



# 800 MHz JOC Agenda

Agenda Items 4,5,6



# Agenda Item #5- 800 MHz Operating Status





# 800 MHz Operating Status

- UAS Updates are on hold per all members of NSRS- No Major System changes will take effect
  - In July, the Enhanced Migration installation will take place. L3Harris will install servers to house the new Premiere Core and Connect Core with 10A.4. These systems will be installed in parallel for services from the old system to be cut over to the newer system <future state>.
  - [After the Enhanced Migration Installation PSAP consoles can be upgraded to Windows 10](#)
- Sparks Dispatch Consoles
  - Technical team has received 4 consoles and is working to program and standardize the configurations of all consoles with all 3 PSAP console set up profiles. (The profile will include Reno, Sparks and Washoe county). This provides flexibility, in an emergency operations from other center can jump between profiles, or for PSAP's to lend consoles to other PSAPs without a lot of reconfiguration.
- Washoe County Sheriff's Office Consoles
  - WCSO has also order 2 additional consoles that delivered July 9<sup>th</sup>.
  - Programming, Configurations and installation expected no earlier than third week in July
- Technical Team is investigating Radio Programming over WiFi. The first test was successful, on the same network. Additional tests will occur in the coming months- and PSAP's will be asked to be involved in functionality testing.
- Maintenance at all WCRCs communication sites (April 2021-September 2021)



# Agenda Item #6 LID Status Update



# LID Status Update

- Remaining LIDS: 49\*
  - Truckee Meadow Fire Protection District (TMFPD) issued 2 LIDs
  - Reno Sparks Indian Colony (RSIC) issued 3 LIDS (Additional Requests have been made)
  - Sparks Dispatch 4 LIDS
  - Washoe County Sheriffs Dispatch 2 LIDS
- NVE has donated 75 additional LIDs in April.
  - 20 are reserved for system cut-over efforts
- Issuance of LIDs will be looked at **case by case** and prioritized accordingly.





# Agenda Item #7- WCRCs Infrastructure Maintenance & Replacement Update



# Maintenance Plan

- Once sites are accessible, site visits will be conducted: Maintenance Inspection Sheets completed
- Regular repairs and Maintenance will occur at these initial visits
- Assessments will be made based on site information returned
- If parts are needed, they will be evaluated for cost- purchased if it fits into maintenance program. If not budgeted, project to be created.
- **Inspection Sheet-** Written log that provides team with information on common items within the comm shelter. This serves as a starting place for ordering parts, and building projects.

WCRCS System Maintenance Checklist								
Equipment	Additional Description	Good Condition	Requires adjustment	Requires replacement	Requires Cleaning	Work Order Required	Comments:	
<b>Air conditioner- HVAC</b>								
	Check Filters							
	Check For Physical Damage							
	Fuses							
	Is this unit Noisy? Or Running Hard?							
<b>Antenna Waveguide System</b>								
	Dehydrator Running?							
	Check for Physical Damage							
	Waveguide Enrty Ports Closed							
	No Physical Damaged to Waveguide Connections							
	Ice Bridge - No physical Damage							
<b>Antenna- Microwave Dish</b>								
	All cabling Secured to Tower							
	Dish mounted correctly to Tower							
	Dish has Ice shield							
<b>Security</b>								
	Access Control System Present							
	Indoor Cameras							
	Out Door Cameras							
	Network Video Recorder NVR							
	Is Anything In alarm?							
<b>Conduit Outside Plant</b>								
	Fence Grounding							
	Tower Grounding							
	Ground Grid maintained							
	Vaults in good condition							





# Infrastructure Maintenance Update

- DC battery banks & rectifier testing (6 to 10 years replacement program)
  - Marble Bluff will require replacement
  - Mt Rose will require replacement
  - Slide will require replacement
  - Snowflake will require replacement
- HVAC inspection & repair (Replace 2 units a year)
  - Snowflake HVAC repairs needed (One out of two units has failed)
- Dehydrator/Waveguide pressure testing (replace as needed/ test yearly)
  - Slide failed pressure test, WCRCS replacing transmission line
- Generator inspections and repair (Replace two generator a year)
- Tower inspections (As needed, inspected yearly)
  - Marble is an example of a tower found in need of replacement
- Radio maintenance & alignments (Yearly)
  - Radio Alignments scheduled for July through September
- Security cameras maintenance and installation
  - Replaced Marble's Cameras and Virginia Peak
- Remote alarms verification and tests



Maintenance Type	Accounts	Acct. Name	WCRCs Maintenance 2022	WCRCs Maintenance 2023	WCRCs Maintenance 2024	WCRCs Maintenance 2025	WCRCs Maintenance 2026	
Battery Replacement	781004	Equipment Capital	\$170,658.00				\$120,000.00	on-going Maintenance
Generator Replacement	711113	Equipment Service Replace	\$50,837.71	\$62,000.00	\$62,000.00	\$62,000.00	\$62,000.00	New Maintenance
Tower Replacement	711113	Equipment Service Replace				\$211,000.00	\$145,000.00	
Electrical Repairs	711502	Build Imp Non-Capital	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	
Safety Expenses (ie-Carbon Monitor)	710571	Safety Expense	\$800.00	\$3,200.00	\$800.00	\$3,200.00	\$800.00	
Redundancy Project	781004	Equipment Capital		\$250,000.00	\$250,000.00			
DC to DC Converters	711504	Equipment Non-Capital	\$30,725.00					
Grounding	711504	Equipment Non-Capital	\$20,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	
Network (ie- routers, switches, Fiber)	711504	Equipment Non-Capital	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	
Security	711504	Equipment Non-Capital	\$24,075.00	\$21,000.00	\$20,000.00	\$20,000.00	\$20,000.00	
Air conditioner- HVAC	710205	Repair and Maintenance	\$10,000.00	\$10,000.00	\$30,000.00	\$30,000.00	\$30,000.00	
Antenna Waveguide System	711504	Equipment Non-Capital	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	
Building Maintenance	710205	Repair and Maintenance	\$6,000.00	\$6,000.00	\$60,000.00	\$6,000.00	\$6,000.00	
Breaker replacements	711504	Equipment Non-Capital	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	
Roof repair/ patching	710205	Repair and Maintenance	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	
Painting/ Building maintenance	710205	Repair and Maintenance	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	
Flooring	710205	Repair and Maintenance	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	
Door Maintenance or replacement	711113	Equipment Service Replace			\$6,000.00	\$6,000.00	\$6,000.00	
Radio Alignments	710205	Repair and Maintenance	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	
Existing Maintenance			\$292,758.00	\$90,700.00	\$161,300.00	\$109,700.00	\$227,300.00	
New Maintenance			\$126,337.71	\$368,500.00	\$374,500.00	\$335,500.00	\$269,500.00	
<b>Total Maintenance Cost</b>			<b>\$419,095.71</b>	<b>\$459,200.00</b>	<b>\$535,800.00</b>	<b>\$445,200.00</b>	<b>\$496,800.00</b>	

Acct. Name	Accounts	WCRCs Maintenance 2022	WCRCs Maintenance 2023	WCRCs Maintenance 2024	WCRCs Maintenance 2025	WCRCs Maintenance 2026	Past 5 Year average spend	Budgeted
Equipment Capital	781004	\$170,658.00	\$250,000.00	\$250,000.00	\$0.00	\$120,000.00	\$ 236,434.12	\$ 60,000.00
Equipment Service Replace	711113	\$50,837.71	\$62,000.00	\$68,000.00	\$279,000.00	\$213,000.00	\$ 14,837.37	\$ 23,655.58
Build Imp Non-Capital	711502	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$ 527.33	\$ -
Safety Expense	710571	\$800.00	\$3,200.00	\$800.00	\$3,200.00	\$800.00	\$ 480.83	\$ 500.00
Equipment Non-Capital	711504	\$125,300.00	\$72,500.00	\$71,500.00	\$71,500.00	\$71,500.00	\$ 126,942.77	\$ 242,138.20
Repair and Maintenance	710205	\$46,500.00	\$46,500.00	\$120,500.00	\$66,500.00	\$66,500.00	\$ 50,569.67	\$ 60,000.00
							<b>\$ 429,792.09</b>	<b>\$ 386,293.78</b>



# Infrastructure Maintenance

- These number do not reflect the Operations and Administrative funds of WCRCS, Just maintenance.
- These are NOT to exceed numbers. WCRCS will live within it's budget.
- There is no increase to the budget- We are just allocating funds to the right account lines. (Expect Next years budget to “look” different).
- Maintenance cost should be higher than operations cost to keep overall budgets low. Regular maintenance extends the life of the assets, resulting in **less** “untimely” replacements.
- These number provide you a 5 year look on maintenance spends and a look into the future for Maintenance cost to be expected.
- This exercise is to show transparency of your funds, and to show that money is being dedicated to where it is most needed to maintain the overall infrastructure.





# Agenda Item #8- Marble Bluff Tower Replacement



# Infrastructure Replacement Update

- Marble Bluff Tower Replacement

- Angel Tension Steel Tower built between 1947-1967 by LADWP
- Towers typically replaced every 50 year per OSHA/FCC "Good Engineering Practice Guide". (ANSI/TIA-222-H)
- Structural Analysis was conducted April 20<sup>th</sup>, 2021. resulting in Marble Bluff Tower is being overloaded
  - The Tower is 230% overloaded (ANSI/TIA-222-H)
  - Second Structural Engineer came back with 200% overloaded (ANSI/TIA-222-G)
- Replacement Efforts
  - Working on Request For Proposal (RFP)
  - Working with Pyramid Lake Paiute Tribe (PLPT) on requirements
  - More information to be provided at JOC meeting





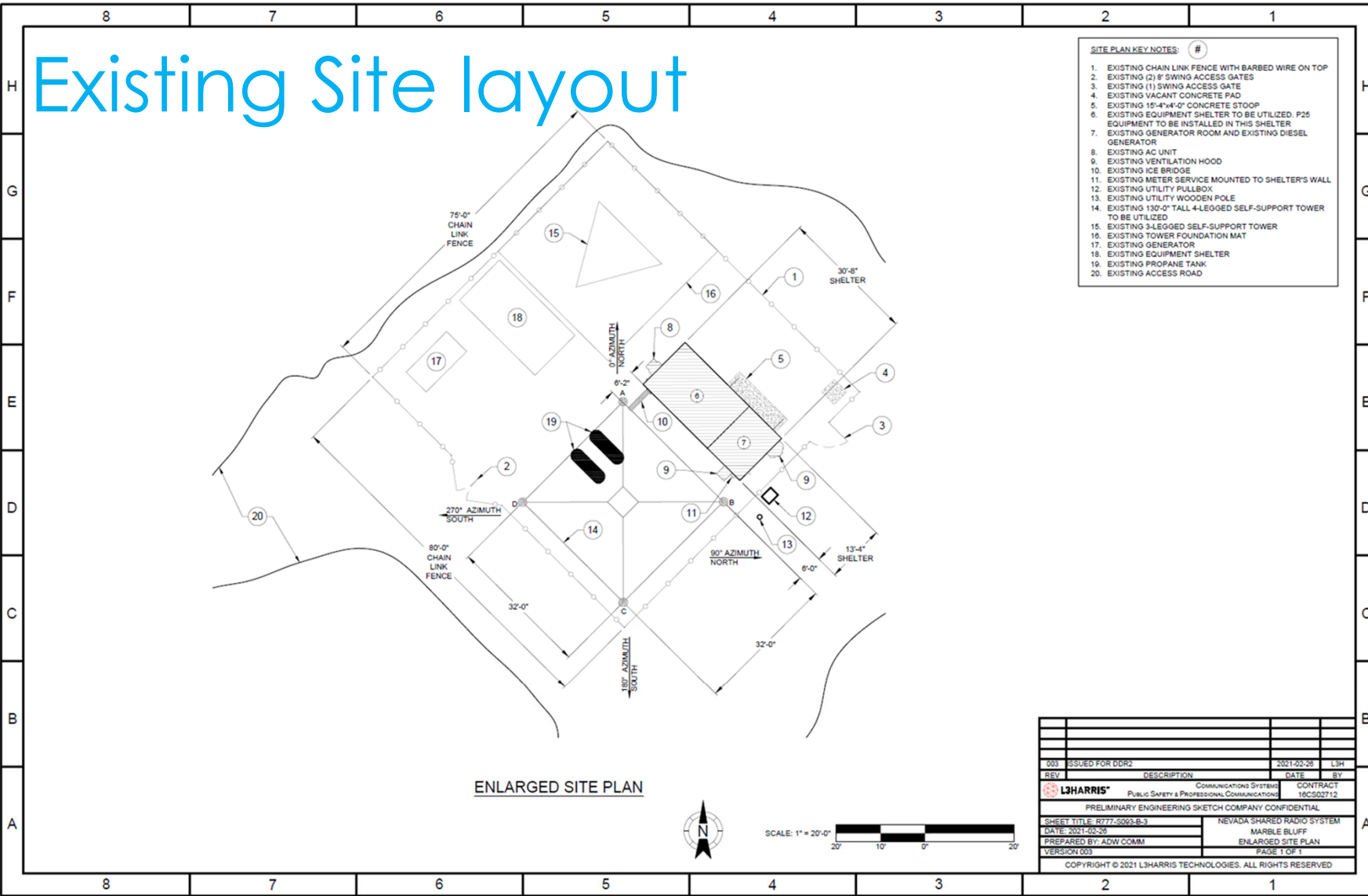


# Marble Bluff Tower Replacement

- Replace existing Marble Bluff Tower
  - 230% overloaded, and Washoe County needs to add items to tower to better support Public Safety Initiatives
  - Towers this overloaded pose a safety risk to general public and anything within the surrounding area. Big Risk include:
    - Tower Collapse
    - Wind to carry the tower off the mountain
  - Out of Compliance with ANSI/TIA-222-H Safety Requirements
  - Tribe needs tower space for Internet Circuits
- Replace existing shelter
  - Shelter contains asbestos within brick walls and roof- Asbestos remediation expensive.
  - Need HVAC needed- which requires cutting into brick
  - Need Roof repairs
  - Need Generator Replacement
  - Cost of new shelter with these fixtures included is cheaper than the maintenance of replace of all the components combined.



# Existing Site layout



- SITE PLAN KEY NOTES: #**
- EXISTING CHAIN LINK FENCE WITH BARBED WIRE ON TOP
  - EXISTING (2) 8' SWING ACCESS GATES
  - EXISTING (1) SWING ACCESS GATE
  - EXISTING VACANT CONCRETE PAD
  - EXISTING 15'-4"x4'-0" CONCRETE STOOP
  - EXISTING EQUIPMENT SHELTER TO BE UTILIZED. P25 EQUIPMENT TO BE INSTALLED IN THIS SHELTER
  - EXISTING GENERATOR ROOM AND EXISTING DIESEL GENERATOR
  - EXISTING AC UNIT
  - EXISTING VENTILATION HOOD
  - EXISTING ICE BRIDGE
  - EXISTING METER SERVICE MOUNTED TO SHELTER'S WALL
  - EXISTING UTILITY PULLBOX
  - EXISTING UTILITY WOODEN POLE
  - EXISTING 130'-0" TALL 4-LEGGED SELF-SUPPORT TOWER TO BE UTILIZED
  - EXISTING 3-LEGGED SELF-SUPPORT TOWER
  - EXISTING TOWER FOUNDATION MAT
  - EXISTING GENERATOR
  - EXISTING EQUIPMENT SHELTER
  - EXISTING PROPANE TANK
  - EXISTING ACCESS ROAD

ENLARGED SITE PLAN



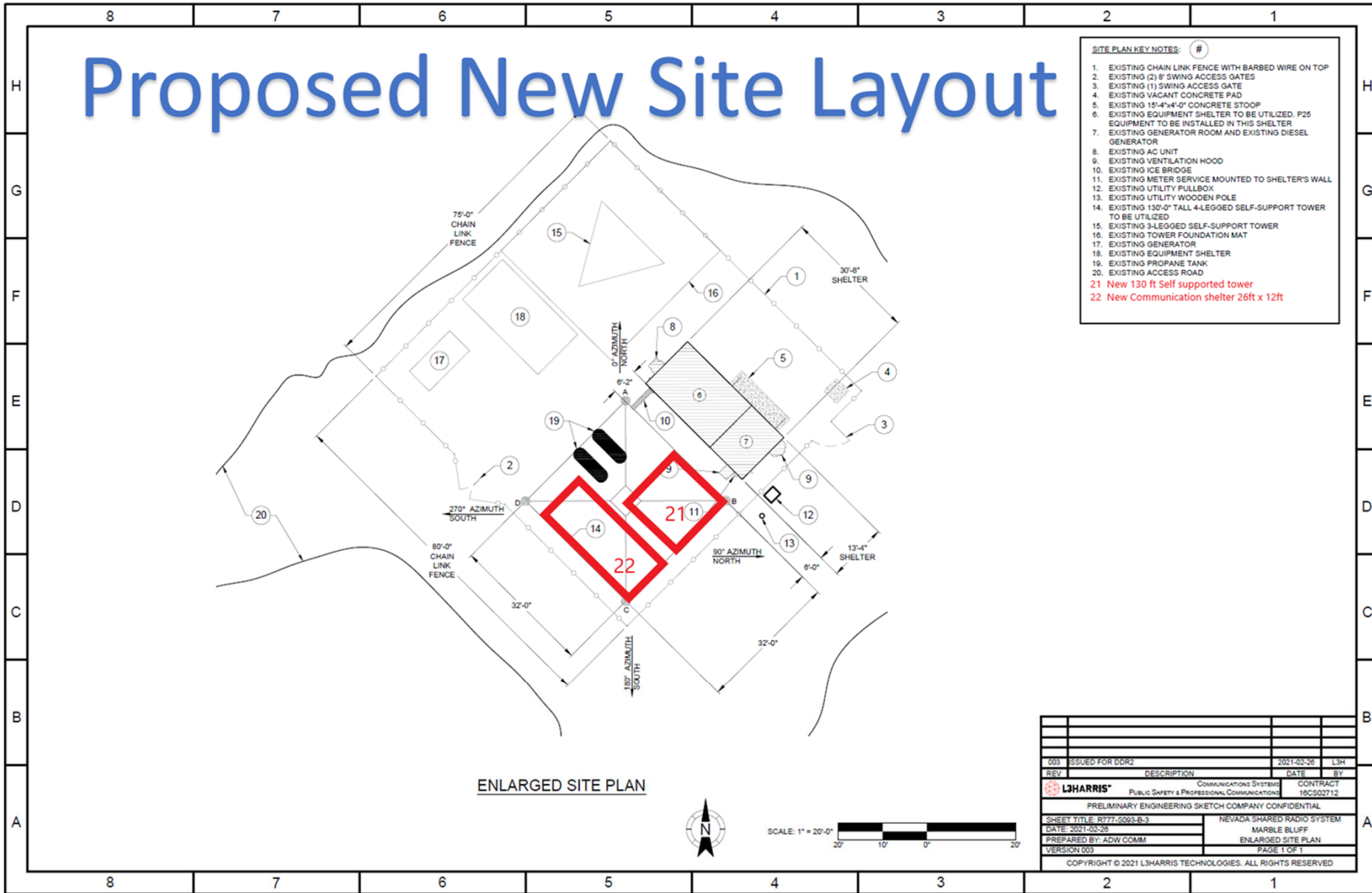
SCALE: 1" = 20'-0"

003	ISSUED FOR ODR2	2021-02-26	LJH
REV	DESCRIPTION	DATE	BY
L3HARRIS	COMMUNICATIONS SYSTEM	CONTRACT	16CS00712
PRELIMINARY ENGINEERING SKETCH COMPANY CONFIDENTIAL			
SHEET TITLE: R777-S003-B-3		NEVADA SHARED RADIO SYSTEM	
DATE: 2021-02-26		MARBLE BLUFF	
PREPARED BY: ADW COMM		ENLARGED SITE PLAN	
VERSION: 003		PAGE 1 OF 1	
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# Proposed New Site Layout



- SITE PLAN KEY NOTES: #**
1. EXISTING CHAIN LINK FENCE WITH BARBED WIRE ON TOP
  2. EXISTING (2) 8' SWING ACCESS GATES
  3. EXISTING (1) SWING ACCESS GATE
  4. EXISTING VACANT CONCRETE PAD
  5. EXISTING 15'-4"x4'-0" CONCRETE STOOP
  6. EXISTING EQUIPMENT SHELTER TO BE UTILIZED. P25 EQUIPMENT TO BE INSTALLED IN THIS SHELTER
  7. EXISTING GENERATOR ROOM AND EXISTING DIESEL GENERATOR
  8. EXISTING AC UNIT
  9. EXISTING VENTILATION HOOD
  10. EXISTING ICE BRIDGE
  11. EXISTING METER SERVICE MOUNTED TO SHELTER'S WALL
  12. EXISTING UTILITY PULLBOX
  13. EXISTING UTILITY WOODEN POLE
  14. EXISTING 130'-0" TALL 4-LEGGED SELF-SUPPORT TOWER TO BE UTILIZED
  15. EXISTING 3-LEGGED SELF-SUPPORT TOWER
  16. EXISTING TOWER FOUNDATION MAT
  17. EXISTING GENERATOR
  18. EXISTING EQUIPMENT SHELTER
  19. EXISTING PROPANE TANK
  20. EXISTING ACCESS ROAD
  21. New 130 ft Self supported tower
  22. New Communication shelter 26ft x 12ft

003	ISSUED FOR DDR2	2021-02-28	LSH
REV	DESCRIPTION	DATE	BY
<b>L3HARRIS</b> COMMUNICATIONS SYSTEMS PUBLIC SAFETY & PROFESSIONAL COMMUNICATIONS		CONTRACT 16CS02712	
PRELIMINARY ENGINEERING SKETCH COMPANY- CONFIDENTIAL			
SHEET TITLE: R777-S003-B-3		NEVADA SHARED RADIO SYSTEM	
DATE: 2021-02-28		MARBLE BLUFF	
PREPARED BY: ADW COMM		ENLARGED SITE PLAN	
VERSION 003		PAGE 1 OF 1	
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# Agenda Item #9- Fox Mountain Solar Panel Replacement



# Fox Mountain Solar Panel Replacement

- Fox Mountain Solar Panel Replacement
  - Solar Array installed between 2006-2008. (15 years old)
    - First generation Solar panels had a life expectancy of 15-20 years.
    - These panels were first generation solar panels, and are effectively operating below 30% of expected power output.
  - The Solar Array at Fox operates at a 30% decrease in power output, and will not be able to sustain current system load soon. Meaning it will not be able to carry the future P25 expected loads.
- Solar technology has changed since this install
  - Average Solar Panel now last 25-30 years
  - Older generation Solar arrays yielded 125Amps per panel, instead of newer panels that can yield 400Amps per panel
  - On Average (depending on manufacturer), the first 10 years solar panels decrease in efficiency by 10% and by 20% by reaching 25 years.





# Agenda Item #10- Power System Replacement



# Power System Replacement

- Grounding system remediation needed to accommodate new system
  - Snowflake Lodge
  - Marble Bluff to be included in RFP
  - Fox to be included in Solar
- Grounding practices have changed, and require upgrading to accommodate the design of new system.
- DC Power plants need to be replaced and upgraded from 24VDC system with converters to new 48VDC system.
  - Marble Bluff
  - Mt Rose
  - Slide Mountain
  - Snowflake Lodge
- Cost ~ \$40K per site





# Questions?

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