Special Project Report - #2

California Highway Patrol

Wireless Mobile Video/Audio Recording System (WMVARS)

Special Project Report
2720-114
Wireless Mobile Video/Audio Recording System

3.0 Proposed Project Change

The Wireless Mobile Video/Audio Recording System (WMVARS) project is seeking to increase one-time project costs, rebaseline the project schedule, and modify future maintenance and operations costs. The proposed changes are in support of the Department's need to procure, integrate, and deploy Body-Worn Cameras (BWC) statewide as part of the existing WMVARS project. The Department is currently requesting a budget augmentation to support the statewide BWC effort; however, should funding be denied, a rebaseline is still needed to bring the WMVARS in-car implementation schedule and costs in alignment with current plans.

The WMVARS project, currently in progress, provides the foundation on which the BWC implementation is dependent. The WMVARS Project Team successfully completed system and pilot testing, and deployment is complete. All identified patrol vehicles have been outfitted with a WMVARS as of November 2022, and all new patrol vehicles will be WMVARS ready.

The BWC implementation includes the procurement, testing, and deployment of BWC hardware components. Since the Department is anticipating BWC video uploads to at least double current WMVARS videos, the project will also address information technology (IT) infrastructure upgrades needed for a successful BWC implementation.

It is estimated the WMVARS BWC implementation will take approximately three years. Official procurement and project activities will commence once additional funding is approved via the Budget Act of 2023. Configuration, testing, network/infrastructure upgrades, and preparing units for the field will take place during the first two years. Actual deployment to the field is expected to take one year with completion by June of 2026.

The California Highway Patrol (CHP) estimates the overall cost of the WMVARS project, including in-car and BWC, to be $162 million. Of the $162 million, $81.8 million was already approved via WMVARS Special Project Report #1 and funding secured via the Budget Acts of 2018 and 2021. The Department is now seeking additional funds to support a WMVARS BWC expansion. As such, the Department submitted a fiscal year (FY) 2023/24 Budget Change Proposal (BCP) to the Department of Finance requesting an additional $24.7 million to support the $19.8 million one-time cost of implementation and the $4.9 million ongoing cost to support technical and business operational needs.

3.1 Project Background/Summary

A series of high-profile national events have created a growing public expectation for the use of BWCs by law enforcement agencies. Citing the need for increased transparency, public pressure for use of this technology has been increasing in recent years. Moreover, some media reports have attributed positive police contacts to the use of BWCs. Given the need for greater transparency and the role BWCs could play in promoting community relationships the CHP should adopt the use of BWCs.

In 2015, the Governor signed into law Senate Bill (SB) 85, Committee on Budget and Fiscal Review, Chapter 26, which authorized the CHP to conduct a pilot study to evaluate the use of BWCs. Senate Bill 85 required the pilot study to examine, among other things, the effectiveness of BWCs in consideration for future statewide deployment. The one-year pilot study began on November 1, 2016, and was extended by one year to further evaluate the effectiveness of BWC technology. Pursuant to Assembly Bill (AB) 93, Budget Act of 2015, the CHP was allocated $1 million to conduct the pilot study.

During the pilot study, the CHP deployed BWCs to two Area offices (Oakland and Stockton). The coordinators at both Area offices reported their workload doubled with the addition of BWCs. The coordinators were responsible for hardware and software maintenance, personnel training, equipment inventory, and evidence management.

Uniformed personnel in the Oakland and Stockton Areas were provided a BWC to be used in addition to an existing in-car camera. However, due to the age of the Department's in-car camera system at the time the BWC pilot program began, the BWCs could not be integrated with the in-car camera system. The BWCs that would be purchased with funding from this proposal will integrate with the CHP's current in-car camera system.

The majority of enforcement contacts made by members of the CHP involve vehicles, which are recorded by the in-car camera system. The pre-stop observations, captured by using an in-car camera system, are invaluable in providing transparency and documenting the circumstances and events leading up to enforcement contacts. However, the use of BWCs provides an additional view of an employee's contact with the public, which is not always captured with an in-car camera system alone. The contacts recorded with both in-car cameras and BWCs not only increase public trust and transparency, but also provide a tool for supervisors to monitor the interactions between officers and members of the public, enhancing accountability. The CHP continues to strive for increased accountability, transparency, and improved community relations.

The CHP has utilized DVD based, in-car camera systems since 2009. The in-car camera systems have been useful to collect evidence in criminal cases, as well as, investigating allegations of employee misconduct. In preparation to replace the aging in-car camera system, the CHP evaluated wireless in-car camera technology and subsequently received funding for a replacement in-car camera system, with the option to integrate BWCs, beginning in FY 2018/19. In June 2019, the Department of General Services (DGS) awarded the new WMVARS contract to Safe Fleet (formerly Coban Technologies Inc.). The CHP has recently completed its installation of WMVARS in patrol vehicles statewide. Previously, due to logistical concerns, costs, and the rapid evolution of technology, the addition of BWCs presented a significant challenge to the Department. However, with the addition of WMVARS, the Department has the opportunity to integrate BWCs as part of the new system.

3.2 Project Status

Overall, the WMVARS project health is green. The project is progressing as planned. The in-car rollout is on track to be complete in November 2022 and a BWC pilot rollout is expected to be complete in January 2023. The below table summarizes major project milestones for WMVARS, current start and end dates, as well as current status. Additional detail is in the monthly Project Status Report submitted to the Department of Technology (CDT).

Milestone	Start Date	End Date	Status
PAL Stage 1 and 2		11/01/17	CDT approved
PAL Stage 3		05/03/19	CDT approved
PAL Stage 4		09/30/19	CDT approved
Project Kickoff	09/23/19	09/25/19	Complete
Prerequisites	06/24/19	12/13/19	Complete
Hardware Configuration	10/10/19	09/11/20	Complete
Software Configuration	01/06/20	01/31/20	Complete
Test Readiness Review	02/03/20	04/24/20	Complete
Safe Fleet– Active Directory Federated Services Integration	03/16/20	08/17/20	Complete
System Test – Part I	03/16/20	01/13/21	Complete
System Test – Part II	08/04/20	09/18/20	Complete
System Test Complete		09/18/20	Complete
Go/No Go Pilot	09/21/20	09/24/20	Complete
Pilot – East Sacramento	09/25/20	01/13/21	Complete
Pilot – Placerville	09/14/20	01/13/21	Complete
Rollout Phase 1 – Prewire/Retrofit Vehicles	10/01/20	08/30/22	Complete
Rollout Phase 2 – Division Training and Vehicle Installation	01/25/21	11/30/22	Complete
Final Verification	11/01/22	11/30/22	Complete
In-car Rollout Complete		11/30/22	Complete
BWC Pilot Go-Live	10/03/22	12/30/22	Started
BWC Pilot Complete		01/31/23	Not complete
BWC Statewide Implementation Kickoff	11/06/23	11/10/23	Not started
BWC Configuration Complete		02/02/24	Not complete
BWC Test Complete		06/28/24	Not complete
BWC Go/No Go – Phase 1 Rollout	01/03/25	01/10/25	Not started
BWC Go-Live - Phase 1 Rollout	01/13/25	04/04/25	Not started
BWC Phase 1 Rollout Complete		04/14/25	Not complete

Milestone	Start Date	End Date	Status
BWC Go/No Go – Phase 2 Rollout	01/05/26	01/09/26	Not started
BWC Go-Live – Phase 2 Rollout	01/12/26	03/27/26	Not started
BWC Phase 2 Rollout Complete		04/10/26	Not complete
BWC Rollout Complete		06/30/26	Not complete

3.3 Reason for Proposed Change

The Department is seeking to:

- Expand BWC functionality statewide.
- Enhance departmental transparency and accountability.
- Improve community relations.

All identified patrol vehicles have been outfitted with the new WMVARS and fully capable of integrating BWCs. The Department is now positioned to support a WMVARS BWC implementation, assuming BCP funding is available to support the one-time and ongoing operational costs beginning FY 2023/24.

3.4 Proposed Project Change

3.4.1 Accessibility

Not applicable.

3.4.2 Impact of Proposed Change on the Project

Scope

The change in scope includes the following:

- Procurement of BWCs for all uniformed personnel.
- Patrol vehicle retrofit/installation of BWC hardware, as required.
- Configuration, testing, and piloting of WMVARS with integrated BWCs.
- Body-worn camera training for impacted personnel.
- Information technology infrastructure upgrades at identified sites to support the increase in video file loads.

Cost Breakdown

The overall estimated cost to extend the WMVARS project and fully implement BWCs statewide is $162 million.

PROJECT COSTS BY FISCAL YEAR	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/34	FY 24/25	FY 25/26	FY 26/27	Total
Planning Costs (One-Time)	$ 552,193	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 552,193
Project Costs (One-Time)	$ 3,507,346	$ 21,707,122	$ 17,786,360	$ 2,575,448	$ 2,124,420	$ 12,772,530	$ 12,873,530	$ 7,982,001	$ -	$ 81,328,756
Future Operations IT Staff & OE&E Costs (Continuing)	$ -	$ -	$ -	$12,498,300	$ 12,498,300	$ 12,498,300	$ 12,498,300	$ 12,498,300	$17,694,220	$ 80,185,720
TOTAL PROJECT COSTS:	$ 4,059,538	$ 21,707,122	$ 17,786,360	$15,073,748	$ 14,622,720	$ 25,270,830	$ 25,371,830	$ 20,480,301	$17,694,220	$ 162,066,669

Note: The FY breakdown aligns with the costs reported in the Financial Analysis Worksheet (FAW), Alt-1 Project and Alt 1-Future Ops tabs. The totals reflect the amounts reported in the Executive Cost Summary tab.

The screenshots below provide a financial comparison between the approved January 2021 WMVARS Special Project Report (SPR) and this SPR with BWC included. The actual tables are in the FAW.

Planning and One-Time Costs

	PAL	SPR 01 2021	CURRENT	VARIANCE	%	SPR2 09 2022 Comments
Project Costs (One-Time)						
Staff (Salaries & Benefits)	**$ 7,502,577**	**$ 7,502,520**	**$ 20,122,672**	**$ 12,620,151**	**168%**	Realigned redirected staff resources based on usage to date. Added resources to support BWC implementation.
Staff Operating Expense and Equipment (OE&E) Rollup	**$ 345,725**	**$ 369,725**	**$ 1,136,224**	**$ 766,499**	**222%**	Extended already approved WMVARS resources to align with BWC implementation. Added new BWC resources.
Consulting & Professional Services (Prof. Svc.): Interdepartmental (Interdept.)	**$ 1,435,049**	**$ 1,503,222**	**$ 2,260,415**	**$ 757,193**	**53%**	
California Department of Technology (CDT) - Project Approvals and Oversight	$ 916,540	$ 916,540	$ 631,337	**$ (285,204)**	-31%	CDT asked that the project budget for one full time resource. Updated based on actuals.
CDT - OSPD Statewide Technology Procurement	$ 2,500	$ 2,500	$ -	**$ (2,500)**	-100%	Updated based on actuals. DGS completed COBAN statewide contract.
Department of General Services (DGS) Procurements	$ 516,009	$ 584,182	$ 609,078	**$ 24,896**	5%	Tied to COBAN procurement.
Public Safety Communications Office	$ -	$ -	$ 1,020,000			Added to support BWC implementation.
Consulting & Prof. Svc.: External	**$ 2,006,800**	**$ 1,176,040**	**$ 1,371,270**	**$ 195,230**	**10%**	
Proof of Concept (POC) - Facility Configuration	$ 10,000	$ 10,000	$ -	**$ (10,000)**	-100%	Updated based on actuals.
Independent Validation and Verification (IV&V)	$ 750,000	$ 747,740	$ 747,770	**$ 30**	0%	Corrected based on actual contract amount.
Vendor Installation and Configuration (Appliance)	$ 487,500	$ 130,000	$ 130,000	**$ -**	0%	
Vendor Training	$ 58,500	$ 58,500	$ 58,500	**$ -**	0%	
Off-Hours Services	$ 5,400	$ 1,800	$ -	**$ (1,800)**	-33%	
On-Premise Appliance Support	$ 695,400	$ 228,000	$ 228,000	**$ -**	0%	
Primary Vendor - Professional Services	$ -	$ -	$ 207,000			Added to support BWC implementation.
Information Technology	**$ 37,061,469**	**$ 44,502,481**	**$ 56,990,368**	**$ 12,487,887**	**34%**	
POC: Servers (2 at cost to vendor)	$ 80,000	$ 80,000	$ 50,520	**$ (29,480)**	-37%	Updated based on actuals.
Wireless Mobile Video Audio Recording System (WMVARS) Hardware (including taxes)	$ 14,007,772	$ 18,398,411	$ 30,434,135	**$ 12,035,724**	86%	Updated to align with CR #4 BWC pilot and new hardware to support BWC implementation.
Software	$ 1,884,800	$ 1,333,000	$ 1,333,000	**$ -**	0%	
On-Premise Appliance (including taxes)	$ 3,099,375	$ 824,030	$ 822,890	**$ (1,140)**	0%	
Cloud Storage	$ 12,403,200	$ 8,772,000	$ 8,772,000	**$ -**	0%	
Telecommunication	$ 5,586,322	$ 9,095,040	$ 9,032,347	**$ (62,693)**	-1%	Updated based on actuals.
Unanticipated IT Costs (Hardware, Software, Telecommunication)	$ -	$ 6,000,000	$ 3,476	**$ (5,996,524)**		Reduced to account for unexpended funds.
Network and Infrastructure	$ -	$ -	$ 5,750,000	**$ 5,750,000**		Added to support BWC implementation.
Public Records Unit (PRU) Redaction Software	$ -	$ -	$ 792,000	**$ 792,000**		
Misc. OE&E Rollup (Departmental Services; Central Administrative Services; Office	$ -	$ -	$ -	**$ -**		
Total Project Costs (One-Time):	**$ 48,351,620**	**$ 55,053,989**	**$ 81,880,949**	**$ 26,826,960**	**55%**	

Ongoing Costs

	PAL	SPR 01 2021	CURRENT	VARIANCE	%	SPR2 09 2022 Comments
Future Ops. IT Staff & OE&E Costs (Continuing)						
Staff (Salaries & Benefits)	**$ 1,445,169**	**$ 1,620,449**	**$ 1,620,449**	**$ -**	**0%**	
Staff OE&E Rollup	**$ 96,000**	**$ 108,000**	**$ 207,000**	**$ 99,000**	**103%**	Added to align with request for new BWC staff resources.
Consulting & Prof. Svc.: Interdept.	**$ 262,151**	**$ 308,600**	**$ 962,271**	**$ 653,671**	**249%**	
DGS Procurements	$ 262,151	$ 308,600	$ 962,271	**$ 653,671**	**249%**	Tied to COBAN procurement.
Consulting & Prof. Svc.: External	**$ 858,600**	**$ 228,000**	**$ 846,800**	**$ 618,800**	**72%**	
Off-Hours Services	$ 3,600	$ -	$ -	**$ -**	**0%**	
On-Premise Appliance Support	$ 855,000	$ 228,000	$ 820,800	**$ 592,800**	**69%**	Increased number of appliances by four. Extended length of M&O.
Vendor Installation and Configuration of Appliance	$ -	$ -	$ 26,000			Procured four additional spare servers in case of emergency.
Information Technology	**$ 18,560,000**	**$ 24,460,000**	**$ 76,549,200**	**$ 52,089,200**	**281%**	
Hardware	$ 700,000	$ 4,071,369	$ 15,132,107	**$ 11,060,738**	**1580%**	Added more hardware to support BWC implementation. Extended length of M&O.
Software	$ 2,356,000	$ 2,356,000	$ 7,068,000	**$ 4,712,000**	**200%**	Extended length of M&O.
Cloud Storage	$ 15,504,000	$ 15,504,000	$ 46,512,000	**$ 31,008,000**	**200%**	Extended length of M&O.
Telecommunication (Antenna)	$ -	$ 1,800,000	$ 5,400,000	**$ 3,600,000**		Extended length of M&O.
Unanticipated IT Costs (Hardware, Software, Telecommunication)	$ -	$ 728,631	$ 1,858,553	**$ 1,129,922**		Extended length of M&O.
On-Premise Appliance (including taxes)	$ -	$ -	$ 164,540			Procured four additional spare servers in case of emergency.
Network and Infrastructure			$ 150,000			Added to support BWC implementation.
Public Records Unit Redaction Software			$ 264,000			Added to support BWC implementation, specifically for new PRU staff resources.
Total Future Operations IT Staff & OE&E (Continuing):	**$ 21,221,920**	**$ 26,725,049**	**$ 80,185,720**	**$ 53,460,671**	**252%**	

Schedule

Proposed Body-Worn Camera Timeline

The following table lists major project milestones and tasks, as well as estimated start and end dates.

It is estimated the BWC implementation will take approximately three years. Official procurement and project activities will commence once additional funding is approved via the Budget Act of 2023. Configuration, testing, network/infrastructure upgrades, and preparing units for the field will take place

during the first two years. Actual deployment to the field is expected to take one year with completion by June of 2026.

Milestone	Start Date	End Date	Status
BWC Pilot Rollout	10/03/22	12/30/22	Started
BWC Pilot Complete		01/31/23	Not complete
BWC Statewide Implementation Kickoff	11/06/23	11/10/23	Not started
BWC Configuration Complete		02/02/24	Not complete
BWC Test Complete		06/28/24	Not complete
BWC Go/No Go – Phase 1 Rollout	01/03/25	01/10/25	Not started
BWC Go-Live - Phase 1 Rollout	01/13/25	04/04/25	Not started
BWC Phase 1 Rollout Complete		04/14/25	Not complete
BWC Go/No Go – Phase 2 Rollout	01/05/26	01/09/26	Not started
BWC Go-Live – Phase 2 Rollout	01/12/26	03/27/26	Not started
BWC Phase 2 Rollout Complete		04/10/26	Not complete
BWC Rollout Complete		06/30/26	Not complete

3.4.3 Feasible Alternatives Considered

No other alternatives have been considered.

3.4.4 Implementation Plan

In general, the WVMARS BWC implementation will follow the same approach as that used with the initial WMVARS in-car implementation.

Vehicle System Installation and Training

The CHP will have the opportunity to physically see the WMVARS unit fully integrated with the BWC, including associated components such as mounting brackets and cables. The CHP will have the opportunity to discuss modifications that may be required. An evaluation of the physical unit shall drive detailed technical discussions and the requirements for the final BWC build.

The systems must be functional from the standpoint the WMVARS and integrated BWC units shall be installed in the vehicle per CHP requirements and able to capture and store test data in the designated CHP digital evidence repository.

With vendor assistance, CHP shall be responsible for all hardware installation within the vehicle. The vendor shall be responsible for initial configuration of BWC hardware and software components, and to provide configuration training for identified CHP staff.

The vehicles shall be installed with required BWC components and distributed to the following teams:

1. Telecommunications Section – System testing and Public Safety Communications testing (as needed).
2. Research and Planning Section (RPS).

As part of the BWC pilot implementation, the CHP has validated current BWC hardware and software components and deployed to the field. Safe Fleet is expected to release a new wireless BWC docking feature that CHP plans to test as part of normal maintenance and operations once available. The new

feature will require a hardware and software change, but it will significantly simplify the statewide deployment. The wired vehicle docking station will be replaced with an antenna and new software firmware update to support the wireless syncing feature.

Configuration and System Test

In conjunction with vehicle system installation and training or shortly thereafter, the vendor shall meet with CHP staff to capture BWC hardware and software configuration requirements and configure systems per CHP requirements. The vendor shall provide CHP with final configuration documentation.

Upon final configuration, the previously built vehicles will be used for system testing. The System Test will consist of executing all defined BWC test cases and ensure the overall system meets or exceeds CHP requirements and quality standards.

As part of current maintenance and operations, preliminary BWC wireless configuration validation and testing will be conducted. As part of the statewide implementation, the project will conduct another system test to reconfirm previous tests pass CHP quality standards and the solution is ready to be deployed on a larger scale.

Network and Infrastructure

With the expansion of BWCs, video footage is expected to at least double the current volume of WMVARS camera footage. As a result, the CHP will be focusing on network and infrastructure upgrades to mitigate potential bandwidth issues when uploading or downloading video files to/from the digital evidence repository. The CHP has created a BWC – Network Bandwidth Preparedness Plan that recommends solutions for low bandwidth sites and will include options for improving overall infrastructure to support the additional network traffic expected across all sites.

The upgrades are expected to be implemented in two phases over the course of 2 1/2 years. Approximately five staff resources will be assigned and redirected to complete an average of two sites per person per month. Specific sites to be completed within each phase will be evaluated and planned according to the BWC deployment schedule.

Phase	Target Implementation Dates
1	07/01/2023 – 12/31/2024
2	07/01/2024 – 12/31/2025

For each low bandwidth site, the following high-level tasks will be performed:

- Review current physical elements of site location (e.g., network hardware, cabling, circuits, power, asbestos).
- Plan upgrade steps.
- Procure hardware.
- Inspect, configure, and ship hardware to site.
- Review and improve site infrastructure (e.g., cabling, power, asbestos abatement).
- Complete circuit analysis.
- Coordinate and install equipment.
- Retool all network monitoring systems to monitor new environment.

In parallel with the above tasks, all sites will be evaluated to ensure proper installation of BWC docking stations. The following high-level tasks will be performed:

- Inspect site.
- Order wiring.
- Coordinate wiring installation with vendor and site.
- Connect to network.

Go/No Go – Statewide Rollout

A formal meeting will be held with the project's Executive Steering Committee (ESC). The purpose of this meeting will be to review overall production readiness, including site readiness, BWC testing activities, end user training readiness, and discuss any outstanding issues with CHP Executive Management and the Project Owners. The goal is to acknowledge the solution has met CHP requirements and quality standards required for production deployment and to obtain agreement statewide rollout activities may commence.

Deployment Schedule

Division	Division	Phase	Position Count	Positions Filled	Training and Statewide Rollout
HQ	Headquarters	1	708	622	01/13/25 – 3/14/25
201	Valley Division	1	895	756	01/13/25 – 3/14/25
301	Golden Gate Division	1	1,166	1,006	01/13/25 – 3/14/25
501	Southern Division	1	1,207	1,079	01/13/25 – 3/14/25
101	Northern Division	2	529	487	01/12/26 – 03/13/26
401	Central Division	2	845	754	01/12/26 – 03/13/26
601	Border Division	2	1,032	904	01/12/26 – 03/13/26
701	Coastal Division	2	583	492	01/12/26 – 03/13/26
801	Inland Division	2	666	599	01/12/26 – 03/13/26
	Total		7,631*	6,699**	

*Total number of uniformed positions as of August 2022.

**Total number of active uniformed personnel as of August 2022. Actual number to be deployed will fluctuate as it is based on filled positions at time of deployment.

Training is similar to the WMVARS training, the RPS will be responsible for planning and conducting train-the-trainer training sessions by Division. Each Area will be responsible for field training.

In addition to Project Team representatives from RPS, the following Area representatives are expected to be in attendance:

- Mobile Video and Audio Recording System/WMVARS officers and back-ups.
- Automotive Technicians.
- Any other designees identified by the Area.

Training will consist of:

- Policy and procedures.
- System operation.
- Application functions.
- Program responsibilities.

Deployment/Installation

The BWC integration may require the mounting of a BWC dock inside the patrol vehicle and running a cable from the BWC dock to the WMVARS equipment in the trunk. It is not yet certain if such retrofitting will be required as new wireless BWC technology is expected to be released by the vendor in 2022/23. However, some level of installation will be required for WMVARS patrol vehicles. Any vehicle retrofitting or installation is expected to be completed by existing departmental personnel.

Body-worn cameras will be distributed to each Area office based on position allocations and remain with the Area in the event of staff movement or transfer.

Upon completion of Area training and receipt of proper BWC equipment, uniformed personnel will be expected to go-live and begin utilizing the new equipment.

Technical Support

The vendor will continue to provide implementation support per CHP's existing contract. As discussed previously, implementation of BWC will follow the same approach as the WMVARS in-car deployment and vendor support will remain the same.

The existing twelve IT positions acquired from the WMVARS BCP will be sufficient to implement and support the WMVARS and BWC programs' IT needs. Staff will continue to support the project rollout, which includes support for WMVARS in-car cameras and BWCs. Specifically, staff will:

- Provide first and second level technical support to field personnel.
- Provide support for Area-level equipment orders and tracking of inventory, including returns and repairs.
- Support WMVARS and BWC operations and ensure compatibility with the CHP's Consolidated Patrol Vehicle Environment and Enforcement Vehicle.
- Support file uploads from Area offices statewide.
- Maintain proper acquisition and storage of the video/audio files at the Division offices (i.e., preserving chain of custody standards).
- Support extracting and storing data on removable media segments for review or to the server as evidence.
- Access video/audio data files from CHP sites, including HQ.
- Archive and purging data, as appropriate.
- Support data storage and server needs.
- Provide network security and network connectivity support.

Business Program Area Support

The proposed FY 2023/24 BCP also requests 11 permanent positions to ensure proper maintenance, support, and oversight of the BWC business program areas and compliance with statutory requirements to release redacted BWC video as part of the California Public Records Act. The cost of these additional resources and associated software subscription licenses for a video/audio redaction tool has been added to the FAW.

Research and Planning Section:

The CHP RPS Special Operations Unit is the office of primary interest and subject matter experts on BWCs. The RPS has statewide oversight of the BWC program and is responsible for the following:

- Conducting statewide training on the practical use of BWCs.
- Conducting statewide coordinator training.
- Reviewing and analyzing all legislation proposed at the state and Federal levels pertaining to the use of BWCs and the effect of legislation on current departmental policies and procedures.
- Generating and disseminating policies and procedures on the practical use of BWCs.

The implementation of a statewide BWC program will exponentially increase the amount of audio and video files created by the CHP (at a minimum it would double the amount of video created for each incident.) The importance of dedicating a full-time employee to assist in overseeing such an influx of video evidence, along with the potential inquiries and issues that may arise when each uniformed employee is issued a BWC for use in the field, cannot be understated.

To continue a foundation of transparency regarding law enforcement actions, implementing a statewide BWC program is necessary. As such, the Department believes the addition of one staff resource will help ensure all its goals are met, while assisting headquarters and field personnel by providing them the proper training and guidance needed for a successful BWC deployment statewide.

Office of Risk Management:

In 2020 (the most recent data publicly available), the Los Angeles Police Department (LAPD) made approximately 521,426 contacts that were reported to the California Department of Justice's Racial Identity Profiling Act (RIPA) Board. During that same time period, the CHP made 1,696,390 contacts that were reported to the RIPA Board. In 2021, the LAPD released 67 videos to the public, which only included the following categories:

- Officer involved shootings with hits.
- Officer involved shootings with no hits.
- Officer involved animal shootings.
- Tactical unintentional discharges.
- Nontactical unintentional discharges.
- Law enforcement related injuries.
- In-custody deaths.
- Categorical use of force incidents.

The amount of BWC video footage released to the public by the LAPD in 2021 is significantly less than the volume of video the CHP will be responsible for processing once BWCs are implemented statewide. Generally, the LAPD only releases BWC footage pursuant to SB 1421 and AB 748 requests, whereas the CHP also releases WMVARS footage (statewide) and BWC footage (Oakland and Stockton Area offices) for public records requests. Unfortunately, the Department is already struggling to keep pace with the current number of requests received, and each year the volume of requests continues to increase.

As the public continues to ask for more transparency regarding law enforcement actions, it is expected information disclosure requests will also increase. With the addition of BWCs, the Department will have additional records to collect, review, redact, and release. As such, the Department believes adding staff will help ensure all legal obligations are met, while assisting the public by providing responsive records in a timely manner.

To continue to meet the departmental goal of implementing a statewide BWC program, the Department proposes adding 11 total positions to address the increased workload of creating and maintaining a statewide BWC program.

4.0 Project Management Plan

An updated Project Management Plan (PMP) will be provided once the Department receives project funding approval for its BWC implementation.

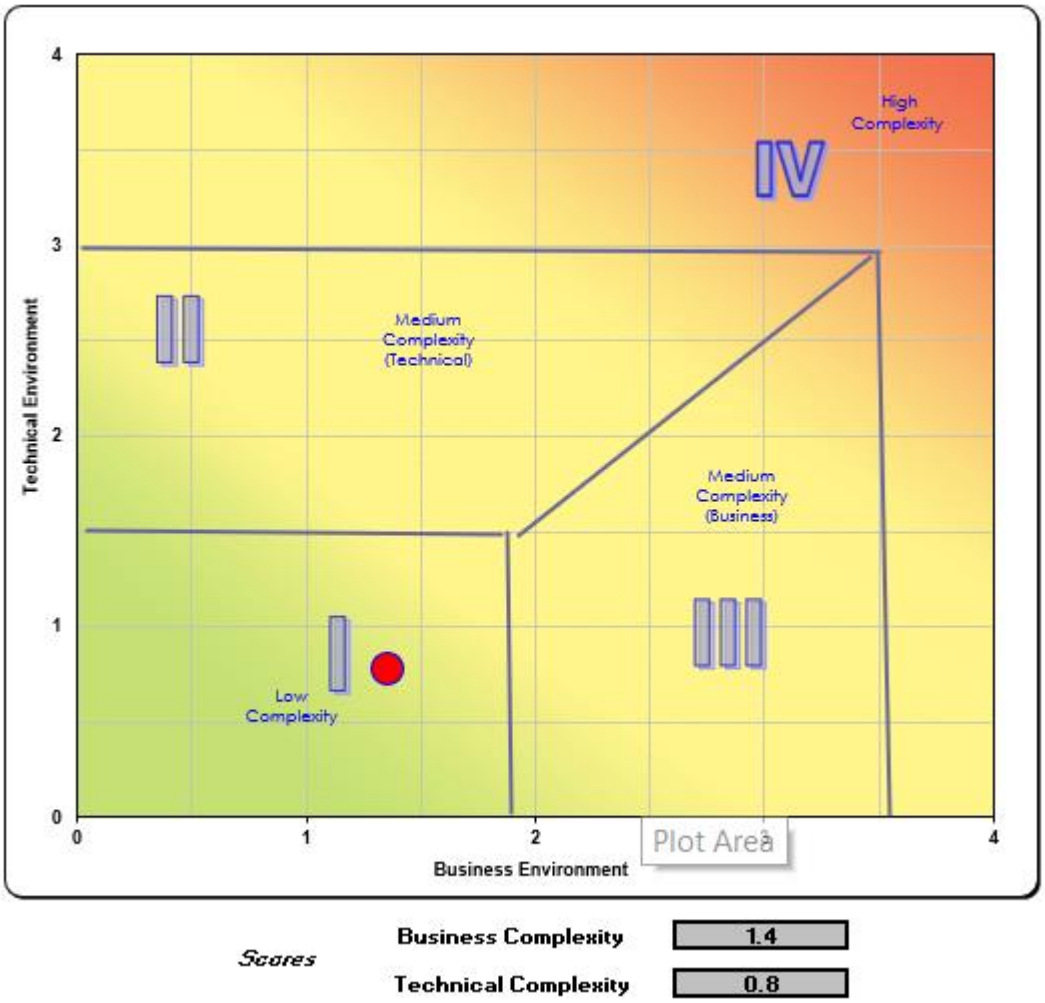
It is expected the following sections within the PMP will change:

- Introduction and Approach – Update to include the addition of BWC.
- Implementation Management – Update to include high-level plan for testing and deploying BWCs statewide.
- Resource Management Plan – Update project staffing estimates based on anticipated effort and proposed project schedule.

4.1 Project Manager Qualifications

The project has reduced its Complexity Assessment to "Low" with the BWC statewide implementation. With a Technical Complexity score of .8 and a Business Complexity score of 1.4, this project falls in Zone I. Refer to Figure 1, below.

Figure 1 – WMVARS Project Complexity Assessment



Below is a summary of the skills and level of project management experience required to successfully manage this project. The Department has assigned a State Project Manager (PM) and a State Technical PM to work collaboratively with Safe Fleet for the duration of the project. Both PMs are classified as an Information Technology Manager I and possess the skills and experience necessary for the project. As the project transitions to the BWC statewide implementation portion of the project, an IT Specialist II will be assigned as the state PM. The identified PM has over 20 years of project management experience, six years with the State of California, and is a Project Management Institute certified Project Management Professional.

Skills Required

- Project Management Methodology – The proven ability to apply a widely accepted project management methodology (such as the methodology defined by the Project Management Institute) to a large-scale project.
- Communication Skills – Superior written and oral communication skills.
- Attention to Detail – The proven ability to track issues, risks, and changes to projects, and to document each.
- Presentations – The proven ability to make executive-level presentations.
- Information Technology – The proven ability to lead IT projects.

Experience

- Project Management Experience – Experience as the PM of IT projects of a similar size is required. Size is measured by the following numbers:

Users:	Thousands
Locations Installed:	More than 100

- Quantity of Experience – Project management experience must be proven over at least three large-scale projects.
- State Environment – Proven success managing projects in the state IT sector.

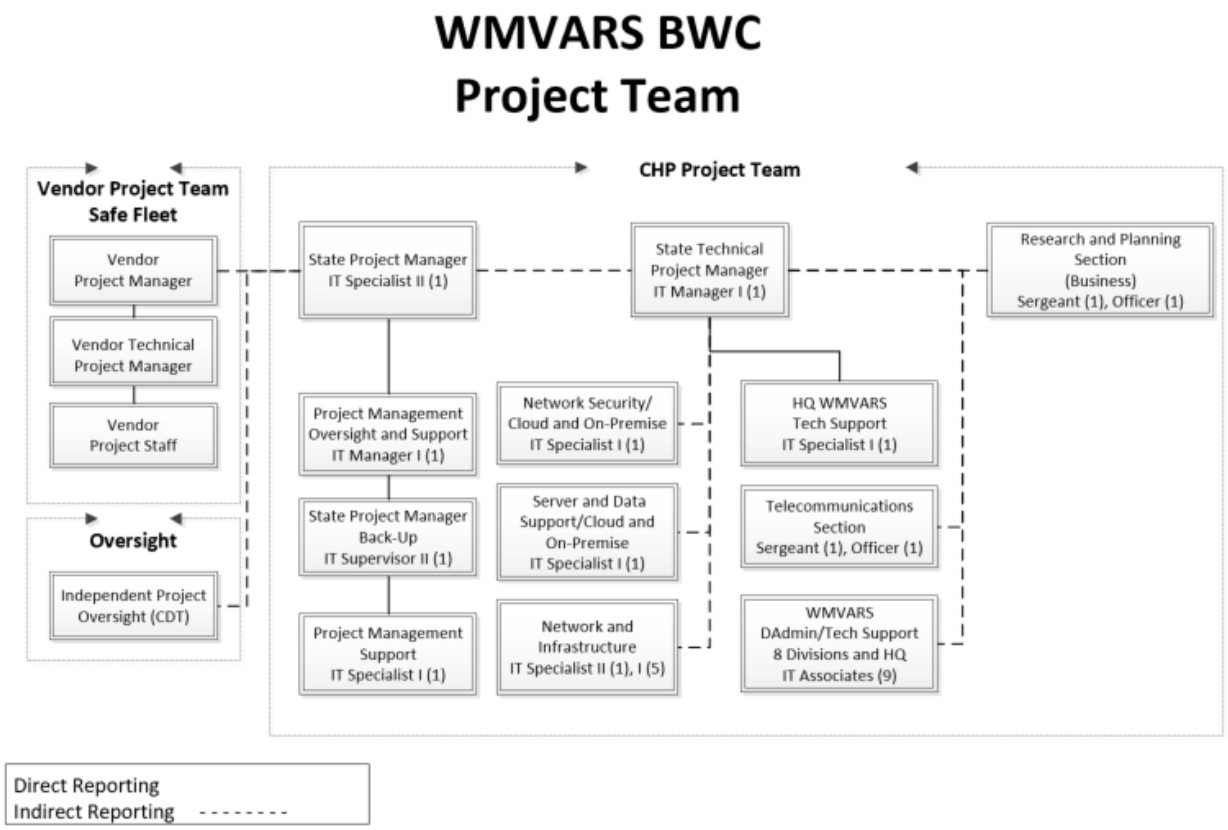
4.2 Project Management Methodology

The addition of BWC does not impact the project's project management methodology; the project will continue to be managed according to the California Project Management Framework and the defined WVMARS PMP.

4.3 Project Organization

The following Project Team changes are expected with the BWC statewide Implementation:

- Project Manager change to IT Specialist II.
- Independent Verification & Validation (IV&V) removed.
- Fleet Operations removed.
- Network and infrastructure IT Specialists added.



4.4 Project Priorities

No change.

4.5 Project Plan

4.5.1 Project Scope

The project will replace the CHP's legacy in-car DVD-based video and audio recording system with a new wireless cloud-hosted solution. The solution will be extended to include an integrated WMVARS BWC.

The BWC scope includes the following:

- Procurement of BWCs for all uniformed personnel.
- Patrol vehicle retrofit/installation of BWC hardware, as required.
- Configuration, testing, and piloting of WMVARS with integrated BWCs.
- Body-worn camera training for impacted personnel.
- Information technology network and infrastructure upgrades at identified sites to support the increase in video file uploads.

4.5.2 Project Assumptions

The following are the critical assumptions for this project:

Assumptions	Descriptions
Strong management engagement	California Highway Patrol senior management will actively support the direction and effort.
Proven methodologies	The project will use the California Project Management Framework and the CHP Project Management Framework.
Strong user adoption	Users will accept the system when the acceptance test proves the system meets the requirements.
Subject Matter Expert availability	Resources will be allocated to the project when required.
Project Team empowerment	Project Team members with conflicting operational responsibilities will have a way to resolve conflicting time frames between an operational issue and project deliverable deadlines.
BWC BCP approval	The statewide implementation of BWCs assumes funding is secured.
BWC X2 availability and design	The proposed master project schedule is dependent on X2 wireless product availability and assumes no major challenges with the new system design.
Hardware supply chain disruptions	The proposed master project schedule does not account for major supply chain delays.
Project delegation approval	The project assumes the Department's delegation request is approved, and IV&V services will not be required for the statewide BWC implementation.

4.5.3 Project Phasing

The WMVARS BWC rollout will be addressed in two phases. Refer to section 3.4.4, Deployment Schedule.

4.5.4 Project Roles and Responsibilities

No change.

The following is a list of general roles and responsibilities for the project. Additional responsibilities may be called out separately in the various subsidiary PMPs.

Role	Responsibility
ESC Member	Provide project-level governance, assist in resolving issues beyond PM's authority, provide recommendations on or approve change requests (CR)s, and participate in internal stage gate reviews. (Committee may also include PMs and sponsors from outside agencies/state entities.)
Project Sponsor	Provide either business or IT project sponsorship; support the need and justify business value; and ensure business resources are made available to support objectives.
Business Owner	Own the business processes being impacted, provide input into the project objectives and scope of work, and ensure business resources are made available to support objectives.
State PM	Lead the team responsible for achieving the project objectives and ensure project is managed according to state and departmental policies and procedures. Oversee the project at a high-level working closely with the CHP Technical PM and the Vendor PM.
State Technical PM	Oversee and manage the day-to-day tasks associated with project implementation; and work closely with the Project Team, CHP PM, Vendor PM, and assigned solution and implementation consultants.
Project Team Member	Support the PM by performing the work needed to achieve its objectives (i.e., business and technical).
Procurement and Project Management Oversight	Provide guidance on IT project management practice, ensure project follows established policies and procedures, and liaise with control agencies as required. Provide project engagement oversight, review and approve engagement activity and invoice payments, and ensure engagement hours and statement of work (SOW) deliverables and requirements are satisfactorily met.
Vendor/Contractor	Complete deliverables per the SOW.
Vendor PM	Lead the vendor team responsible for completing project tasks and ensure project is managed effectively. Oversee the project at a high-level working closely with the CHP project management team.
Vendor Technical PM	Oversee and manage the day-to-day tasks associated with project implementation and work closely with the Project Team and both the vendor's and CHP's project management teams.

Role	Responsibility
IV&V Team	Perform a granular level of oversight; and review CHP and vendor plans and processes to ensure the WMVARS solution meets the requirements, specifications, and project objectives. Collaborate with the State PM for required project documentation and reports.
CDT Independent Project Oversight (IPO)	Responsible for approval and oversight of IT projects, including the establishment and enforcement of IT policies and procedures. Provide "an independent review and analysis to determine if the project is on track to be completed within the estimated schedule and cost and will provide the functionality required by the sponsoring business entity. Project oversight identifies and quantifies any issues and risks affecting these project components."

4.5.5 Project Schedule

Refer to section 3.4.2, Impact of Proposed Change on the Project.

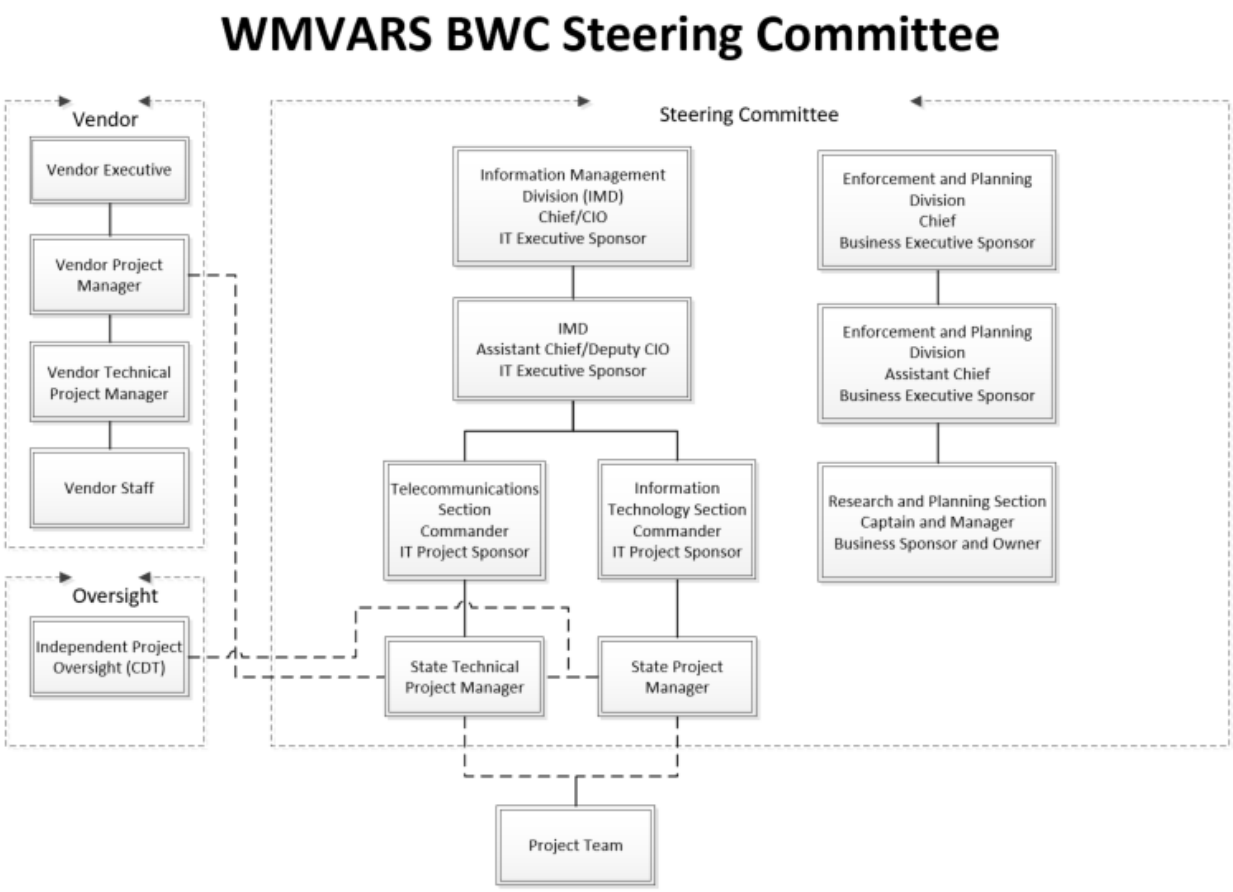
4.6 Project Monitoring and Oversight

The project is subject to IV&V, currently being performed by Gartner, and IPO, performed by CDT. A Project Oversight kick-off meeting was held on December 6, 2019. In addition to Project Team meetings, the State Project Management team meets regularly with both IV&V and CDT IPO to discuss and review IV&V Task Reports, IPO Reports, overall project health, and risks and issues.

Per state policy requirements, IV&V services are required for the life of a reportable project unless otherwise stated by CDT. Due to the change in project complexity from "medium" to "low", the CHP is submitting a Project Delegation Request along with the Special Project Report and anticipates IV&V will be waived. The CHP did not plan (scope, cost, schedule) on continuing IV&V services for the WMVARS BWC statewide implementation. However, should CDT require CHP to acquire IV&V services for the BWC statewide implementation, the project will contract out for these services.

The project governance structure is expected to change with the BWC statewide implementation. The following Executive Steering Committee changes are expected:

- Independent Verification and Validation removed.
- Fleet Operations removed.



No changes are expected to the following, which is also documented in section 4.8, Governance Management, Project Monitoring in the PMP.

Project Management Controls

Project Management Controls are checkpoints to ensure expectations are in alignment and there is agreement before proceeding to the next phase of the process.

There are five phases to the project management lifecycle (PMLC): 1) Concept, 2) Initiating, 3) Planning, 4) Executing, and 5) Closing. During each phase there are tasks/activities and deliverables being produced. In general, the checkpoint is to ensure tasks have been completed, the budget and schedule are validated, and project risks and issues are reviewed before fully engaging in the next phase of the project lifecycle.

Phase	PM Controls CDT Reportable	Purpose
Concept	• CHP 53, Request for Information Technology Services, IMD Project Approval	Acknowledge the request, agree there is a project need, and determine project priority.
Initiating	• Project Charter Review Approval • Stage 1 Business Analysis Review and Approval	Agree on objective, scope, and whether the project is worth the investment.

Phase	PM Controls CDT Reportable	Purpose
Planning	• Kick-off Meeting • Stage 2 Alternatives Analysis Review and Approval • Stage 3 Solution Development Part A Solicitation Prep Review and Approval • Stage 3 Solution Development Part B Solicitation Package Readiness Review and Approval • Stage 4 Project Readiness and Approval	Agree on what it will take to complete the project, verify the project is still worth the investment, and ensure all plans are in place and project is ready to move forward with execution activities.
Executing	• Go/No Go Decision • Change Control Board Review and Approval • Executing Phase Gate Review and Approval	Confirm the project is ready to move to a production environment.
Closing	• Post Implementation Evaluation Report Review and Approval	Review and confirm all activities related to the project have been completed, review lessons learned and benefits realization, and agree project can be closed.

Project Status Meetings

Status meetings are a project management tool to assist with monitoring the project. They allow project stakeholders the opportunity to discuss project goals, tasks, progress, risks, and issues. The various types of project meetings are to be outlined as part of the project Communication Management Plan within the PMP.

Project Reporting

Status reports are a project management tool to assist with communicating project status on a regular basis. They provide project stakeholders with enough information necessary to keep a pulse on the project. The various types of project reporting and communications are outlined as part of the project Communication Management Plan within the PMP.

4.7 Project Quality

No change to the following, which is also documented in section 4.13, Quality Management, in the PMP.

Process Quality

The project has the following processes built into the project's management processes to help drive quality throughout the project.

Phase	Process	Activity
All	Staff Acquisition	• Staff acquired has the necessary skill set for their role. • Staff acquired align with Resource Management Plan.
Initiating	PAL	• Completion of the PAL Stage Gate Deliverable (Stage 1). • Approval of the PAL Stage Gate.
Planning	Project Planning	• Completion of the PAL Stage Gate Deliverables (Stages 2-4). • The PMP meets applicable standards and is approved by appropriate Stakeholder(s).
Executing	Testing	• Full system functionality testing. • Two Field Tests: direct to cloud and on-premise locations.
Executing	Change Control Management	Go/No Go decision based on: • Number of outstanding critical defects. • Number and severity of open/unresolved defects.
Executing	Verification	• Verify all vehicles identified during Phase 1 have been prewired for WMVARs installation; if not, complete prewire. • Verify and validate Phase 2 vehicles have WMVARS components installed correctly. • Final verification and validation of all vehicles identified during Phase 1 and Phase 2, including any prewired new builds, have a fully functional WMVARS unit.

Process Measurement

The project will conduct the following reviews to assess process quality and identify defects.

Review Type	Review Goal	Deliverables/Artifacts	Responsibility	Timing
Project Review	Review of project management documentation and status reports to ensure project is moving forward as planned.	Project Management Planning Documents Issue Log Risk Register Change Request Log Project Management Office Status Reports	Project Oversight (CHP and CDT) IV&V	As needed.
Documentation Review	Review of the project's management plans and other project documentation to determine if the project's documentation standards are being followed.	Project Management Planning Documents Issue Log Risk Register Change Request Log	PM	When moving to a new project phase. When a risk related to one or more of the processes has been identified. As needed.
Managerial Review	Evaluate and determine the overall efficacy of project quality management. This includes both quality assurance (process quality) and quality control (product quality).	Defect reports Audit results CRs Quality Management Plan	Project Sponsor(s) PM	Quarterly.

Product Quality

The following table shows the product and product-related items that will be measured for quality throughout the project and the criteria by which they will be measured.

Product/Deliverable	Criteria
Requirements Specification	All business, functional, and nonfunctional requirement specifications adhere to the needs of the CHP. Reviews have been conducted through System Functionality Testing and the specification is deemed to be complete.
Recording Equipment	Equipment design specifications adhere to departmental standards. Reviews have been conducted by FOS, RPS, and ITS and are deemed to be complete. The Requirements Traceability Matrix (RTM) mapping from requirements to design components is complete and addresses all requirements. Further review will take place during the System Functionality Test phases.
Centralized Cloud-Based Evidence Management System	Technical and functional WMVARS requirements reviews have been conducted through System Functionality Testing and the Field Test is deemed to be complete.

Product Measurement

All products will be evaluated for quality. The project will conduct the following reviews to assess product quality and identify defects.

Review Type	Review Goal	Deliverables/ Artifact	Responsibility	Timing
System Requirements Specification Review	Checks the adequacy of the requirements. Verify/validate the requirements. Determine if any additional requirements.	RTM CR	PM Project Team Members RPS ITS	Upon initial submittal of the requirements. Upon initial submittal of the requirements.

Review Type	Review Goal	Deliverables/ Artifact	Responsibility	Timing
Architecture Design Review	Evaluate the technical adequacy of the preliminary design for the WMVARS components, sub-components, software, and services depicted in the preliminary design description.	RTM High-Level Design CR Quality Management Plan	PM IT Sponsor	Upon initial submittal of the preliminary design. Upon a change in the preliminary design baseline. When a risk related to the design has been identified. As needed.

Product Improvement

Project quality is the responsibility of every Project Team member; however, there are specific roles and responsibilities among various Stakeholders. Below are specific roles and essential responsibilities of various Stakeholders related to the project's quality management efforts.

Role	Responsibility
Executive Sponsor	• Set the tone and expectations for project and product quality. • Overall decision-making responsibility for Quality Management activities.
PM	• Oversee overall project quality management process and deliverables. • Ensure quality management activities are being conducted per the plan. • Develop and track project metrics. • Oversee vendor activities. • Promote quality culture.
Technical PM Representatives from: ITS RPS FOS TS	• Participate in quality definition activities. • Review major quality issues and approve or make recommendations to the Project Sponsor(s) and/or ESC. • Monitor and resolve quality issues that are escalated to them. • Promote quality culture. • Ensure adherence to process standards. • Ensure deliverables meet quality standards. • Participate in team-level quality reviews.

4.8 Change Management

No change to the following, which is also documented in section 4.2, Change Control Management, in the PMP.

The purpose of the Change Control Management Plan is to document how project changes are to be requested, assessed, approved, monitored, and controlled. This plan defines the Change Control Process (CCP) to standardize the procedures for efficient and prompt handling of all project CRs. A formal, repeatable process minimizes risk when introducing change to the project environment and helps preserve quality. The Change Control Management Plan defines the activities, roles, and responsibilities necessary to effectively and efficiently manage and coordinate the change process.

Approach and Change Control Governance

In the project, the project-Level Change Control Committee and the Project Team are one in the same. All CRs will be reviewed by the Project Team, which will include reviewing both technical and business impacts. If consensus cannot be reached, the request will be escalated to the commanders of the respective groups and/or the ESC to provide direction.

Change Control Process

Project Change Request

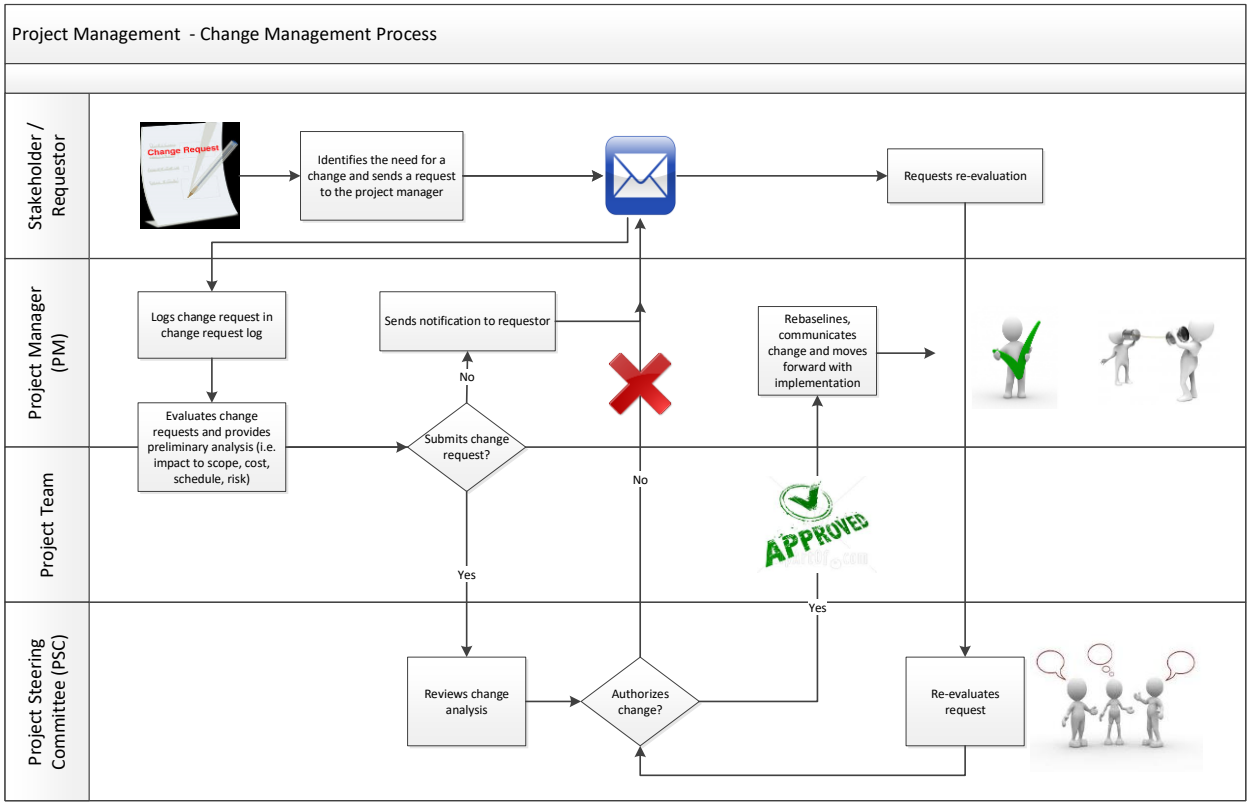
The following project change request process will be used for managing major and minor changes that impact scope, schedule, and/or budget:

Type of Change	General Description	Criteria	Reviewer	Approver	CR Required?
Major	Represents significant change in project scope, schedule, or budget.	Addition of a new requirement or expansion of an existing business requirement that has significant impact on scope, schedule, or cost.	ESC	CIO	Yes
		Schedule delay of more than 30 days or 10 percent delay to project end date.	ESC	CIO	Yes
		Requires additional funding of $100,000 or impact on total project budget is greater than 10 percent.	ESC	CIO	Yes
Minor	Routine change with little or no significant impact on project.	Schedule delay of less than 30 days or less than 10 percent impact to project end date.	Project Sponsors	PM	No

Type of Change	General Description	Criteria	Reviewer	Approver	CR Required?
		Impact on project budget is less than $100,000 or less than 10 percent of total project budget.	Project Sponsors	IT Project Sponsor	No

Change Request Initiation and Processing

The following process will be used for managing major changes that impact scope, schedule, and/or budget:



Step 1 Stakeholder/requestor identifies the need for a change and sends a CR to the PM via e-mail. The requestor must complete the "Change Request Submission Section" on Change Request Form (CRF).

Step 2 The PM logs the CR in the project Change Request Log.

Step 3 The PM adds the CR to the Project Team meeting agenda.

Step 4 Project Team or assigned individual evaluates the CR and completes the "Change Request Analysis Section" on the CRF.

Step 5 Project Team determines if the CR moves forward for approval.

Step 5a If it is determined a change will not move forward, the PM will notify the requestor and complete the "Change Request Closing Section" on the CRF (see step 6).

Step 5b If it is determined a change will continue to move forward, the PM will schedule a review meeting with the Project Sponsors and/or ESC.

Step 5c The PM will complete the "Change Request Approval Section" on the CRF and obtain signature from the Project Sponsor.

Step 5d If CR is approved, PM will rebaseline the project and notify the requestor and Project Team.

Step 5e Upon completion of the project or upon confirmation the change was implemented, the PM will complete the "Change Request Closing Section" on the CRF.

Step 6 If the Project Team, Project Sponsors, or ESC do not approve the change, the requestor may escalate and request a re-evaluation by the committee. The PM will schedule a re-evaluation review meeting with the objective of obtaining final disposition.

Change Request Analysis

The Project Team analyzes the CR to determine the potential impact(s) of the requested change on the project. The team validates and verifies the information provided by the Requestor and makes updates as needed. The team analyzes the situation and the CR Owner documents the results of the analysis in the Analysis section of the CRF.

Change Request Approval

The Project Team reviews the recommended approach to implementing the change and determines next steps for the CR. If consensus cannot be reached by the Project Team, the PM will present the CR and recommendation to the Project Sponsors, commanders of the RPS and the ITS, for direction. If more direction is needed, the commanders will present the CR and recommendation to the ESC.

The PM notes the decision in the Change Request Disposition box of the "Change Request Approval Section" on the CRF. The CR disposition is typically accompanied by comments regarding the decision, signature, and signing date.

Roles and Responsibilities

The below table of Roles and Responsibilities provides a description of the duties of those involved in the CCP.

Role	Responsibility
ESC Member	• Review major CRs escalated by the Project Team. • The CIO has final decision authority on major CRs.
Project Sponsors	• Review minor decisions on CRs escalated by the Project Team. • The IT Sponsor has final decision authority on minor CRs.
Project Team	• Primary decision-making body for CRs (i.e., acts as Change Control Committee). • Meet on a regular basis to address outstanding CRs and escalates to Project Sponsor(s) and/or the ESC, as necessary. • Act on CR decisions by Project Sponsors and/or the ESC.

Role	Responsibility
PM	• Establish and maintain the Change Control Management Plan. • An active sponsor of approved changes. • Manage the CCP and any resistance to approved changes. • Approve CRs for analysis. • Assign the CR analysis to a CR Owner. • Review the scope, budget, and schedule impacts. • Assign project resources for CR analysis and, if approved, implementation. • Review the CR implementation after it is deployed. • Communicate CR status/decision back to Stakeholders. • Vote as a member of the Project Team. • Approve changes within designated authority. • Initiate the escalation process to the commander(s) and the ESC, as needed.
CR Owner	• Identify possible solutions and the impact to the project and its Stakeholders. • Take ownership and work with the Project Team to analyze, evaluate, and, if approved, implement CRs. • Complete the CRF. • Prepare supporting documentation for the CR. • Obtain manager approval to submit the CRF to the CR Coordinator (CRC). • Submit CRF to the CRC. • Verify CRs are implemented correctly.
CRC	• Single point of contact for CRs. • Receive and record CRs in the chosen tracking tool. • Perform initial CR risk assessment. • Review the CR's impact to the project's scope, schedule, and cost. • Schedule and transcribe the project meetings in which the CRs are discussed. • Maintain the CR tracking tool, monitor CR progress, and report status regularly. • Measure the overall quality of the CCP to report trends and make recommendations for process improvement. • Maintain project CR documentation in project library.

Project Baselines

Project baselines will be finalized at the following points of the project:

- Scope and Cost – Upon completion of project planning and CDT PAL approval.
- Schedule – Expected to be within 30 days of Contract execution; however, no later than 15 days after project kick-off.

Project Change Request Tracking

The project CRs will be tracked by the CRC in the Change Request Log.

Change Request Reporting

Change request reporting will be presented in Project Team meetings as well as ESC briefings. Change request information will be provided in the format below.

Title	Frequency	Content	Usage
Open, Pending, and Approved CRs	Regularly Scheduled Team Meeting (Weekly)	Summary of the CRs that have been opened, still pending, and approved since the last reporting.	Keeps the Project Team and Stakeholders informed about the changes being made.
CR Implementation Status	As Completed	Lists all CRs approved for implementation, activities to implement, estimated completion date, and status.	Used by management, the CRC, and CR Owners to track CR implementation.

4.9 Authorization Required

Not applicable.

5.0 Updated Risk Management Plan

No change to the following, which is also documented in section 4.16, Risk Management, in the PMP.

Roles and Responsibilities

The table below outlines the project participants who are expected to collaborate on project risk management activities.

Role	Responsibility
ESC Member	• Review the Risk Register and/or risk reports provided to the committee in accordance with this plan. • Responsible for understanding the possible effects and impacts of identified risks. • Ensure the PM has a sound plan for mitigating the impacts of risks that have been escalated to the ESC.
Project Sponsor	• Provide the necessary support to the PM to ensure state and vendor resources are available to support the execution of this plan. • Provide the necessary support to ensure state and vendor resources commit to the risk management efforts. • Monitor efforts to address risks and provide leadership to focus resources on resolving open unplanned risk events. • Provide guidance on escalated risk events and assist in their resolution.

Role	Responsibility
CHP PM	• Maintain the overall risk management process and Risk Register containing the risk details. • Ensure the risks managed by this plan are organized, managed, communicated, and controlled. • Ensure project-related risks are identified and mitigated in a timely manner to minimize impact; to be discussed at regular Project Team meetings and ESC briefings as included in the Communication Management Section. • Periodically obtain status from Risk Owners on mitigation progress. • Track progress of the risk management effort by reviewing the Risk Register and/or risk management reports. • Escalate mitigation approaches for identified high severity risks that are beyond the PM's span of control and decision authority. • Ensure the entire Project Team, state, and vendor are following this plan. • Ensure all other project processes that interact or provide input to the risk management effort are being adhered to. • Ensure there are sufficient resources to execute this plan and the risk management activities are being performed in a timely manner. • Assign risks to owners.
Vendor PM	• Perform reviews of the risk management work being performed by the vendor team. • Verify the work complies with the risk management approach described in this plan and the requirements in the vendor's Contract. • Share responsibility for identifying risks and risk events in a timely manner to mitigate the risk and minimize impact to the project.
Risk Owner	• Responsible for management, administration, and delivery of assigned risks, including monitoring and controlling risk activities, and updating the Risk Register, the mitigation plan, and contingency plan details in the Risk Register. • Share responsibility with the PM for ensuring risks are organized, managed, and controlled and that risks are identified and mitigated in a timely manner to minimize impact to the project. • Provide status updates to the PM.

Risk Management Processes

The CHP will hold an initial risk brainstorming session to establish a risk list early in the project (i.e., in the planning stages, after project approval). Each risk on the Risk Register will be graded high, medium, or low for both impact and probability of occurrence. The project will track the high-high, medium-high, and high-medium risks monthly.

Identify Risks

Risk identification is the first step in the risk management process that projects should employ. Risk identification involves identifying risks, identifying which of those risks are likely to affect the project, and documenting characteristics of those risks. Spotting a potential risk is accomplished by recognizing an event, state, or condition within the boundaries of a project may occur with unplanned consequences. While these consequences are usually undesirable, they may lead to positive opportunities. All Project Team members, including Stakeholders, end users, SMEs, and sponsors, are encouraged to identify and report potential risks to the project immediately upon detection to the PM.

Identifying risks is an iterative process because new risks may become known as the project progresses through its project lifecycle. Risk information can initially be gathered from the business case, accumulated lessons learned, and an initial risk brainstorming session.

Crucial to risk identification is the input of Project Team members and other Stakeholders to recognize and report risks as soon as possible. Risks can also be identified during Project Team meetings and will be incorporated into the meeting agenda and minutes templates for all project meetings.

Risk Register

The Risk Register is a tool used to document potential risks (risk candidates). The project's Risk Register has been created in Microsoft Excel.

Risk Register Template

Risk Identification						Risk Analysis				Risk Prioritization			Risk Response			Risk Control		
ID #	Risk Title	Risk Statement or Description	Date Risk Identified	Risk Originator	Risk Category	Probability	Impact	Timeframe	Exposure	Severity	Risk Owner	Date Assigned	Risk Response Strategy	Risk Response Plan Description	Contingency Plan Description	Risk Status	Risk Resolution	Risk Closure Date
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Analyze Risks

The focus of analyzing risks is to examine each identified risk to assess the likelihood of the risk event occurring, and the probability of outcomes associated with the risk, to determine its potential impact on the success of the project. This, in turn, provides the ability to prioritize each risk to ensure the risks with the greatest potential impact to the project are dealt with first. The CHP will focus on risks which score as a combination of high or medium project impact and high or medium probability of occurrence. The PM and risk owner will review all risks regularly to identify any low-risk items whose circumstances have changed resulting in the elevation of the impact/probability score. Any risks categorized as high impact, high probability, will be escalated by the PM and discussed with Project Sponsors and/or ESC.

Risk Response Planning

Risk Response Planning is the process of selecting the appropriate response strategy for each identified risk. This, in turn, helps the project avoid risks, transfer responsibility for risks, mitigate the consequences of risks, reduce the probability of occurrence of risks, accept the consequences of risks, or enhance the opportunity to benefit from positive risks. Strategies for both negative and positive risks include:

Strategies for Negative Risks

- **Avoid:** Risk Avoidance involves changing the PMP to eliminate the threat posed by the risk. Some risks can be avoided by clarifying requirements, obtaining additional information, improving communication or acquiring expertise.
- **Transfer:** Transferring a risk requires moving, shifting, or reassigning some or all negative impact and ownership to a third party. This does not eliminate the risk but gives another party the responsibility to manage it.
- **Mitigate:** Risk Mitigation implies a reduction in the probability and/or impact of a negative risk. Reducing the probability and/or impact of a risk occurring is often more effective than dealing with the risk after it has occurred.
- **Accept:** This strategy indicates the Project Team has decided not to change the PMP (i.e., schedule, approach, or reduce project scope) or is unable to identify another suitable response strategy.

Strategies for Positive Risks or Opportunities

- **Exploit:** This strategy may be selected for risks with positive impacts where the organization wishes to ensure the opportunity is realized, and eliminates the uncertainty associated with a positive risk by ensuring the opportunity happens.
- **Share:** Sharing a positive risk involves allocating some or all ownership of the opportunity to a third party who is best able to capture opportunity for the benefit of the project.
- **Enhance:** This strategy is used to increase the probability and/or positive impact of an opportunity, identifying and maximizing key drivers of positive risks.
- **Accept:** Accepting a positive risk or opportunity is being willing to take advantage of it, should the opportunity come along.

The project risk response planning will be documented by the PM in collaboration with key project Stakeholders. The status will be presented to the Project Team during project status and ESC meetings.

Risk Monitoring Activities

Once a risk is established, it is monitored on an ongoing basis:

- Monitor if a risk escalation trigger has occurred.
- Monitor if risk response actions are as effective as anticipated.
- Monitor if risk responses are implemented as planned.
- Monitor for Residual Risks (element of a risk that remains once the risk assessment has been made and responses implemented).
- Monitor systematically to:
    - Assess currently defined risks.
    - Determine actions to be taken.
    - Evaluate effectiveness of actions taken.
    - Report on the status of actions to be taken.
    - Validate previous risk assessment (likelihood and impact).
    - Validate previous assumptions.
    - State new assumptions.
    - Identify new risks.

Risk Control Activities

Once a risk is established, it is controlled on an ongoing basis:

- Validate mitigation strategies and alternatives.
- Assess impact on the project of actions taken (scope, cost, time, schedule, and resources).
- Identify new risks resulting from risk mitigation actions.
- Ensure the project's Risk Management Plan is maintained.
- Revise Risk Response plan(s).

The Project Team will review risks during Project Team meetings, update existing risks and discuss potential risks that need to be accounted for. However, it is important to note that any member of the Project Team or Stakeholder group can raise a potential risk to the PM for evaluation at any time. If needed, the PM will schedule a separate risk review session independent of Project Team meetings.

5.1 Risk Register

At time of project approval, eight risks were identified. Of those, all have been closed. Since the start of the execution phase, 17 more risks were identified and all of those have been closed.

The updated Risk Register is included as a separate document.

6.0 Financial Analysis Worksheet

The FAW is included as a separate document.