Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604741A *I Air Defense Command, Control and Intelligence - Eng Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	58.633	55.541	74.738	-	74.738	70.022	64.141	70.657	71.628	Continuing	Continuing
126: *PEO Electronic Protect*	-	3.687	-	14.061	-	14.061	-	-	-	-	0.000	17.748
146: *Air & Msl Defense Planning Control Sys*	-	2.772	1.255	26.367	-	26.367	20.465	15.600	15.893	16.160	Continuing	Continuing
FG5: *Counter Unmanned Aerial Systems (UAS)*	-	52.174	54.286	34.310	-	34.310	49.557	48.541	54.764	55.468	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Long-Range Persistent Surveillance (ALPS) is a passive sensor that provides long-range surveillance against Cruise Missile (CM), Fixed Wing (FW), Rotary Wing (RW), and Unmanned Aircraft System (UAS) threats.

FY 2024 requested funding in the amount of $14.061 million is for the ALPs program office to provide development and integration in support of the Pacific Deterrence Initiative including the engineering, testing and validation of the system and software updates necessary to meet the new requirement for ALPS to integrate into the Army Integrated Air and Missile Defense (AIAMD) architecture ($1.004 million). This funding will also provide prototype fabrication, system support and operation for air surveillance assessments including hardware, engineering and testing of the system necessary to determine the effective use of ALPS. ($13.057 million).

A portion of this funding line is a key enabler of the Army Modernization Priorities in support of Air Missile Defense Planning and Control System (AMDPCS).

AMDPCS FY 2024 funding request of $26.367 million provides integration of air and missile defense operations at all echelons. Specifically, the Air and Missile Defense Work Station (AMDWS) provides a correlated air picture using local radars, allowing the Commander the visibility and situational understanding of the airspace; automated defense design and staff planning tools in AMDWS afford soldiers horizontal and vertical collaborative planning with adjacent units. Air Defense System Integrator (ADSI) serves as a joint tactical data link gateway/air picture, and when correlated by the Forward Area Air Defense Command and Control (FAAD C2) and displayed on AMDWS, provides a near real-time, three-dimensional air picture for the Commander. Joint Tactical Terminal (JTT) provides soldiers Theater Ballistic Missile (TBM) early warning, allowing them to take appropriate actions. AMDPCS is fielded to Army Air and Missile Defense Commands (AAMDC), Air Defense Artillery Brigades (ADA BDE), Air and Missile Defense Battalions (AMD BN), and Terminal High Altitude Area Air Defense Batteries (THAAD BTRY). Air Defense Airspace Management (ADAM), a variant of AMDPCS with similar capabilities, is fielded to Corps, Divisions, Brigade Combat Teams (BCT), and multi-functional support brigades. As part of the capability and technology reuse, AMDWS external interfaces are being leveraged by Integrated Battle Command System (IBCS) to avoid redevelopment of existing capabilities. AMDWS and FAAD C2 are core components of the Air and Missile Defense system-of-systems currently deployed in combat zones.

The Counter-Rocket, Artillery, Mortar (C-RAM) system-of-systems is an evolutionary program that detects RAM launches, provides localized warning to the defended area, intercepts rounds in flight, and enhances response to and defeat of enemy forces. C-RAM combines multi-service fielded and non-developmental item sensors, command and control (C2) equipment, warning systems, and a modified U.S. Navy intercept system (Land-based Phalanx Weapon System [LPWS]), all connected via

a wireless local area network. The FAAD C2 system has been enhanced to integrate the sensors, weapons, and warning systems to provide C2 for the C-RAM system-of-systems. FAAD C2 software correlates the RAM sensor data, evaluates the threat, provides early warning, directs engagements, and cues counterfire systems and reaction forces. FAAD C2 employs an agile software development, maintenance, and sustainment strategy, with Urgent Materiel Releases (UMR) every six (6) months and Full Materiel Releases (FMR) every 15-18 months to keep pace with rapidly fielding integrated systems to meet operational needs. C-RAM capability in theater is supported through the Overseas Operations (OCO) process. Base RDT&E supports FAAD C2 basic Air Defense functionality as well as directed enhancements to the C-RAM system-of-systems capability, such as development and integration of C-RAM network security enhancements and development of all-digital radar technology to address emerging threats.

Counter-Unmanned Aircraft Systems (C-UAS) requested FY 2024 funding for $34.310 million will provide forces at all echelons with cross-domain capabilities, while supporting joint operational requirements. These combined arms solutions will support the full kill-chain and result in solutions addressing fixed/semi-fixed, mobile platform, and dismounted missions. Development efforts are aligned with Joint Requirements Oversight Council Memorandum (JROCM) 078-20, which codifies the threshold and objective capability requirements for C-UAS development and focuses on technologies which increase capabilities to identify, classify, track, and defeat Groups 1-3 UAS threats.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	59.518	39.541	34.335	-	34.335
Current President's Budget	58.633	55.541	74.738	-	74.738
Total Adjustments	-0.885	16.000	40.403	-	40.403
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	20.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.885	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	40.403	-	40.403

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: FG5: *Counter Unmanned Aerial Systems (UAS)*		
Congressional Add: *Software Integration Facility (SWIF) Digital Ecosystem*	-	20.000
Congressional Add Subtotals for Project: FG5	-	20.000
Congressional Add Totals for all Projects	-	20.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604741A *I Air Defense Command, Control and Intelligence - Eng Dev*

Change Summary Explanation

The increase in FY 2024 is the result of increased software development and FAAD C2 convergence refactoring and modernization efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	Project (Number/Name) 126 / *PEO Electronic Protect*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
126: *PEO Electronic Protect*	-	3.687	-	14.061	-	14.061	-	-	-	-	0.000	17.748
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2023, Project 126: PEO Electronic Protect had no requested funding. Beginning in FY 2022, the Army Long-Range Persistent Surveillance (ALPS) system efforts transitioned from Program Element 0603327A, Air and Missile Defense Systems Engineering to Program Element 0604741A, Project 126: PEO Electronic Protect.

A. Mission Description and Budget Item Justification

Army Long-Range Persistent Surveillance (ALPS) is a passive sensor that provides long-range surveillance against Cruise Missile (CM), Fixed Wing (FW), Rotary Wing (RW), and Unmanned Aircraft System (UAS) threats.

President's Budget 2024 request in the amount of $14.061 million is for the ALPs program office to provide development and integration in support of the Pacific Deterrence Initiative including the engineering, testing and validation of the system and software updates necessary to meet the new requirement for ALPS to integrate into the Army Integrated Air and Missile Defense (AIAMD) architecture ($1.004 million). This funding will also provide prototype fabrication, system support and operation for air surveillance assessments including hardware, engineering and testing of the system necessary to determine the effective use of ALPS. ($13.057 million).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: ALPS Development and Integration for COCOMs ***Description:*** Provide ALPS prototype systems to meet EUCOM, INDOPACOM, and CENTCOM identified operational needs and to conduct an assessment via a report by the combatant commander(s).	3.687	-	-
Title: ALPS Surveillance Assessment ***Description:*** Provide prototype fabrication, system support and operation for air surveillance assessments. ***FY 2024 Plans:*** This support includes fabricating hardware, engineering and testing of the system. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in FY 2024 funds supports prototype fabrication, system support and operation for air surveillance assessments.	-	-	13.057
Title: ALPS Development and Integration for Pacific Deterrence Initiative ***Description:*** Provide development and integration in support of the Pacific Deterrence Initiative.	-	-	1.004

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 126 / *PEO Electronic Protect*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2024 Plans: This support includes the engineering, testing and validation of the system and software updates necessary to meet the new requirement for ALPS to integrate into the AIAMD architecture. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in FY 2024 is the result of additional funding for providing development and integration in support of the Pacific Deterrence Initiative.			
Accomplishments/Planned Programs Subtotals	3.687	-	14.061

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• EX2: *Lower Tier Air Missile Defense (LTAMD) Capability*	408.766	380.147	816.663	-	816.663	118.939	122.544	89.261	90.257	0.000	2,026.577
• FM3: *Future Interceptor*	6.643	8.179	8.040	-	8.040	8.042	8.052	8.138	8.229	0.000	55.323
• C53101: *MSE Missile*	1,333.148	1,037.093	1,212.832	-	1,212.832	961.192	973.464	985.250	985.854	Continuing	Continuing
• C62002: *IFPC INC 2-I BLOCK 1 SYSTEM*	19.053	18.924	313.189	-	313.189	697.307	1,002.324	1,023.636	985.973	0.000	4,060.406
• 0604117A: *Maneuver - Short Range Air Defense (M-SHORAD)*	37.939	274.838	281.239	-	281.239	331.362	324.855	422.392	455.779	Continuing	Continuing
• C14300: *M-SHORAD - Procurement*	332.984	135.747	400.697	-	400.697	-	-	-	-	Continuing	Continuing
• 0604820A: *Radar Development*	124.832	71.259	94.944	-	94.944	48.837	18.987	8.508	8.603	0.000	375.970
• S40: *Army Integrated Air and Missile Defense*	154.257	263.545	254.163	-	254.163	355.723	214.394	135.637	166.652	0.000	1,544.371
• BZ5075: *IAMD Battle Command System*	399.800	438.967	412.556	-	412.556	509.654	572.362	658.046	442.781	Continuing	Continuing
• 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	58.633	55.541	74.738	-	74.738	70.022	64.141	70.657	71.628	Continuing	Continuing
• AD5070: *AIR & MSL Defense Planning & Control Sys*	67.193	72.619	68.892	-	68.892	67.495	-	-	-	0.000	276.199
• 0605052A: *Indirect Fire Protection Capability Inc 2 - Block 1*	175.604	131.093	196.248	-	196.248	154.275	166.672	113.841	135.117	0.000	1,072.850

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 126 / *PEO Electronic Protect*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• 146: *Air & Msl Defense Planning Control Sys*	2.772	1.255	26.367	-	26.367	20.465	15.600	15.893	16.160	0.000	98.512

Remarks

ALPS was previously funded under Program Element 0603327A, Air and Missile Defense Systems Engineering. This funding transitioned to Program Element 0604741A, Project 126: PEO Electronic Protect.

D. Acquisition Strategy

ALPS will utilize an Indefinite Delivery, Indefinite Quantity (IDIQ) contract to support the engineering, testing and validation of the system and software updates required to integrate ALPS into the AIAMD architecture and provide prototype fabrication, system support and operation for air surveillance assessments.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	Project (Number/Name) 126 / *PEO Electronic Protect*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies & Government Program Management	Various	Various : Various	2.622	1.200		-		1.557	Dec 2023	-		1.557	Continuing	Continuing	Continuing
		Subtotal	2.622	1.200		-		1.557		-		1.557	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ALPS Development and Integration for COCOMs	Various	Various : Various	26.537	2.487	May 2022	-		-		-		-	0.000	29.024	-
ALPS Surveillance Assessment	Various	Various : Various	-	-		-		11.500	Dec 2023	-		11.500	0.000	11.500	-
ALPS Development and Integration for Pacific Deterrence Initiative	Various	Various : Various	-	-		-		1.004	Dec 2023	-		1.004	0.000	1.004	-
		Subtotal	26.537	2.487		-		12.504		-		12.504	0.000	41.528	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.159	3.687		-		14.061		-		14.061	Continuing	Continuing	N/A

Remarks

ALPS was previously funded under PE 0603327A.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 126 / *PEO Electronic Protect*

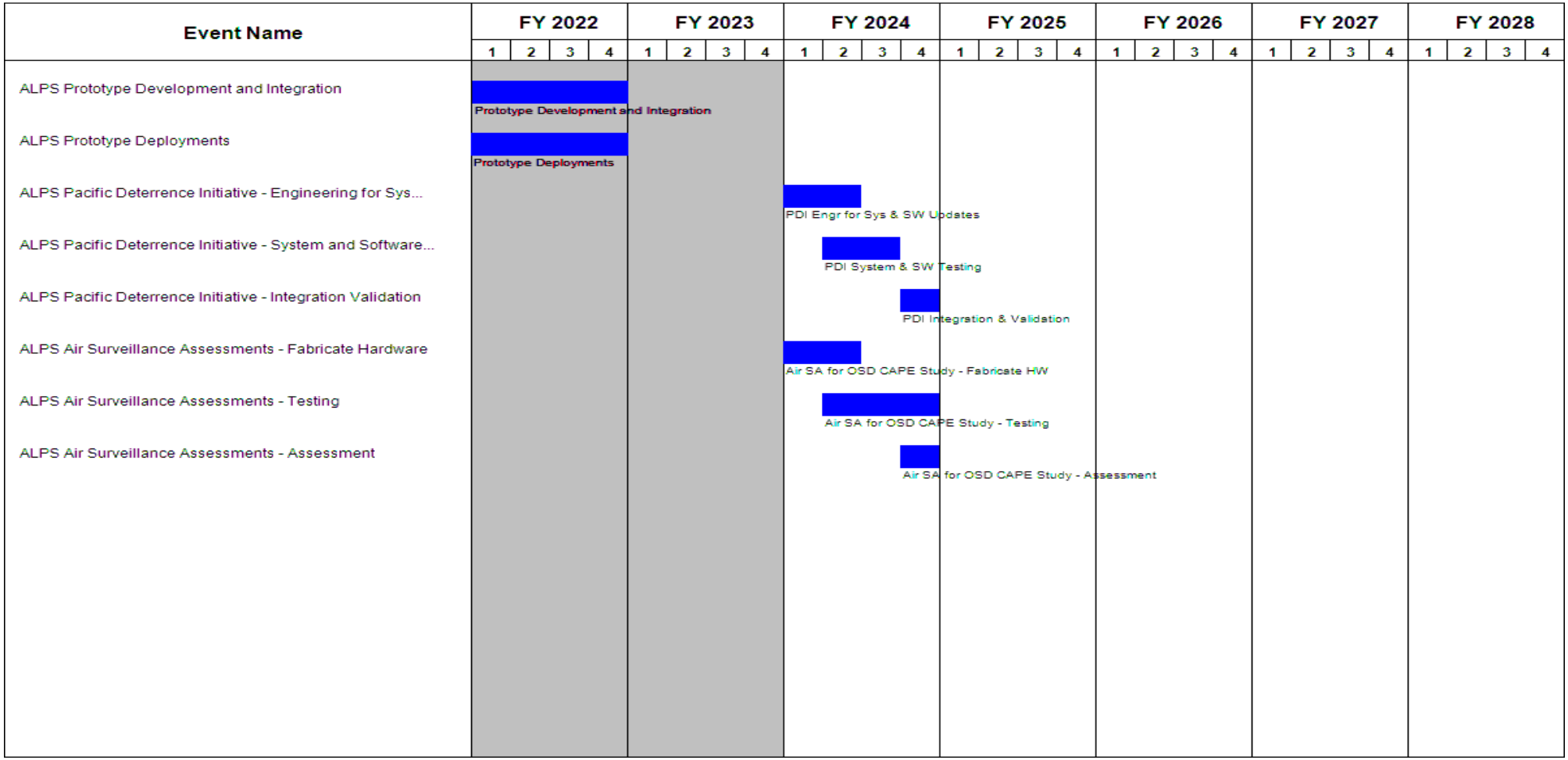

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 126 / *PEO Electronic Protect*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ALPS Prototype Development and Integration	1	2017	4	2022
ALPS Prototype Deployments	3	2019	4	2022
ALPS Pacific Deterrence Initiative - Engineering for System and Software Updates	1	2024	2	2024
ALPS Pacific Deterrence Initiative - System and Software Testing	2	2024	3	2024
ALPS Pacific Deterrence Initiative - Integration Validation	4	2024	4	2024
ALPS Air Surveillance Assessments - Fabricate Hardware	1	2024	2	2024
ALPS Air Surveillance Assessments - Testing	2	2024	4	2024
ALPS Air Surveillance Assessments - Assessment	4	2024	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	Project (Number/Name) 146 / *Air & Msl Defense Planning Control Sys*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
146: *Air & Msl Defense Planning Control Sys*	-	2.772	1.255	26.367	-	26.367	20.465	15.600	15.893	16.160	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of Air and Missile Defense.

The Air Missile Defense Planning and Control System (AMDPCS) provides integration of air and missile defense operations at all echelons. AMDPCS is comprised of the following major subsystems: Air Missile Defense Work Station (AMDWS) provides a correlated air picture using local radars, allowing the Commander the visibility and situational understanding of the airspace; tools in AMDWS afford Soldiers horizontal and vertical collaborative planning with adjacent units. Air Defense System Integrator (ADSI) serves as a joint tactical datalink gateway/air picture. Forward Area Air Defense Command and Control (FAAD C2), correlates the joint and local air picture and when displayed on AMDWS, provides a near real time, three dimensional air picture for the Commander. Joint Tactical Terminal (JTT) provides Soldiers Theater Ballistic Missile (TBM) early warning allowing them to take appropriate actions. AMDPCS are currently fielded to Army Air and Missile Defense Commands (AAMDC), Air Defense Artillery Brigades, (ADA BDE), Air and Missile Defense Battalions (AMD BN) and Terminal High Altitude Area Defense Batteries (THAAD BTRY). Air Defense Airspace Management (ADAM), a variant of AMDPCS, are fielded to Corps, Divisions, Brigade Combat Teams (BCTs) and multi-functional support brigades. AMDPCS is also being procured to support Interim Maneuver Short Range Air Defense (IM-SHORAD), European Deterrence Initiative (EDI), and Grow the Army (GTA) initiative. As part of the capability and technology reuse, AMDWS external interfaces are being leveraged by Integrated Battle Command System (IBCS) to avoid redevelopment of existing capabilities. AMDWS and FAAD C2 are core components of the Air and Missile Defense system-of-systems currently deployed in combat zones.

FY 2024 Base dollars in the amount of $26.367 million fund development, cyber compliance and certification of AMDWS and FAAD C2 software, as well as accreditation of AMDPCS family-of-systems shelters and software.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: AMDWS Software Development	2.097	0.513	2.894
Description: Supports LandWarNet, Common Operating Environments (COE), and Defense Information Systems Agency (DISA) architecture framework. AMDWS software engineering and development ensures interoperability and integration with maneuver battle command elements. AMDWS will interface with Integrated Air and Missile Defense (IAMD) and serves as a planning tool for the system-of-systems, as well as providing external interfaces.			
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 146 / *Air & Msl Defense Planning Control Sys*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Provide critical cyber security compliance only. ***FY 2024 Plans:*** Support updated Army interfaces with the new Kessel Run program, expanded interfaces with Command and Control Battle Management and Communications (C2BMC) Planner and Theater High Altitude Air Defense (THAAD) Portable Planner, and supporting additional geospatial requirements with Mission Command. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to requirements for supporting updated Army interfaces with the new Kessel Run program, expanded interfaces with Command and Control Battle Management and Communications (C2BMC) Planner and Theater High Altitude Air Defense (THAAD) Portable Planner, and supporting additional geospatial requirements with Mission Command.			
Title: Engineering, Development, Test and Evaluation ***Description:*** Ensures Interoperability Engineering System Suite Tool and Software Suitability and Supportability Service, testing and licenses, and interoperability and cyber compliance through engineering, development, test, and evaluation of the AMDPCS family-of-systems shelter objective configurations; execute evaluation and finalization of the AMDPCS tactical communications, data processing, and vehicle/shelter/power generation/environmental system block upgrade program for fielded systems. ***FY 2023 Plans:*** Maintains interoperability and cyber compliance for AMDPCS family-of-systems shelter objective configurations and migration to Integrated Battle Command System (IBCS) configuration. ***FY 2024 Plans:*** Maintain FAAD C2 and AMDWS cyber certification and accreditation for AMDPCS Family-of-Systems and Integrated Battle Command System (IBCS) convergence. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in this cost element is driven by required software development and modernization, test, staffing, prime contract, and efforts to maintain interoperability and cyber compliance for FAAD C2 software required to support AMDPCS/Integrated Battle Command System (IBCS) convergence.	0.424	0.437	8.585
Title: Software System Certification Testing, Accreditation, and Approval of Authority-to-Operate (ATO) ***Description:*** Accomplish software system certification testing, accreditation, and approval of ATOs for the various software systems; BitLocker encryption and other authorized/approved G6 software implementation; Army and joint integration and interoperability assessments. ***FY 2023 Plans:***	0.251	0.259	0.267

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 146 / *Air & Msl Defense Planning Control Sys*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Conduct Information Assurance Vulnerability Assessments and Management activities, and maintain required Authority to Operate (ATOs). ***FY 2024 Plans:*** Conduct Information Assurance Vulnerability Assessments and Management activities and maintain required Authority to Operate (ATOs). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase is a result of inflation.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638.	-	0.046	-
Title: FAAD C2 Software Development and Modernization ***Description:*** Supports software lab, testing, interoperability, cyber compliance, Hardware Obsolescence and software configuration management of the FAAD C2 software required to support program of record AMDPCS, Counter-Rocket, Artillery, Mortar (C-RAM), Counter-Unmanned Aerial Systems (C-UAS), and Short-Range Air Defense (SHORAD) Command and Control (C2) solutions. ***FY 2024 Plans:*** FY 2024 funding provides for FAAD C2 software integration, development, and tests in support to AMDPCS Family-of-Systems and future program platform requirements in support of IBCS convergence. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in this cost element is driven by required software development and modernization efforts to maintain interoperability and cyber compliance for FAAD C2 software required to support AMDPCS/Integrated Battle Command System (IBCS) convergence.	-	-	9.400
Title: IBCS/FAAD C2 Convergence; Ada to C++ Refactoring and Modernization	-	-	5.221

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 146 / *Air & Msl Defense Planning Control Sys*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Convert the Forward Area Air Defense (FAAD) Command and Control (C2) software capabilities and interfaces from Ada software language to C++ Software Language; modernize the software by modularizing the capabilities, and developing a capabilities software product line (SPL) for Integrated Air and Missile Defense Battle Command System's (IBCS) to utilize. ***FY 2024 Plans:*** Convert FAAD C2 software ADA language to C++. Modernize the Software by Modularizing it. Develop a Software Capabilities SPL to be converged into IBCS for a single software baseline. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in this cost element is driven by the requirement to modernize and convert FAAD C2 software to C++ language, and architecturally decompose FAAD into modules of capability that can be leveraged by the IBCS architecture in support of IBCS convergence.			
Accomplishments/Planned Programs Subtotals	2.772	1.255	26.367

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• AD5070: *AIR & MSL Defense Planning & Control Sys*	67.193	72.619	68.892	-	68.892	67.495	-	-	-	0.000	276.199
• 0605457A: *Army Integrated Air and Missile Defense (AIAMD)*	154.257	263.545	284.095	-	284.095	365.377	216.206	136.141	167.156	0.000	1,586.777
• BZ5075: *IAMD Battle Command System*	399.800	438.967	412.556	-	412.556	509.654	572.362	658.046	442.781	Continuing	Continuing
• 0604117A: *Maneuver - Short Range Air Defense (M-SHORAD)*	37.939	274.838	281.239	-	281.239	331.362	324.855	422.392	455.779	Continuing	Continuing
• C14300: *M-SHORAD - Procurement*	332.984	135.747	400.697	-	400.697	-	-	-	-	Continuing	Continuing

Remarks

This program is an integral part of the Army Integrated Fires Mission Command (IFMC) convergence capability for Integrated Battle Command System (IBCS) architecture.

D. Acquisition Strategy

The acquisition strategy relies primarily a Non-Developmental Item (NDI) integration efforts. The primary intent of the AMDPCS program is to take the best available governmental and commercial technologies and integrate them into a seamless Command and Control (C2) program to provide common tools for airspace situational

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 146 / *Air & Msl Defense Planning Control Sys*

awareness, and command and control for all Army Air Defense units at all echelons. Also, to continue development, testing, and certification of AMDWS software, and ensure accreditation of AMDPCS shelter configurations and software until convergence with the Integrated Air & Missile Defense (IAMD) Battle Command System (IBCS). Finally, to complete procurement of AMDPCS shelter configurations, field, and execute tech refresh on fielded systems until convergence with IBCS and transition to sustainment in FY 2027.

The AMDWS software development contract is sole source (SS)/cost plus fixed fee (CPFF) to Northrop Grumman.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	Project (Number/Name) 146 / *Air & Msl Defense Planning Control Sys*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various : Various	34.865	0.291	Dec 2021	0.299	Dec 2022	0.307	Dec 2022	-		0.307	Continuing	Continuing	Continuing
SBIR/STTR Transfer	TBD	Various : TBD	-	-		0.046		-		-		-	0.000	0.046	-
		Subtotal	34.865	0.291		0.345		0.307		-		0.307	Continuing	Continuing	N/A

Remarks

Not Applicable

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDWS Software Development and Engineering	SS/CPFF	Northrop Grumman : Huntsville AL	185.126	2.037	Oct 2021	0.513	Oct 2022	2.894	Oct 2022	-		2.894	Continuing	Continuing	Continuing
Developmental Engineering	Various	Various : Various	48.094	0.383	Dec 2021	0.334	Dec 2022	8.278	Dec 2022	-		8.278	Continuing	Continuing	Continuing
IBCS/FAAD C2 Convergence; Ada to C++ Refactoring and Modernization	TBD	Various : Redstone Arsenal	-	-		-		5.221		-		5.221	0.000	5.221	-
		Subtotal	233.220	2.420		0.847		16.393		-		16.393	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FAAD C2 Software Development and Modernization	TBD	Various : Redstone Arsenal	-	-		-		9.400		-		9.400	0.000	9.400	-
		Subtotal	-	-		-		9.400		-		9.400	0.000	9.400	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	Project (Number/Name) 146 / *Air & Msl Defense Planning Control Sys*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Certification/Testing	Various	JITC : Ft Huachuca, AZ	1.509	0.026	Feb 2022	0.027	Feb 2023	0.267	Feb 2023	-		0.267	Continuing	Continuing	Continuing
Interoperability Assessment	Various	CTSF : Ft Hood, TX	1.964	0.035	May 2022	0.036	May 2023	-		-		-	Continuing	Continuing	Continuing
		Subtotal	3.473	0.061		0.063		0.267		-		0.267	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	271.558	2.772		1.255		26.367		-		26.367	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 146 / *Air & Msl Defense Planning Control Sys*

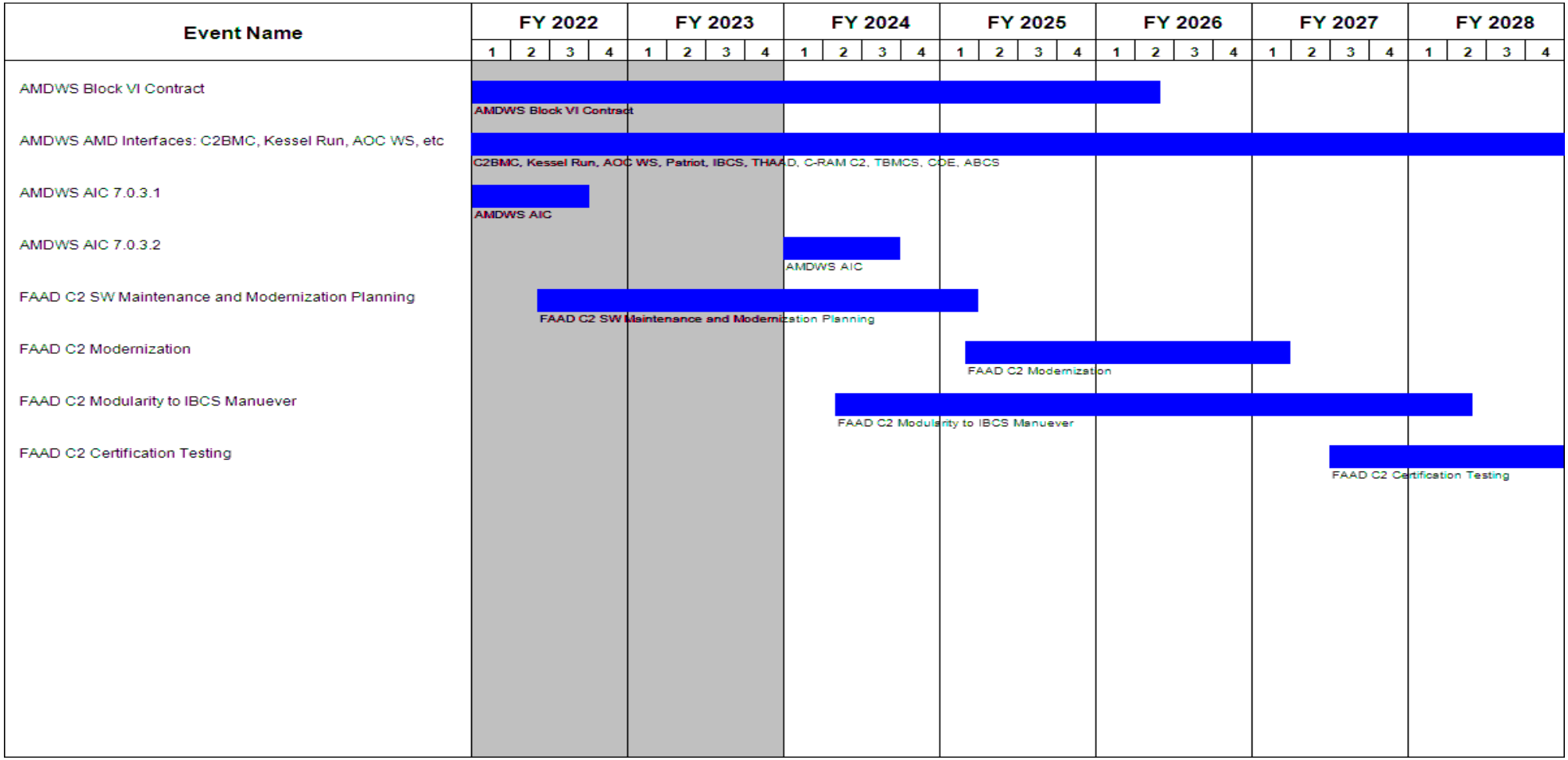

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** 146 / *Air & Msl Defense Planning Control Sys*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AMDWS Block VI Contract	1	2022	2	2026
AMDWS AMD Interfaces: C2BMC, Kessel Run, AOC WS, etc	4	2012	4	2030
AMDWS AIC 7.0.3.1	1	2022	3	2022
AMDWS AIC 7.0.3.2	1	2024	3	2024
FAAD C2 SW Maintenance and Modernization Planning	2	2022	1	2025
FAAD C2 Modernization	1	2025	1	2027
FAAD C2 Modularity to IBCS Manuever	2	2024	2	2028
FAAD C2 Certification Testing	3	2027	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*				Project (Number/Name) FG5 / *Counter Unmanned Aerial Systems (UAS)*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
FG5: *Counter Unmanned Aerial Systems (UAS)*	-	52.174	54.286	34.310	-	34.310	49.557	48.541	54.764	55.468	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Counter-Unmanned Aircraft Systems (C-UAS) efforts will provide forces at all echelons with cross-domain capabilities, while supporting joint operational requirements. These combined arms solutions will support the full kill-chain and result in solutions addressing fixed/semi-fixed, mobile platform, and dismounted missions. Development efforts are aligned with Joint Requirements Oversight Council Memorandum (JROCM) 078-20, which codifies the threshold and objective capability requirements for C-UAS development and focuses on technologies which increase capabilities to identify, classify, track, and defeat Groups 1-3 UAS threats.

Funding supports:

Fixed/Mobile System Development:
FY 2024 Base dollars in the amount of $8.695 million will fund rapid component prototyping, facilitate operational assessments, pursue development and integration of mature hardware, address obsolescence, and test performance improvements of existing systems against current and near-term threats (managed by Program Executive Office Missiles and Space (PEO MS)).

Tech Refresh for Army JUON/JEON Efforts:
FY 2024 Base dollars in the amount of $5.250 million will fund technological development of C-UAS capabilities supporting deployed systems, to keep pace with evolving threats in response to existing Joint Urgent Operational Need (JUON) CC-0558 (managed by PEO MS). FY 2024 Base dollars in the amount $1.580 million will fund technology refreshes in support of existing Army Joint Emergent Operational Need (JEON) system improvements in response to ST-0008, to provide Army priority fixed sites with the ability to detect, engage, and defeat Groups 1 and 2 UAS (managed by PEO Intelligence, Electronic Warfare and Sensors (IEWS)).

C-sUAS Capability Development Document (CDD) Pre-Planned Product Improvement (P3I):
FY 2024 Base dollars in the amount of $18.785 million will fund prototyping, pursue development and integration of emerging technologies, and test performance improvements against a 2035 threat (managed by PEO MS).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Fixed/Mobile System Development	15.252	10.064	8.695
Description: Funds rapid component prototyping, facilitates operational assessments, pursues development and integration of mature hardware, addresses obsolescence, and tests performance improvements of existing systems against current and near-term threats.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: FY 2023 Base funding will support prototype build and integration efforts for a small, flat-panel fire control radar, to provide fixed and mounted systems with an enhanced air surveillance capability against fixed wing, rotary wing, and Groups 1-3 UAS. Funding will support biannual C-UAS system of systems integration/record tests for new and enhanced components, systems, and subsystems. ***FY 2024 Plans:*** FY 2024 Base funding will complete prototype build and integration efforts and support environmental and qualification testing for a small, flat-panel fire control radar, to provide fixed and mounted systems with an enhanced air surveillance capability against fixed wing, rotary wing, and Groups 1-3 UAS. Funding will support biannual C-UAS system of systems integration/record tests for new and enhanced components, systems, and subsystems. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 Base funds decrease due to completion of initial hardware and software design efforts.			
Title: Tech Refresh for Army JUON/JEON Efforts ***Description:*** Funds technology refreshes in response to ST-0008 and continues technological development of C-UAS capabilities supporting deployed systems in response to JUON CC-0558. ***FY 2023 Plans:*** FY 2023 Base funding will provide technology refresh supporting existing Army JEON system improvements in response to ST-0008, to develop new and emerging signals of interest to pace the evolving threat and provide Army priority fixed sites with the ability to detect, engage, and defeat Groups 1 and 2 UAS. This funding will also support technological development of C-UAS systems deployed under existing JUON CC-0558, to include improvements to electronic warfare effectiveness against current and future threats. ***FY 2024 Plans:*** FY 2024 Base funding will provide technology refresh supporting existing Army JEON system improvements in response to ST-0008, to develop new and emerging signals of interest to pace the evolving threat and provide Army priority fixed sites with the ability to detect, engage, and defeat Groups 1 and 2 UAS. This funding will also support technological development of C-UAS systems deployed under existing JUON CC-0558, to include improvements to electronic warfare effectiveness against current and future threats. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 Base funds increase is very slight, as funding has remained stable over time.	6.688	6.660	6.830
Title: Family of Counter UAS Systems (FoCUS)	30.234	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Matures artificial intelligence and machine learning algorithms that enable FoCUS man-out-of-the-loop (MOTL) operations and passive UAS sensor search, target interrogation, and verification capabilities. Continued algorithm development supports operational assessment and follow-on procurement of FoCUS capabilities required to mitigate critical counter-small UAS capability gaps in CONUS and OCONUS.			
Title: C-sUAS Capability Development Document (CDD) Pre-Planned Product Improvement (P3I) ***Description:*** Funds prototyping, pursues development and integration of emerging technologies, and tests performance of system improvements against a 2035 threat. This effort was previously titled Next Generation Product Development. ***FY 2023 Plans:*** FY 2023 Base funding will identify and characterize emerging technologies which support prototyping, integration, and testing of system improvements to increase the capability to detect, track, and defeat the 2035 C-sUAS threat, including execution of an M-LIDS single vehicle Concept Verification Event (CVE) at Yuma Proving Ground, development and testing of updated technical manuals and safety documentation required to transition Coyote interceptor loading responsibility to Soldiers, Coyote Blk 2+ improvements to address reliability and obsolescence, enhanced command and control systems for automated decision aids, and improvements to address obsolescence and reduce reliance on contractor logistics support for Electronic Warfare (EW) systems. Testing will ensure technologies meet environmental and reliability/survivability/availability requirements. ***FY 2024 Plans:*** FY 2024 Base funding will continue efforts to identify and characterize emerging technologies which support prototyping, integration, and testing of system improvements to increase the capability to detect, track, and defeat the 2035 C-sUAS threat, and will continue development and testing of updated technical manuals and safety documentation required to transition Coyote interceptor loading responsibility to Soldiers, enhanced command and control systems for automated decision aids, and improvements to address obsolescence and reduce reliance on contractor logistics support for EW systems. Testing will ensure technologies meet environmental and reliability/survivability/availability requirements. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 Base funds increase due to ramp up of funding to support C-sUAS P3I requirements.	-	16.311	18.785
Title: FY 2023 SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638. ***FY 2023 Plans:***	-	1.251	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding transferred in accordance with Title 15 USC 638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638.			
Accomplishments/Planned Programs Subtotals	52.174	34.286	34.310

	FY 2022	FY 2023
Congressional Add: Software Integration Facility (SWIF) Digital Ecosystem	-	20.000
FY 2023 Plans: FY 2023 Base funding will support hardware procurement, development, and integration to provide the initial SWIF for the Integrated Fires Rapid Capabilities Office (IFRCO), managed by PEO MS. The SWIF capability provides an integrated development environment, and it enables increased system-of-systems (SoS) development and integration speed and efficiency across the Integrated Fires architecture.		
Congressional Adds Subtotals	-	20.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• AD0511: *C-SUAS FIXED*	710.143	299.789	27.847	-	27.847	16.202	39.919	38.632	39.665	0.000	1,172.197
• AD0512: *C-SUAS OPERATIONAL*	-	-	313.490	-	313.490	261.806	270.466	279.008	287.471	0.000	1,412.241
• AD0513: *C-SUAS GROUND READINESS*	-	-	24.039	-	24.039	5.223	6.881	5.354	6.489	0.000	47.986

Remarks

D. Acquisition Strategy

The C-UAS program is transitioning from a rapid acquisition and deployment of interim capabilities, in response to JUON CC-0558 and JEON ST-0008, to a formalized acquisition approach. Technical refreshes will enable JUON/JEON capabilities to remain current, and incremental improvements will mitigate gaps created by enemy Groups 1-3 UAS, until they can be acquired using multiple Acquisition Category (ACAT) III programs of record. Starting in FY 2022, based on C-sUAS Capability Development Document (CDD) Increment 1 and Army Acquisition Executive (AAE) direction, the Army began efforts to establish five programs of record: Fixed Site-Low, slow, small Unmanned Aircraft System (UAS) Integrated Defeat System (FS-LIDS); Mobile-Low, slow, small UAS Integrated Defeat System (M-LIDS); Ku-band Radio Frequency System (KuRFS) Family of Radars; Coyote Block 2+ Interceptor; and Handheld/Dismounted Systems. A P3I program will incorporate incremental improvements to address future C-sUAS capabilities, creating enduring next generation C-sUAS solutions. C-sUAS efforts utilize multiple contract vehicles, types, and vendors. Existing Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts are in place through FY25 to procure and field all C-sUAS major end items. Handheld systems are procured through the Defense Logistics Agency, Army Contracting Command, and U.S. Special Operations Command.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

The C-UAS program incorporates development and test for survivability and resiliency in denied environments and will incorporate emerging technologies as they mature. Funding supports biannual C-UAS system of systems integration/record tests for new and enhanced components, systems, and subsystems.

C-UAS is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management - CsUAS	Various	Multiple : Multiple	-	1.293	Nov 2021	2.374	Feb 2023	2.946	Dec 2023	-		2.946	Continuing	Continuing	-
Program Management - JUON CC-0558	Various	Multiple : Multiple	32.569	0.428	Nov 2021	0.457	Feb 2023	-		-		-	Continuing	Continuing	-
Program Management - FoCUS	Various	Multiple : Multiple	-	3.050	Nov 2021	-		-		-		-	0.000	3.050	-
Program Management - SWIF	Various	Multiple : Multiple	-	-		1.600	May 2023	-		-		-	0.000	1.600	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		1.251		-		-		-	0.000	1.251	-
		Subtotal	32.569	4.771		5.682		2.946		-		2.946	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Fixed/Mobile System Development	C/IDIQ	Multiple : Multiple	92.866	13.166	Mar 2022	8.162	May 2023	7.052	Mar 2024	-		7.052	Continuing	Continuing	-
Tech Refresh - JUON CC-0558	C/Various	Multiple : Multiple	5.000	4.359	Mar 2022	4.114	Feb 2023	4.258	Mar 2024	-		4.258	Continuing	Continuing	-
Tech Refresh - JEON ST-0008	MIPR	Multiple : Multiple	-	1.638	Feb 2022	1.587	Feb 2023	1.580	Jan 2024	-		1.580	0.000	4.805	-
CDD P3I	C/Various	Multiple : Multiple	-	-		13.228	Jun 2023	15.234	Mar 2024	-		15.234	Continuing	Continuing	-
Software Integration Facility (SWIF) Digital Ecosystem	C/IDIQ	To Be Determined : To Be Determined	-	-		18.400	May 2023	-		-		-	0.000	18.400	-
Family of Counter UAS Systems (FoCUS)	Various	Multiple : Multiple	15.000	23.184	Jan 2022	-		-		-		-	0.000	38.184	-
Kinetic Defeat Development	C/Various	Multiple : Multiple	138.953	-		-		-		-		-	0.000	138.953	-
Sensor Development	C/Various	Multiple : Multiple	94.439	-		-		-		-		-	0.000	94.439	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	Project (Number/Name) FG5 / *Counter Unmanned Aerial Systems (UAS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-UAS C2 Software Development	C/CPFF	Northrop Grumman : Redondo Beach, CA	38.866	-		-		-		-		-	0.000	38.866	-
Dismounted/Handheld Systems Development	Various	Multiple : Multiple	19.022	-		-		-		-		-	0.000	19.022	-
FY20 OMNIBUS Funding	Various	Multiple : Multiple	37.950	-		-		-		-		-	0.000	37.950	-
		Subtotal	442.096	42.347		45.491		28.124		-		28.124	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support - C-sUAS	MIPR	Multiple : Multiple	-	0.793	Dec 2021	2.611	May 2023	2.720	Feb 2024	-		2.720	Continuing	Continuing	-
Test Support - JUON CC-0558	MIPR	Multiple : Multiple	65.809	0.263	Dec 2021	0.502	Feb 2023	0.520	Feb 2024	-		0.520	Continuing	Continuing	-
Test Support - FoCUS	Various	Multiple : Multiple	-	4.000	Dec 2021	-		-		-		-	0.000	4.000	-
		Subtotal	65.809	5.056		3.113		3.240		-		3.240	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	540.474	52.174		54.286		34.310		-		34.310	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

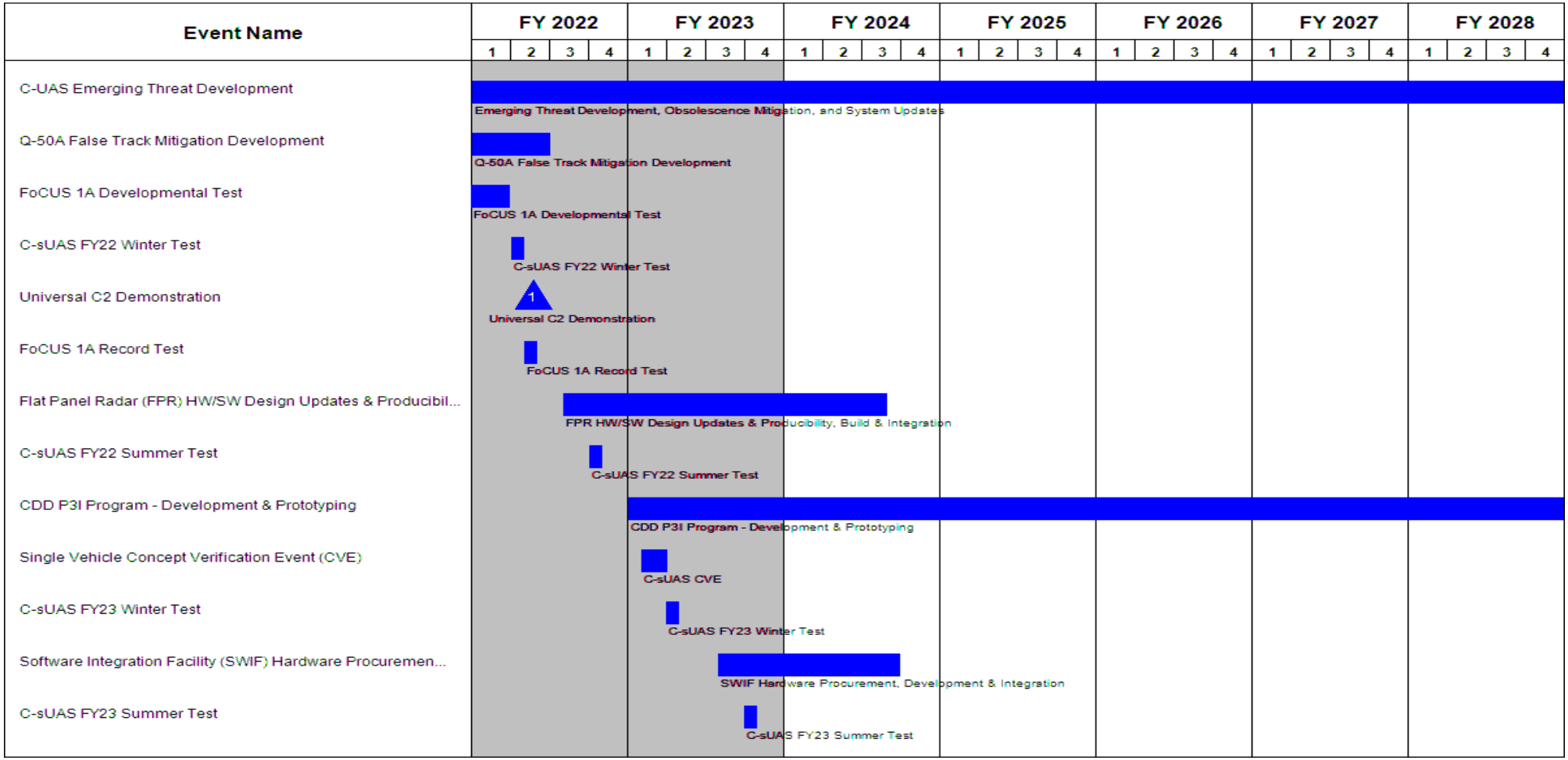

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

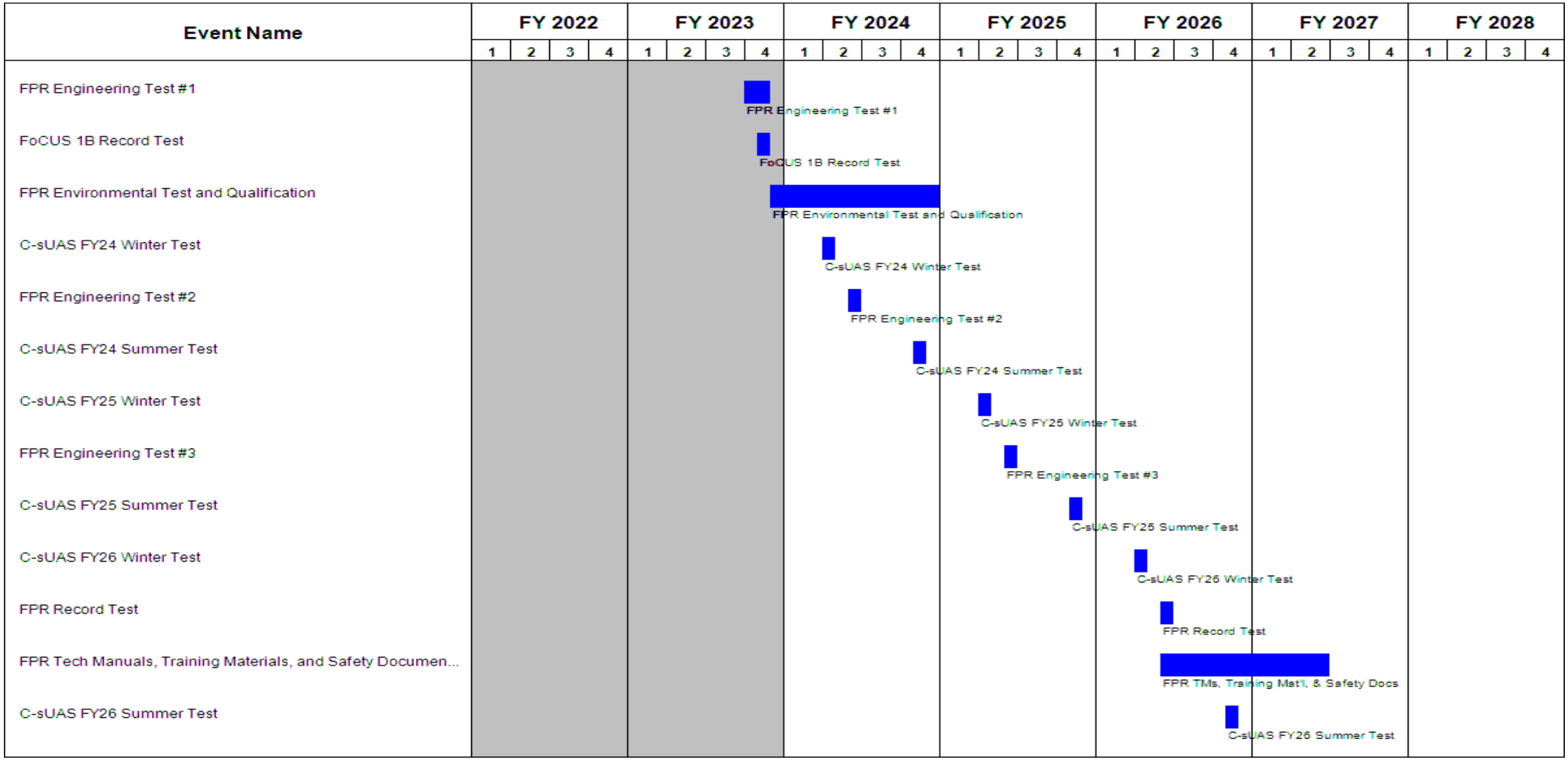

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
C-UAS Emerging Threat Development	1	2017	4	2028
Q-50A False Track Mitigation Development	1	2021	2	2022
Coyote Block 2 Enhanced Seeker Development	2	2021	4	2021
Mobile LIDS (M-LIDS) Inc 1 Testing and Downselect	1	2018	1	2018
Expeditionary LIDS (E-LIDS) Engineering and Record Test	2	2018	2	2018
M-LIDS Inc 1 Engineering and Record Test	3	2018	4	2018
LIDS System-of-Systems (SoS) Record Test	4	2018	1	2019
E-LIDS/M-LIDS Inc 1 Engineering Test	3	2019	3	2019
LIDS Advanced Position, Navigation & Timing (PNT) Test	4	2019	4	2019
Inc 2 SoS Record Test	1	2020	1	2020
FS-LIDS/M-LIDS Inc 2 Record Test	1	2020	2	2020
M-LIDS Inc 2 Delta Record Test #1	3	2020	3	2020
M-LIDS Inc 2 Delta Record Test #2	4	2020	4	2020
C-UAS FY20 Summer Test	4	2020	4	2020
C-UAS SoS Integration/Record Test (Winter FY21)	2	2021	2	2021
C-UAS SoS Integration/Record Test (Summer FY21)	4	2021	4	2021
FoCUS 1A Developmental Test	1	2022	1	2022
C-sUAS FY22 Winter Test	2	2022	2	2022
Universal C2 Demonstration	2	2022	2	2022
FoCUS 1A Record Test	2	2022	2	2022
Flat Panel Radar (FPR) HW/SW Design Updates & Producibility, Build & Integration	3	2022	3	2024
C-sUAS FY22 Summer Test	4	2022	4	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604741A / *Air Defense Command, Control and Intelligence - Eng Dev*	**Project (Number/Name)** FG5 / *Counter Unmanned Aerial Systems (UAS)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CDD P3I Program - Development & Prototyping	1	2023	4	2028
Single Vehicle Concept Verification Event (CVE)	1	2023	1	2023
C-sUAS FY23 Winter Test	2	2023	2	2023
Software Integration Facility (SWIF) Hardware Procurement, Development, and Integration	3	2023	3	2024
C-sUAS FY23 Summer Test	4	2023	4	2023
FPR Engineering Test #1	4	2023	4	2023
FoCUS 1B Record Test	4	2023	4	2023
FPR Environmental Test and Qualification	4	2023	4	2024
C-sUAS FY24 Winter Test	2	2024	2	2024
FPR Engineering Test #2	2	2024	2	2024
C-sUAS FY24 Summer Test	4	2024	4	2024
C-sUAS FY25 Winter Test	2	2025	2	2025
FPR Engineering Test #3	2	2025	2	2025
C-sUAS FY25 Summer Test	4	2025	4	2025
C-sUAS FY26 Winter Test	2	2026	2	2026
FPR Record Test	2	2026	2	2026
FPR Tech Manuals, Training Materials, and Safety Documentation	2	2026	2	2027
C-sUAS FY26 Summer Test	4	2026	4	2026