW CCCT resource at the Hunter brownfield site which forms the basis of our performance and cost assumptions.

<sup>11</sup> Alternative portfolio 3 considered a combination of wind, solar, and SCCT resources.

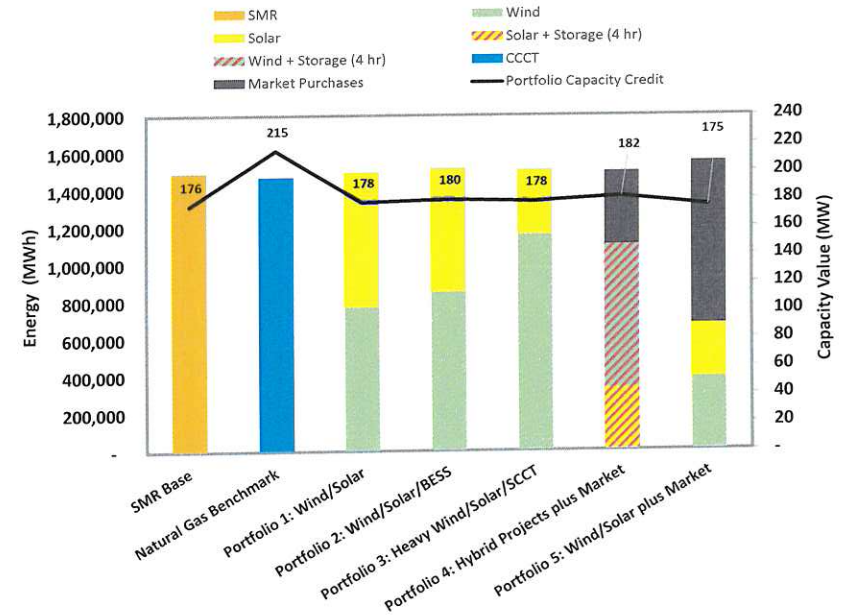


Figure 2: Portfolio Content by Nameplate Capacity (MW)



The comparable nature of each portfolio on an energy and capacity value basis and the resource composition of portfolios studied is shown in Figure 3. The diagram shows how the capacity value (black line) is held constant across the portfolios, while the energy content (bars) are all roughly equal to the energy content of the SMR Base Case portfolio.

Figure 3: Energy and Capacity Value of All Portfolios



### Greenhouse Gas Considerations

Portfolios 1 and 2 are completely carbon-free, while alternative portfolio 3 includes SCCT as a capacity resource that would be likely result in minimal greenhouse gas (GHG) emissions (since the unit would not run frequently). Portfolios 4 and 5 include "brown" market power purchases that would create material GHG emissions associated with their energy supply.<sup>12</sup> We estimate

<sup>12</sup> While not considered in this analysis, GHG emissions associated with these portfolios could be offset through the procurement of unbundled renewable energy credits (RECs), emission offsets or other instruments to meet voluntary renewable goals.



the carbon (CO<sub>2</sub>) emissions of these portfolios at roughly 170,000 and 375,000 metric tons per year, respectively. The natural gas benchmark portfolio assumes UAMPS members would be part owner of a larger CCCT. Because CCCTs are generally more economic and are often run at a high capacity factor, this study assumes that the CCCT in the natural gas benchmark portfolio is used as both a capacity and energy resource, and therefore, will emit material GHG emissions which we estimate to be slightly more than 500,000 metric tons of CO<sub>2</sub>, annually. More detailed analysis of CO<sub>2</sub> emissions and carbon reduction policy should be a consideration for future analysis, but were not a focus in this study.

## 2.4 Study Considerations

This study takes a simplified approach to provide high-level information about the costs of SMR technology compared with other resource options. As such, there are technical issues not considered in this analysis that are ripe for future consideration, including:

- **Operational analysis** – This study did not evaluate the operational effects or tradeoffs of the different portfolios. Similarly, it did not consider how the portfolios would be integrated into UAMPS members' existing generation fleets.
- **Environmental goals** – This study does not assume that UAMPS members are seeking aggressive reductions in carbon emissions, nor are they seeking a high renewable penetration (such as 80-100% targets set by some municipalities). This is important because if UAMPS members were obligated to such goals and the SMR facilities were being built to achieve them, detailed operational and environmental analysis of the entire UAMPS portfolio of resources would be necessary to consider cost and environmental effectiveness of the various portfolios. Since this study is framed as a resource alternative analysis for only the SMR resource, versus a full portfolio analysis, it assumes that UAMPS members retain other contracts and generators to serve the balance of their load and to integrate and balance the portfolios in this analysis.
- **Least-cost solution** – The alternative portfolios were not optimized for least-cost. More work iterating and fine-tuning the portfolios could have resulted in lower cost options.
- **Levelized cost assumptions** – In performing this analysis, we considered developing original LCOE parameters for each resource option, including the SMRs, based on cost assumptions developed by Energy Strategies. However, while this would have improved

consistency among some of the underlying assumptions used by PacifiCorp and UAMPS/NuScale to develop the LCOEs, these benefits were outweighed by the desire to lean heavily on previously published public sources. We used LCOE values as provided by UAMPS, NuScale, PacifiCorp, Lazard and OTC Global adjusting only for capacity factors and inflation, where appropriate, but not for tax treatment or cost of capital.

- **Other grid services** – The study recognizes that the SMR resource may be able to provide additional grid services, such as certain ancillary services and renewable integration; however, these additional benefits are not considered in this analysis. It is also true that, once the resource is built and operational, the SMR facility will likely be more dependable than wind and solar generation as a capacity resource. While the study accounts for this, partially, through reduced capacity credits for wind and solar, it recognizes that as more variable generation is added to the system these capacity values may vary, which could require the addition of more energy storage or a more diverse set of resources than what was considered in this analysis.

## 3.0 PORTFOLIO COST ANALYSIS

The portfolio cost analysis compared the cost of the proposed 185 MW SMR plant to the costs of alternative resource portfolios and the natural gas benchmark. Two cost metrics were used for this comparison: the LCOE in dollars per MWh, and the 20-year present value of the difference in LCOEs for each resource portfolio. All resources have an assumed in-service date of 2026.

### 3.1 Levelized Resource Costs

Based on publicly-available materials, we assume a \$65/MWh LCOE for the SMR (in 2018\$).<sup>13</sup> Except for the BESS resource and market purchases, all other resource cost estimates are sourced from PacifiCorp's 2019 IRP assumptions. Costs assume a 10% investment tax credit

<sup>13</sup> UAMPS Board Presentation: Carbon Free Power Project; Governing Board Approval of Power Sales Contract, January 25, 2018.



(ITC) for solar resources, but no production tax credit value (PTC) for wind resources.<sup>14</sup> A summary of all levelized resource cost assumptions can be found in **Appendix A**.

The BESS levelized cost was derived from Lazard's Levelized Cost of Storage (LCOS) 4.0 report which assumes a \$151/kW-year cost for a lithium battery resource in 2020.<sup>15</sup> While the Lazard estimate is about \$57/kW-year lower than PacifiCorp's 2019 IRP estimate, this study conservatively assumes Lazard's 2020 installation cost estimate for the 2026 timeframe despite forecasted capital cost declines over that period. To address this, lower BESS resource costs were evaluated as a sensitivity to this study in **Section 3.3**.

Forward market prices are derived from Energy Strategies' long-term production cost modeling forecasts, combined with futures pricing published by OTC Global. Based on this data we assume \$43/MWh as an average power price over the 20-year study period starting in 2026.

Integration costs are included in the portfolio cost analysis as a means to estimate the balancing area's incremental cost associated with incorporating the resource output into the overall resource mix on a sub-hourly basis. PacifiCorp's Open Access Transmission Tariff, Schedule 3 and 3a: "Regulation and Frequency Response," charges were used to estimate potential integration costs for SMR, wind and solar resources. Wind and solar resources were assumed to be on a "committed scheduling" construct and the SMR resource was assumed to be a non-variable resource. Energy storage and the SCCT were not assigned an integration cost. **Appendix B** contains further documentation on how these costs were derived. Wind and solar have integration costs of \$1.69/MWh and \$2.26/MWh, respectively, and the SMR integration cost is assumed to be \$0.25/MWh. These values were held constant in real terms throughout the study period (in other words, they are assumed to grow at the same rate as inflation).

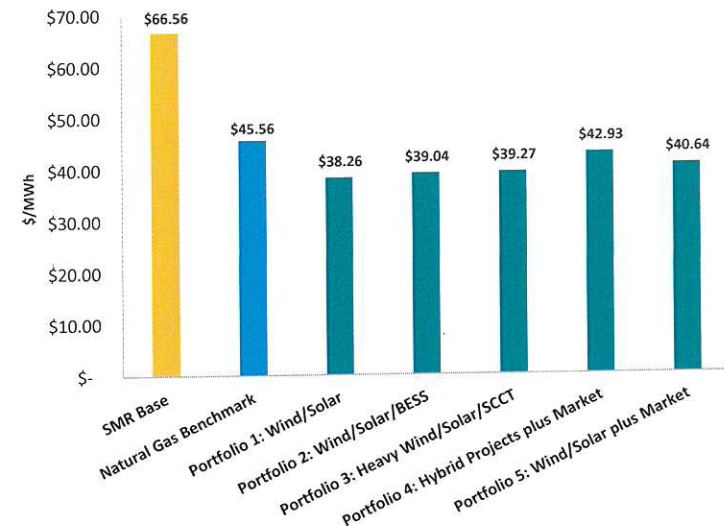
<sup>14</sup> Additionally, no ITC value is assumed in this study for BESS, consistent with PacifiCorp's 2019 IRP assumptions.

<sup>15</sup> Lazard LCOS Analysis, Version 4.0, November 2018, available here: <https://www.lazard.com/media/450774/lazards-levelized-cost-of-storage-version-40-vfinal.pdf>

### 3.2 Portfolio Cost Analysis

The total portfolio costs on an LCOE basis, excluding the cost of interconnection or transmission, are summarized in **Figure 4**. The SMR Base Case portfolio cost is \$67/MWh, while the alternative portfolios range from \$38-\$43/MWh. The analysis found that the SMR Base Case portfolio's levelized cost per megawatt-hour is \$24-\$28 higher than each alternative portfolio analyzed. The natural gas benchmark portfolio is \$46/MWh, which is slightly higher than the alternative portfolios, but roughly 30% less expensive than the SMR portfolio.

Figure 4: Total Levelized Portfolio Cost (\$/MWh)



The present value of each portfolio LCOE represents the total cost of that portfolio. Differences in this present value cost between portfolios represent estimated savings (or costs) between portfolio choices. The present value analysis was performed for 20 years, capturing total costs from 2026-2045. The differences in costs between the SMR Base Case and each portfolio were

totalled and then discounted at a real discount rate of 4.91% (equivalent to a nominal discount rate of 6.91%, given this study's assumption of a 2% inflation rate) to calculate the present value of each portfolio. The values were brought back to present value terms (2019) for purposes of reporting costs and savings in this analysis.

The present value savings of the alternative portfolios and natural gas benchmark compared to the SMR Base Case portfolio are summarized in **Table 2**. This analysis conservatively estimates the savings represented by each portfolio over a 20-year span compared to a 185 MW SMR portfolio.<sup>16</sup> The present value analysis could have been extended for a longer period, capturing cost differences up to 40 years or more. However, using the 20-year period was conservative because the SMR LCOEs are "locked in" for 40 years (given that resources relatively longer asset life) while wind, solar, and energy storage resources would need to either be repowered or replaced after 20-30 years (given their relatively shorter asset life). Given that these technologies are declining in costs, not increasing, the LCOE value of the alternative portfolios in year 30 or year 40 would likely be lower than what is captured in year 20 of this analysis.

**Table 2: Present Value Savings Relative to SMR Base Case Over 20 Years Starting in 2026 (\$M)**

Portfolio	Present Value of Savings Relative to SMR Base Case (\$M)
Natural Gas Benchmark	\$259
Portfolio 1: Wind/Solar	\$355
Portfolio 2: Wind/Solar/BESS	\$350
Portfolio 3: Heavy Wind/Solar/SCCT	\$345
Portfolio 4: Hybrid Projects plus Market	\$298
Portfolio 5: Wind/Solar plus Market	\$338

The alternative portfolios indicate the greatest amount of potential savings, with alternative portfolio 1 (wind and solar resources only) offering the highest level of savings at \$355 million

<sup>16</sup> Individual resources' useful lives vary between 15 and 40 years, however present value savings were calculated over a 20-year timeframe for simplicity.

on a present value basis compared to the SMR Base Case. These results indicate that, even though the alternative portfolios require the installation of additional MWs of resource capacity (185 MW of SMR vs. ~400 MW of wind/solar in Portfolio 1, for example), there are substantial cost savings that can be realized due to the lower per unit cost of wind and solar resources.

### 3.3 Sensitivities

To test uncertainty surrounding resource costs and future carbon policy, this study considered three sensitivities to explore alternative scenarios: (1) a low-end and high-end SMR cost; (2) lower resource costs for wind, solar and BESS; (3) consideration of a carbon pricing scheme that would impact the price of portfolios containing fossil-generation or brown-power market purchases.

#### *SMR Cost Sensitivity*

The NuScale SMR technology has not been demonstrated in a commercial application and there is uncertainty surrounding the actual cost of the future SMR project. An April 18, 2019, presentation by UAMPS and NuScale to the Committee on Regional Electric Power Cooperation stated that the levelized cost of energy for the SMR technology would be between \$45-\$65/MWh (2018\$). PacifiCorp's 2019 IRP's Supply Side Resource Options table lists SMR costs at \$94.62/MWh (2018\$).<sup>17</sup>

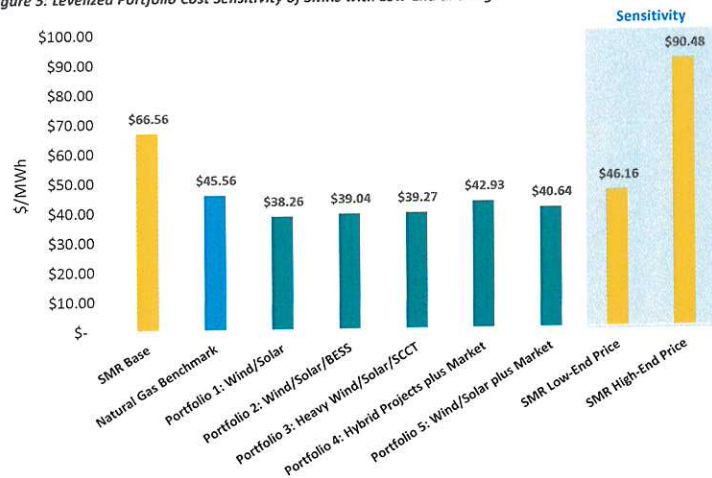
This study assumed the LCOE of the SMR resource built by 2026 would be \$66.56/MWh, which is the inflation-adjusted price of the \$65/MWh in UAMPS and NuScale published materials. However, the analysis also compared the differences of the alternative portfolio LCOEs to the lower-bound of costs recently presented by UAMPS/NuScale (\$45/MWh) and the high-end cost estimate reported in the PacifiCorp 2019 IRP (\$94.62/MWh).

<sup>17</sup> The focus of this report is not to advocate for any particular cost assumption for the SMRs. The total cost of the SMR Carbon Free Power Project is inconclusive and will vary based on ultimate project design, completion date, off-taker arrangement, and transmission build-out required to interconnect the projects, among other factors.

The resulting costs for the SMR portfolios are summarized in **Figure 5**. The low-end SMR sensitivity results in an SMR portfolio with an inflation adjusted LCOE of \$46/MWh, which is roughly 10% higher than the average cost of the alternative portfolios. The cost of the natural gas benchmark portfolio is on par with this low-end SMR sensitivity.

The high-end SMR sensitivity yields an SMR portfolio cost of \$90/MWh which is more than twice the cost of the wind and solar alternative portfolio 1.<sup>18</sup> It is also roughly \$45/MWh more expensive than the cost of the natural gas benchmark portfolio.

**Figure 5: Levelized Portfolio Cost Sensitivity of SMRs with Low-End and High-End SMR Resource Costs (\$/MWh)**



#### Deeper Cost Reductions for Renewables and Energy Storage Sensitivity

While PacifiCorp's 2019 IRP resource cost projections do capture expected cost declines in renewable and energy storage prices, they are "mid" level cost assumptions and, given the extreme historic decreases in capital costs for these technologies, it is prudent to account for a

<sup>18</sup> The PacifiCorp IRP cost was adjusted slightly based on differences in capacity factor assumptions.

future where actual capital costs are lower than current forecasts. Therefore, this study includes a cost sensitivity for wind, solar and battery storage resources to account for potentially deeper cost declines relative to our Base Case cost assumptions. While hybrid wind/solar + BESS projects are also likely to see significant cost reductions in the coming decade, cost declines for these hybrid resources were not included in this sensitivity.

**Figure 6** summarizes the impact of deeper cost declines in wind, solar and BESS resources on alternative portfolios 1, 2, 3, and 5, as they all contain these resources. **Table 3** compares these additional cost declines from the reduced resource cost sensitivity versus the base cost estimates which result in portfolio cost reductions ranging from 7% to 19% for those portfolios containing wind, solar or battery storage. The methodology used to determine the assumed resource cost declines is detailed below.

**Figure 6: Levelized Portfolio Cost Sensitivity with Reduced Solar, Wind and Storage Costs (\$/MWh)**





**Table 3: Base Resource Costs Compared to Deeper Cost Reductions Sensitivity for Wind, Solar and Battery Storage Resources (\$/MWh)**

	Base Cost of Portfolio (\$/MWh)	Renewable Cost Sensitivity (\$/MWh)	% Reduction in Portfolio Cost
SMR Base	\$67	--	--
Natural Gas Benchmark	\$46	--	--
Portfolio 1	\$38	\$32	17%
Portfolio 2	\$39	\$32	18%
Portfolio 3	\$39	\$32	19%
Portfolio 4	\$43	--	--
Portfolio 5	\$41	\$38	7%

The cost reduction sensitivity assumptions for wind and solar were imputed based on capital expenditure (capex) ranges developed in the National Renewable Energy Lab (NREL) 2018 Annual Technology Baseline (ATB). To estimate a low-cost sensitivity for solar resources, NREL's 2018 ATB mid and low capex projections were compared for a new solar PV tracking resource build in 2026.<sup>19</sup> We calculated a LCOE for solar based on each capex value using the WECC 2017 *pro forma* capital cost model.<sup>20</sup> Based on the NREL ATB data, the low LCOE of a solar resource build in 2026 was 13% less than the mid cost estimate. This gave us a reasonable lower-bound value range, which we applied to the base cost estimate from PacifiCorp's IRP. The analysis results in an assumed lower-bound LCOE for solar of \$34/MWh.

A lower-bound wind cost was derived using a similar method. However, since this study's base cost analysis used PacifiCorp's cost for a resource build in 2023, the analysis to derive a cost sensitivity value using NREL ATB data compared the NREL ATB mid cost for a 2023 wind resource against the low cost of a 2026 wind resource.<sup>21</sup> This comparison, which is properly calibrated for a new wind resource in 2026 (capturing 3 years of technology enhancement), results in a low cost sensitivity that is 24% less than our base cost values. Therefore, we assume a lower-bound LCOE for wind of \$25.30/MWh.

<sup>19</sup> NREL ATB can be accessed at: [http://www.nrel.gov/analysis/data\\_tech\\_baseline.html](http://www.nrel.gov/analysis/data_tech_baseline.html)

<sup>20</sup> WECC *Pro Forma* Capital Cost Model can be access at: <https://www.wecc.org/Pages/home.aspx>

<sup>21</sup> The sensitivity used the "Group 4" resource assumptions for wind, which aligns with wind speeds in Wyoming.

The reduced cost of storage for this sensitivity relied on cost reductions between the 2020 base BESS cost from the Lazard 4.0 report compared to costs projected in a Joule report for a new BESS build in 2026.<sup>22</sup> The Joule report indicated a levelized cost of storage approximately \$38/kW-year lower in 2026 than the Lazard 2020 projection, which adjusted for current dollars is \$122/kW-year.

### Carbon Price Sensitivity

This analysis did not assume a future price on carbon in the Base Case assessment. However, many load-serving entities, including PacifiCorp, consider a future carbon price in their resource planning processes as a way to capture risk associated with potential regulation. Accordingly, this study includes a sensitivity on a future carbon price utilizing the "\$15 carbon allowance fee" forecast from the U.S. Energy Information Administration's Annual Energy Outlook (AEO) for 2018, which was surveyed as a medium carbon price sensitivity in PacifiCorp's 2019 IRP process.<sup>23</sup>

Figure 7 summarizes the impact of a carbon price on the natural gas benchmark portfolio and alternative portfolios 4 and 5.<sup>24</sup> The natural gas benchmark is comprised of a single CCCT, which was assumed to emit carbon emissions at a rate based on PacifiCorp's 2019 IRP assumptions.<sup>25</sup> Alternative portfolios 4 and 5 contain market purchases, for which an average carbon emissions rate was assigned based on rate the California Air Resources Board (CARB) applies to all WECC-wide unspecified power.<sup>26</sup>

<sup>22</sup> See Joule Report dated January 2019:

<https://www.sciencedirect.com/science/article/pii/S254243511830583X#appsec1>

<sup>23</sup> See PacifiCorp 2019 IRP presentation dated September 27-28, 2018:

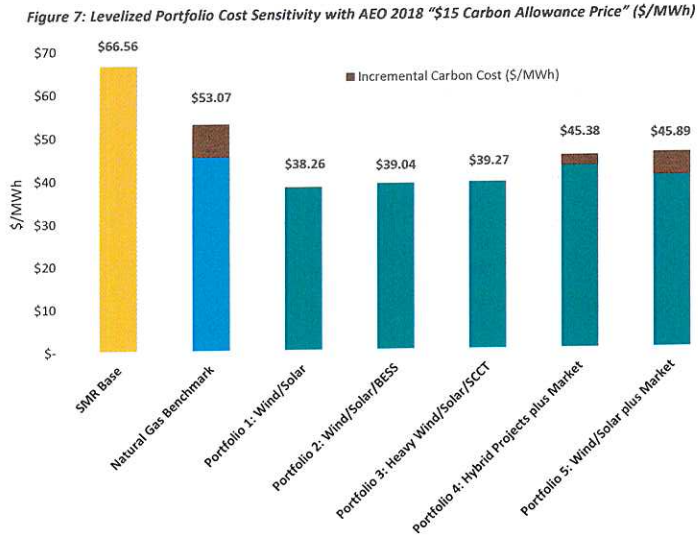
[http://www.pacifiCorp.com/content/dam/pacifiCorp/doc/Energy\\_Sources/Integrated\\_Resource\\_Plan/2019\\_IRP/PacifiCorp\\_2019\\_IRP\\_September\\_27-28\\_2018\\_Public\\_Input\\_Meeting.pdf](http://www.pacifiCorp.com/content/dam/pacifiCorp/doc/Energy_Sources/Integrated_Resource_Plan/2019_IRP/PacifiCorp_2019_IRP_September_27-28_2018_Public_Input_Meeting.pdf)

<sup>24</sup> While alternative portfolio 3 contains a 50 MW SCCT resource, it is assumed as a capacity-driven resource that will contribute *de minimis* CO<sub>2</sub> emissions.

<sup>25</sup> PacifiCorp 2019 IRP Supply Side Assumptions for natural gas, CCCT Dry "G/H", DF, 1x1 is 117 lbs/MMBTU

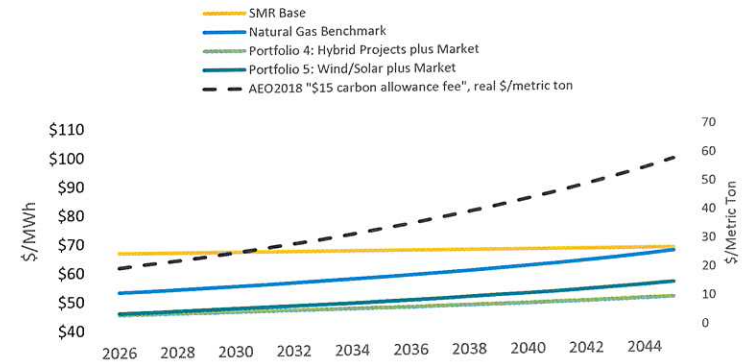
<sup>26</sup> CARB unspecified emissions factor is 0.427 Metric Tons/MWh,

<https://efiling.energy.ca.gov/getdocument.aspx?tn=226392>



Over a 20-year time horizon, annual carbon cost impacts on each portfolio will increase at different rates depending on their respective carbon emissions rates. The incremental cost for the natural gas benchmark portfolio, portfolio 4, and portfolio 5 through 2045 is summarized in **Figure 8**. Relative to the SMR Base Case portfolio, the natural gas benchmark is projected to become more expensive shortly after 2045 (in real terms). However, even with the incremental carbon cost associated with market purchases in portfolios 4 and 5, these portfolios costs are still significantly lower than the SMR Base Case at the end of the 20-year time horizon that starts in 2026 on a levelized basis. Given that these portfolios have relatively low carbon intensity, including carbon costs using a medium price assumption does not significantly change the economic efficiency of these options compared with SMR resources.

**Figure 8: Portfolio Cost for Carbon-Emitting Portfolios with a Carbon Price Compared to SMR Base (\$/MWh) and Carbon Allowance Price (\$/Metric Ton)**



## 4.0 INTERCONNECTION AND TRANSMISSION COSTS

Interconnection costs were not considered in the cost analysis portion of the study. However, PacifiCorp's transmission customers, which include UAMPS, Rocky Mountain Power, and others, will ultimately pay the costs for network transmission upgrades required to connect or deliver new generation to the grid. Therefore, this study included an informational, high-level estimate of interconnection costs based on publicly-available data.

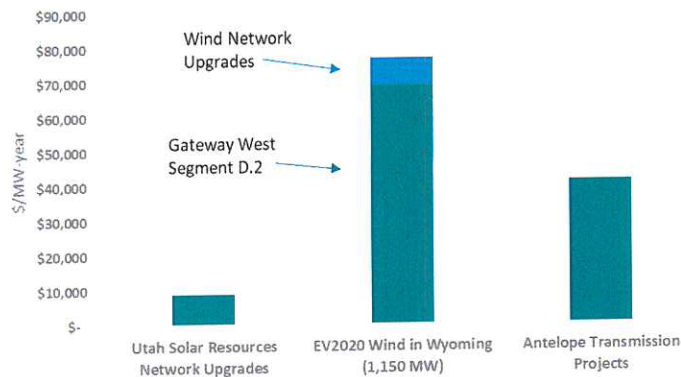
**Figure 9** summarizes the broad comparison of levelized interconnection costs between the Antelope Transmission Projects, Utah solar, and Energy Vision 2020 (EV2020) Wyoming wind resources. The EV2020 projects are part of PacifiCorp's \$3.1 billion investment plan for new wind and transmission in Wyoming.

Studies performed by PacifiCorp and Northern Tier Transmission Group indicate the 345-kV Antelope Transmission Projects are required for the 600 MW SMR interconnection. Because the Antelope Transmission Projects are beyond the point of interconnection of the SMR facility,

they will likely be considered a Network Upgrade that all transmission customers will pay for. This study used the WECC *Pro Forma* Transmission Cash Flow model with capital cost input data compiled by Energy Strategies to determine an estimated levelized interconnection and transmission cost for the SMR project.<sup>27</sup> That analysis estimates the Antelope Project cost at \$230 million, or \$25 million per year for 40-years.

Recent solar projects in Utah have completed interconnection studies that indicate lower network upgrade costs compared to costs required to bring EV2020 wind projects online and costs potentially associated with the SMR interconnection.<sup>28</sup> Network upgrade costs identified in an interconnection study give an indication of the network transmission costs necessary to deliver the resource to load.

Figure 9: Levelized Costs to Interconnect SMR Project, Utah Solar and EV 2020 Wyoming Wind (\$/MW-year)



<sup>27</sup> WECC *Pro Forma* Transmission Cash Flow model can be found at: <https://www.wecc.org/Pages/home.aspx>; This study assumed the Antelope Transmission Project includes 97 miles of 345- kV single circuit lines at \$2.11 million per mile (excluding substation costs).

<sup>28</sup> EV2020 transmission costs based on public information from PacifiCorp testimony and estimated Gateway West, Segment D.2 costs of \$739 million. Utah solar network upgrade costs based on Energy Strategies' PPA database and research/review of interconnection studies in PacifiCorp's interconnection queue.

## 5.0 KEY STUDY FINDINGS

The key findings of this study are:

1. On a levelized cost basis, the alternative resource portfolios, including those that are carbon-free, were at approximately 40% (\$24-28/MWh) less than the SMR Base Case portfolio. Compared with SMR resource, this high-level assessment of resource options indicates that portfolios comprised of wind, solar and BESS (along with market purchases and a small SCCT) represent lower cost options for UAMPS' members meet energy and capacity needs while *incrementally* reducing total GHG emissions.
2. On a present value basis, the alternative portfolios offer between \$298 – \$355 million in savings compared to the SMR Base Case portfolio. The wind and solar only portfolio (alternative portfolio 1) offer the highest potential savings over the 20-year study period starting in 2026. The natural gas benchmark portfolio, without a future carbon price, offers a \$259M savings compared to the SMR Base Case portfolio on a present value basis.
3. Integration costs are not a significant factor in the cost analysis as they add roughly \$2/MWh to the cost of the alternative portfolios. The development of these cost assumptions was very conservative and including them in the cost analysis does not change the conclusion outlined above, which is that portfolios of wind and solar are lower cost compared to the SMR resource option.
4. Cost sensitivity analyses reveal that the "Base Case" findings discussed above are robust:
  - Based on a \$45/MWh low-end levelized cost sensitivity for SMR resources, the alternative portfolios are still roughly 10% cheaper than SMRs. An all-natural gas portfolio is roughly the same price as the SMR assuming this lower-bound SMR cost.
  - Based on a \$90/MWh high-end levelized cost sensitivity for SMR resources, the SMR portfolio is more than twice as expensive as any of the alternative portfolios, and approximately \$45/MWh more costly than the all-natural gas portfolio.



5. If renewable and storage resources experience deeper capital cost reductions, there may be additional “upside” cost savings associated with the alternative portfolios. Deeper cost declines for future solar, wind, and BESS resources may further reduce the costs of portfolios with these resources by 7 – 19%. If these lower renewable and storage costs are achieved, the portfolios with these resources may cost less than half as much as the SMR portfolio.
6. Accounting for a carbon price does not change any of the Base Case findings because (1) the alternative portfolios require no or low carbon-emissions and (2) the natural gas benchmark portfolio is much less costly to begin with, so it has “headroom” to absorb the incremental carbon cost through 2045.
7. Although this assessment was designed to be a high-level assessment of costs, additional analysis would help to shed light on several issues, including:
  - **Portfolio cost-effectiveness in the context of achieving specific emissions reduction goals.** This study did not analyze UAMPS members’ entire resource portfolio, nor did it focus on the cost of accomplishing certain clean energy goals, such as 80% or 100% renewables or achieving specific carbon reductions. The study considers the SMR units in isolation and assumes they will continue to be a part of a broader resource mix that includes non-renewable, dispatchable resources. While not considered in this study, other Energy Strategies analyses suggest that the total cost of serving UAMPS entire load with 80-100% wind, solar, energy storage, and balancing with market purchases/sales may cost more than a \$65/MWh SMR resource.<sup>29</sup> The cost for a small entity to completely eliminate carbon is an area of ongoing research. This leads to the conclusion that, if UAMPS members adopt aggressive GHG reduction goals or are required to by legislation, and those reduction goals are aggressive (versus incremental or marginal), the analysis of SMR economics relative to other options should be studied under this specific policy context and the results of that analysis may indeed have different conclusions than the resource-to-resource comparison considered in this study.
  - **Accounting for the ancillary benefits offered by SMRs and other portfolios.** Integration benefits of SMRs have not been considered, nor were investment

<sup>29</sup> Wholesale Power Market Analysis for La Plata Electric Association performed by Energy Strategies (April 2019); available: [https://www.lpea.com/sites/lpea/files/pdf/board\\_minutes/2019/EnergyStrategies\\_WholesaleEnergyMarkets.pdf](https://www.lpea.com/sites/lpea/files/pdf/board_minutes/2019/EnergyStrategies_WholesaleEnergyMarkets.pdf)

- risk, among other potential costs and benefits across the portfolios. A more thorough analysis could include a line-by-line accounting of all portfolio costs and benefits.
- **Consideration of transmission upgrade costs required for various portfolios.** The Antelope Transmission Projects represent a significant upgrade, although its costs would eventually be borne by all of PacifiCorp’s transmission customers. Regardless, any increase in UAMPS’ member transmission rates could be incorporated in the economic analysis of the generation project (as could any transmission rate impact associated with other resources requiring substantial Network Upgrades).
  - **Reliability impacts.** While we believe reasonable parameters were used to approximate the capacity credit for renewable resources, additional work could be performed to estimate more granular capacity credit assumptions.
  - **Operational modeling.** It would be informative to evaluate the SMR resources and the alternative portfolios as a part of the UAMPS’ generation mix through hourly production cost modeling or another analysis method that captures the variable nature of wind and solar generation.

## 6.0 APPENDICES

### Appendix A: Levelized Resource Cost Assumptions, 2019\$

Resource Type	Cost	Unit	Source	Notes
SMR	\$66.30	\$/MWh	UAMPS and NuScale materials	Cost after DOE support funding, cost of capital associated with municipality customers, and tax support including production tax credits (PTCs)
CCCT	\$45.56	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	Energy and capacity resource
Wind	\$33.28	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	No PTC
Solar	\$39.50	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	10% ITC
Solar + Storage (4-hr)	\$48.49	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	10% ITC for solar only
Wind + Storage (4-hr)	\$37.95	\$/MWh	PacifiCorp 2019 IRP Supply Side Table	No PTC/ITC
Storage (4-hr)	\$160.24	\$/kW-year	Lazard LCOS, Version 4.0	No ITC
SCCT	\$82.00	\$/kW-year	PacifiCorp 2019 IRP Supply Side Table	Capacity resource
Market Purchases	\$42.77	\$/MWh	Energy Strategies forecast/OTC Global	Used Four Corners as proxy market, 20-year price average

### Appendix B: Resource Integration Cost Assumptions

Schedule 3/3a "Regulation and Frequency Response" charges from PacifiCorp's tariff were used to estimate potential integration costs for resources. The costs were developed based on the following assumptions:

- Escalated costs at 3% per year
- Assumed "committed scheduling" construct for all new resources, and assumed the SMR was a non-variable resource and all other non-dispatchable resources were variable resources
- Energy storage and combustion turbines were not assigned an integration cost

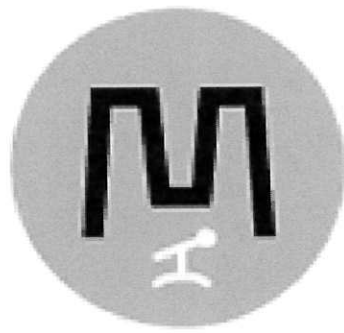
Calculated values were checked against integration costs in PacifiCorp's IRP for consistency. Integration costs in PacifiCorp's IRP are all less than \$1/MWh, confirming the conservative nature of this estimate

Schedule 3/3a Costs (Committed Scheduling) (\$/MWh-year)			
	VER	Non-VER	
2019 \$	5,631	\$ 1,794	Rates escalated in real-terms to anticipate future cost increases
2020 \$	5,744	\$ 1,830	
2021 \$	5,858	\$ 1,866	
2022 \$	5,976	\$ 1,904	
2023 \$	6,095	\$ 1,942	
2024 \$	6,217	\$ 1,981	
2025 \$	6,341	\$ 2,020	Used to calculate \$/MWh costs
2026 \$	6,532	\$ 2,081	
Resource Type	Integration Cost (\$/MWh)		
SMR	\$	0.26	
Wind	\$	1.69	
Solar	\$	2.26	
Solar + Storage (4-hr)	\$	2.26	
Wind + Storage (4-hr)	\$	1.69	
Storage (4-hr)	\$	-	
CCCT/SCCT	\$	-	
Market Purchases	\$	-	



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**MURRAY**  
CITY COUNCIL

# Discussion Item #3



**MURRAY**


# Recorder's Office

## Election Code Amendments

### Council Action Request

Committee of the Whole

Meeting Date: July 16, 2019

<b>Department Director</b> Brenda Moore	<b>Purpose of Proposal</b> Election Code Amendments
<b>Phone #</b> 801-264-2513	<b>Action Requested</b> Discussion of proposed election code amendments to 2.66.020, 2.66.050, and 2.66.060 of the Murray City Code
<b>Presenters</b> Jennifer Kennedy	<b>Attachments</b> Proposed election code amendments
	<b>Budget Impact</b> None
<b>Required Time for Presentation</b> 10 Minutes	<b>Description of this Item</b> Recommended changes to our election code include:  1- A candidate who is out of the state during the entire declaration of candidacy period can now designate an agent to file a declaration on their behalf, as long as the candidate can communicate electronically with the City Recorder during the declaration.  2- We have also added that an individual cannot hold a municipal elected office and at the same time, hold a county elected office.  3- We have removed the portion of the election ordinance that talks about appointing election judges because Salt Lake County now uses Vote Centers, and there is no need for the city to appoint election judges.
<b>Is This Time Sensitive</b> No	
<b>Mayor's Approval</b> 	
<b>Date</b>	

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE AMENDING SECTIONS 2.66.020, 2.66.050 AND  
2.66.060 OF THE MURRAY CITY MUNICIPAL CODE RELATING TO  
ELECTIONS

BE IT ORDAINED BY THE MURRAY CITY MUNICIPAL COUNCIL:

*Section 1. Purpose.* The purpose of this Ordinance is to amend sections 2.66.020, 2.66.050 and 2.66.060 of the Murray City Municipal Code relating to elections.

*Section 2. Amend sections 2.66.020, 2.66.050 and 2.66.060 of the Murray City Municipal Code.* Sections 2.66.020, 2.66.050 and 2.66.060 of the Murray City Municipal Code shall be amended to read as follows:

**2.66.020: CANDIDACY; CITY GENERAL ELECTIONS**

...

D. The filing procedures to become a candidate for a City office shall be as follows:

1. Except as authorized under subsection 2, E each person seeking to become a candidate for a City office shall file in person with the City Recorder a "declaration of candidacy", substantially in the form set forth in subsection E of this section, during regular office hours, but not later than five o'clock (5:00) P.M., between June 1 and June 7 of any odd numbered year. If June 1 falls on a Saturday, Sunday or legal holiday, the following business day shall be used. When June 7 is a Saturday, Sunday or legal holiday, the filing time shall be extended until five o'clock (5:00) P.M. on the following business day.
2. An individual may designate an agent to file a declaration of candidacy with the City Recorder if:
  - a. the individual is located outside of the state during the entire filing period;
  - b. the designated agent appears in person before the City Recorder;
  - c. the individual communicates with the City Recorder using an electronic device that allows the individual and City Recorder to see and hear each other; and
  - d. the individual provides the City Recorder with an email address to which the City Recorder may send the individual the copies required under this chapter.
3. A designated agent under subsection D2 may not sign the declaration of candidacy.



~~4.~~ Any resident of the City may nominate a candidate for a City office by filing a "nomination petition", ~~substantially in the form provided in subsection E2 of this section,~~ with the City Recorder during regular office hours, but not later than five o'clock (5:00) P.M., between June 1 and June 7 of any odd numbered year. If June 1 falls on Saturday, Sunday or legal holiday, the following business day shall be used. When June 7 is a Saturday, Sunday or legal holiday, the filing time shall be extended until five o'clock (5:00) P.M. on the following business day.

E. ~~The forms required under subsection D of this section shall substantially comply with the following:~~

~~1.~~ The declaration of candidacy shall be substantially as follows:

*I (print name), being first sworn, say that I reside at Street, Murray City, County of Salt Lake, State of Utah, Zip Code, Telephone Number (if any); that I am a registered voter; and that I am a candidate for the office of (stating the office). I will meet the legal qualifications required of candidates for this office. I will file all campaign financial disclosure reports as required by law and I understand that failure to do so will result in my disqualification as a candidate for this office and removal of my name from the ballot. I request that my name be printed upon the applicable official ballots.*  
(Signed)

*Subscribed and sworn to (or affirmed) before me by on this (month/day/year).*

*(Signed)*  
*(City Recorder or Notary Public)*

~~2.~~ A registered voter may be nominated for Municipal office by submitting a petition signed, with a holographic signature by:

~~a.~~ Twenty five (25) residents of Murray City who are at least eighteen (18) years old; or

~~b.~~ Twenty percent (20%) of the residents of Murray City who are at least eighteen (18) years old.

~~c.~~ The nomination petition shall be substantially as follows:

***NOMINATION PETITION***

~~The undersigned residents of Murray City being 18 years old or older nominate (name of nominee) to the office of (name the office) for the four year term.~~

~~d.~~ The remainder of the petition shall contain lines and columns for the signatures of persons signing the petition and their addresses and telephone numbers.

F. Before the City Recorder may accept any declaration of candidacy or nomination petition, the City Recorder shall:

1. Read to the prospective candidate or person filing the petition the constitutional and statutory qualification requirements for the City office that the candidate is seeking.

2. Require the candidate or person filing the petition to state whether or not the candidate meets those requirements.

3. Inform the candidate or the individual filing the petition that an individual who holds a municipal elected office may not, at the same time, hold a county elected office.

34. If the prospective candidate does not meet the qualification requirements for the City office, the City Recorder may not accept the declaration of candidacy or nomination petition.

45. If it appears that the prospective candidate meets the requirements of candidacy, the City Recorder shall:

a. Inform the candidate that the candidate's name will appear on the ballot as it is written on the declaration of candidacy or nomination petition;

b. Provide the candidate with a copy of the current campaign financial disclosure laws for the office the candidate is seeking and inform the candidate that failure to comply will result in the disqualification as a candidate and removal of the candidate's name from the ballot;

c. Provide the candidate with a copy of the Statewide electronic voter information website program and inform the candidate of the submission deadline;

d. Provide the candidate with a copy of the pledge of fair campaign practices, as provided in section 20A-9-206 of the Utah Code, and inform the candidate that signing the pledge is voluntary and signed pledges shall be filed with the City Recorder;

e. If the candidate elects to sign the pledge of fair campaign practices, the City Recorder shall accept the candidate's pledge.

f. Accept the declaration of candidacy or nomination petition.

5. After accepting a declaration of candidacy or nomination petition, the City Recorder shall verify with the Salt Lake County Clerk that each candidate is a registered voter. Any candidate who is not registered to vote is disqualified and the City Recorder may not print the candidate's name on the ballot.

...

## **2.66.050: ELECTION JUDGES; APPOINTMENT FOR LOCAL ELECTIONS:**

~~A. At least fifteen (15) days before the date scheduled for any local election, the City Council shall appoint or provide for the appointment of election judges as follows:~~

~~1. If paper ballots will be used:~~

~~a. Three (3) registered voters from the City shall be appointed to serve as election judges for each voting precinct when the ballots will be counted after the polls close; or~~

~~b. Three (3) registered voters from the City shall be appointed to serve as receiving judges in each voting precinct and three (3) registered voters from the City shall be appointed to serve as counting judges in each voting precinct when ballots will be counted throughout election day;~~

~~2. If automated tabulating equipment is used, three (3) registered voters from the City shall be appointed to serve as election judges for each voting precinct;~~



3. If voting machines are used, four (4) registered voters from the City shall be appointed to serve as election judges for each voting precinct; and

4. If the vote by mail program is used, three (3) registered voters from the City shall be appointed to serve as election judges for each voting center as established by the City Recorder.

5. In addition to subsections A1, A2, A3 and A4 of this section:

a. At least one registered voter from the City shall be appointed to serve as canvassing judge, if necessary; and

b. As many alternate judges as may be needed shall be appointed to replace appointed judges who are unable to serve.

B. The City Council may not appoint any candidate's parent, sibling, spouse, child or in-law to serve as an election judge in the voting precinct where the candidate resides.

C. The City Recorder shall:

1. Prepare and file a list containing the name, address, voting precinct, and telephone number of each person appointed as an election judge; and

2. Make the list available in the City Recorder's Office for inspection, examination, and copying during business hours.

D. The City Council shall compensate election judges for their services. The City Council may not compensate their election judges at a rate higher than that paid by Salt Lake County to its election judges.

#### **INDUCEMENTS NOT TO BECOME CANDIDATES:**

A. It is unlawful for any person to pay or reward, or promise to pay or reward, another in any manner or form for the purpose of inducing that other person to be, or to refrain from or cease from being, a candidate for City office.

B. It is unlawful for any person to solicit any payment, promise, or reward from another for the purpose of inducing that other person to be, or to refrain from or cease from being, a candidate for City office.

C. Any person who violates this section is guilty of a Class B misdemeanor.

#### **2.66.060: PENALTY FOR NONCOMPLIANCE:**

Except as otherwise provided, any candidate for City office, individual or entity who fails to comply with this chapter is guilty of an infraction.

#### **-INDUCEMENTS NOT TO BECOME CANDIDATES:**

A. It is unlawful for any person to pay or reward, or promise to pay or reward, another in any manner or form for the purpose of inducing that other person to be, or to refrain from or cease from being, a candidate for City office.

B. It is unlawful for any person to solicit any payment, promise, or reward from another for the purpose of inducing that other person to be, or to refrain from or cease from being, a candidate for City office.

C. Any person who violates this section is guilty of a Class B misdemeanor.



**~~2.66.070: PENALTY FOR NONCOMPLIANCE:~~**

~~Except as otherwise provided, any candidate for City office, individual or entity who fails to comply with this chapter is guilty of an infraction.~~

Section 3. *Effective date.* This Ordinance shall take effect upon first publication.

PASSED, APPROVED AND ADOPTED by the Murray City Municipal Council on  
this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

MURRAY CITY MUNICIPAL COUNCIL

\_\_\_\_\_  
Dave Nicponski, Chair

ATTEST:

\_\_\_\_\_  
Jennifer Kennedy, City Recorder

Transmitted to the Office of the Mayor of Murray City on this \_\_\_\_ day of  
\_\_\_\_\_, 2019.

MAYOR'S ACTION: Approved

DATED this \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
D. Blair Camp, Mayor

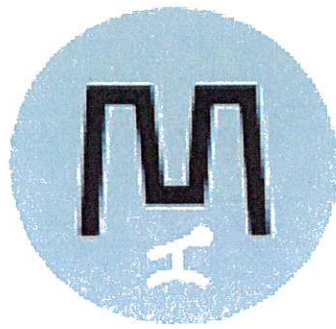
ATTEST:

\_\_\_\_\_  
Jennifer Kennedy, City Recorder

CERTIFICATE OF PUBLICATION

I hereby certify that this Ordinance or a summary hereof was published according to law on the \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Jennifer Kennedy, City Recorder



MURRAY  
CITY COUNCIL

# Discussion Item #4





**MURRAY**


# Community & Economic Development

## Title 16: Subdivision Ordinance Regulations

### Council Action Request

Committee of the Whole

Meeting Date: July 16, 2019

<b>Department</b> <b>Director</b> Melinda Greenwood  <b>Phone #</b> 801-270-2428  <b>Presenters</b> Melinda Greenwood Jared Hall          <b>Required Time for Presentation</b> 10 Minutes  <b>Is This Time Sensitive</b> No  <b>Mayor's Approval</b>  <b>Date</b> June 28, 2019	<b>Purpose of Proposal</b> Clarify inconsistencies in City Ordinance Title 16: Subdivision Ordinance Regulations  <b>Action Requested</b> Approval of amendments to Title 16: Subdivision Ordinance Regulations  <b>Attachments</b> PowerPoint Presentation  <b>Budget Impact</b> None.  <b>Description of this Item</b> The Community & Economic Development Department and City Attorney's Office have drafted proposed text amendments to Murray City Code Title 16: Subdivision Ordinance Regulations. Those proposed changes include:  -The addition of a Community & Economic Development Director or designee on various items. -Allowing for preliminary and final subdivision review for a subdivision of ten (10) lots or less to be done concurrently with the Planning Commission. -A preliminary plat may be granted a 1-year extension by the Planning Commission if requested prior to expiration. -A final plat may be granted a 1-year extension by the Planning Commission if requested prior to expiration.
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**Continued from Page 1:**

The existing ordinance states the Mayor has final authority to approve subdivision plats and design standards for public improvements. Utah State Code (Section 10-9a-604) allows for the Planning Commission to act as the Land Use Authority on such actions, and staff recommends this authority be assigned to the Planning Commission.

This would allow for the Planning Commission to approve subdivision plats and establish requirements and design standards for public improvements. Additionally, the Planning Commission would approve or disapprove a final plat.

Finally, staff proposes the Mayor, may sign, as a non-discretionary and ministerial act, final subdivision plats for the acceptance of lands and public improvements proposed for dedication to the City.

This item was presented to the Planning Commission at the June 6, 2019 meeting where a Public Hearing was also held. The Planning Commission voted to forward a positive recommendation on approving the ordinance changes to the City Council with a vote of 6-0.

This item is scheduled for a Public Hearing at the August 6, 2019 City Council Meeting.



# MURRAY CITY

## COMMITTEE OF THE WHOLE

July 16, 2019





# TITLE 16

## SUBDIVISION ORDINANCE REGULATIONS



## Staff Proposal:

- Subdivision approval authority be assigned to the Planning Commission. Allowed per **Utah State Code (10-9a-604)**
- The Mayor signs final subdivision plats (*as a non-discretionary and ministerial act*) for the acceptance of lands and public improvements to be dedicated to the City.
- The addition of a Community & Economic Development Director or designee.



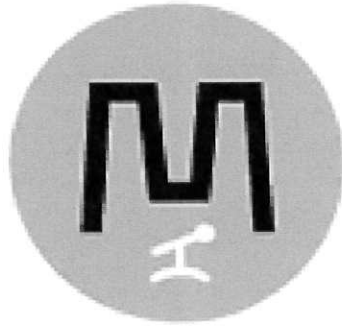
- Allows for Preliminary and Final subdivision review for a subdivision of ten (10) lots or less to be reviewed and approved concurrently.
- A Preliminary Plat approval may be granted a one-year extension by the Planning Commission if requested prior to expiration.
- A Final Plat approval may be granted a one-year extension by the Planning Commission if requested prior to expiration.



# **Staff Recommendation**

APPROVAL of proposed amendments to the Murray City Code, Title 16, Subdivision Ordinance Regulations.





**MURRAY**  
CITY COUNCIL

# Discussion Item #5



**MURRAY**

## Community & Economic Development


**Titan Development**

**5729 South 700 West  
Zone Change R-1-8 to R-1-6**

**Committee of the Whole**

**Council Action Request**

Meeting Date: July 16, 2019

<b>Department Director</b> Melinda Greenwood	<b>Purpose of Proposal</b> Zone Map amendment for future development.
<b>Phone #</b> 801-270-2428	<b>Action Requested</b> Approval of a Zone Map Amendment at 5729 South 700 West from R-1-8 to R-1-6.
<b>Presenters</b> Melinda Greenwood Jared Hall	<b>Attachments</b> PowerPoint Presentation
	<b>Budget Impact</b> None
<b>Required Time for Presentation</b> 10 Minutes	<b>Description of this Item</b>  The applicant is requesting approval for an amendment to the Murray City Zoning Map for the subject property from R-1-8, Single Family Residential (8,000 square foot lot minimum) to R-1-6, Single Family Residential (6,000 square foot lot minimum). The applicant proposes to amend the Zoning Map to support a potential application to subdivide the property.
<b>Is This Time Sensitive</b> No	
<b>Mayor's Approval</b> 	The subject property is a 0.36-acre lot located on the southeast corner of Anderson Avenue and 700 West. Until recently, the subject property has been used as a single-family residential lot. A fire destroyed much of the structure, which was then subsequently removed. The property has been vacant since the demolition occurred.
<b>Date</b> June 27, 2019	



**Continued from Page 1:**

With 15,681 square feet, the property is not quite large enough to subdivide into two lots in the existing R-1-8 Zone. However, if the property were rezoned to R-1-6, a subdivision could create two new 7,840 square foot building lots. The lots would be less than 8,000 square feet, but significantly larger than the 6,000 square feet required by the R-1-6 Zone. It is important to note that if rezoned to R-1-6, the property is not large enough to allow a third lot, and that use would still be restricted to single-family, detached dwellings only.

This item was heard at the Planning Commission Meeting on June 6, 2019 and received a favorable recommendation from the Planning Commission with vote of 6-0.

This item is scheduled for a public hearing on August 6, 2019.

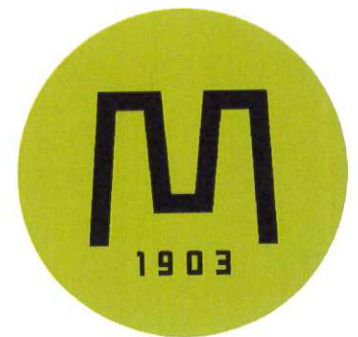
Staff recommends the City Council approve the Zone Map Amendment for the property located at 5729 South 700 West from R-1-8, Single-Family Residential to R-1-6, Single-Family Residential.



# MURRAY CITY

## COMMITTEE OF THE WHOLE

July 16, 2019



MARK SNOW, TITAN DEVELOPMENT  
Zone Map Amendment from R-1-8 to R-1-6

5729 South 700 West

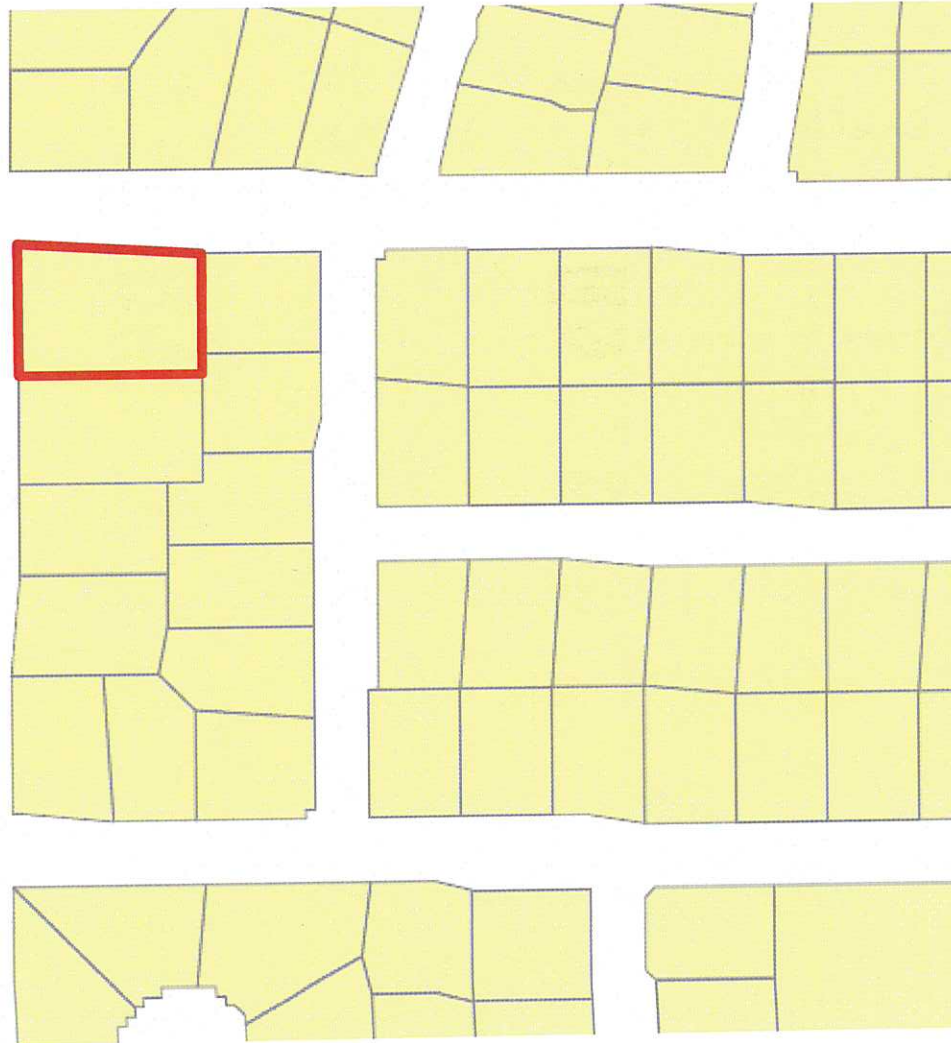
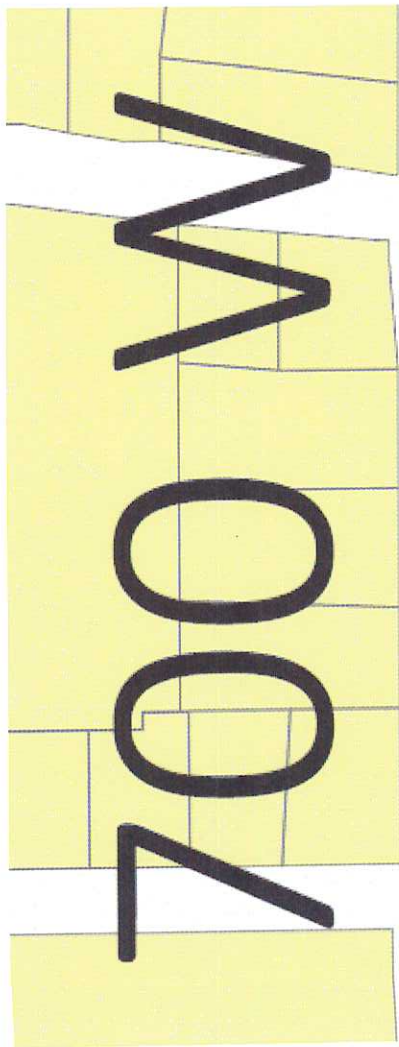












### Future Land Use Categories

- City Center
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Mixed Use
- Neighborhood Commercial
- General Commercial
- Residential Business
- Professional Office
- Office
- Business Park Industrial
- Industrial
- Parks and Open Space



## LOW DENSITY RESIDENTIAL

This designation is intended for residential uses in established/planned neighborhoods, as well as low density residential on former agricultural lands. The designation is Murray's most common pattern of single-dwelling development. It is intended for areas where urban public services, generally including complete local street networks and access to frequent transit, are available or planned. Areas within this designation generally have few or very minor development constraints (such as infrastructure or sensitive lands). Primary lands/use types include single-dwelling (detached or attached) residential.

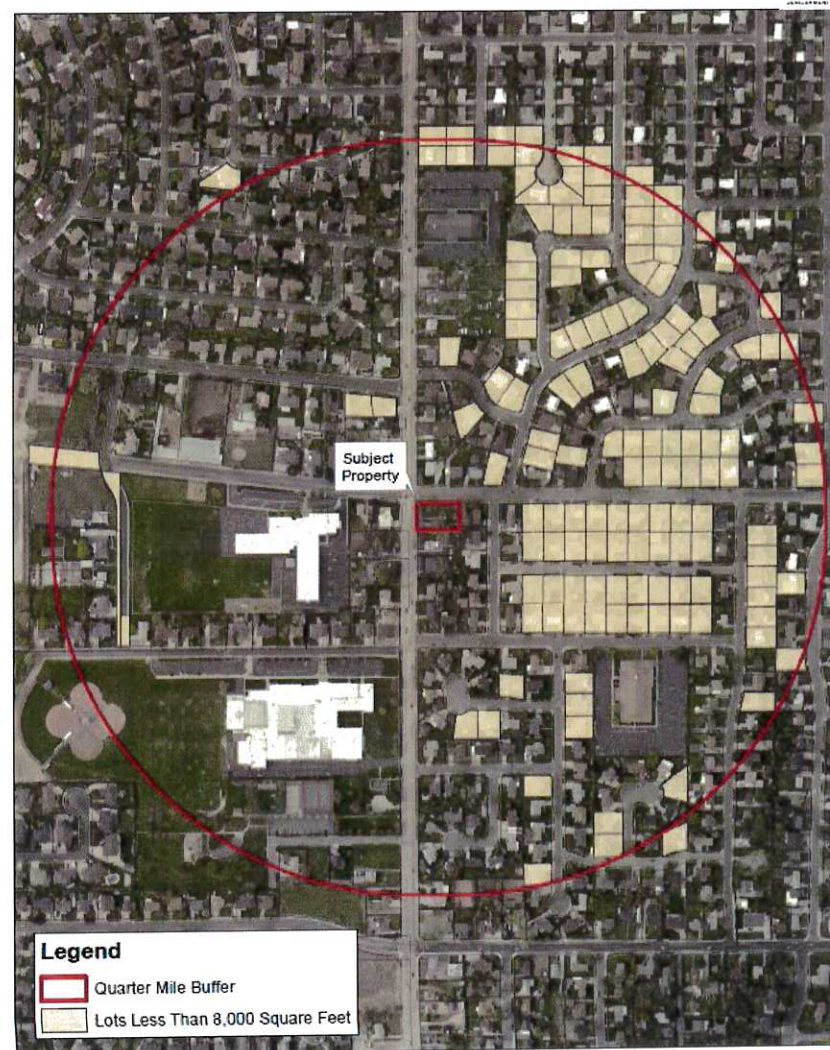
Density range is between 1 and 8 DU/AC.

Corresponding zone(s):

- A-1, Agricultural
- R-1-12, Low density single family
- R-1-10, Low density single family
- R-1-8, Low density single family
- R-1-6, Low/Medium density single family
- R-2-10, Low density two family







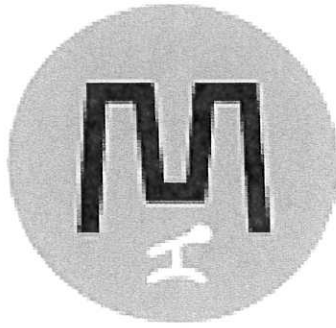
# Findings

1. The rezoning of the property to R-1-6 is supported by the Future Land Use Map designation of Low Density Residential. The applicant's intended purpose in seeking the change of zoning doesn't conflict with the purpose of "encouraging residential development which is single-family detached in character".
2. The requested rezoning has been carefully considered based on the characteristics of the site and surrounding area and the policies and objectives of the 2017 Murray City General Plan. The property would represent an isolated parcel zoned differently from all those surrounding it, but subsequent subdivision of the property would result in lots of comparable size and configuration.
3. Due to the large number of surrounding properties which do not conform to the minimum lot size of the existing R-1-8 Zone, the proposed R-1-6 Zone will support the creation of lots which are in harmony with the prevailing development pattern in the area.
4. The requested zoning designation does not detract from the General Plan's stated purpose to promote residential development that is single family and detached in nature. Resulting development will be in keeping with the development pattern for lot sizes and residential uses in the surrounding area.



# Staff Recommendation

APPROVAL of the requested amendment to the Zoning Map designation for the property located at 5729 South 700 West from R-1-8, Single-Family Residential to R-1-6, Single-Family Residential.



**MURRAY**  
CITY COUNCIL

# Discussion Item #6



**MURRAY**

# Community & Economic Development


**Titan Development**

**347 East Winchester Street  
Zone Change: R-1-8 to R-N-B**

**Committee of the Whole**

**Meeting Date: July 16, 2019**

## Council Action Request

<b>Department Director</b> Melinda Greenwood	<b>Purpose of Proposal</b> Zone Map Amendment for future development.
<b>Phone #</b> 801-270-2428	<b>Action Requested</b> Approval of a Zone Map Amendment at 347 East Winchester Street from R-1-8 to R-N-B.
<b>Presenters</b> Melinda Greenwood	<b>Attachments</b> PowerPoint Presentation
	<b>Budget Impact</b> None
<b>Required Time for Presentation</b> 10 Minutes	<b>Description of this Item</b> The applicant is requesting approval of a Zone Map Amendment from R-1-8, Single-Family Residential to R-N-B, Residential Neighborhood Business for the property addressed 347 East Winchester Street. The 0.32-acre parcel has been used as a single-family dwelling but is currently vacant.
<b>Is This Time Sensitive</b> Yes	The subject property is located on the north side of Winchester Street. Many properties along the north side of Winchester have been successfully rezoned to R-N-B and subsequently redeveloped. Those redeveloped properties include medical, dental, and professional office uses.
<b>Mayor's Approval</b> 	The applicant also owns the parcel immediately adjacent to the west of the subject property, which has already been rezoned to R-N-B.
<b>Date</b> June 28, 2019	



**Continued from Page 1:**

The applicant intends to develop both properties together if the zone change is approved. Together, the two lots total 0.66 acres.

This item was heard at the Planning Commission Meeting on June 6, 2019 and received a favorable recommendation from the Planning Commission with vote of 6-0.

This item is scheduled for a public hearing on August 6, 2019.

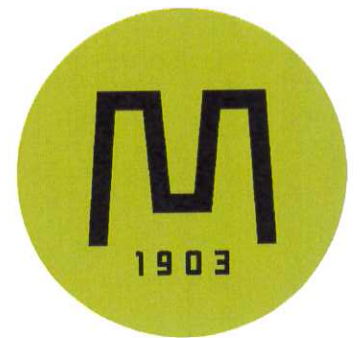
Staff recommends the City Council approve the Zone Map Amendment and approve the requested Zone Map Amendment for the property located at 347 East Winchester Street from R-1-8, Single Family Residential to R-N-B, Residential Neighborhood Business.



# MURRAY CITY

## COMMITTEE OF THE WHOLE

July 16, 2019

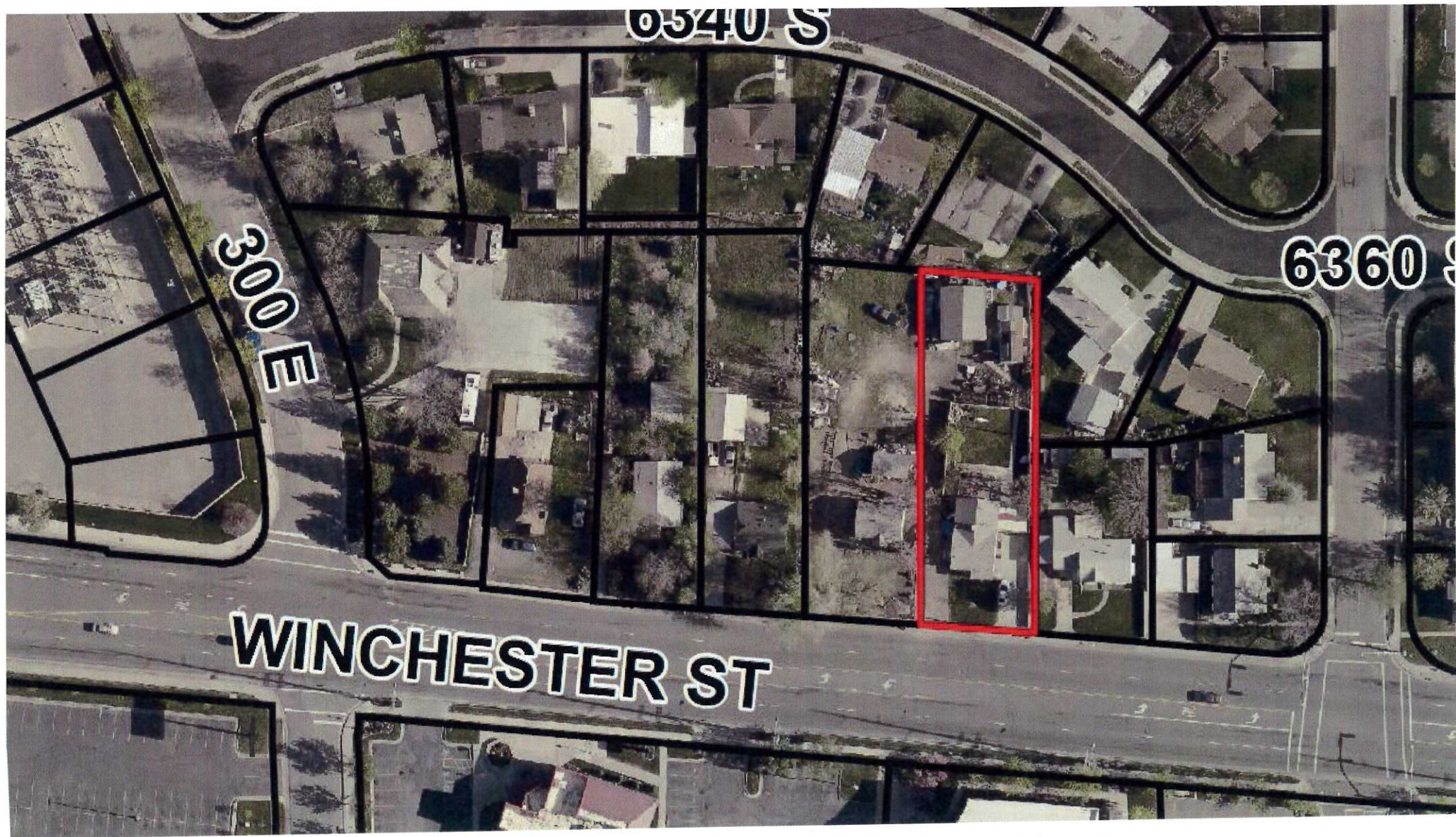


MARK SNOW, TITAN DEVELOPMENT  
Zone Map Amendment from R-1-8 to R-N-B

347 East Winchester Street







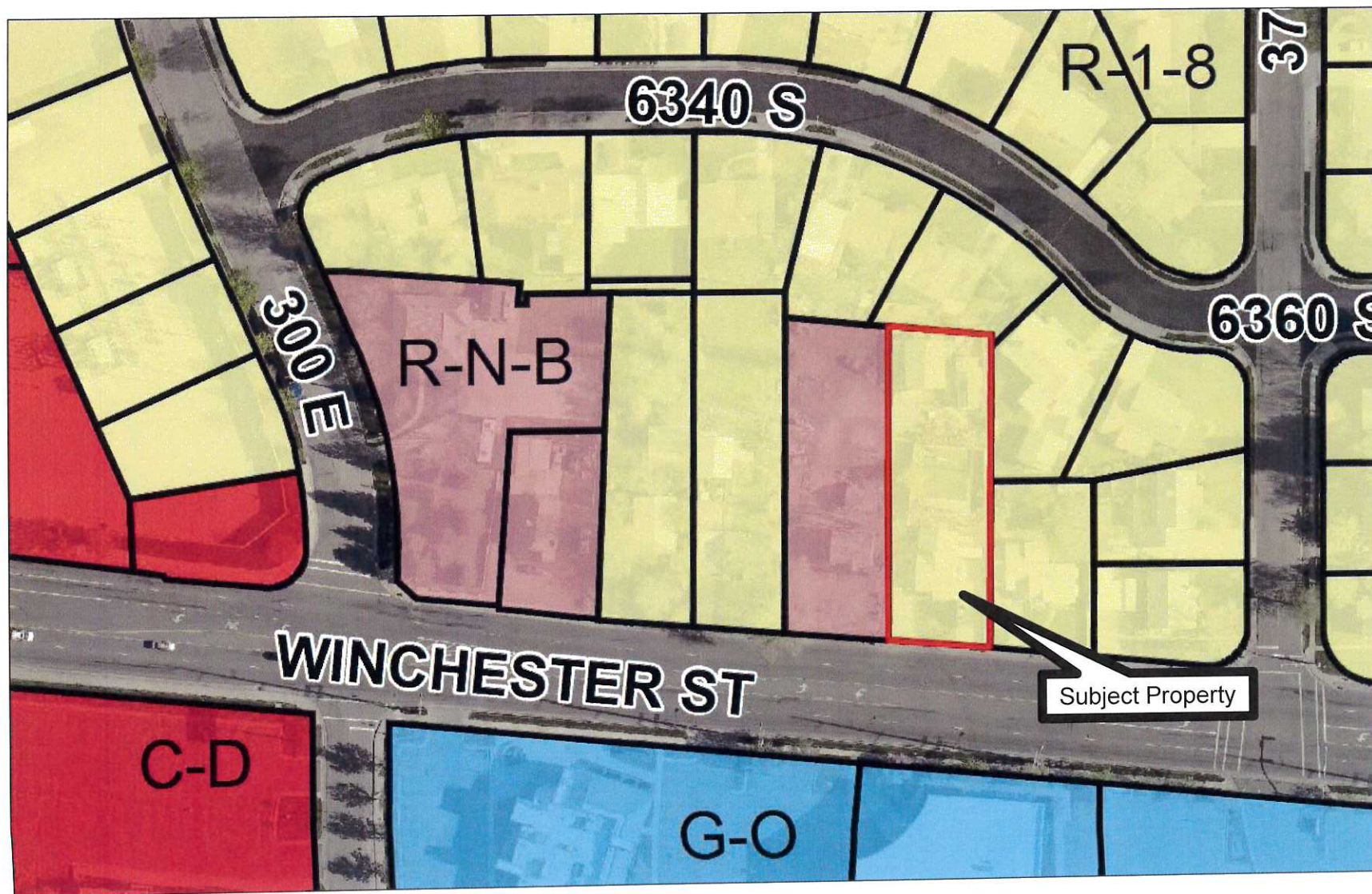
6340 S

300 E

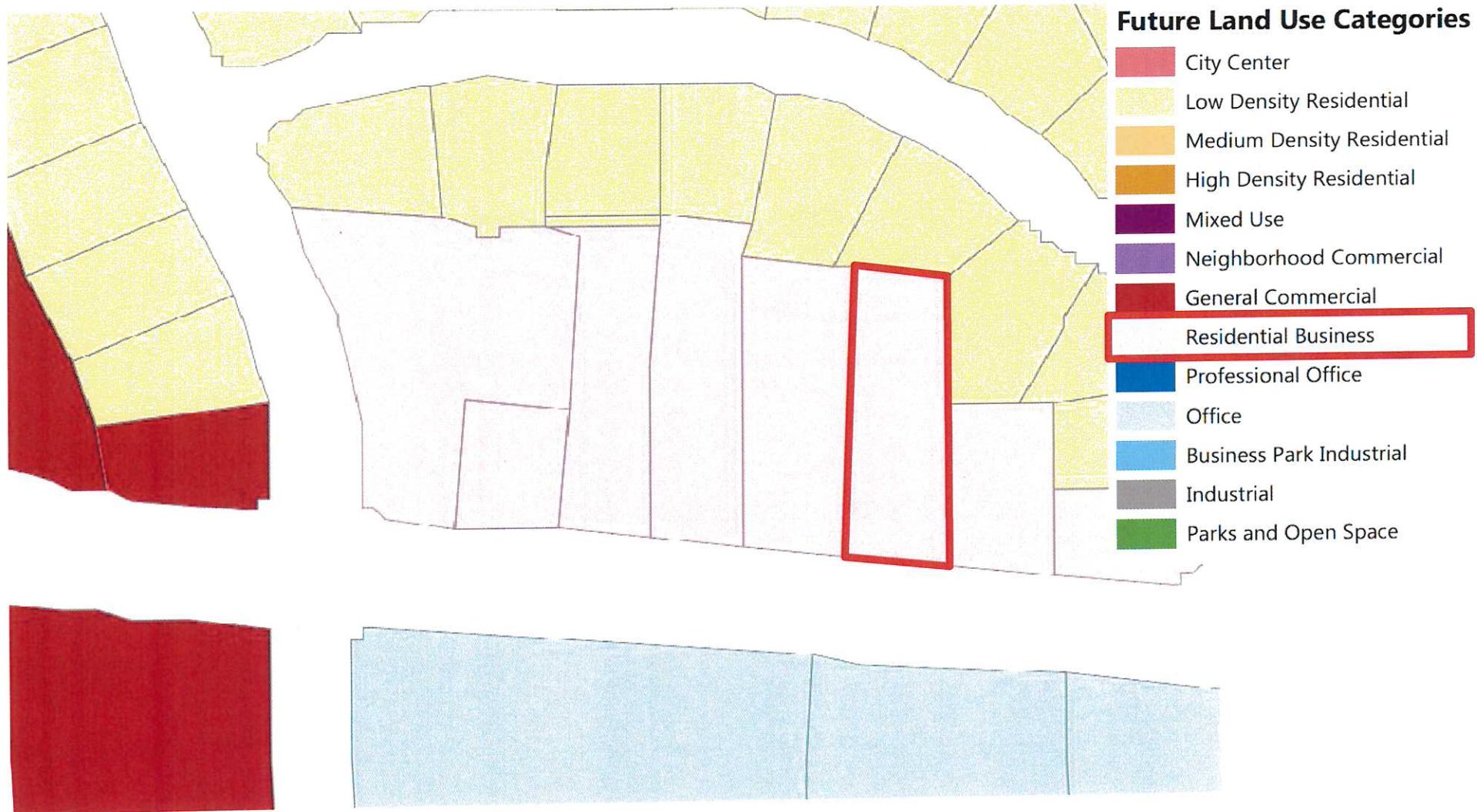
6360 S

WINCHESTER ST











## RESIDENTIAL BUSINESS

This designation allows for mixed-use, attached dwellings, or commercial development within primarily residential neighborhoods that is small in scale, has little impact, and provides services for the nearby residential and/or recreational areas (e.g. Jordan River Parkway node at Winchester; adjacent to Wheeler Farm). Development will be similar in scale to nearby residential development to promote compatibility with the surrounding area. This designation is intended for areas where urban public services are available or planned. Areas within this designation are generally small nodes or individual buildings along corridors rather than large centers or complexes. Non-residential or multi-dwelling development will follow a similar development pattern of front setback/yard/landscaping as the surrounding residential context.

Corresponding zone(s):

- RNB, Residential Neighborhood Business







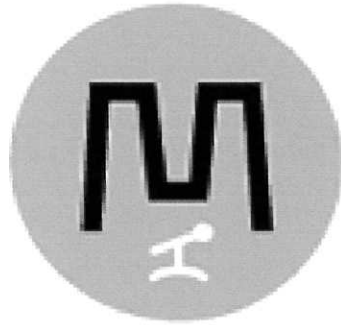
# Findings

1. Utilities and services available in the area are sufficient to support the type and scale of development allowed by the proposed R-N-B zone.
2. The requested zone change has been carefully considered based on the characteristics of the site and surrounding area and the policies and objectives of the 2017 Murray City General Plan.
3. The proposed Zone Map Amendment from R-1-8, Single-Family Residential to R-N-B, Residential Neighborhood Business is supported by the General Plan and the Future Land Use Map designation of the subject property.



# Staff Recommendation

1. Utilities and services available in the area are sufficient to support the type and scale of development allowed by the proposed R-N-B zone.
2. The requested zone change has been carefully considered based on the characteristics of the site and surrounding area and the policies and objectives of the 2017 Murray City General Plan.
3. The proposed Zone Map Amendment from R-1-8, Single-Family Residential to R-N-B, Residential Neighborhood Business is supported by the General Plan and the Future Land Use Map designation of the subject property.



**MURRAY**  
CITY COUNCIL

# Discussion Item #7



**MURRAY**


## City Attorneys Office/ Finance and Admin

### Public Safety Officer and Firefighter Line-of-Duty Death Act Compliance

#### Council Action Request

Committee of the Whole and Council Meeting

Meeting Date: July 16, 2019

<b>Department</b> <b>Director</b> G.L. Critchfield  <b>Phone #</b> 801-264-2640  <b>Presenters</b> G.L. Critchfield	<b>Purpose of Proposal</b> Discuss/consider approving a resolution to participate in the Local Public Safety and Firefighting Surviving Spouse Trust Fund  <b>Action Requested</b> Discussion in Committee of the Whole; Decision in Council Meeting  <b>Attachments</b> Resolution; Agreement; Certificate of Eligible Employees  <b>Budget Impact</b> The cost will begin at approximately \$13,490 annually. We have currently 142 qualifying employees. The cost of participation is \$95 per employee.  <b>Description of this Item</b> <u><b>Line-of-Duty Death Benefit.</b></u> In 2015 the State legislature passed the Public Safety Officer and Firefighter Line-of-duty Death Act ("Act"). The Act was subsequently amended in 2016, 2017, and 2018.  <u><b>Health Care Premium:</b></u> The Act allows a surviving spouse of a fallen peace officer or firefighter (who dies in the line-of-duty) to remain eligible for health care coverage under the City's group health plan as if the surviving spouse was an employee of the City. The City is required to pay 100% of the health plan premium until the spouse is eligible for Medicare. Coverage for a surviving child lasts until the child is 26 years old.
<b>Required Time for Presentation</b> 10 Minutes  <b>Is This Time Sensitive</b> Yes  <b>Mayor's Approval</b>   <b>Date</b> July 1, 2019	



**Continued from Page 1:**

Trust Fund Participation: The Act also requires the City to participate in the Local Public Safety and Firefighter Surviving Spouse Trust Fund. Participation requires (1) entering into a cost-sharing agreement with the Commissioner of the Department of Public Safety, (2) submitting a "Certificate of Eligible Employees" and (3) paying the annual premium (set by the Local Public Safety and Firefighter Surviving Spouse Trust Fund Board of Trustees).

In the event of a line-of-duty death, the City pays the health plan premium for the surviving spouse (and child(ren)) for the first 12 months and then the City may seek reimbursement from the Trust Fund until the City's obligation ends (until the surviving spouse is eligible for Medicare and until a child(ren) is 26 years of age).

Trust Fund Nonparticipation: The City's continued participation in the Trust Fund is contingent on paying the annual premium. If the City does not participate in the Trust Fund or fails to pay the annual premium, the City is then obligated to pay the entire health plan premium until a surviving spouse is Medicare eligible and a child(ren) is 26 years of age.

RESOLUTION NO. \_\_\_\_\_

A RESOLUTION APPROVING THE LOCAL PUBLIC SAFETY AND FIREFIGHTER SURVIVING SPOUSE TRUST FUND COST-SHARING AGREEMENT BY AND BETWEEN MURRAY CITY AND THE COMMISSIONER OF THE UTAH DEPARTMENT OF PUBLIC SAFETY, JESS L. ANDERSON.

WHEREAS, in the event of a line-of-duty death of a public safety officer or firefighter, state law allows, pursuant to Utah Code Ann. §53-17-201, the surviving spouse and child(ren) to remain eligible for health care coverage under the City's group health plan as if the surviving spouse was an employee of the City; and

WHEREAS, the City is required to pay 100% of the premium costs for health care for a surviving spouse and child(ren); and

WHEREAS, the health benefit remains in effect until a surviving spouse is eligible for Medicare and until a surviving child(ren) reaches the age of 26; and

WHEREAS, the Local Public Safety and Fire Fighter Surviving Spouse Trust Fund ("Trust Fund") has been established to help share the burden of this potential health insurance cost across multiple agencies; and

WHEREAS, if the City participates in the Trust Fund, then the health care coverage costs may be reimbursed beginning 13 months after the line-of-duty death so long as the City submits the annual premium in a timely manner; and

WHEREAS, the State has prepared a cost-sharing agreement to formalize the City's participation in the Trust Fund and the requirements and responsibilities of each Party; and

WHEREAS, Murray City desires to participate in the Trust Fund to support its public safety officers and firefighters; and

WHEREAS, it is in the City's best financial interests to enter into the cost-sharing agreement in the event such a tragic incident should occur; and

WHEREAS, adoption of the cost-sharing agreement is in the public interest.

NOW, THEREFORE, BE IT RESOLVED by the Murray City Municipal Council that:

1. It approves and adopts the Local Public Safety and Fire Fighter Surviving Spouse Trust Fund Cost-Sharing Agreement attached hereto.

2. Mayor D. Blair Camp is hereby authorized to execute the Agreement on behalf of the City and act in accordance with its terms.

3. This resolution shall take effect immediately upon passage.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

MURRAY CITY MUNICIPAL COUNCIL

\_\_\_\_\_  
Dave Nicponski, Chair

ATTEST

\_\_\_\_\_  
Jennifer Kennedy, City Recorder



**LOCAL PUBLIC SAFETY AND FIREFIGHTER SURVIVING SPOUSE TRUST FUND  
COST-SHARING AGREEMENT**

**THIS COST-SHARING AGREEMENT** is authorized by Section 53-17-301 of the Utah Code, and R698-8 of the Utah Administrative Code, and is made effective DATE] \_\_\_\_\_, by and between Jess L. Anderson, Commissioner, Utah Department of Public Safety and [agency name, administrator name, office address and phone number]

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**THE PARTIES ENTER THIS AGREEMENT** on the basis of the following facts, understandings and intentions:

A. In the event of a line of duty death of a member, the participating agency is required, pursuant to 53-17-201 of the Utah Code, to provide health coverage for the surviving spouse and for a child of the member until the child reaches the age of 26.

B. The participating agency is required to pay 100% of the premium costs for health coverage for surviving spouse and children.

C. Beginning 13 months after the line of duty death, the participating agency is eligible for reimbursement for the health coverage costs from the Local Public Safety and Firefighter Surviving Spouse Trust Fund for costs incurred after July 1, 2018.

D. In the event the participating agency fails to submit the annual premium in a timely manner the participating agency may not be eligible for reimbursement of health coverage costs for a surviving spouse or children.

E. The participating agency is not eligible for reimbursement of health coverage costs for a line of duty death that occurs during a period of time when the agency is not a participating agency.

F. A participating agency that elects to participate in the trust fund shall be eligible for reimbursement of health coverage costs for a surviving spouse or children for a line of duty death that occurs on or after July 1, 2005, as long as annual premium payments are current.

G. The provisions found in Utah Administrative Rule R698-8 govern this agreement.

**NOW, THEREFORE**, in consideration of the premises and the mutual covenants of the parties hereto, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Payment of Annual Premiums. The participating agency agrees to pay an annual premium as established by the Local Public Safety and Firefighter Surviving Spouse Trust Fund Board of Trustees. The annual premium shall be based upon the number of members employed by the participating agency, and shall be submitted by the participating agency no later than June 30th each year to the Department of Public Safety Attn. Trust Fund, PO Box 141775, Salt Lake City UT 84114.

2. Eligible Members. The participating agency agrees to furnish to the Department of Public Safety, Attn. Trust Fund annually, with payment of the annual premium, the number of eligible members for whom an annual premium is being paid as of March 31st. The participating agency expressly authorizes the Utah Retirement Systems (URS) to provide to the Utah Department of Public Safety or the Local Public Safety and Firefighter Surviving Spouse Trust Fund Board of Trustees aggregate totals of the participating agency's active employees participating in a retirement system under Utah Code Title 49, Utah State Retirement and Insurance Benefit Act covering public safety and firefighter members, as requested for auditing purposes. Premiums paid by an agency for members who are not eligible for reimbursement from the fund are non-refundable.

3. Reimbursement of Shared Costs. The Commissioner agrees to reimburse the participating agency on an annual basis for the costs of health coverage for an eligible surviving spouse and children from the Local Public Safety and Firefighter Surviving Spouse Trust Fund. A request for reimbursement of health coverage costs shall be submitted to the Department of Public Safety, Attn. Trust Fund by June 30th of each year on a form approved by the Board, in addition to a statement provided by the group health plan that includes the agency's cost for health coverage for the surviving spouse and children of the fallen officer.

4. Books and Records. The Department of Public Safety shall maintain appropriate and accurate books of account and records relating to eligible members, annual premiums paid by a participating agency and reimbursement of health coverage costs from the Local Public Safety and Firefighter Surviving Spouse Trust Fund under this Agreement, and such books of account and records shall be accessible for inspection by representatives of the participating agency at any time during normal business hours. Except in the ordinary course of business of the Department of Public Safety shall use reasonable efforts to keep confidential any and all information they may obtain from time to time in connection with the services they render under this Agreement.

5. Term. This Agreement shall commence on the Effective Date and shall be coterminous providing that annual premiums are kept current by the participating agency.

6. Binding Nature of Agreement. This Agreement shall be binding upon and inure to the benefit of the parties hereto as provided in this Agreement.

7. Entire Agreement. This Agreement contains the entire agreement and understanding among the parties hereto with respect to the subject matter hereof, and supersedes all prior and contemporaneous agreements, understandings, inducements and conditions, express or implied,

oral or written, of any nature whatsoever with respect to the subject matter hereof. This Agreement may not be modified or amended other than by an agreement in writing.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement as of the Effective Date.

**Commissioner of Public Safety**

**Utah Department of Public Safety/  
Local Public Safety and Firefighter  
Surviving Spouse Trust Fund Board,  
Chair**

By: \_\_\_\_\_

**Agency Administrator,  
Human Resources Director  
Murray City Corporation**

By: \_\_\_\_\_  
Robyn Colton

**Murray City Corporation**

By: \_\_\_\_\_  
D. Blair Camp, Mayor

ATTEST:

APPROVED AS TO FORM:

\_\_\_\_\_  
Jennifer Kennedy, City Recorder

\_\_\_\_\_  
G.L. Critchfield, City Attorney



**LOCAL PUBLIC SAFETY AND FIREFIGHTER SURVIVING SPOUSE TRUST FUND**

Certification of Eligible Employees

(mail to: Department of Public Safety, Attn. Trust Fund,  
Box 141775, Salt Lake City UT 84114)

Agency Name: \_\_\_\_\_

Administrator Name: \_\_\_\_\_

Office Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

I certify that there are a total of \_\_\_\_\_ active employees participating in a retirement system under Utah Code Title 49, Utah State Retirement and Insurance Benefit Act covering public safety and firefighter members employed by the above mentioned agency as of March 31, 2019\_\_\_\_\_.

This following paragraph applies only if your agency is currently not part of the Utah State Retirement Systems (URS).

I understand that if the above referenced agency does not cover the public safety officers or firefighters in a retirement system under Utah Code Title 49, Utah State Retirement and Insurance Benefit Act, the agency may elect to participate in the Local Public Safety and Firefighter Surviving Spouse Trust Fund by a resolution adopted by the agency. Under this election, I certify that there are a total of \_\_\_\_\_ active public safety officers and firefighters as defined in Senate Bill 206 passed in the 2018 Legislative General Session.

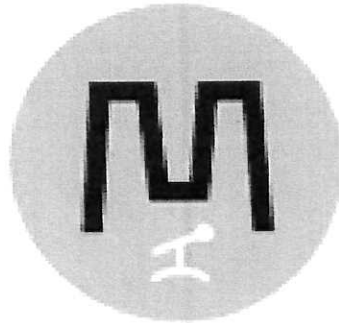
I understand the Utah Department of Public Safety may confirm the number of active public safety and firefighter employees of the above mentioned agency participating with URS. I further understand that premiums paid to the Local Public Safety and Firefighter Surviving Spouse Trust Fund for ineligible employees are non-refundable.

Administrator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

If an invoice is required to process a payment please check this box and provide an e-mail address for the electronic invoice.

☐ Yes, please send me an electronic invoice

Please send the electronic invoice to:



**MURRAY**  
CITY COUNCIL

**Adjournment**