ILLINOIS STATE POLICE
Office of the Statewide 9-1-1 Administrator

State of Illinois

Application for 9-1-1 Modification Plan

911 GENERAL INFORMATION

DATE: 07/11/2022

Type of Change:	☒ Long Form Modification Plan	☐ Short Form Modification Plan
Current System Name:	Population Served	Land Area in Sq Miles
Vernon Hills Consolidated Communications Center	46,126	17.07

List PSAPs:	Primary	Secondary
Vernon Hills Consolidated Communications Center	X	

911 System Contact: Edward J Manke

Street Address: 740 N Lakeview Pkwy

City, State and Zip Code: Vernon Hills, IL. 60061

Office Telephone: (847) 247-4898

Cellular Telephone: (224) 545-1137

Email: emanke@vhills.org

Wireless Coverage for Consolidated System:

100 % Phase II compliant

100 % Phase I compliant

Please check if applicable:

X NG9-1-1 capable

_____ Receive 9-1-1 Text

_____ Receive 9-1-1 Video

VERIFICATION

I, Edward J Manke, first being duly sworn upon oath, depose and say that I am Director, of VHCCC; that I have read the foregoing plan by me subscribed and know the contents thereof; that said contents are true in substance and in fact, except as to those matters stated upon information and belief, and as to those, I believe same to be true.

Edward J Manke

Director

Subscribed and sworn to before me

this 11 day of July, 20 22.

NOTARY PUBLIC, ILLINOIS

"OFFICIAL SEAL"
LAURA ERICKSON
Notary Public, State of Illinois
My Commission Expires 5/11/2025

9-1-1 SYSTEM PROVIDER
LETTER OF INTENT

07/11/2022
(Date)

Lisa Wirtanen
(9-1-1 System Provider Company Representative)

AT&T
(9-1-1 System Provider Company Name)

4918 W. 95th Street
(Street Address)

Oak Lawn, IL. 60453
(City, State, Zip Code)

Dear Lisa Wirtanen:

This letter is to confirm our intent to modify our 9-1-1 System. Enclosed is your copy of our modification plan to be filed with the Department of the Illinois State Police for approval. Thank you for your assistance in this matter.

Sincerely,

(Name)
(Title) DIRECTOR OF COMMUNICATIONS

enclosure: Modification Plan

NARRATIVE STATEMENT:

(Provide a detailed summary of system operations for a modified 9-1-1 plan. Also, if incorporating an NG9-1-1 solution, please include the additional items listed below pursuant to 1325.205 b)12).

1) Indicate the name of the certified 9-1-1 system provider being utilized.
2) Explain the national standards, protocols and/or operating measures that will be followed.
3) Explain what measures have been taken to create a robust, reliable and diverse/redundant network and whether other 9-1-1 Authorities will be sharing the equipment.
4) Explain how the existing 9-1-1 traditional legacy wireline, wireless and VoIP network, along with the databases, will interface and/or be transitioned into the NG9-1-1 system.
5) Explain how split exchanges will be handled.
6) Explain how the databases will be maintained and how address errors will be corrected and updated on a continuing basis.
7) Explain who will be responsible for updating and maintaining the data, at a minimum on a daily basis Monday through Friday.
8) Explain what security measures will be placed on the IP 9-1-1 network and equipment to safeguard it from malicious attacks or threats to the system operation and what level of confidentiality will be placed on the system in order to keep unauthorized individuals from accessing it.

Plan Narrative:

The Vernon Hills 9-1-1 System is transitioning from E9-1-1 to Next Generation 9-1-1 (NG911). AT&T is the 9-1-1 System Provider ("SSP").
The Vernon Hills 9-1-1 System will comply with all Federal and State laws and with National Emergency Number Association Standards (NENA) that pertain to NG911 including the NENA i3 Standard for Next Generation - NENA-STA-010.3a-2021.
The State of Illinois has selected AT&T to provide a statewide Next Generation 9-1-1 System. AT&T's ESInet combines AT&T's network capabilities with technology from Intrado Life &Safety, Inc. (Intrado). The AT&T ESInet solution will facilitate an efficient transition from legacy 9-1-1 networks to networks capable of supporting the growing demands of a mobile society. With AT&T ESInet, the State is taking advantage of AT&T's investment in a pre-built, cloud-based solution that delivers next-generation functionality. AT&T is also providing their industry-leading AT&T VPN MPLS network for primary access to all PSAPs.

AT&T's ESInet solution is a combination of their IP network and Next Gen Core Services (NGCS) components that includes industry leading SLAs, management services and tools to help ensure that they provide the best possible service.
The design is based on building redundant systems to avoid any single point of failure (SPOF) in the ESInet and the overall NG9-1-1 Network Architecture. The NG9-1-1 system will provide flexibility in the routing of calls. The ESInet being deployed has all PSAPs connected and can route calls based on not only location, but also by availability. In a Next Generation solution, a call will be answered through intelligent routing. Additionally, there will be more available positions to answer calls because all connected and tested PSAPs will be technically able to answer the call and will be able to dispatch or transfer the call to another PSAP.
AT&T's ESInet defense-in-depth security is built into the architecture. AT&T's Global IP network is monitored by 8 different Security Operations Center (SOC) facilities located across the world. AT&T uses its security portfolio capabilities to protect their data centers and networks.
AT&T's ESInet provides six (6) geographically diverse and fully redundant facilities to increase resiliency and survivability in natural and man-made disaster scenarios, with scalable capacity capable of supporting more than twice the 9-1-1 busy hour call for the entire United States. AT&T has documented business continuity and restoration plans, including complex disaster and evacuation contingencies. The 24x7 operations center employs an Incident Handling process modeled on FEMA's Incident Command System, with notifications built into the process.

Plan Narrative:

The ESInet is monitored 24x7x365 from a NOC with tier 2 and tier 3 technical resources dedicated to the AT&T ESInet. AT&T's 9-1-1 Resolution Center has dedicated public safety resources.
The AT&T ESInet provides a flexible routing platform that supports both ESN (tabular) and GIS (spatial) routing on the same Emergency Call Routing Function (ECRF).
The AT&T ESInet solution will interconnect to legacy selective routers as defined per NENA standards. AT&T provides redundant, public safety grade points of presence in each LATA for OSP ingress locations for Legacy Network Gateways (LNGs).
AT&T will interconnect to Legacy Selective Routers to transfer and/or receive calls with Automatic Number Identification (ANI) and Automatic Location Identification (ALI) information to the State's NGCS via legacy means through the Legacy Selective Router Gateway (LSRG). Interconnections will also allow legacy PSAPs served by legacy selective routers to serve as the abandonment route for PSAPs served by the AT&T ESInet solution.

Connectivity extends beyond the internal ESInet transport to external network and OSP interfaces. The ESInet supports both TDM and IP OSP ingress at geographically distributed Points of Interconnection (POI's). The ESInet supports standards-based protocol interfaces to external ESInets for call hand-off and call transfers. With pre-established connectivity capabilities, PSAPs on the ESInet have the ability to transfer calls to PSAPs on other ESInets or PSAPs that have not yet transitioned off legacy selective routers.
AT&T will coordinate getting the OSPs records into the AT&T ESInet database. AT&T will also jointly plan the interconnecting network with the OSP. Circuits will be ordered and implemented between the OSP and the ESInet POI. The ESInet POI may reside in an AT&T office or hub. AT&T will cooperatively test and turn up all trunking arrangements with the OSP. Traffic migrations from the legacy to new AT&T infrastructure will follow.
Integrated Text-to-911 is supported by the ESInet.
AT&T is responsible for negotiating interconnection agreements and trunking arrangements with each service provider. Interconnection agreements will include the roles and responsibilities of the Parties related to the exchange of 9-1-1 traffic including but not limited to, split rate centers, tandem to tandem and IP connections.
GIS data is submitted to the AT&T ESInet via a web-based spatial interface (SI) portal. The portal provides secure GIS file transfer. 9-1-1 Authorities can maintain their local database schema and configure database changes using attribute field mapping tools.
The Spatial Interface (SI) validation engine logs errors and refers errors back to the originating 9-1-1 Authority in comprehensive reports that are retrieved in the 9-1-1 Enterprise Geospatial Database Management System (9-1-1EGDMS). Validation errors are corrected by the 9-1-1 Authority within their own GIS database. Updates are submitted and processed on an on-going basis.

AT&T's ESInet cyber security policies, standards, and guidelines are consistent with industry best practices as defined by International Organization for Standardization and Control Objectives for Information and related Technology. The AT&T ESInet is a highly secure, privately managed IP network providing IP based call routing services for next generation 9-1-1 call delivery. All inbound and outbound traffic interactions are with pre-authorized entities, utilize agreed upon protocols and traverse controlled access points. Call processing and real-time data delivery are protected through both physical and logical controls.
Sensitive data resides in trusted data centers that employ logical and physical access controls. All hardware and software elements deployed in a production environment go through stringent release management processes that incorporate thorough penetration scan testing. Corporate and development environments are separate from production and are not used in development or system test environments. Inter-zone traffic is restricted to only that of authorized personnel and the necessary protocols destinations used to support the management and applications of the ESInet with all other traffic implicitly denied by way of redundant and diverse Session Border Controllers (SBC) and stateful firewalls.
A Network Operations Center (NOC) staffed 24 hours a day, seven days a week, 365 days a year to actively monitor and manage the AT&T ESInet end-to-end service is provided. When a potential or actual Customer-affecting issue is detected, the Incident Administration team is engaged by the NOC. The team uses established processes that are ISO 9001:2008-compliant for immediate escalation, notification, resolution, and reporting. All buildings, NOC and Data Center access are monitored by 24x7 security and access control systems.

Currently we will be using INTRADO into our Viper 911 system which will auto populate to our Tyler CAD system. All text to 911 calls will be handled in a TTY fashion. Once the State Authority established proper guidelines we will than incorporate those into our SOP's.

Mundelein Police is our current Alternate Public Safety Answering Point. When emergency calls at VHCCC is such that an overflow of calls is produced, the overflow will transfer to Mundelein. In the event our Center has to evacuate we will manually turn our emergencies calls over to Mundelein and relocate to their location. once we are clear to return we will have Mundelein flip our calls back to our Center. Calls for service that are received by Mundelein will be relayed to Vernon Hills officers for dispatch via the Starcom Radio Network.

FINANCIAL INFORMATION

Annual recurring 9-1-1 network costs prior to modification	$ Ø
Projected annual recurring 9-1-1 network costs after modification	$ Ø
Installation cost of the project	$ Ø
Anticipated annual revenues	$ Ø

FIVE YEAR STRATEGIC PLAN
FOR MODIFIED PLAN

(Provide a detailed summary of the proposed system's operation, including but not limited to, a five-year strategic plan for implementation of the modified 9-1-1 plan with financial projections)

Narrative:

Remain the same.

Test Plan Description i3

TEST #	TEST CASE	TYPE
1	Trunk Verification (SIP)	Call Routing
2	Trunk Verification (SS7 Ingress from LSR)	Call Routing
3	Trunk Verification (SS7 Egress from AGC to LSR)	Call Routing
4	Perform reboot and validation on each AT&T network edge router at PSAP	Failover test
5	Perform WAN interface shutdown and validation on each AT&T network edge router at PSAP	Failover
6	Perform reboot and validation on each ATT Interface Router (between CPE and AT&T router)	
7	Wireline Call Routed to PSAP through AT&T ESInet	Equipment
8	Wireless Call Routed to PSAP through AT&T Esinet	Equipment
9	VOIP Call Routed to PSAP through AT&T ESInet	Equipment
10	CPE bids i3 Components	Call Handling
11	i3 Routing Fails, Routing via SRDB for Wireline call	Call Routing
12	i3 Routing via ECRF for Wireline call	Call Routing
13	i3 Transfer: Fixed Bridge Conferencing Confirmation (Call to IP PSAP then bridge to i3 PSAP if available – willing PSAP)	Call Handling
14	S/R Transfer: Selective Bridge Conferencing Confirmation, if used by the PSAP	Call Handling
15	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Handling
16	S/R Transfer: Fixed Bridge Conferencing Confirmation	Call Handling
17	PSTN Transfer: Fixed Bridge Conferencing Confirmation	Call Handling
18	Manual Transfer to valid local TN	Call Handling
19	Manual conference bridging to invalid unassigned number	Call Handling
20	Manual conference bridging to a valid 8YY number	Call Handling
21	Manual conference bridging to a valid Busy number	Call Handling
22	Manual conference bridging to a Multi-Party Conference	Call Handling
23	Manual conference bridging to a valid long-distance cell	Call Handling
24	Alternate Routing	Call Routing
25	Ring no Answer Timer	Call Routing
26	No position Logged In	Call Routing
27	Abandonment Routing	Call Routing
28	Un-Abandonment Routing	Call Routing
29	Abandonment Routing – PAD Testing (if PAD available)	Call Routing
30	Un-Abandonment Routing – PAD Testing (if PAD available)	Call Routing
31	Test line appearances that appear on each CPE	Call Processing
32	TTY call	Call Handling
33	TTY conference call	Call Handling

COMMUNITIES SERVED

Provide a list of all communities to be served by the proposed 9-1-1 System. Please include the name of the community and the official mailing address including street address, city and zip code.

USE ADDITIONAL SHEETS AS NECESSARY

City, Town or Village	Street Address, City, Zip Code
Vernon Hills	745 N Lakeview Pkwy, IL. 60061
Libertyville	200 E Cook St, IL. 60048

PARTICIPATING AGENCIES

Provide a list of public safety agencies (Police, Fire, EMS etc.) that are to be dispatched by the 9-1-1 System. Each Agencies land area(s) in square miles and estimated population which will have access to the proposed 9-1-1 System. Do not forget to include County Sheriff's jurisdiction and Illinois State Police Districts. Each agency that appears on this list should also have signed a call handling agreement.

9-1-1 Participant Agencies	Street Address, City, Zip Code	Administrative Telephone No.	Direct Dispatch	Transfer	Call Relay
Vernon Hills Police	754 N Lakeview Pkwy., Vernon Hills, 60061	(847) 362-4439	X		
Liberytville Police	200 E Cook St., Libertyville, 60048	(847) 362-8310	X		
Countyrside Fire Prot. Dist.	600 N Deerpath, Vernon Hills, 60048	(847) 367-5511	X		
Libertyville Fire Dept.	1551 N. Milwuakee Ave, Libertyville 60048	(847) 362-5664	X		

CARRIER LISTING

(Wireline, Wireless, VoIP)

Provide a list of each carrier that will be involved in the proposed system.

(USE ADDITIONAL SHEETS AS NECESSARY)

CARRIERS	STREET ADDRESS, CITY, ZIP CODE	TELEPHONE NUMBER
AT&T		(888) 243-1911
SBC		(866) 730-8154
CLEC		(217) 824-6398
Allegiance		(800) 421-3872
CBeyond		(866) 424-9233
CIMCO		(630) 691-8080
Focal		(877) 453-8353
Frontier		(877) 262-6822
Global COM		(888) 859-1531
Global Crossing		(888) 859-0911
Intermedia		(650) 641-4000
Level 3		(888) 404-9750
MCI		(800) 275-0014
McLeod		(800) 332-2385
MFS-Intelenet		(312) 580-0170
MGC		(480) 719-8656
MPower	585 218 6550	585 218 6550
Paetec		(800) 345-4484
Sprint		(913) 928-4107
TDS Metrocom		(888) 790-1216
WorldCom		(800) 844-1001
XO Com		(888) 575-6398
Verizon Wireless		(800) 922-0204
Cricket		(800) 274-2538
T-Mobile		(866) 735-7700
Comcast		(800) 934-6489

ADJACENT AGENCIES LIST

Provide a list of public safety agencies and existing 9-1-1Systems that are adjacent to the proposed system's boundaries. Each agency that appears on this list should also have signed a call handling agreement and/or aid outside jurisdictional boundaries.

AGENCY	STREET ADDRESS, CITY, ZIP CODE	TELEPHONE NUMBER
Mundelein Police Dept.	221 N. Lake St. Mundelein IL. 60060	(847) 968-4600
Buffalo Grove Police Dept.	46 Raupp Blvd. Buffalo Grove IL. 60089	(847) 459-2560
Lake County Sheriff	25 N. Martin Luther King Jr Ave. Waukegan IL. 60085	(847) 549-5200
Lake County ETSB	1300 S. Gilmer Volo, IL. 60073	(847) 487-8163
Deerfield Police Dept.	850 Waukegan Rd. Waukegan IL. 60015	(847) 945-8636
Lake Forest Police Dept.	255 W. Deerpath Rd. Lake Forest IL. 60045	(847) 234-2601
Gurnee Police Dept.	100 O'Plenie Rd. Gurnee IL. 60031	(847) 599-7000
Lake Bluff Police Dept.	45 E. Center Ave. Lake Bluff IL. 60044	(847) 234-8760
Waukegan Police Dept.	101 N. West St. Waukegan IL. 60085	(847) 360-9000
Lake Bluff Police Dept.	45 E. Center Ave. Lake Bluff IL. 60044	(847) 234-8760
Cenom 911	911 Lotus Dr. Round Lake IL. 60073	(847) 270-9111
Glenview Public Safety 911	2500 E. Lake Ave. Glenview IL. 60026	(847) 234-8760
Foxcomm 911	301 South US. Route 59 Fox Lake IL. 60020	(847) 587-3100
Wheeling Police Dept.	1 Community Blvd. Wheeling IL. 60090	(847) 459-2632
Lake Zurich Police Dept.	200 Mohawk Trl. Lake Zurich IL. 60047	(847) 438-2349
Northwest Central Dispatch 911	1975 E. Davis St. Arlington Hgts. IL. 60005	(847) 398-1130
RED Center 911	1842 Shermer Rd. Northbrook IL. 60062	(847) 498-5827
Grayslake Police Dept.	10 S. Seymour Grayslake IL. 60030	(847) 223-2341
Wauconda Police Dept.	311 S. Main St. Wauconda IL. 60084	(847) 526-2421
North Chicago Police Dept.	1850 Lewis Ave. North Chicago IL. 60064	(847) 596-8700
Lincolnshire Police	1 Olde Half Day Rd Lincolnshire 60069	(847) 883-9900

ATTACHMENTS

Ordinance - The local ordinance which created an ETSB prior to January 1, 2016.

Contracts - The contract for a new 9-1-1 system provider or for NG 9-1-1 service.

Intergovernmental Agreement

Back-up PSAP Agreement - The agreement that establishes back-up service due to interruptions or overflow services between PSAPs.

Network Diagram - Diagram provided by the 9-1-1 System Provider. Re-evaluate P.01 grade of Service for cost savings and network efficiency.

Village of Vernon Hills
754 Lakeview Parkway • Vernon Hills, IL 60061-1834 • AC/847-362-4449 • Fax/847-367-3734
Police Department

Patrick L. Kreis
Chief of Police

AGREEMENT

Alternate Public Safety Answering Point

For 9-1-1 Emergency Communications

This agreement is made between the Public Safety Answering Point, here in after referred to as "PSAP" and the Mundelein Police Department for the purpose of effective handling and routing of E-911 and wireless 911 emergency calls for police/fire assistance.

Call Handling

When the volume of emergency calls at the Vernon Hills Police Department Public Safety Answering Point is such that an overflow of emergency calls is produced, the overflow of emergency calls will be transferred to the Mundelein Police Department. The Mundelein Police Department, located at 221 North Lake Street, Mundelein, IL 60060, will serve as the secondary Public Safety Answering Point (PSAP), and will be utilized in the event that the primary Public Safety Answering Point becomes inoperable, providing the Mundelein Police Department is physically capable of receiving such calls. It would then become the receiving center for all emergency public safety services provided to the Village of Vernon Hills. When the Mundelein Police Department receives the emergency call for service originating from the Village of Vernon Hills, they will dispatch the call via local radio STARCOM21 to the Vernon Hills Police Department and an emergency unit will respond to the call for assistance. The Mundelein Police Department will collect the appropriate information about the caller and transfer this information back to the Vernon Hills Public Safety Answering Point for the proper recording of this information.

Vernon Hills Police Department

Patrick L. Kreis

Chief of Police

Mundelein Police Department

Chief of Police

12/20/2021

TEST PLAN DESCRIPTION

1) Description of test plan (back-up, overflow, failure, database).

Remain the same

2) List wireline exchanges to be tested.

N/A

3) List of wireless and VoIP Carriers to be tested.

N/A

Village of Vernon Hills Police Department

754 Lakeview Parkway • Vernon Hills, IL 60061-1834 • AC/847-362-4449 • Fax/847-367-3734

Mark G. Fleischhauer
Chief of Police

AGREEMENT

Alternate Public Safety Answering Point

For 9-1-1 Emergency Communications

This agreement is made between the Public Safety Answering Point,hereinafter referred to as "PSAP" and the Mundelein Police Department for the purpose of effective handling and routing of E-911 and wireless 911 emergency calls for police/fire assistance.

Call Handling

When the volume of emergency calls at the Vernon Hills Police Department Public Safety Answering Point is such that an overflow of emergency calls is produced, the overflow of emergency calls will be transferred to the Mundelein Police Department. The Mundelein Police Department, located at 221 North Lake Street, Mundelein, IL 60060, will serve as the secondary Public Safety Answering Point (PSAP), and will be utilized in the event that the primary Public Safety Answering Point becomes inoperable, providing the Mundelein Police Department is physically capable of receiving such calls. It would then become the receiving center for all emergency public safety services provided to the Village of Vernon Hills. When the Mundelein Police Department receives the emergency call for service originating from the Village of Vernon Hills, they will dispatch the call via local radio STARCOM21 to the Vernon Hills Police Department and an emergency unit will respond to the call for assistance. The Mundelein Police Department will collect the appropriate information about the caller and transfer this information back to the Vernon Hills Public Safety Answering Point for the proper recording of this information.

Vernon Hills Police Department

Chief of Police

Mundelein Police Department

Public Safety Director

AGREEMENT

Alternate Public Safety Answering Point

For 9-1-1 Emergency Communications

This agreement is made between the Public Safety Answering Point, hereinafter referred to as "PSAP" and the Vernon Hills Police Department for the purpose of effective handling and routing of E-911 and wireless 911 emergency calls for police/fire assistance.

Call Handling

When the volume of emergency calls at the Joint Central Lake County ETSB PSAP is such that an overflow of emergency calls is produced, the overflow of emergency calls will be transferred to the Vernon Hills Police Department. The Vernon Hills Police Department, located at 754 Lakeview Parkway, Vernon Hills, IL 60061, will serve as the secondary PSAP, and will be utilized in the event that the primary Joint Central Lake County ETSB PSAP becomes inoperable, providing the Vernon Hills Police Department is physically capable of receiving such calls. It would then become the receiving center for all emergency public safety services provided to all participating agencies in the Joint Central Lake County ETSB. When the Vernon Hills Police Department receives the emergency call for service originating from the Joint Central Lake County ETSB PSAP, they will dispatch the call via local radio channel 470.8625 to the appropriate jurisdiction and an emergency unit will respond to the call for assistance. The Vernon Hills Police Department will collect the appropriate information about the caller and transfer this information back to the Joint Central Lake County ETSB PSAP for the proper recording of this information.

Mundelein Police Department

Eric J. Guenther
Chief of Police

Vernon Hills Police Department

Patrick Kreis
Chief of Police