

LUCAS COUNTY HOSPITALS
DECONTAMINATION PREPLANS



Developed by:

**TOLEDO FIRE & RESCUE
SPECIAL OPERATIONS BUREAU**

In Cooperation with:

LUCAS COUNTY FIRE CHIEFS ASSOCIATION

LUCAS COUNTY HOSPITALS

2011 Revised



Toledo Fire & Rescue Special Operations Bureau

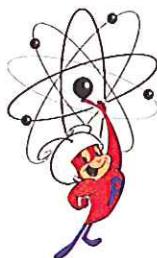


Deputy Chief Thomas Jaksetic

Captain Greg Tillman

Lieutenant Victor Ellis

Lieutenant Ronald Magers





LUCAS COUNTY HOSPITALS DECONTAMINATION PREPLANS

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LUCAS COUNTY HOSPITALS DECONTAMINATION PREPLANS

In 2002, the Lucas County Fire Chief's Association, in cooperation with the Joint Terrorism Task Force, and the Toledo / Lucas County Metropolitan Medical Response System (MMRS) developed a plan to protect the hospitals and their staffs in the event of a Weapons of Mass Destruction Incident. This plan was deemed necessary after the Tokyo, sarin nerve agent attack in 1995. The impact that the hospitals experienced from the contaminated patients and worried well that converged on the hospitals was devastating to their operation. The Lucas County planning team determined that the hospitals were our last line of defense and that the impact of them becoming contaminated from self-rescuing patients would be disastrous, causing Emergency Departments to become incapacitated or to be shut down. This plan was developed and written to be implemented in the event of a Weapons of Mass Destruction Incident occurring in our jurisdiction. Accordingly, the following actions must be taken:

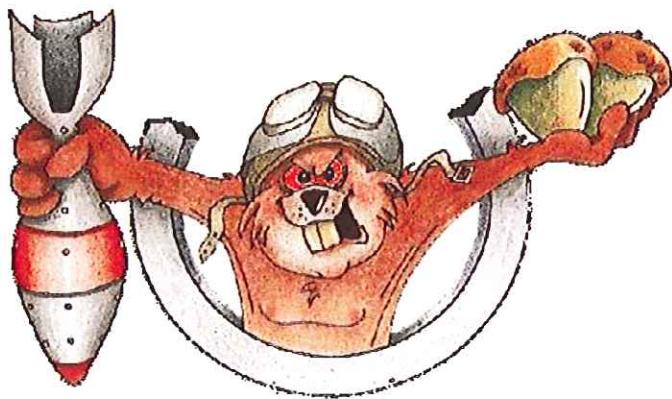
1. First responders must be trained to identify a weapon of mass destruction incident.
2. The hospitals must be notified through the appropriate communication channels that a Weapons of Mass Destruction event has occurred.
3. The hospitals must go to a lockdown status to keep the contaminated, self-rescued victims out to keep from contaminating the Emergency Departments.
4. The contaminated, self-rescued victims must be deconned prior to gaining access to the hospital Emergency Departments.
5. No victim would be transported from the incident site without first being deconned by first responders. (Trauma patients with radiological contamination are an exception.)
6. In order to decon the self-rescued victims, a Lucas County fire department apparatus would be dispatched to each of the eight county hospitals to provide gross decontamination or augment the hospital fixed systems.

This Hospital Decontamination Preplans manual shows the primary and secondary decon sites at the hospitals and the locations where patients should be dropped off when transported by EMS providers. An Addendum was included to assist first responders with equipment guidelines, operating procedures, and response aids.

This manual was put together with the aid of each of the eight county hospitals' security, safety, and emergency department managers, with the intent to mesh the hospital internal emergency operations plans with the fire department decon procedures. These plans are subject to change and immediate revisions based upon infrastructure changes at the hospitals or the evolution of an incident and the direction of the hospital incident command and thus, should only be considered to be operational guidelines.

This document, "Lucas County Hospitals Decontamination Preplans", was prepared under a grant from FEMA's National Preparedness Directorate, U.S. DHS. Points of view or opinions expressed in this document are those of the authors and do not necessarily represent the official position or policies of FEMA's National Preparedness Directorate or the U.S. DHS.

TOLEDO FIRE & RESCUE DEPARTMENT SPECIAL OPERATIONS BUREAU



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(419) 466-2236 Cell
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Lieutenant: Ron Magers (419) 936-3540 Office
(419) 466-1778 Cell
E-mail: ronald.magers@toledo.oh.gov



Lucas / Northern Wood County Fire Departments

Fire Department	Fire Chief	Address	City	Zip Code	Phone No.	Alt. Phone No.
Jerusalem Twp. Fire Department	Harold Stanton	9501 Jerusalem Rd.	Curtice	43412	(419) 836-7302	(419) 466-6227
Maumee Fire Department	Richard C. Monto	450 W. Dussel Dr.	Maumee	43537	(419) 897-7057	(419) 897-7050
Monclova Twp. Fire Department	Kevin Bernhard, Sr.	4395 Albion Rd.	Monclova	43542	(419) 865-9423	(419) 265-0107
Oregon Fire Department	Ed Ellis	5002 Seaman	Oregon	43616	(419) 698-7019	(419) 461-7057
Perrysburg Fire Department	Jeff Klein	140 W. Indiana Ave.	Perrysburg	43551	(419) 872-8025	
Perrysburg Twp. Fire Department	Thomas Brice	26609 Lime City Rd.	Perrysburg	43551	(419) 887-6922	(419) 872-8879
Providence Twp Fire Department	T. Schreiber	8149 Main St.	Neapolis	43547	(419) 875-6592	
Richfield Twp. Fire Department	Ronald Tate	11450 Sylvania Ave.	Berkey	43504	(419) 829-2055	(419) 340-5226
Rossford Fire Department	James Verbosky	133 Osborn St.	Rossford	43460	(419) 666-0210	
Spencer Twp. Fire Department	Michael Koepplinger	9445 Frankfort	Holland	43528	(419) 865-2101	
Springfield Twp. Fire Department	Barry Cousino	7617 Angola Rd.	Holland	43528	(419) 865-4136	(419) 865-8771
Sylvania Twp. Fire Department	Jeff Kowalski	8210 W. Sylvania Ave.	Sylvania	43560	(419) 882-7676	(419) 261-9878
Toledo Fire Department	Luis Santiago	545 N. Huron St.	Toledo	43604	(419) 245-1097	(419) 245-1126
Washington Twp. Fire Department	Matt Hart	2469 Shoreland Ave.	Toledo	43611	(419) 726-6119	(419) 726-2453
Waterville Fire Department	Steve Parsons	751 Waterville-Monclova Rd.	Waterville	43566	(419) 878-0165	(419) 266-8191
Whitehouse Fire Department	Daryl McNutt	10550 Waterville St.	Whitehouse	43571	(419) 877-0363	(419) 262-8100

HOSPITAL DECON PROCEDURE

Upon given the assignment to gross decon, the unit or company will complete the following:

ARRIVAL AT HOSPITAL	
1	Verify the correct decon location for the hospital responding to in the "Hospital Decon Procedures" Manual.
2	Stop apparatus at a safe distance away from the assigned decon site to allow the engine driver time to don gear before arriving at the site.
3	Begin moving up to appropriate Decon position as illustrated in "Hospital Decon Procedures" Manual.
4	All members must be in Personal Protective Equipment (PPE) with S.C.B.A or Air Purifying Respirator (APR) in place and in-service prior to exiting the apparatus.
5	Take the hydrant. Verify in the "Hospital Decon Procedures" Manual whether hospital maintenance must be contacted to turn off the fire pump prior to opening the hydrant.
6	Position apparatus to begin Decon operation as identified by hospital procedures, accounting for wind direction and other variables.
7	Quickly estimate the number of victims and severity of injuries.
8	Communicate the request for assistance and or equipment if needed.
DECON OPERATION	
9	Using the Hospital Decon Procedures" Manual, identify if the hospital has a functional decon team and system and prepare to supplement their operation.
10	Begin flowing water within 1 minute. Consider using a stretched hand line and pumping from the tank.
11	Change over from tank to hydrant.
12	Establish a proper "hands-off" water flow by using a 2 ½" nozzle on the side discharge and incorporating the deck gun.
13	Once "hands-off" water flow is established consider shutting down stretched hand line if deemed necessary for safety.
14	Monitor the effectiveness of water pressure, (normally between 60-80 psi), and fog patterns being used to decon patients.
15	Consider turning off apparatus if hydrant pressure allows for effective water flow.
16	Direct patients to disrobe and enter water for at least 3 minutes.
17	Consider the use of the PA system to address the crowd.

Bay Park Hospital



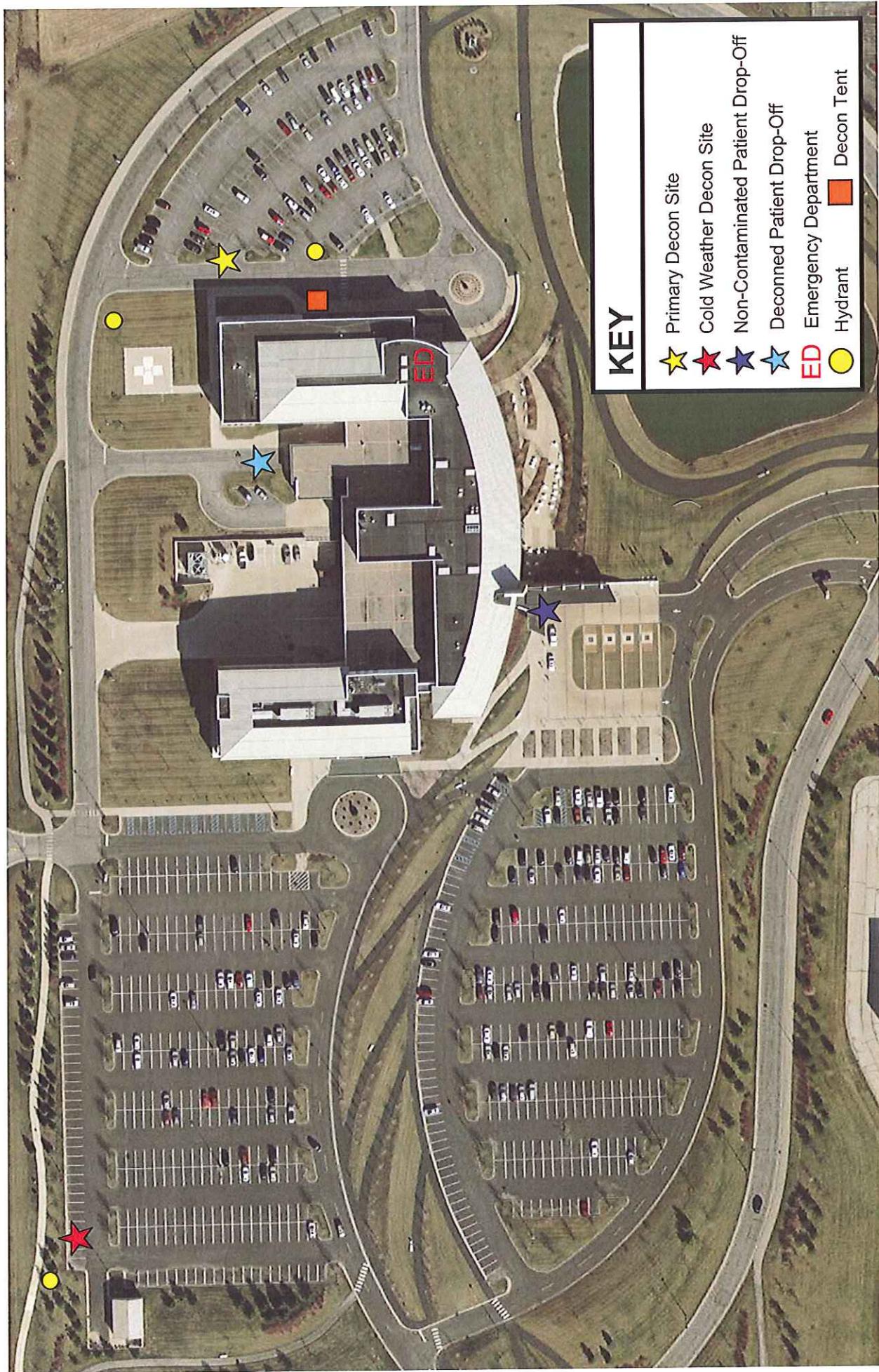
2801 Bay Park Drive
Oregon, OH 43616
(419) 690-7900

Safety Officer:	Tom Borer	(419) 690-8750	Office
		(419) 340-9338	Cell
Lead Security:	Bryan Loyer	(419) 690-8697	Office
Emergency Management Team:	Heidi Shank Kendra Contreras Dave Brewer	(419) 350-4578 (419) 690-7911 (419) 690-8753	
House Supervisor:	24/7 On Duty	(419) 690-8653	

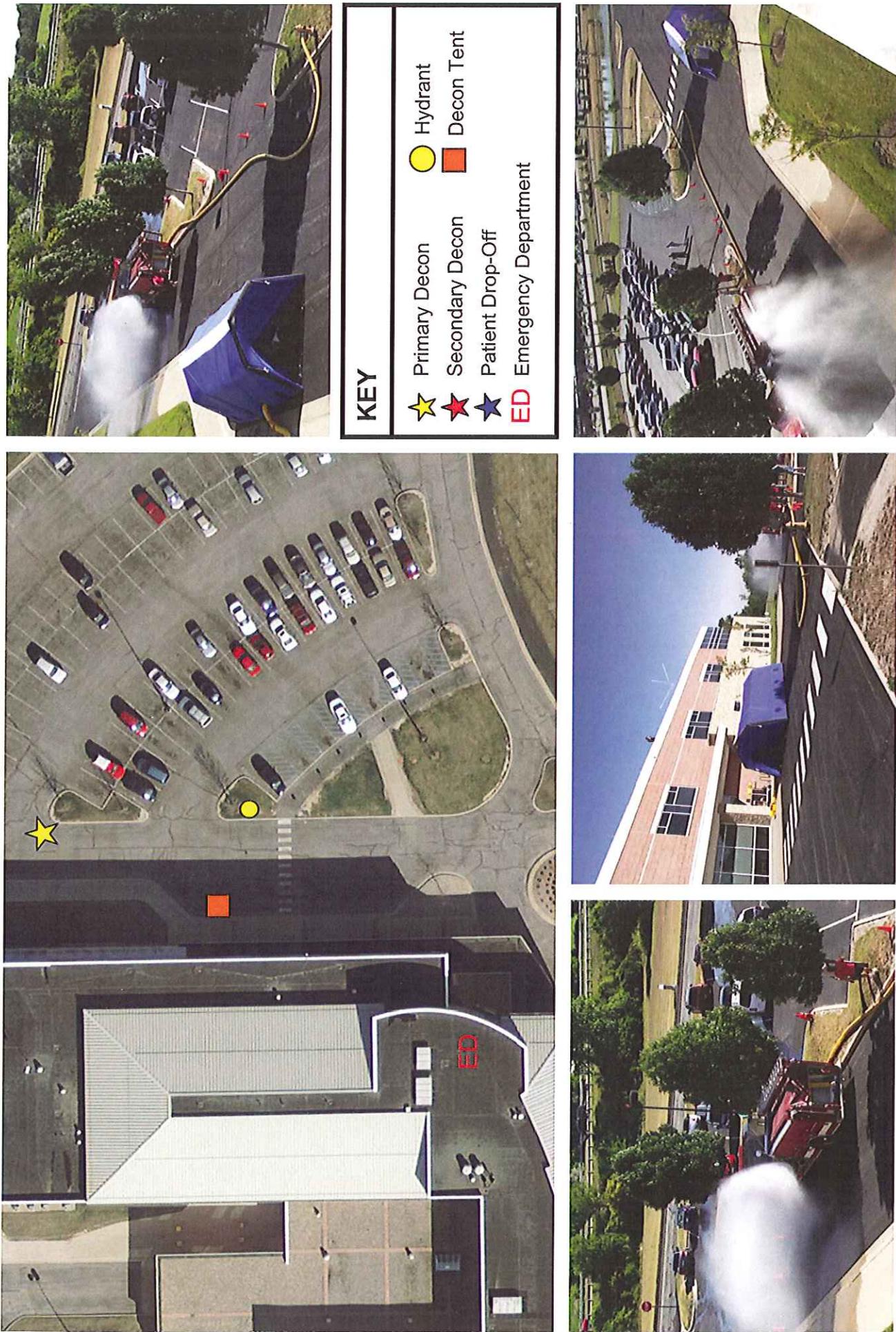
SPECIAL NOTES:

DECON TEAM YES	DECON TENT YES
DECON ROOM YES	DECON TRAILER NO
DECON SETUP YES (Pre-Plumbed Tent)	

Bay Park Hospital



Bay Park Hospital Primary Decon Site



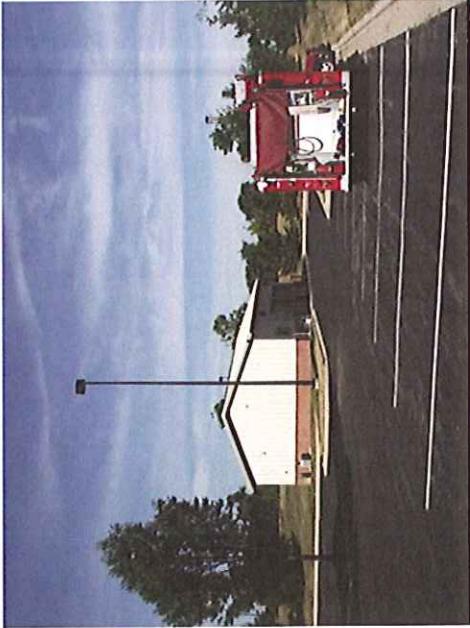
Bay Park Hospital

Cold Weather Decon Site

Bay Park Hospital's plan is if decon must be completed when it is cold, Incident Command will determine if it is necessary to move the decon away from the ED and sequester the patients in the heated out-building on the back side of the campus.

KEY

- ★ Primary Decon
- ★ Patient Drop-Off
- ★ Secondary Decon
- Hydrant
- CW** Cold Weather Building



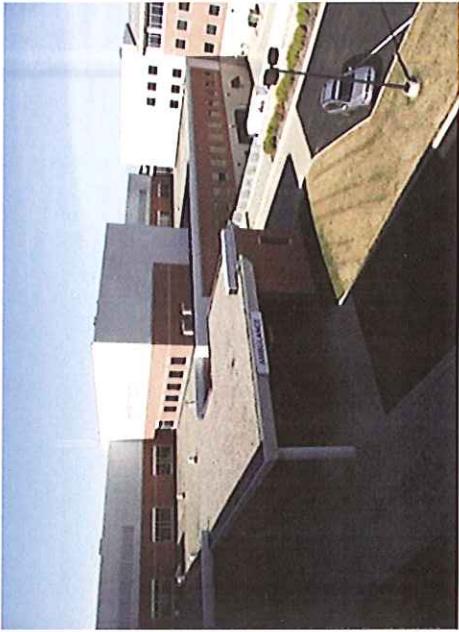
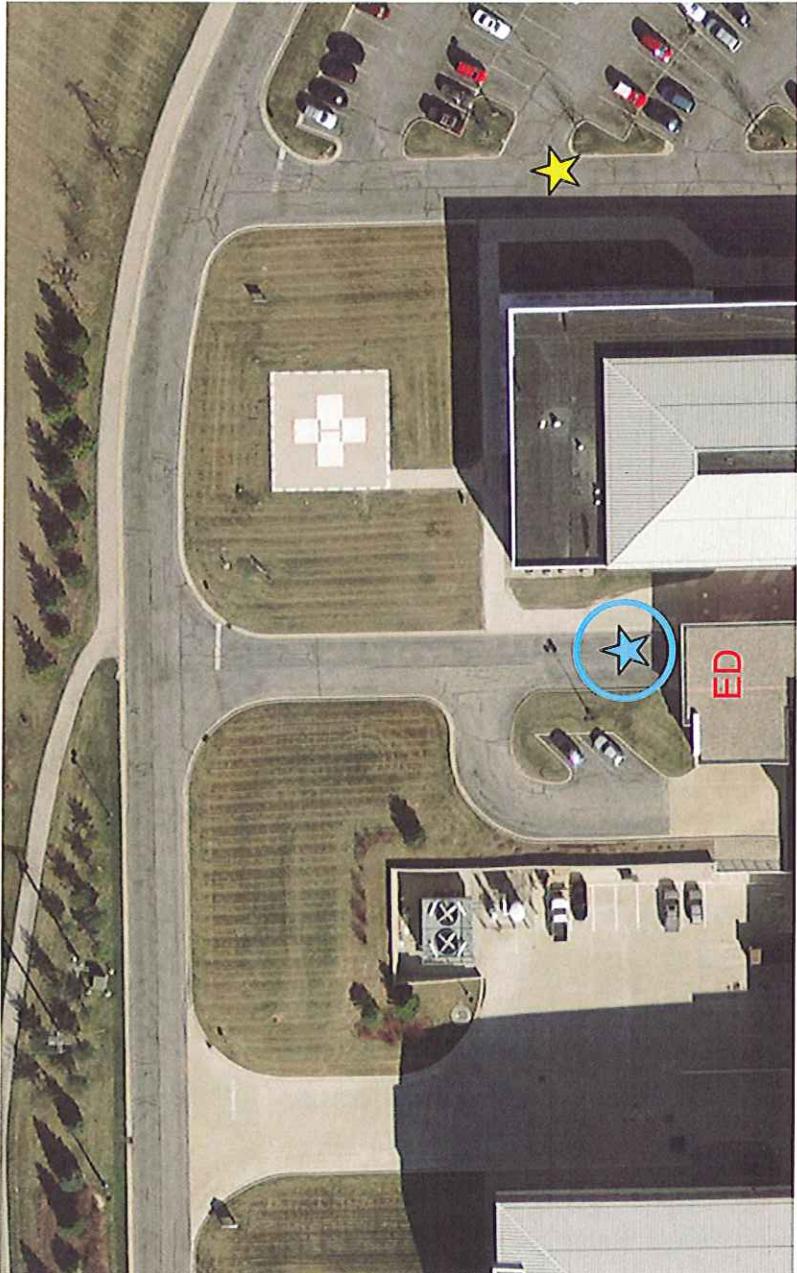
Bay Park Hospital

Deconned Patient Drop-Off

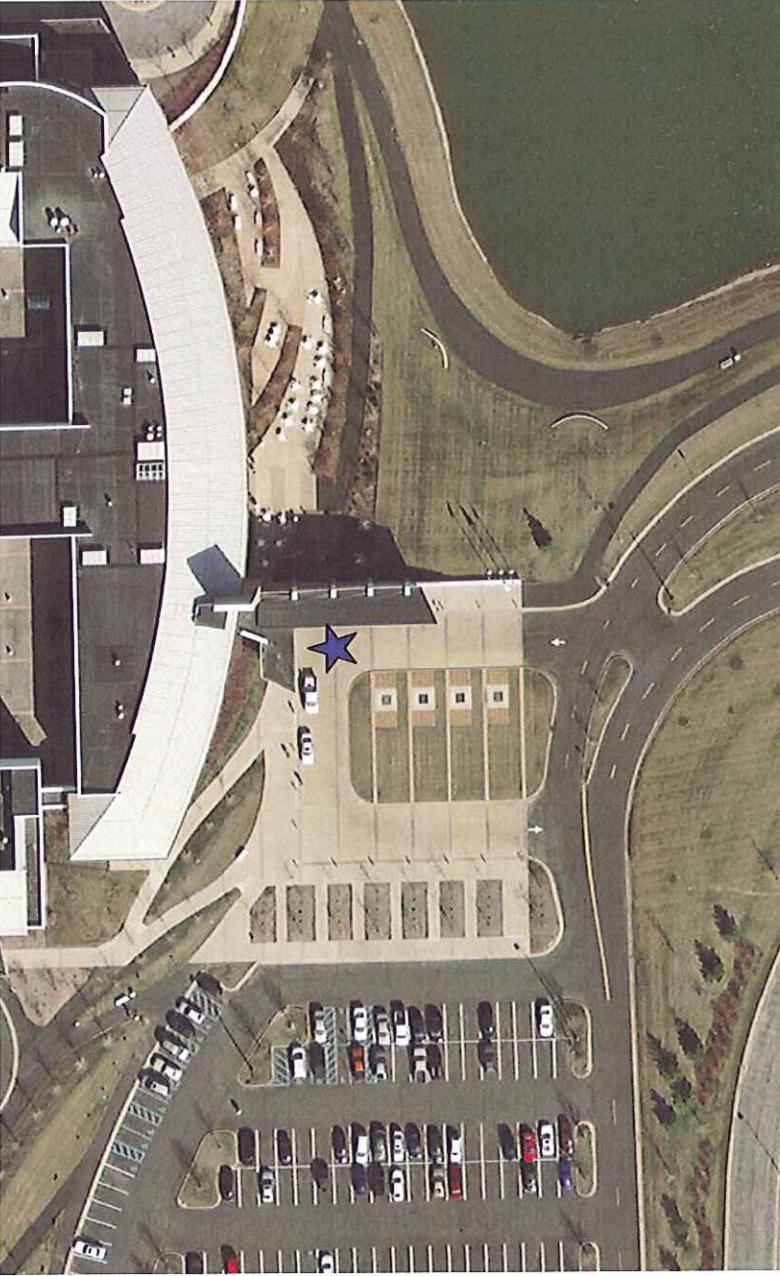
All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off at the regular ED entrance.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Deconned Patient Drop-Off
- Hydrant
- Decon Tent



Bay Park Hospital

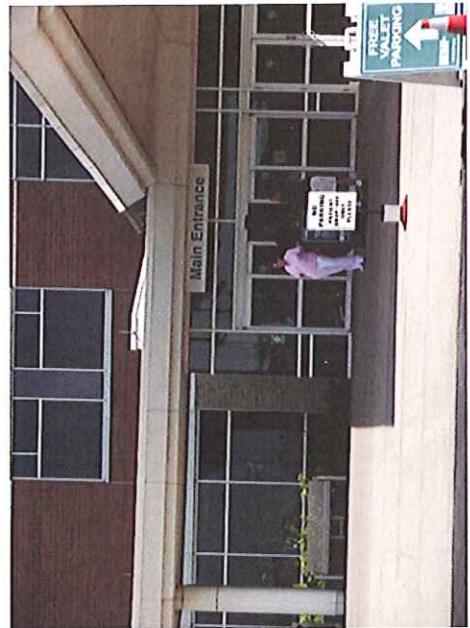


Non-Contaminated Patient Drop-Off

All patients who are being transported by EMS transports and do not need to be decontaminated will be dropped off at the Bay Park Hospital Main Entrance turn-around.

KEY

- ★ Primary Decon
- ★ Secondary Decon
- ED Emergency Department
- ☆ Non-Contaminated Patient Drop-Off



Flower Hospital



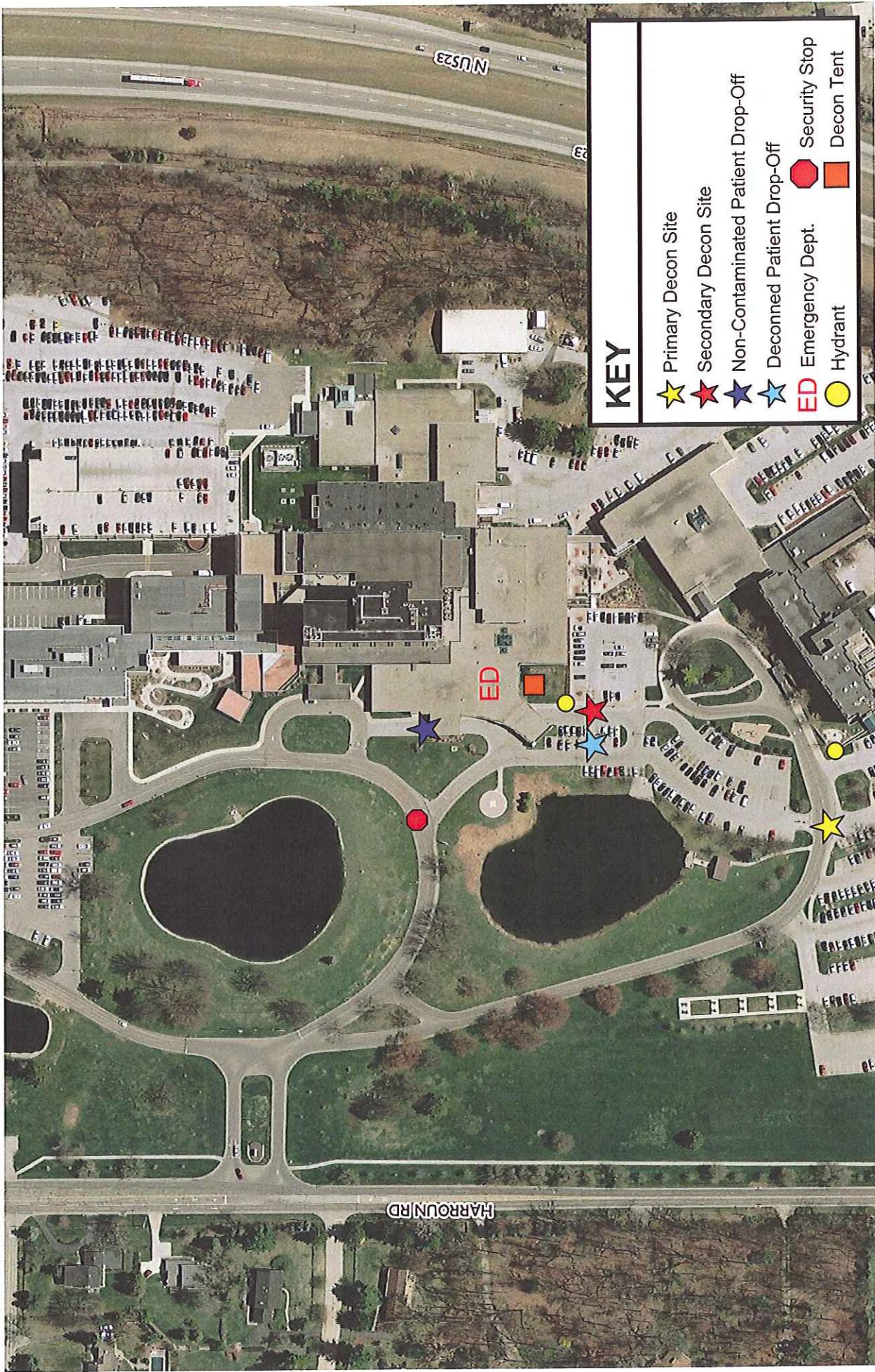
5200 Harroun Road
Sylvania, OH 43560-2196
(419) 824-1444

Safety Director:	Dave Hayford	(419) 824-1043	Office
Security Supervisor:	Jim Collins	(419) 824-1973	Office
Disaster Manager:	Jim Fenn	(419) 824-1666	Office
		(419) 321-0939	Pager
Hospital Switchboard:	24/7 On Duty	(419) 824-1444	

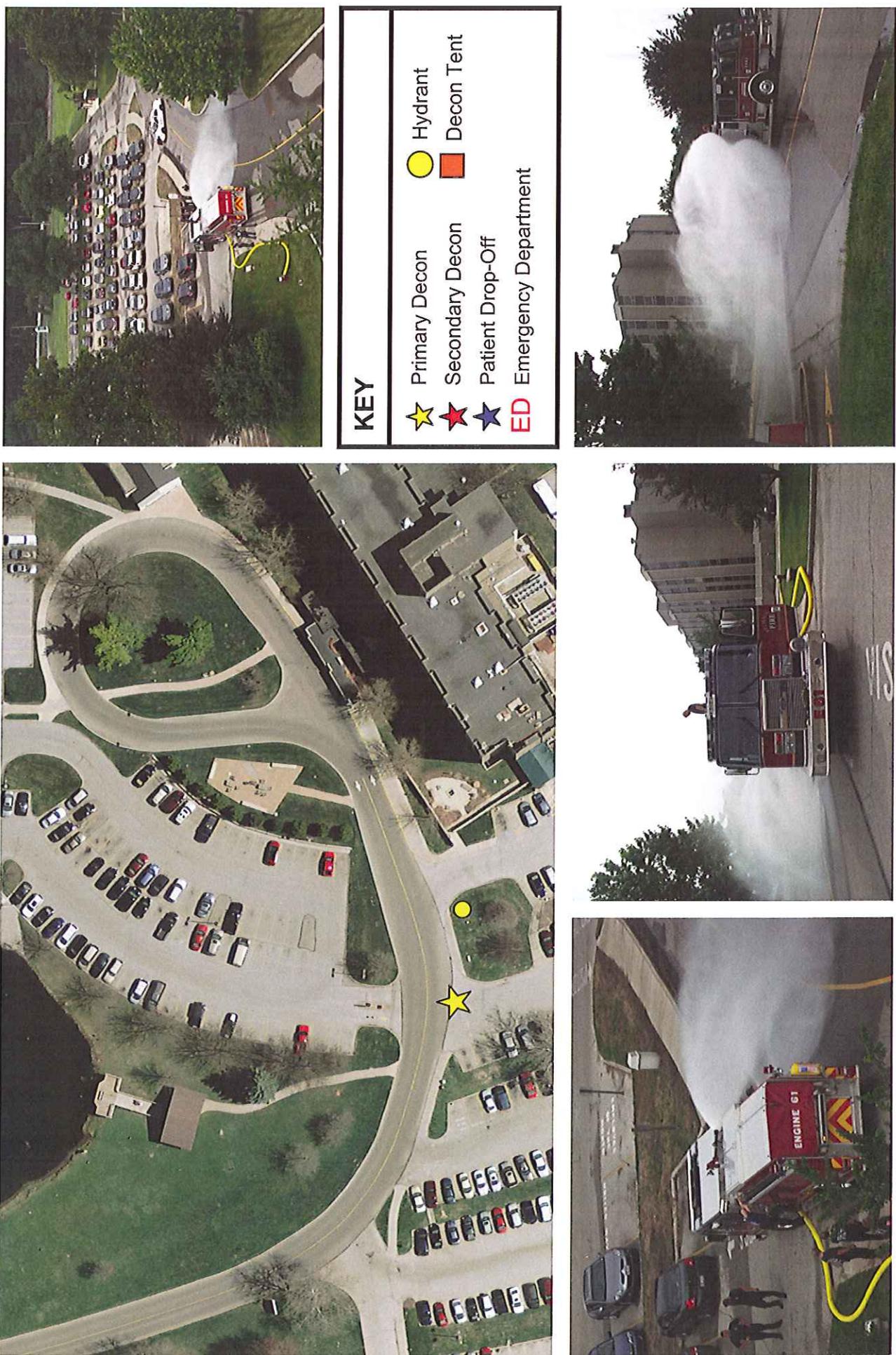
SPECIAL NOTES:

DECON TEAM	YES	DECON TENT	YES (2)
DECON ROOM	YES	DECON TRAILER	YES (2)
DECON SETUP	YES (Pre-Plumbed Tents)		

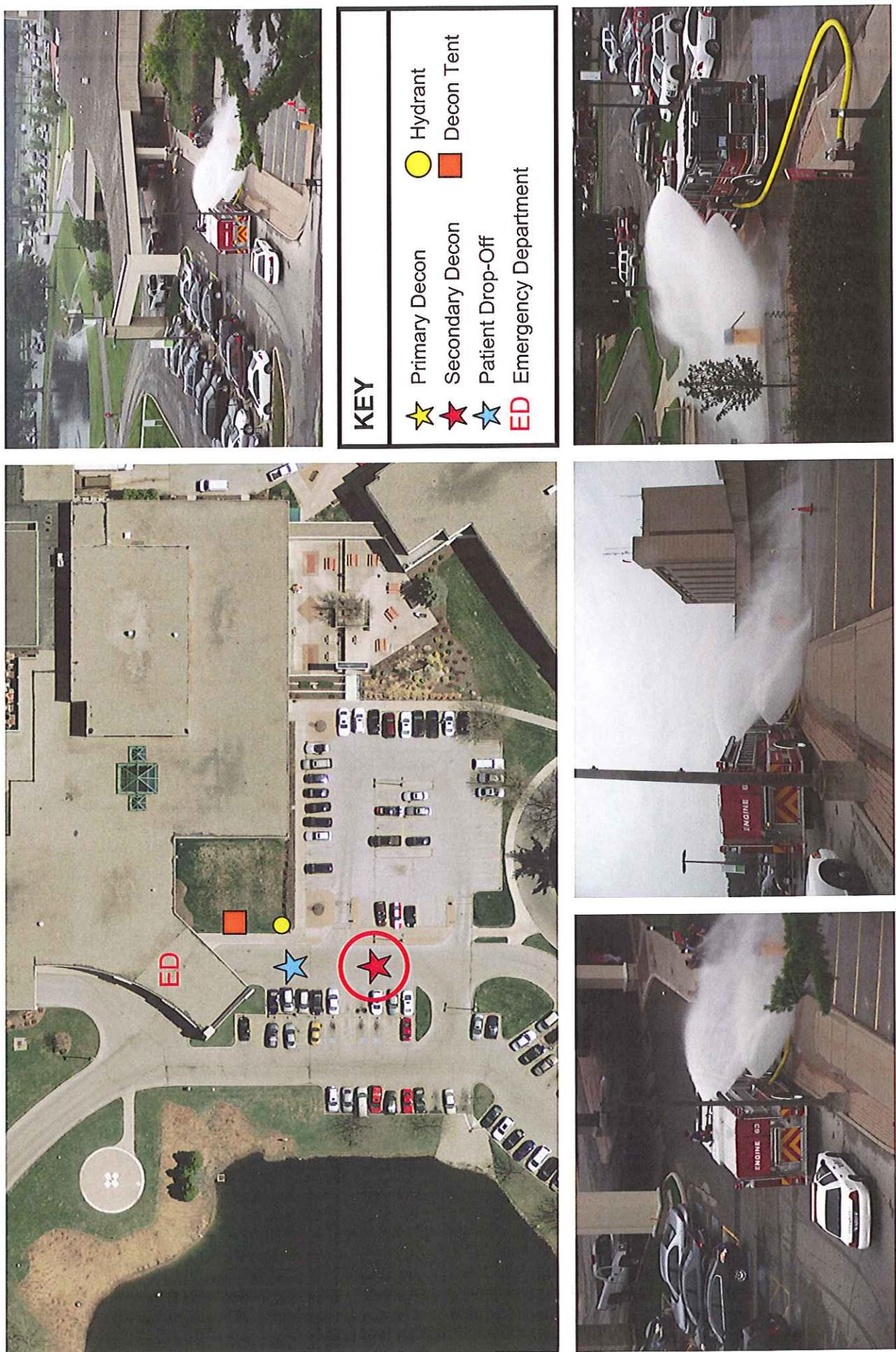
Flower Hospital



Flower Hospital Primary Decon Site



Flower Hospital Secondary Decon Site



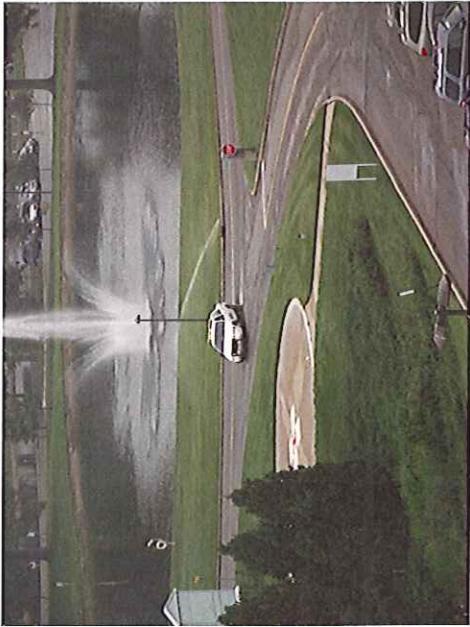
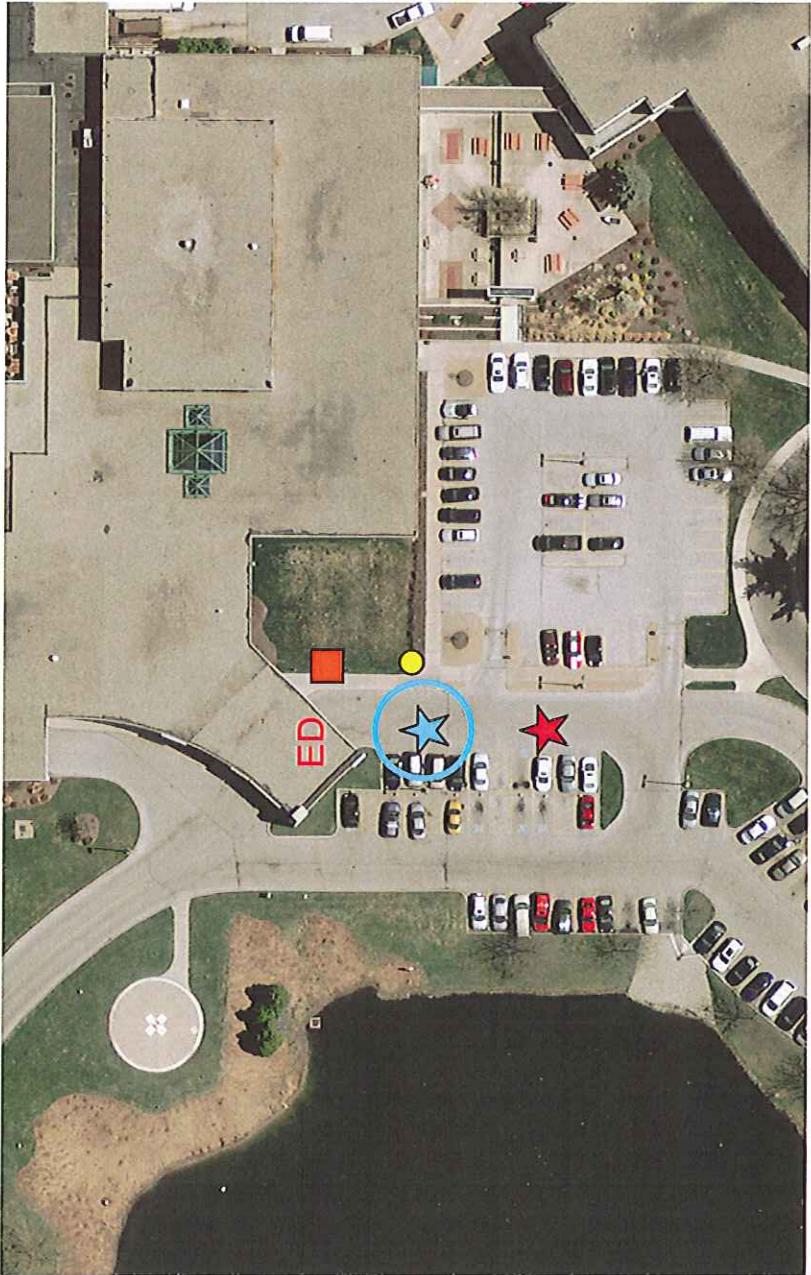
Flower Hospital

Deconned Patient Drop-Off

All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off at Flower Hospital's Decon tent near the Secondary Decon Site.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Deconned Patient Drop-Off
- Hydrant
- Decon Tent



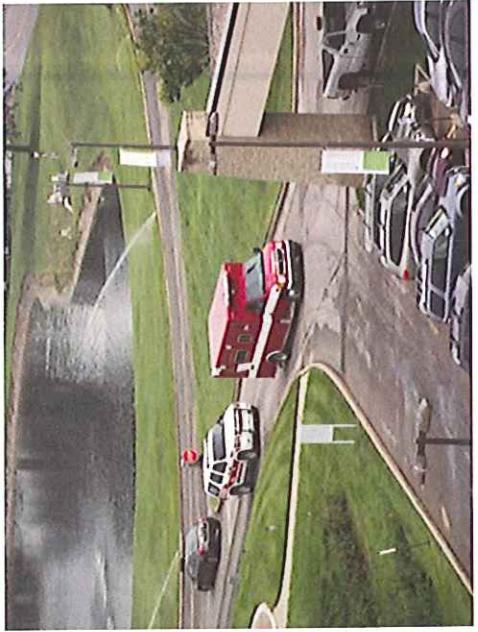
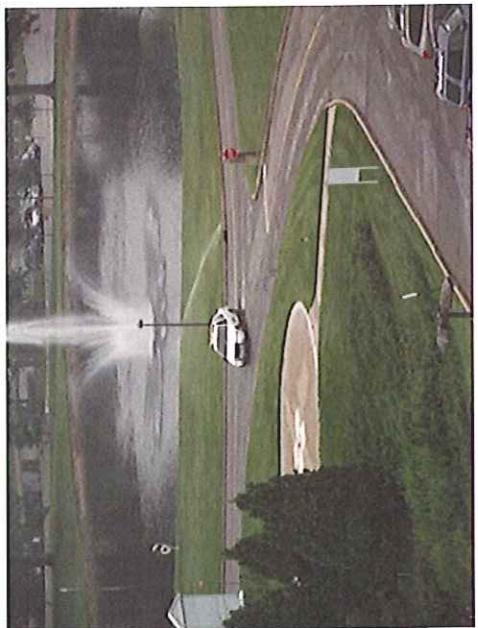
Flower Hospital

Non-Contaminated Patient Drop-Off

All patients who are being transported by EMS transports and do not need to be decontaminated will be dropped off at Flower Hospital's ED transport entrance.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Non-Contaminated Patient Drop-Off
- Hydrant
- Decon Tent



St. Anne Mercy Hospital



3404 W. Sylvania Ave.
Toledo, OH 43623
(419) 407-2663

Security Coordinator:	Lt. Ben Lozano	(419) 407-1911	Office
		(419) 467-6007	Cell
Safety Director:	Daria Mikulak	(419) 407-2560	Office
		(419) 705-3768	Cell
ED Supervisor:	Sue Seeger	(419) 407-1430	Office
		(419) 279-3738	Cell
Security Dispatch:	24/7 On Duty	(419) 251-4444	

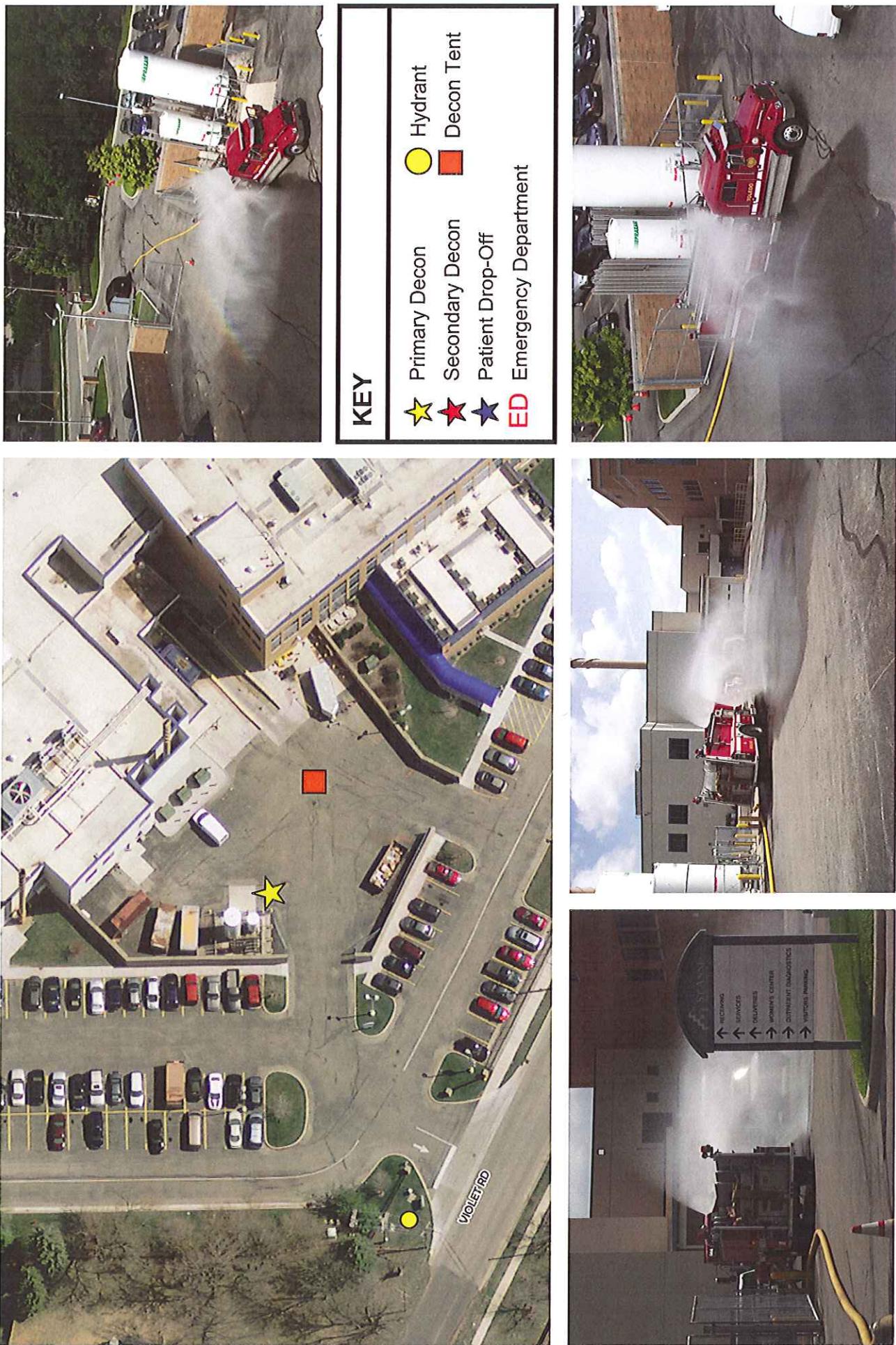
SPECIAL NOTES:

DECON TEAM	YES	DECON TENT	YES
DECON ROOM	YES	DECON TRAILER	YES
DECON SETUP	YES (Decon Shower Room & Tent)		

St. Anne Mercy Hospital



St. Anne Hospital Primary Decon Site



St. Anne Hospital Secondary Decon Site



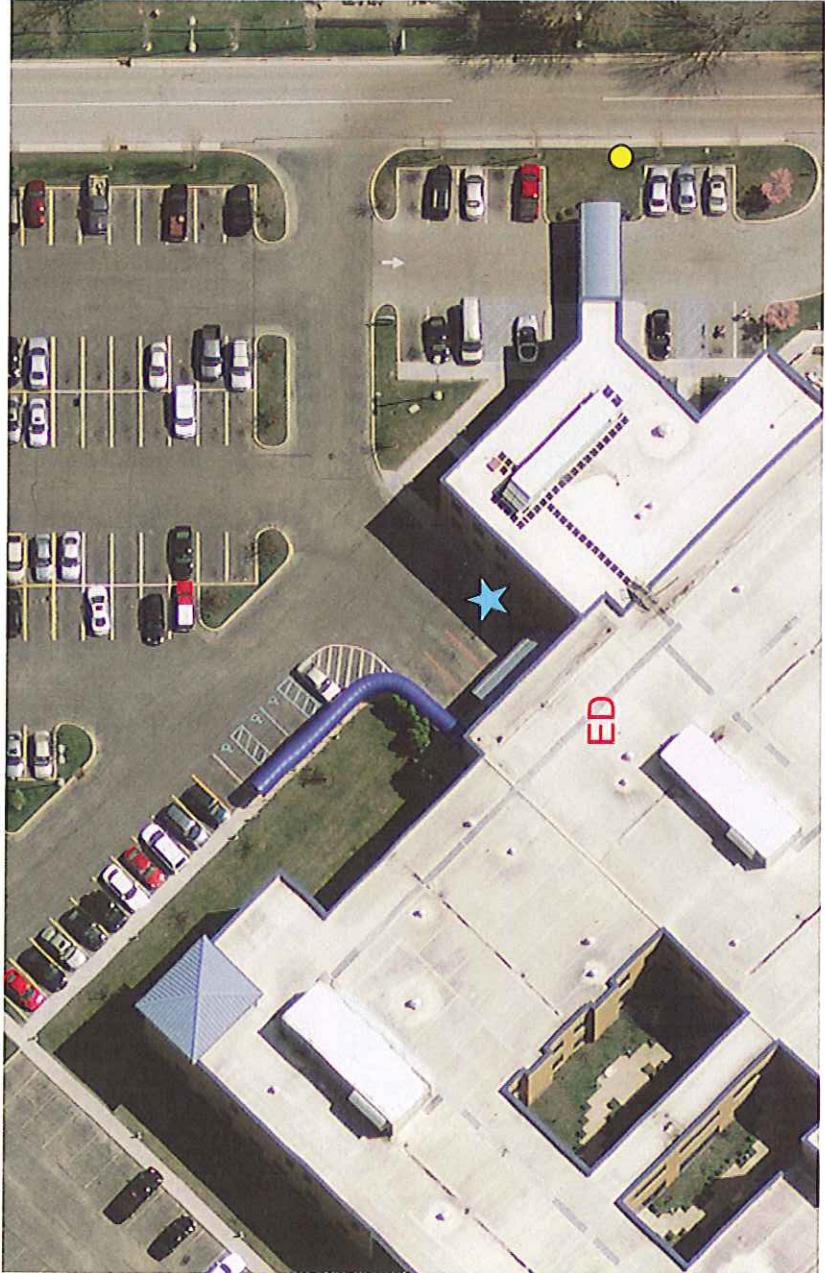
St. Anne Mercy Hospital

Deconned Patient Drop-Off

All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off at the regular ED entrance.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Deconned Patient Drop-Off



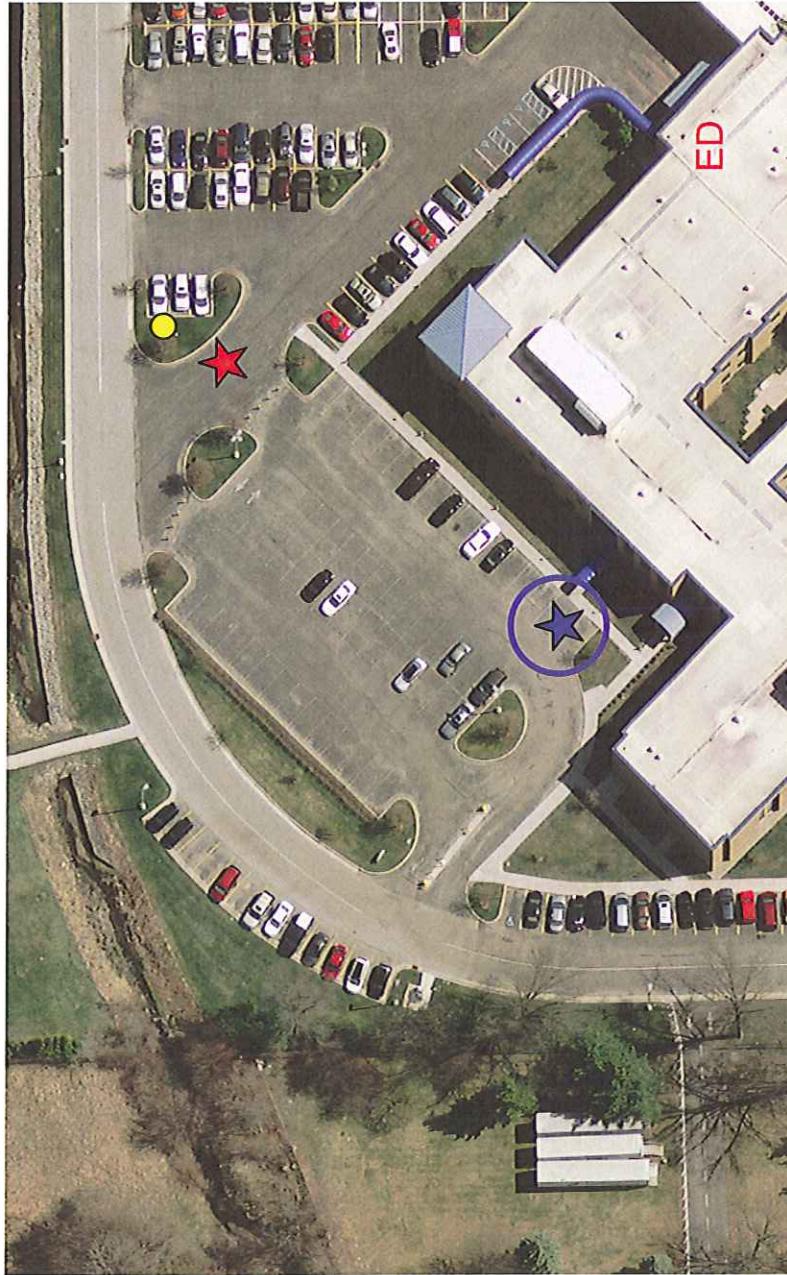
St. Anne Mercy Hospital

Non-Contaminated Patient Drop-Off

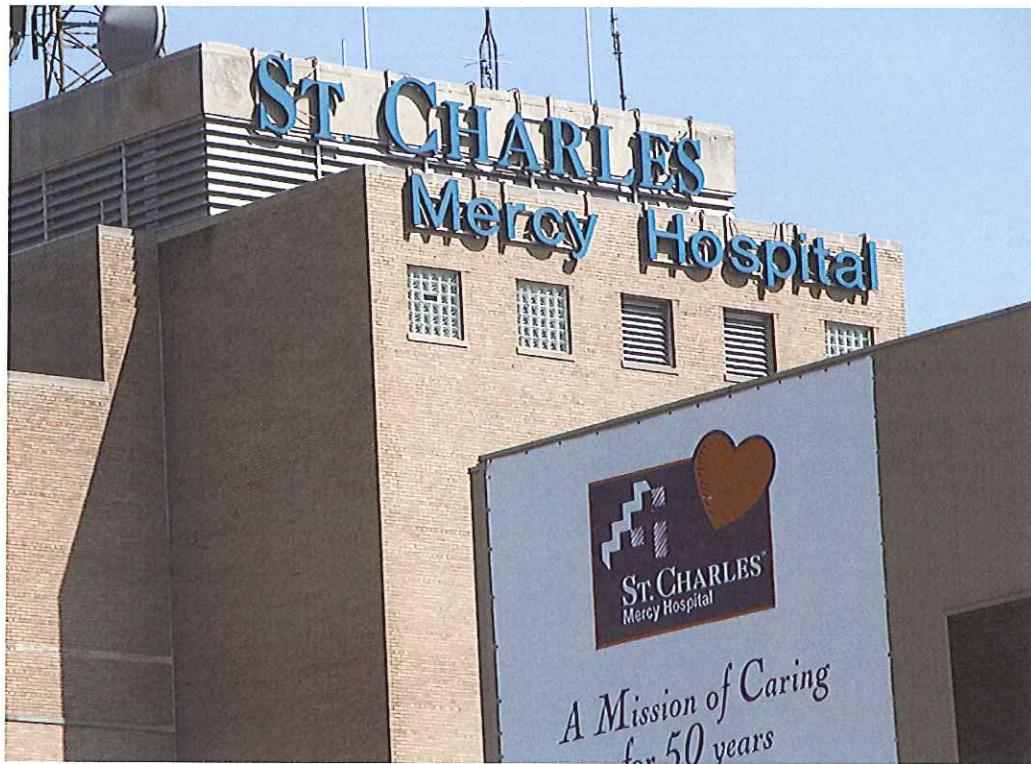
All patients who are being transported by EMS transports and do not need to be decontaminated will be dropped off in the Physicians parking area turn-around.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Non-Contaminated Patient Drop-Off
- Hydrant
- Decon Tent



St. Charles Mercy Hospital



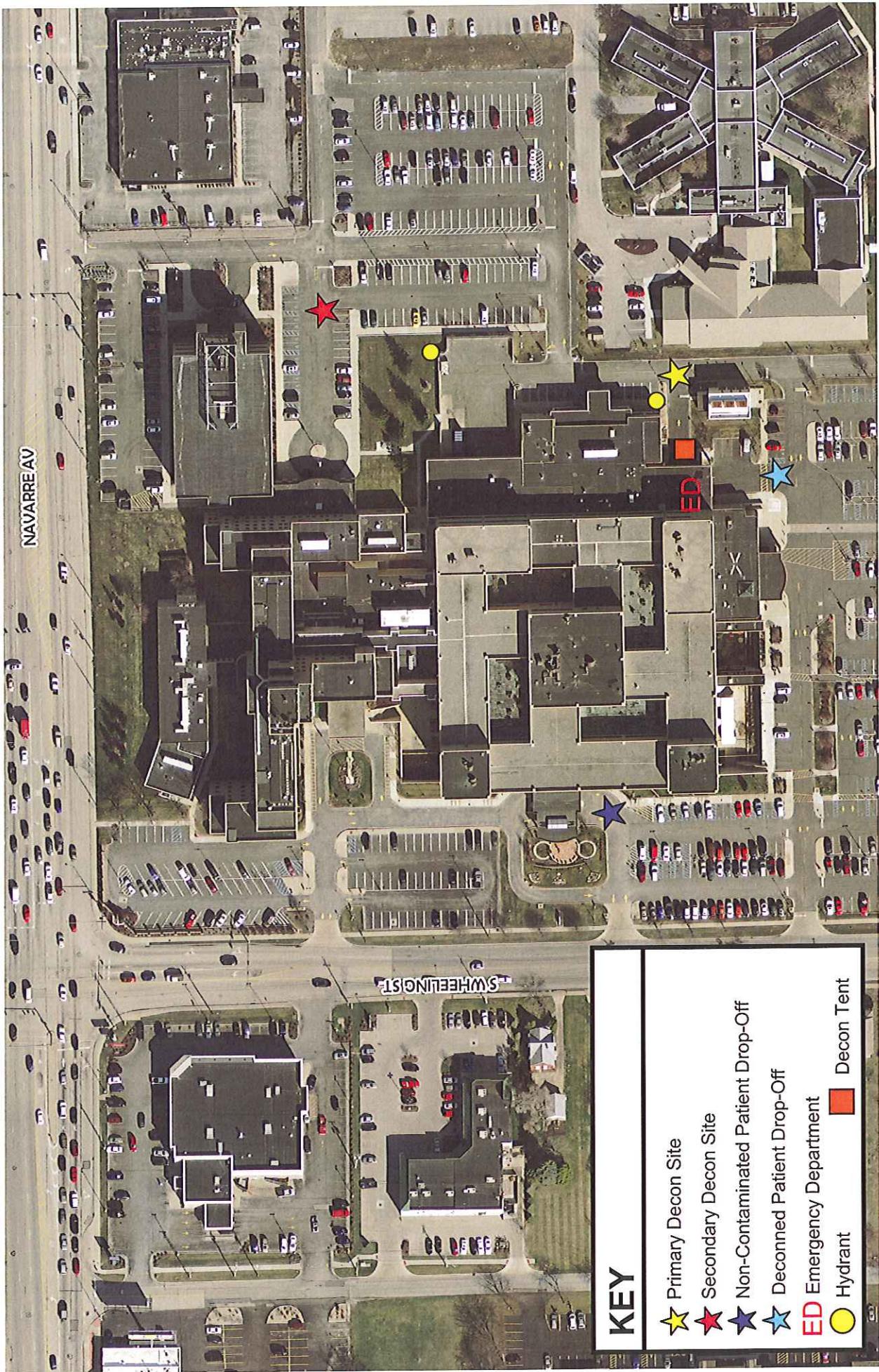
2600 Navarre Avenue
Oregon, OH 43616
(419) 696-7200

Safety Director:	Rose Heard	(419) 696-7459	Office
		(419) 262-2597	Cell
Security Manager:	Michael Fischer	(419) 696-7876	Office
Decon Team Leader:	Francie Bondy	(419) 696-7312	Office
ED Manager:	Denise Abbott	(419) 696-7279	Office
Hospital Switchboard:	24/7 On Duty	(419) 696-7200	

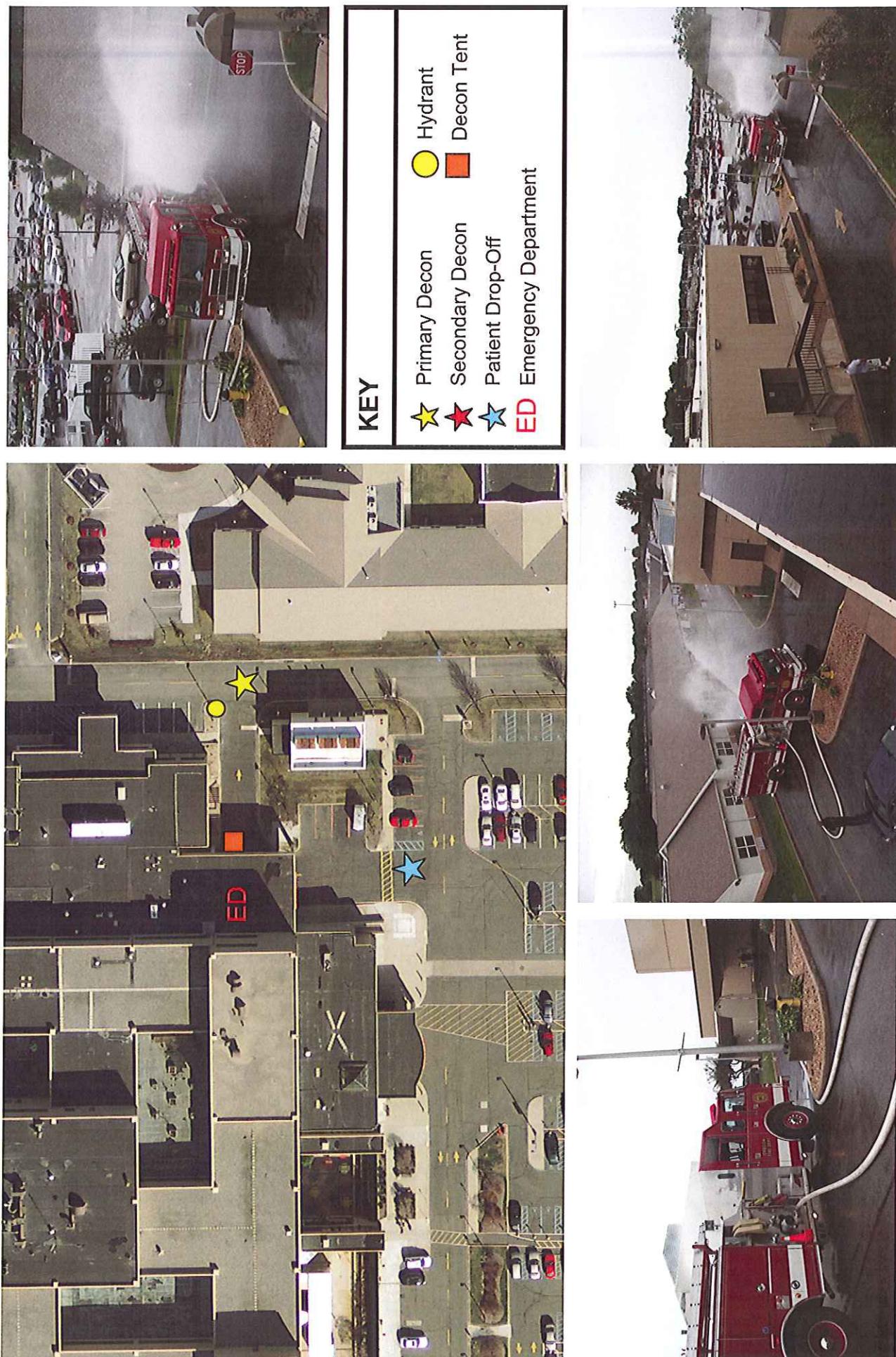
SPECIAL NOTES:

DECON TEAM	YES	DECON TENT	YES (2)
DECON ROOM	YES	DECON TRAILER	YES
DECON SETUP	YES (Pre-Plumbed Tents)		

St. Charles Mercy Hospital



St. Charles Hospital Primary Decon Site



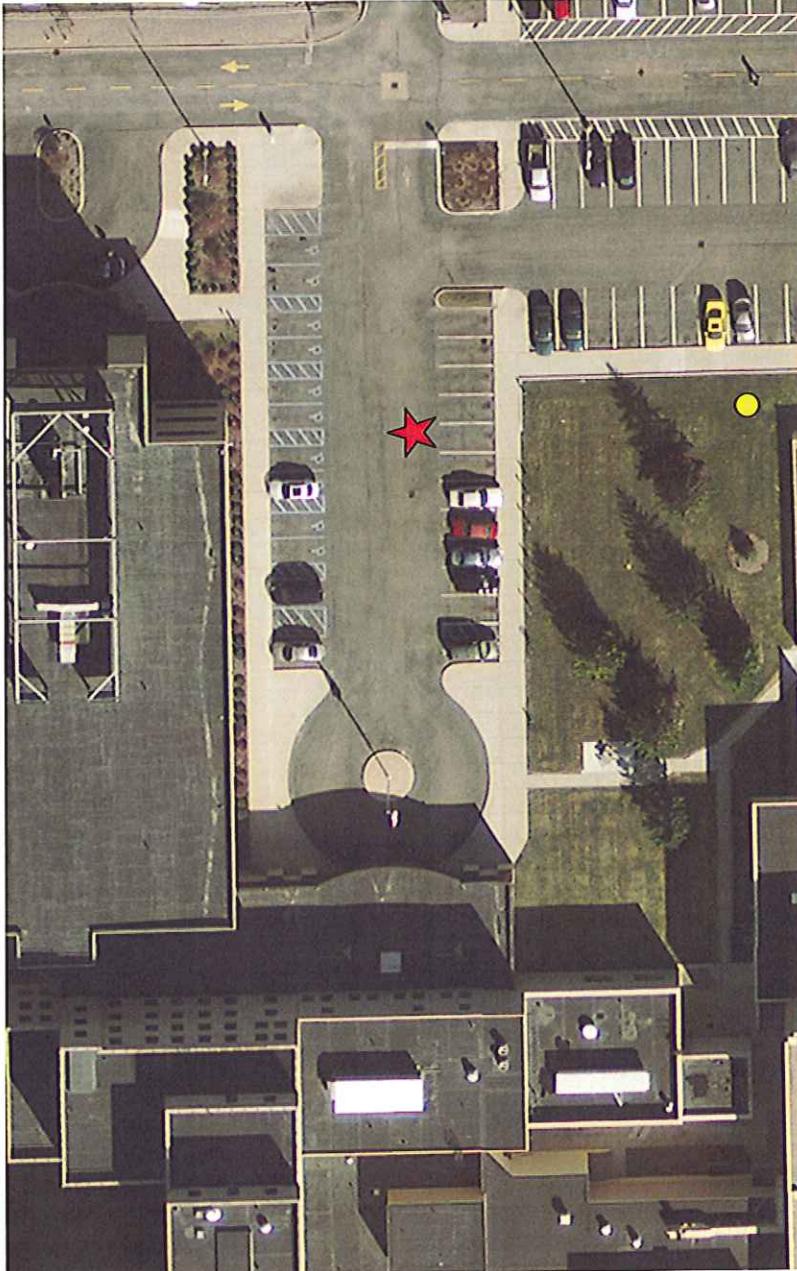
St. Charles Mercy Hospital

Secondary Decon Site

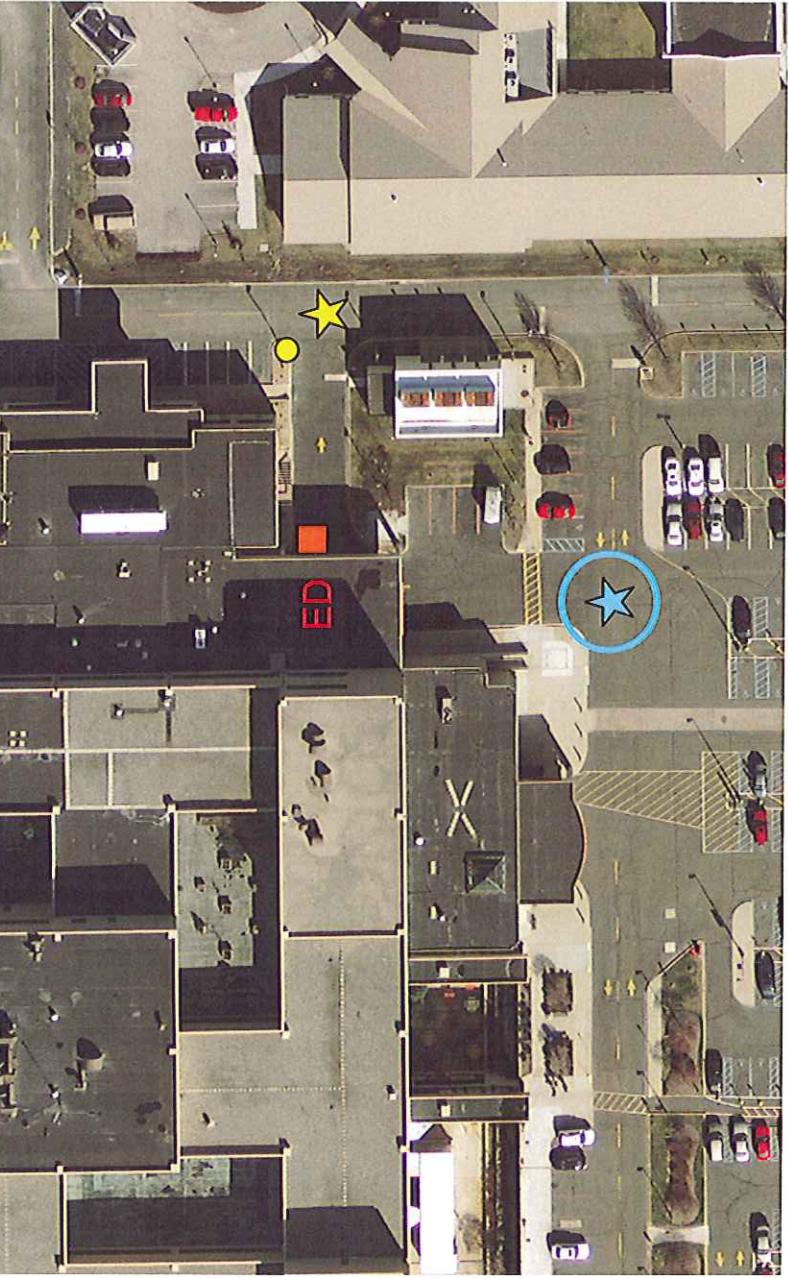
This Secondary Decon Site could potentially be used as a Cold Weather Decon Site as patients could be sequestered in the Outpatient Surgery building behind the engine. St. Charles IC will direct this set-up as it's not yet part of their plan.

KEY

- ★ Primary Decon
- ★ Secondary Decon
- ★ Patient Drop-Off
- ED Emergency Department
- Hydrant
- Decon Tent



St. Charles Mercy Hospital

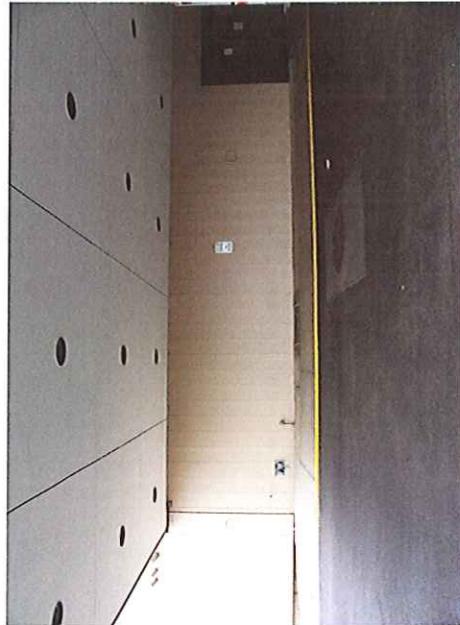


Deconned Patient Drop-Off

All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off at the regular ED entrance.

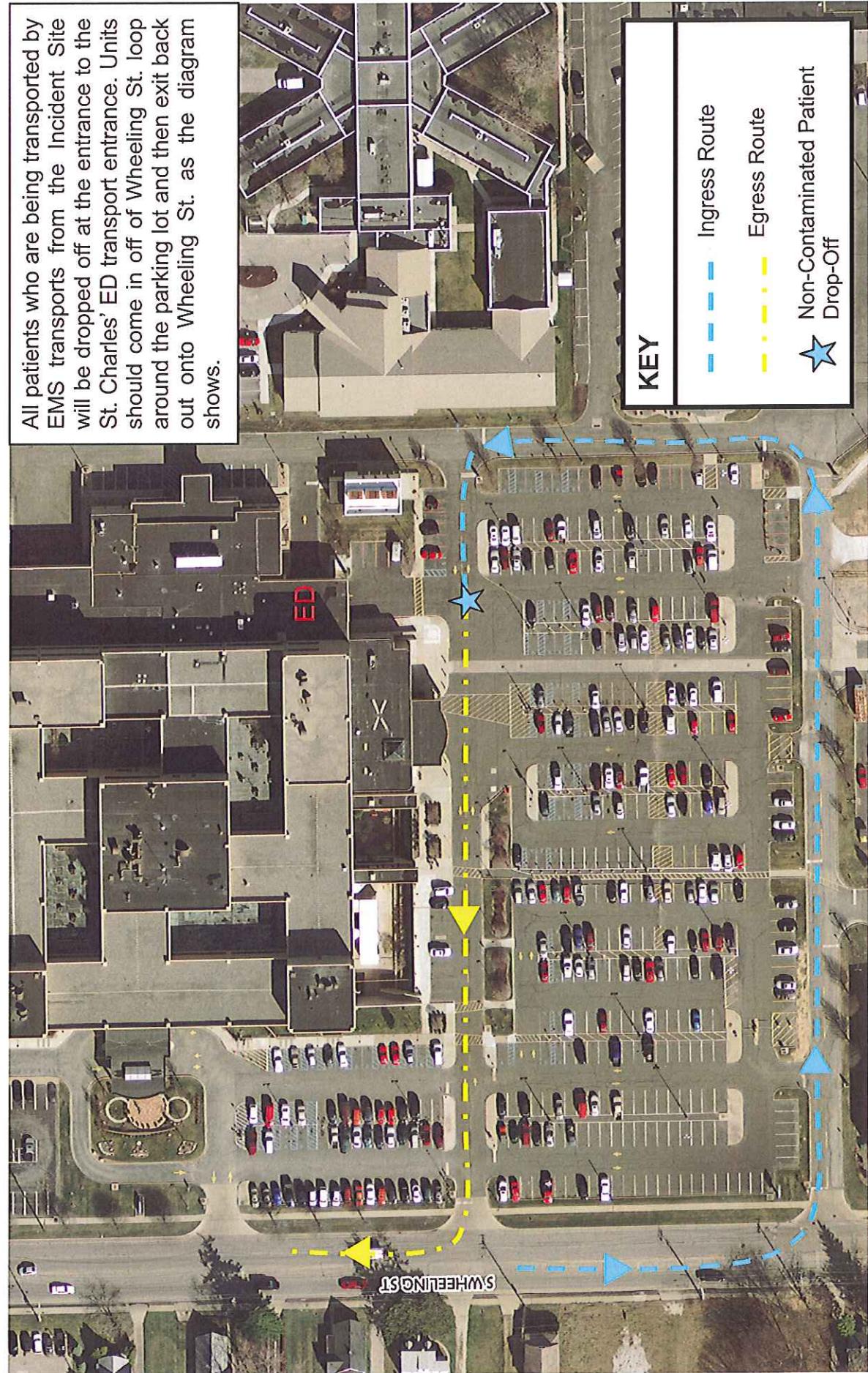
KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Deconned Patient Drop-Off
- Hydrant
- Decon Tent



St. Charles Hospital — Deconned Patients

EMS Transport Traffic Flow Map



St. Charles Mercy Hospital

Non-Contaminated Patient Drop-Off

All patients who are being transported by EMS transports and do not need to be decontaminated will be dropped off at the St. Charles Mercy Hospital main entrance.

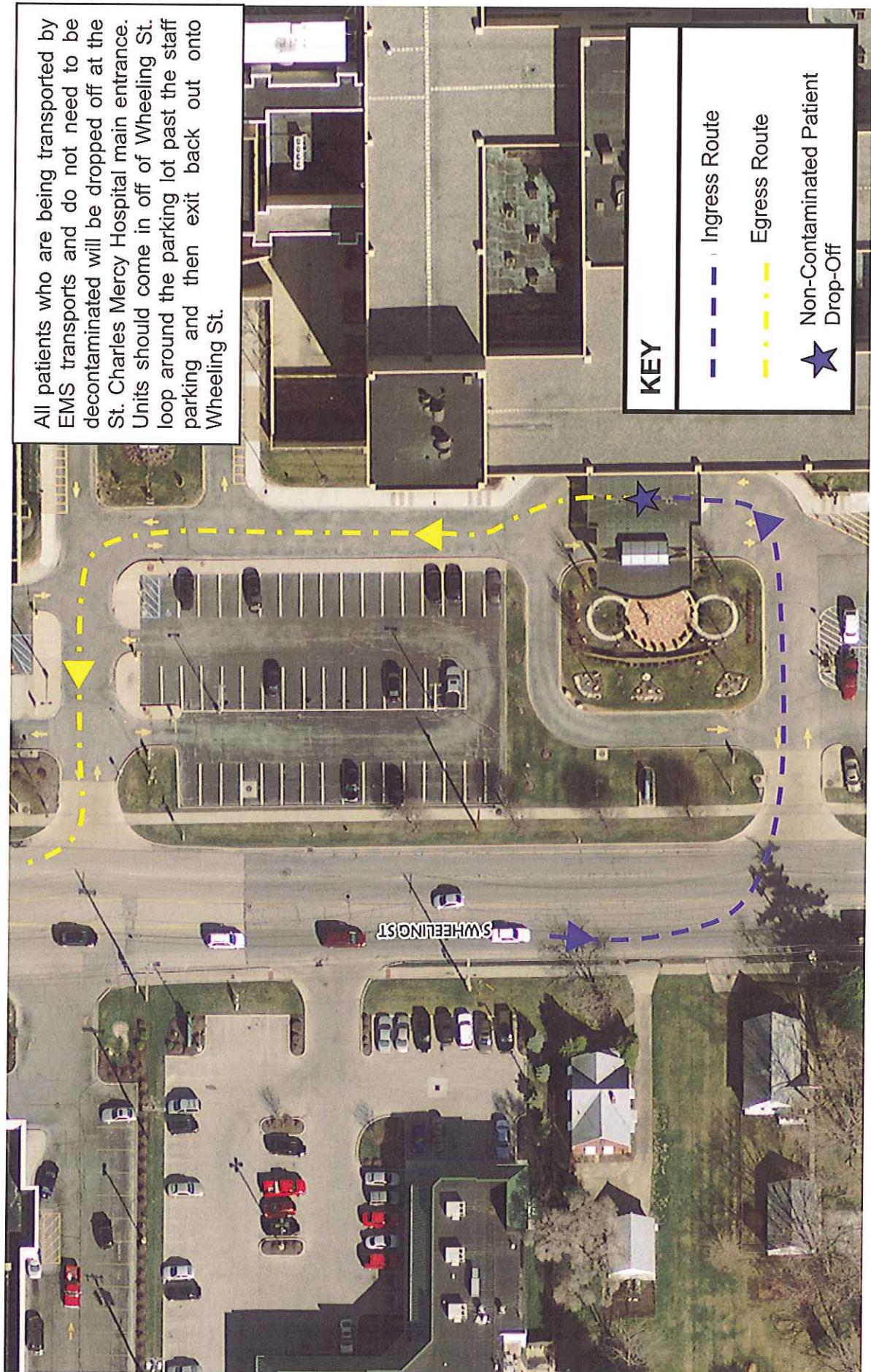
KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Non-Contaminated Patient Drop-Off



St. Charles Hospital — Non-Contaminated Patients

EMS Transport Traffic Flow Map



St. Luke's Hospital



5901 Monclova Rd.
Maumee, OH 43537
(419) 893-5911

Safety Manager:	Steve Feck	(419) 897-8477	Office
		(419) 349-7164	Cell
ED Manager:	Cheryl Herr	(419) 897-8412	Office
		(419) 277-0376	Cell
Facilities Manager:	Don Morgan	(419) 261-8176	Cell
Hospital Switchboard:	24/7 On Duty	(419) 893-5911	

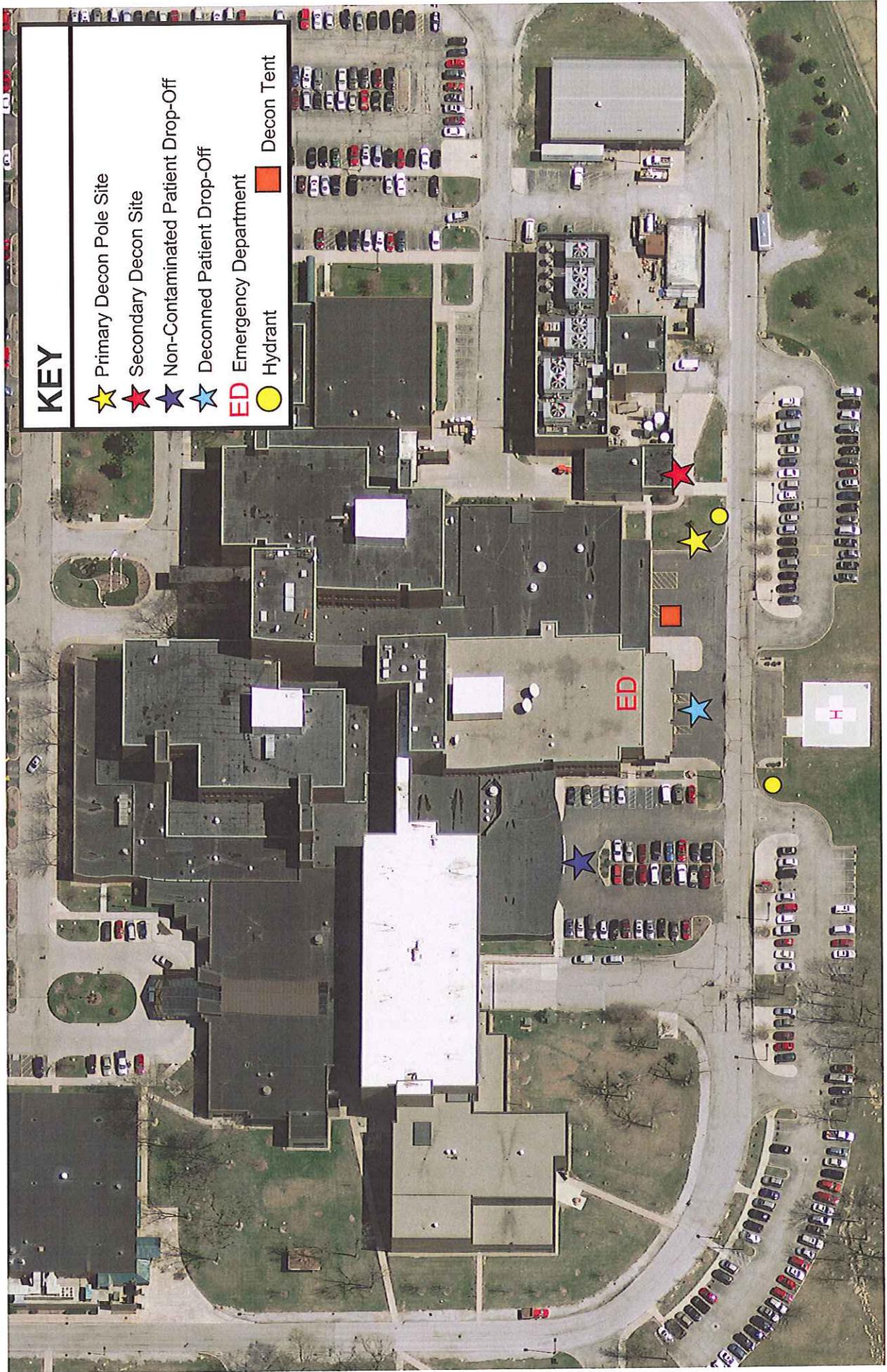
SPECIAL NOTES: HOSPITAL FIRE PUMP MUST BE TURNED OFF PRIOR TO CONNECTING TO THE HYDRANT!

DECON TEAM YES DECON TENT YES

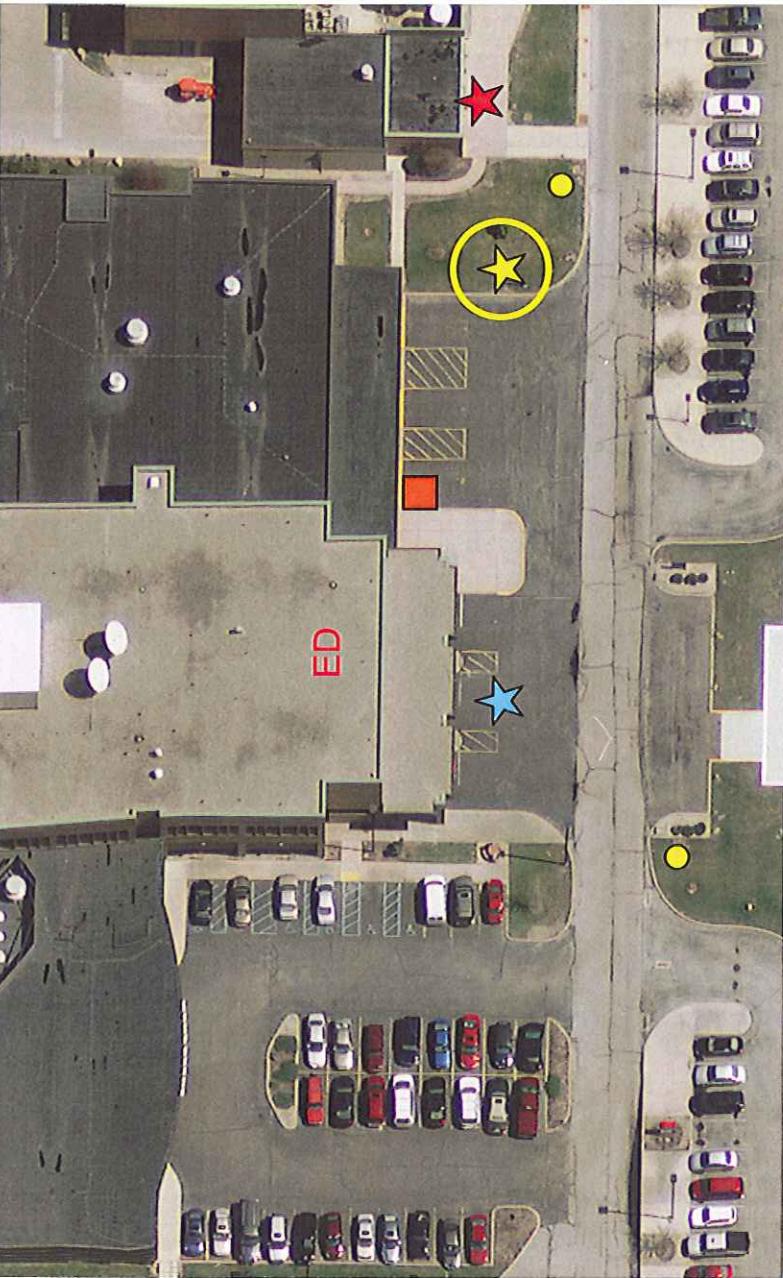
DECON ROOM YES DECON TRAILER NO

DECON SETUP YES (Shower Pole / Secondary Decon Showers)

St Luke's Hospital



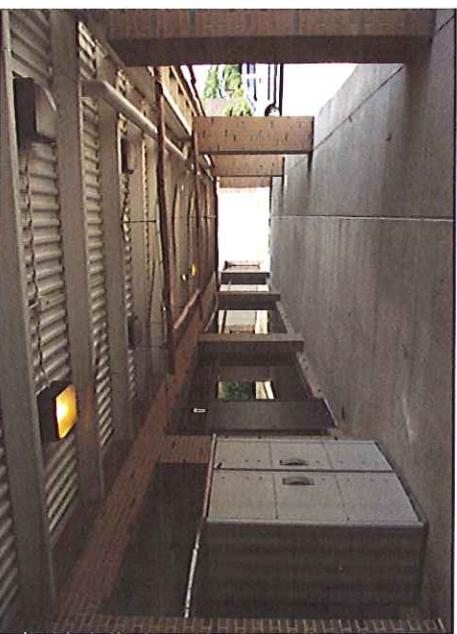
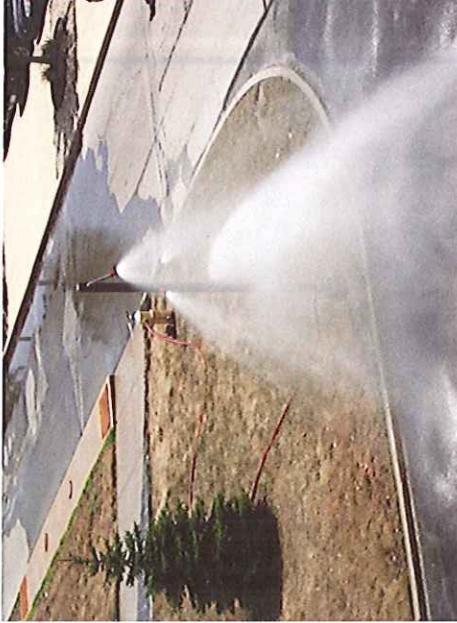
St Luke's Hospital Primary Decon Site



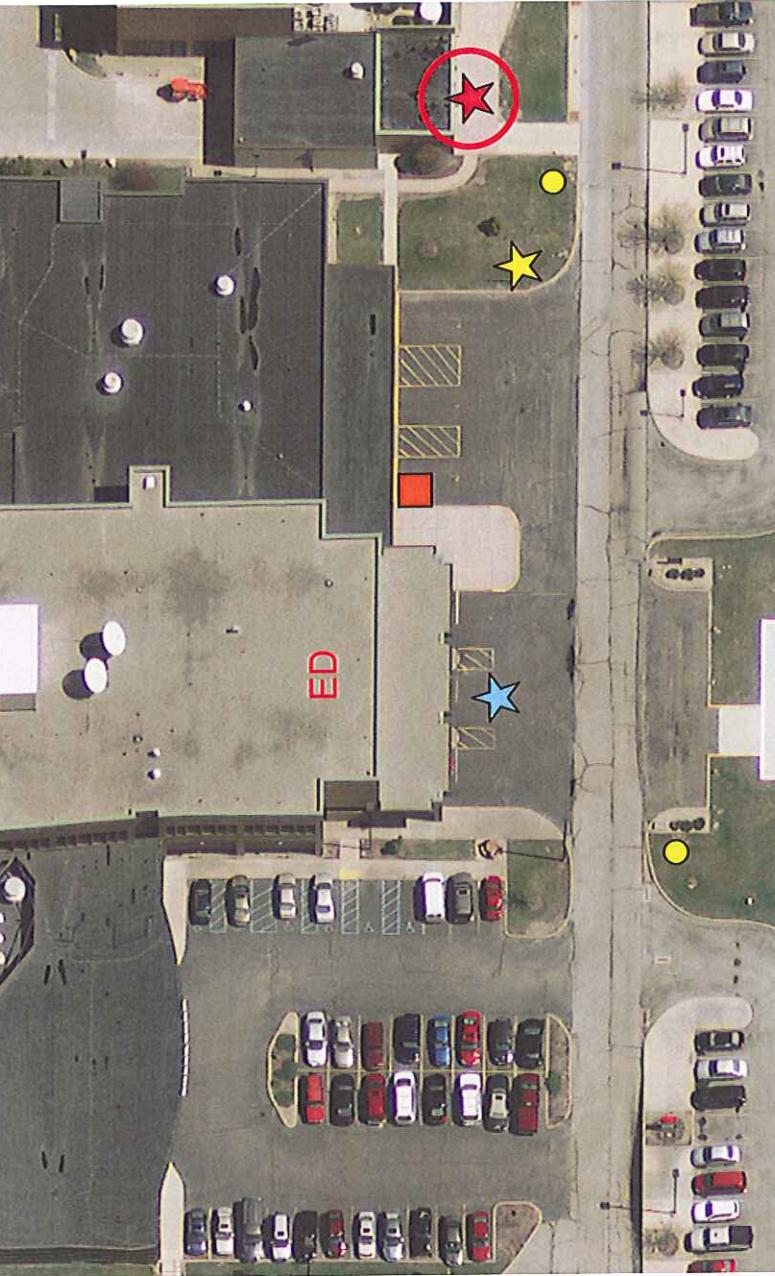
St Luke's Primary Decon consists of six nozzles attached to a fixed pole. Crews that respond to this site and find the decon pole not set-up must perform the following:

1. Proceed to storage shed located under the canopy and retrieve the hose and hydrant wrench.
2. Connect the hose to the pole and hydrant as seen in the picture.
3. Open the hydrant and then assist St Luke's staff as needed.

KEY	
★	Primary Decon Pole
★	Secondary Decon
★	Patient Drop-Off
ED	Emergency Department



St Luke's Hospital Secondary Decon Site



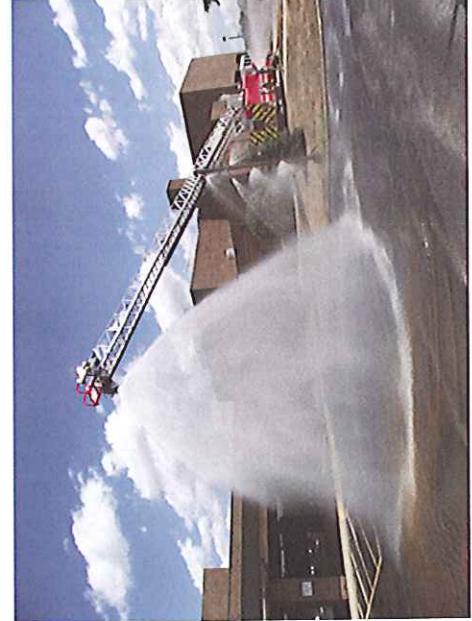
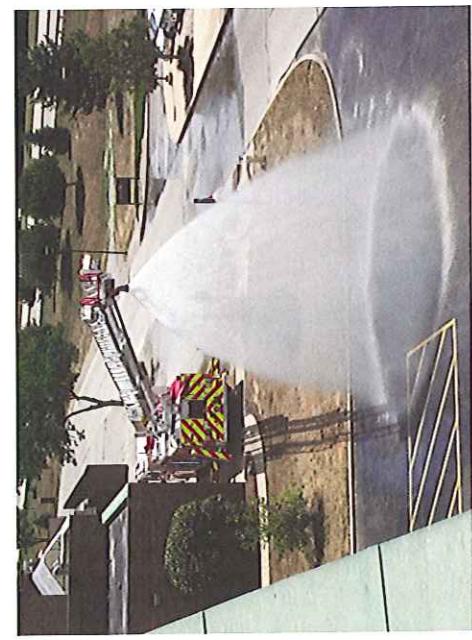
The Secondary Decon Site will be used under the following conditions:

1. St Luke's staff are unable to deploy their Primary Decon Site.
2. The Primary Decon Site is overwhelmed by the number of patients thus requiring additional showers.

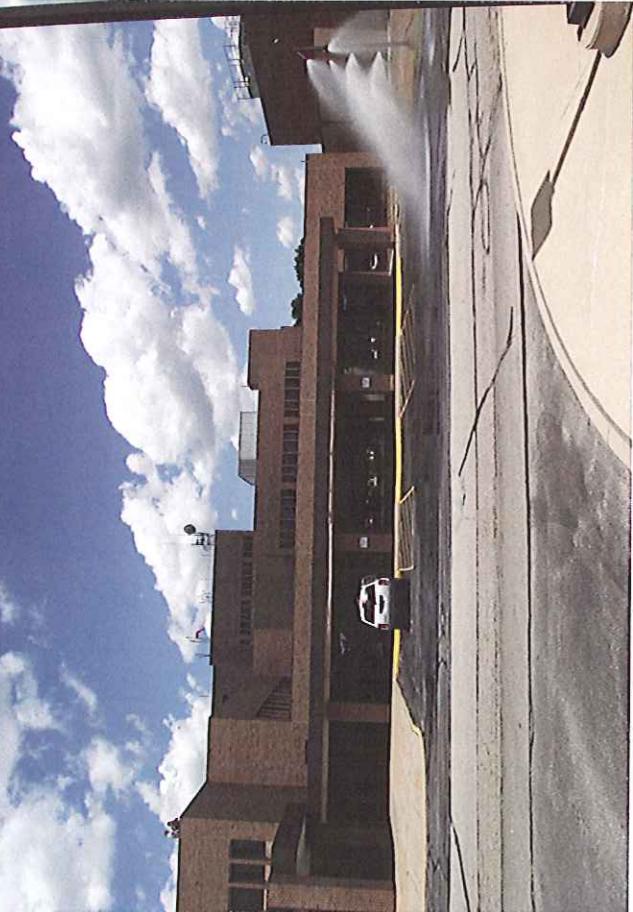
FIRE CREWS MUST NOTIFY ST LUKE'S FACILITIES TO SHUT DOWN THEIR FIRE PUMP BEFORE OPENING HYDRANTS

KEY

- Primary Decon Pole
- Secondary Decon
- Patient Drop-Off
- ED Emergency Department



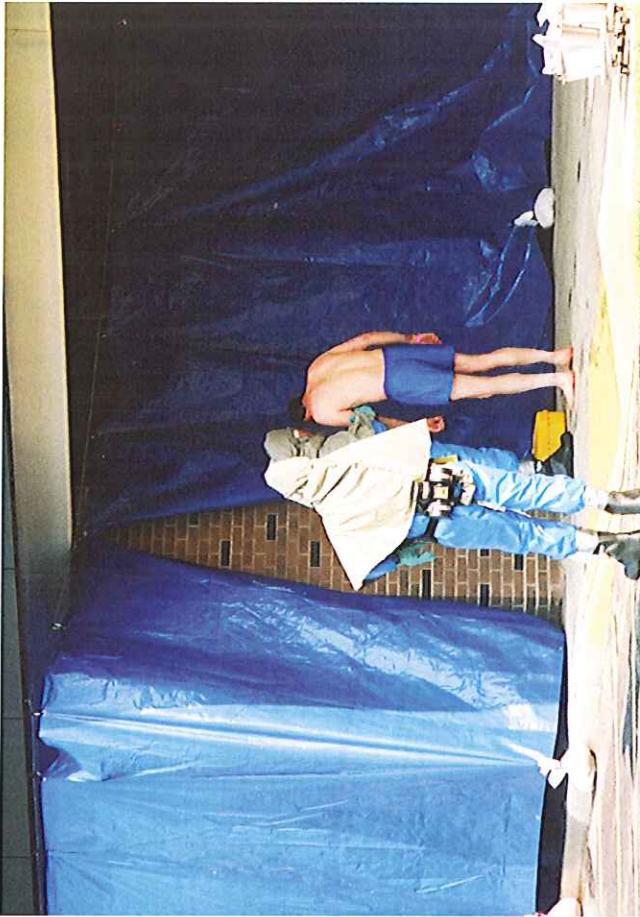
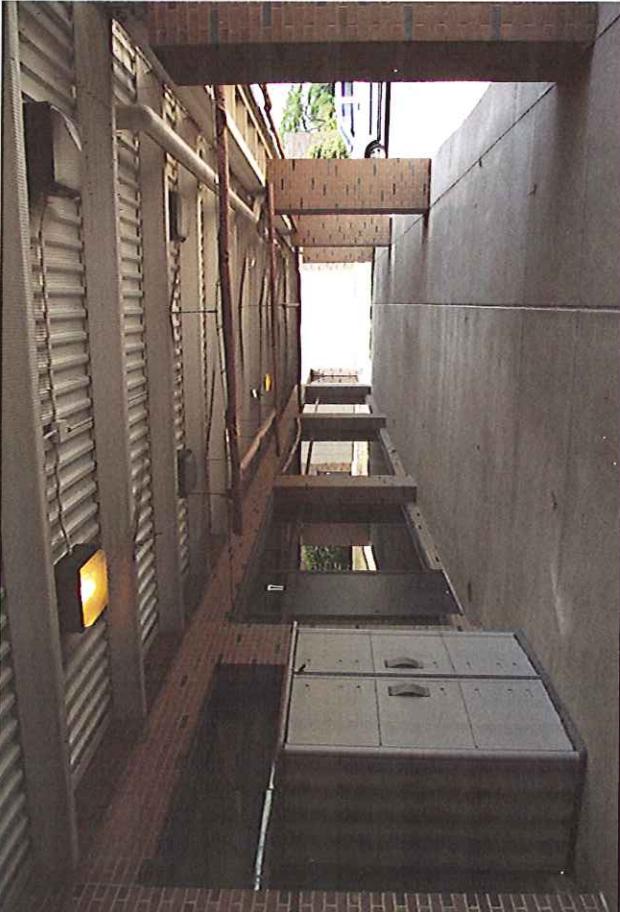
St Luke's Hospital Fixed Decon System



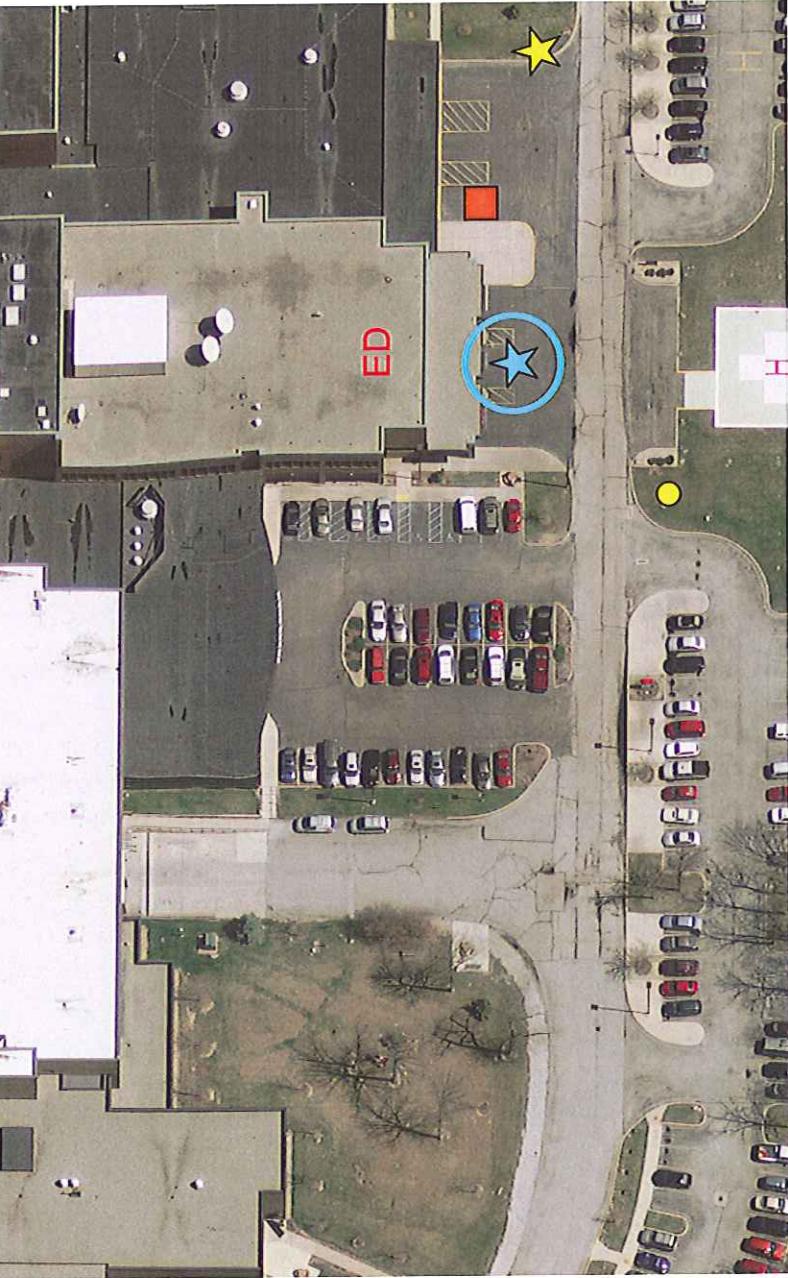
St Luke's Fixed Decon System is a series of tarps and shower heads hung from underneath the emergency services overhang behind parking spots 4, 5 and 6.

The system will allow for a secondary, complete decon of patients after the initial gross decon that they receive either on scene or at the Incident Site. The showers can be set up to facilitate ambulatory and non-ambulatory patients and male and female patients.

Decon Shower: Water supply is a 5/8" garden hose fed from a sink faucet located in the Maintenance Garage and connected to the shower hook-up located on the last column at the east end of the EMS canopy overhang (#6 parking spot).



St Luke's Hospital

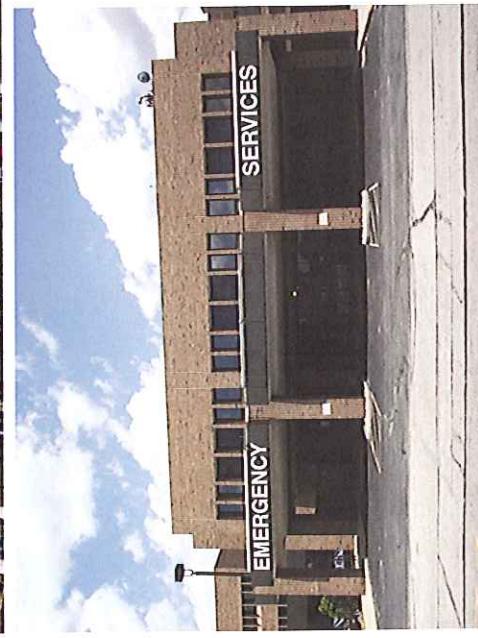


Deconned Patient Drop-Off Location

All patients who have been deconned at the Incident Site and are being transported by EMS will be dropped off at the normal St. Luke's Emergency Services ambulance entrance.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Decommed Patient Drop-Off
- Hydrant
- Decon Tent



St Luke's Hospital

Non-Contaminated Patient Drop-Off

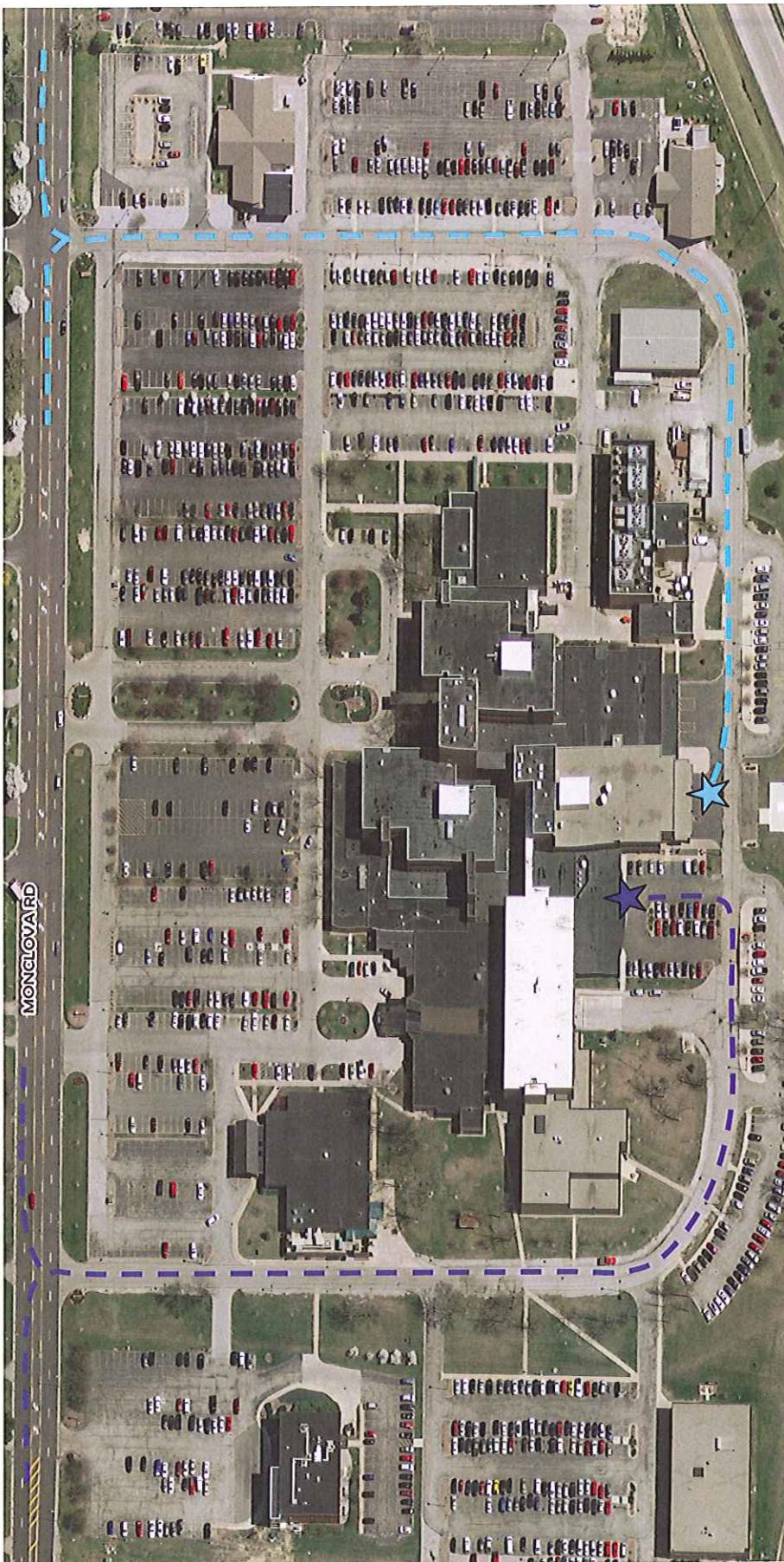
All EMS transports who have patients not requiring decontamination will be dropped off at St Luke's Hospital's Ambulatory Emergency Department entrance.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Non-Contaminated Patient Drop-Off



St Luke's Hospital Transport Map



NON-CONTAMINATED PATIENT DROP-OFF

Patients arriving from places other than the Incident Site must enter the campus using driveway #4 and proceed to the Emergency Department entrance.

DECONNED PATIENT DROP-OFF

Patients arriving from the Incident Site must enter the campus using driveway #1 and proceed to the normal EMS transport drop-off entrance.



St. Vincent's MMC



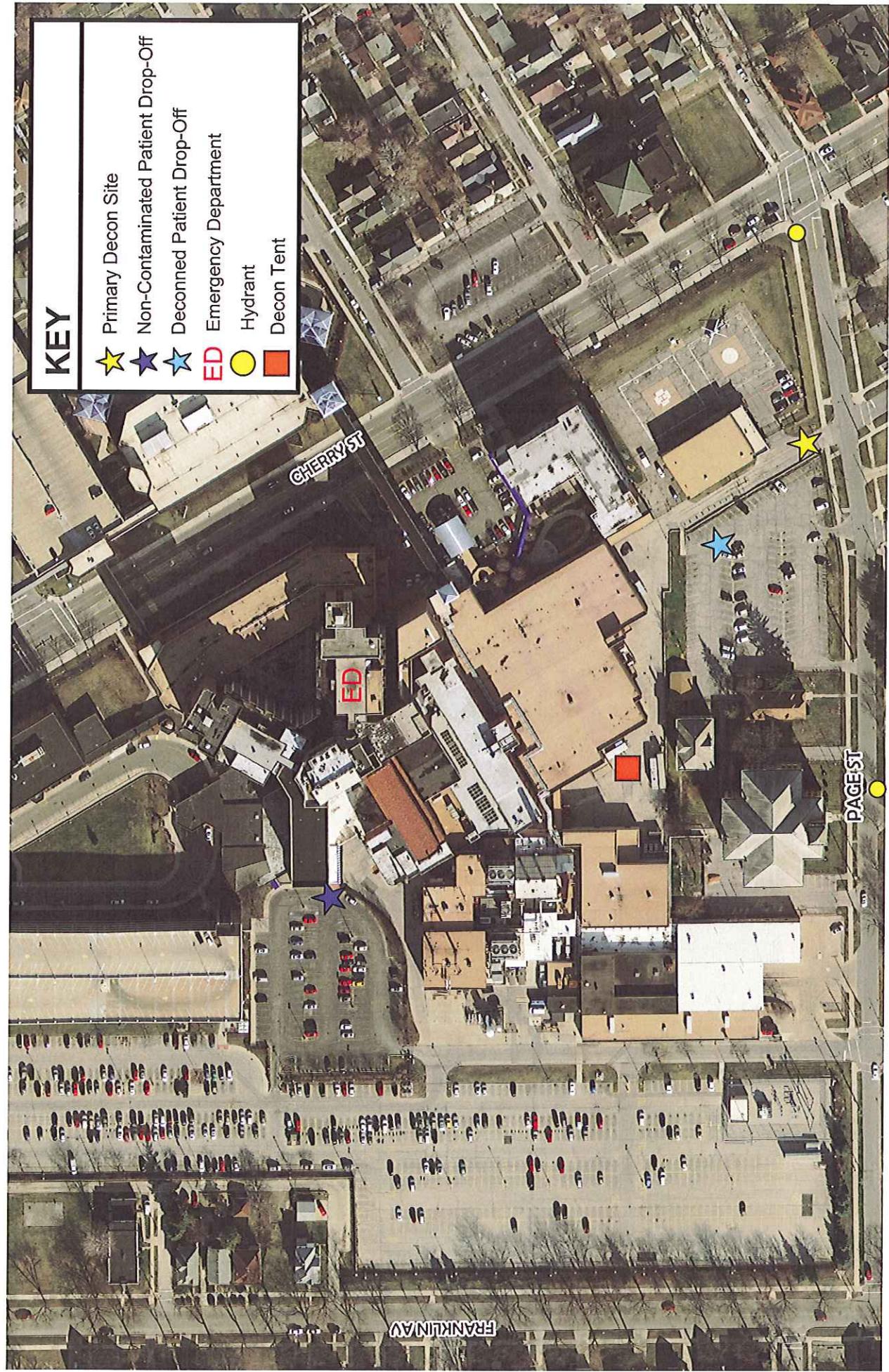
2213 Cherry Street
Toledo, OH 43608
(419) 251-3232

Safety Director:	Keith Dempsey	(419) 251-2243	Office
		(419) 654-5720	Cell
Decon Team Leader:	Sara Kimmet	(419) 302-6657	Cell
Safety Team:	Will Cook	(419) 251-2216	Office
		(419) 467-3380	Cell
Security Dispatch:	24/7 On Duty	(419) 251-4444	

SPECIAL NOTES:

DECON TEAM	YES	DECON TENT	YES
DECON ROOM	YES	DECON TRAILER	YES
DECON SETUP	YES (Secondary Showers in Hanger)		

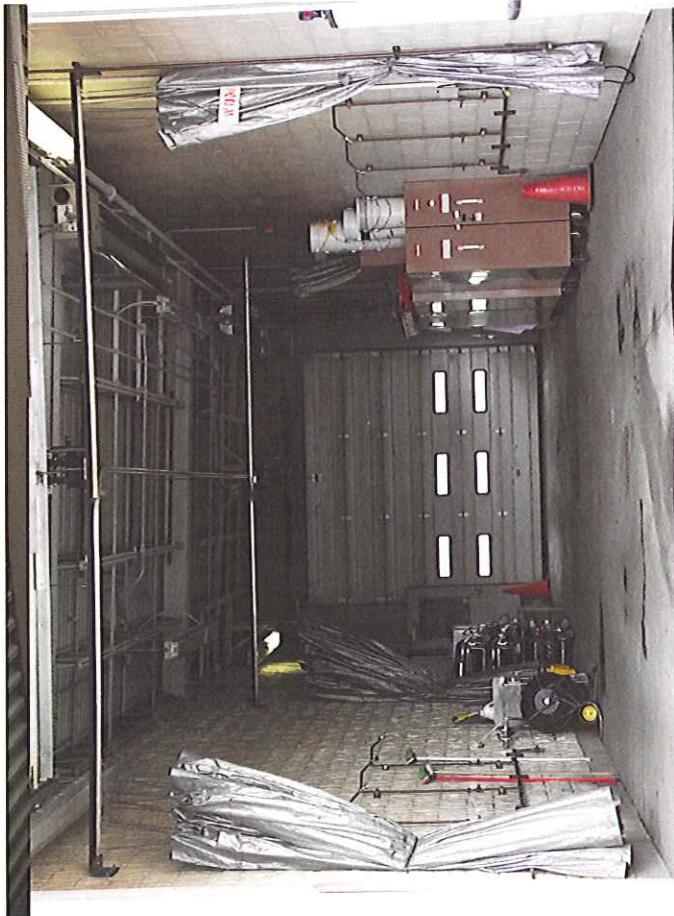
St. Vincent's MMC



St. Vincent's MMC Primary Decon Site



St Vincent's MMC Fixed Decon System



St Vincent's Fixed Decon System is a series of tarps and shower heads that are inside the Life Flight Hanger. This Fixed Decon site is next to where Lucas County fire apparatus will be set up just off of Page St.

The system will allow for a secondary, complete decon of patients after the initial gross decon that they receive either on scene or at the Incident Site. The showers can be set up to facilitate ambulatory and non-ambulatory patients and male and female patients.



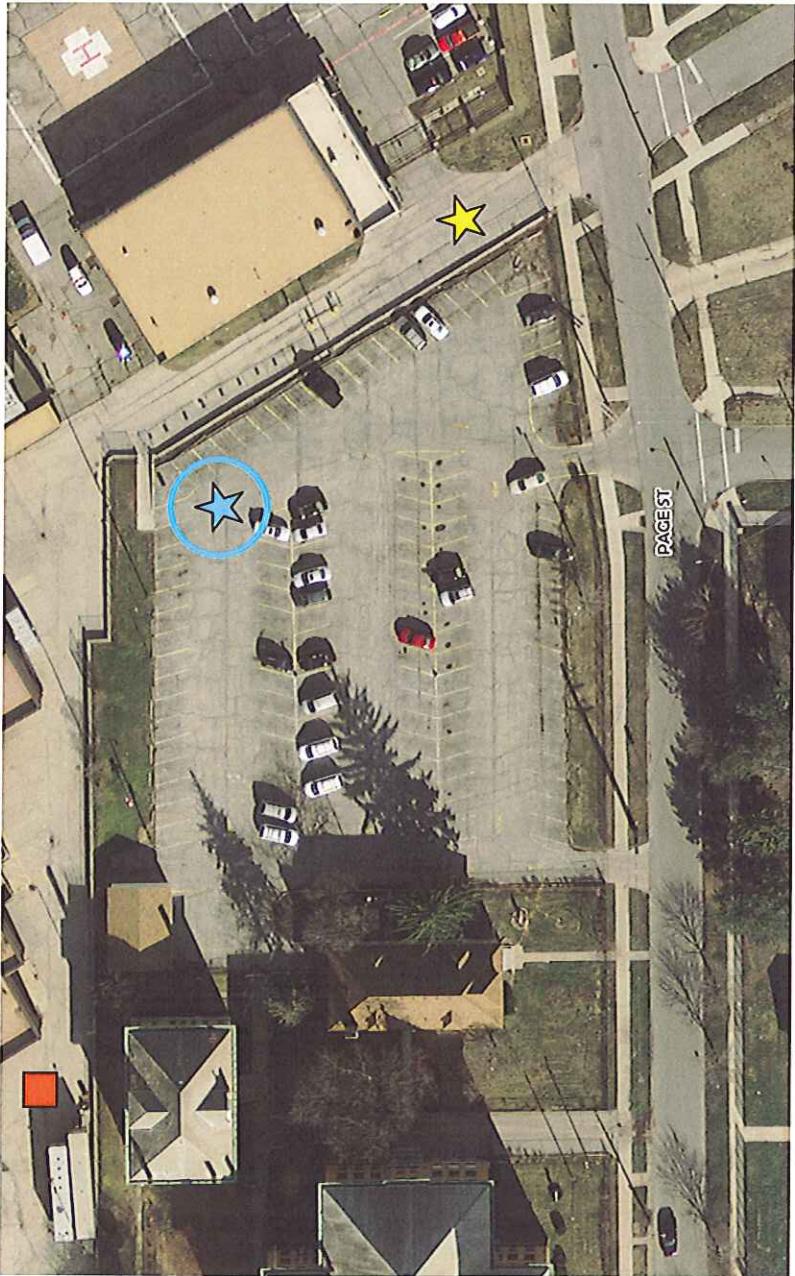
St. Vincent's MMC

Deconned Patient Drop-Off

All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off in the St. Mary's parking lot near the Primary Decon Site.

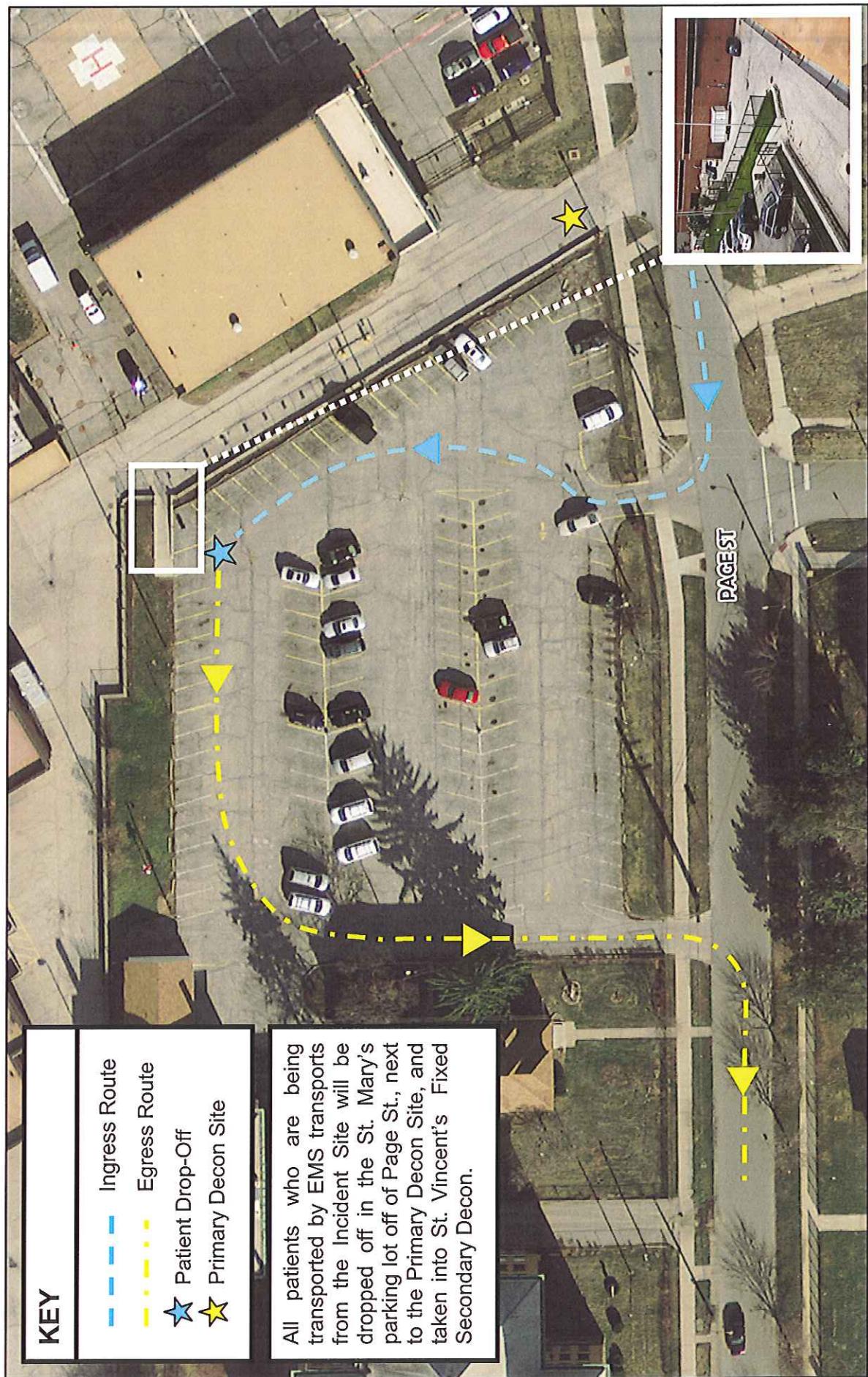
KEY

- Primary Decon
- Hydrant
- ED Emergency Department
- Deconned Patient Drop-Off



St. Vincent's MMC – Deconned Patients

EMS Transport Traffic Flow Map



St. Vincent's MMC

Non-Contaminated Patient Drop-Off

All patients who are being transported by EMS transports and do not need to be decontaminated will be dropped off at the SVMMC Physicians parking lot entrance.

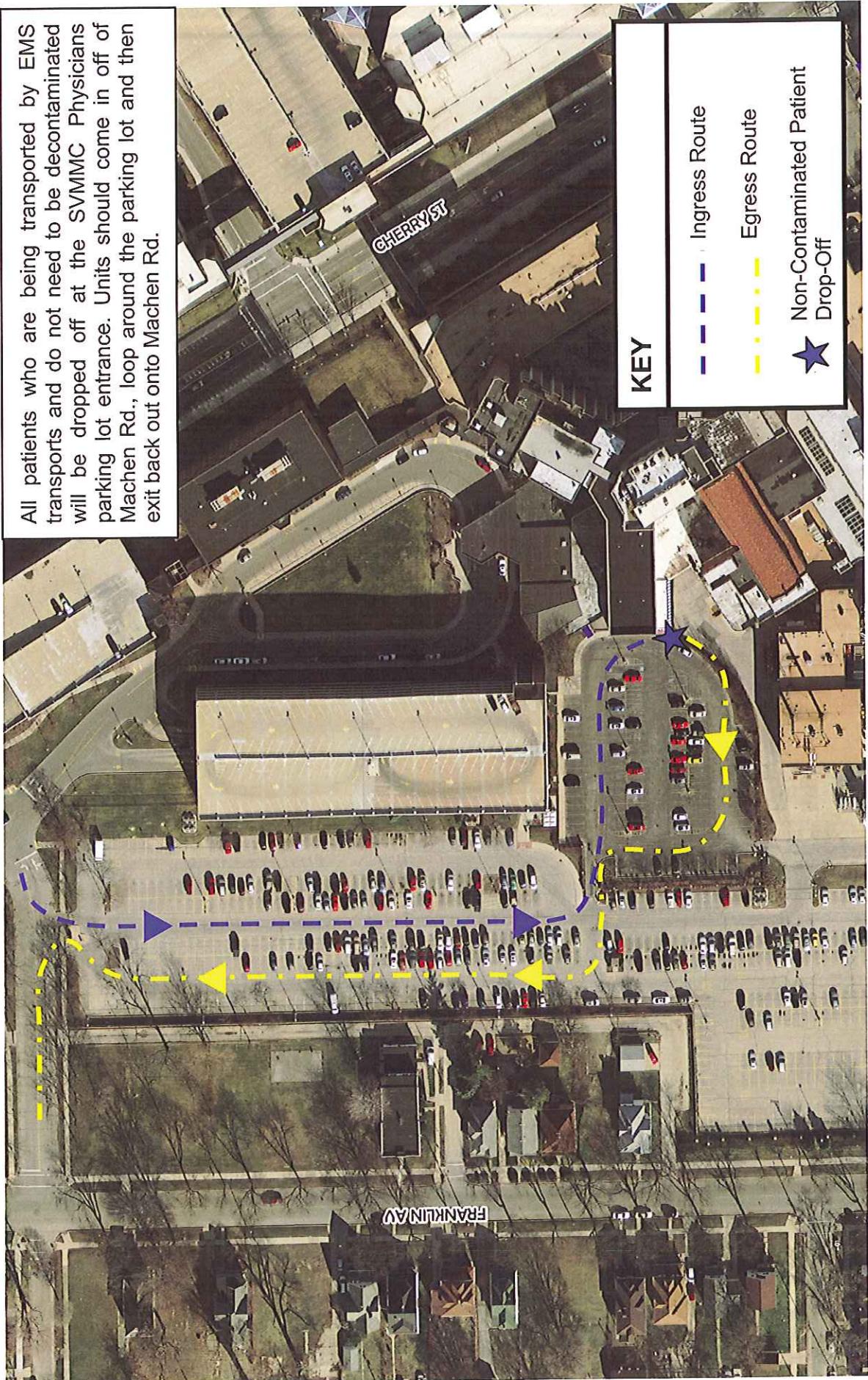
KEY

- Primary Decon
- Hydrant
- ED Emergency Department
- Non-Contaminated Patient Drop-Off

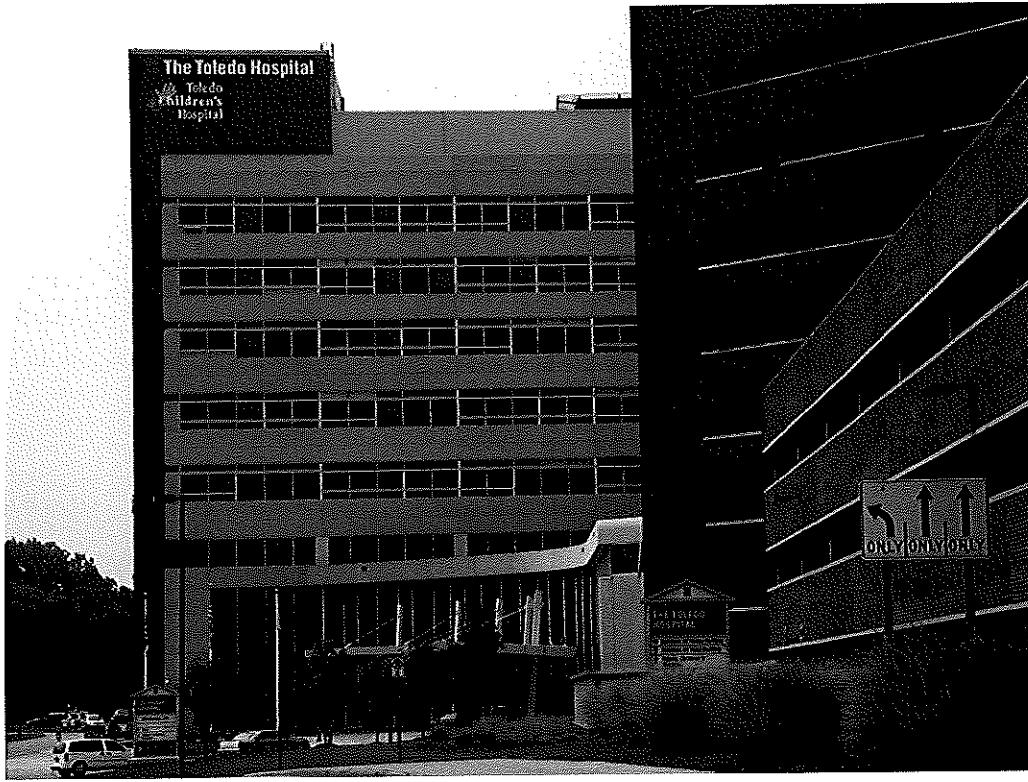


St. Vincent's MMC – Non-Contaminated Patients

EMS Transport Traffic Flow Map



The Toledo Hospital



2142 North Cove Boulevard
Toledo, OH 43606-3896
(419) 291-5437

Disaster Coordinator: Susan Childers (419) 291-2045 Office
(419) 913-8724 Cell

Decon Team Leader: Scott Rahrig (419) 291-4128 Office
(419) 410-7558 Cell

Maintenance Staff: (419) 291-4164

Administrative Supervisor: 24/7 On Duty (419) 444-1575

SPECIAL NOTES: HOSPITAL FIRE PUMP MUST BE TURNED OFF PRIOR TO CONNECTING TO THE HYDRANT!

DECON TEAM YES

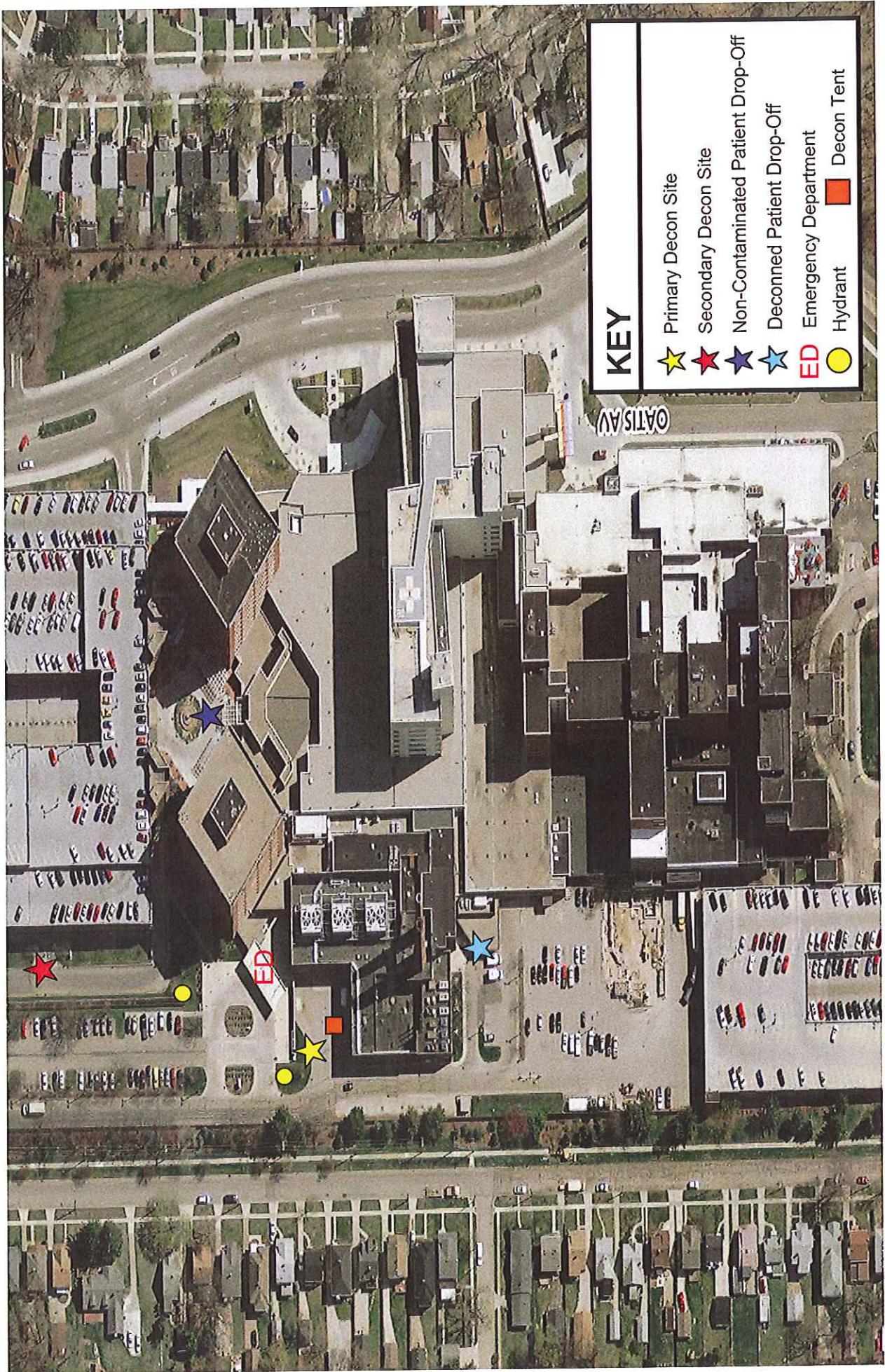
DECON TENT YES

DECON ROOM YES

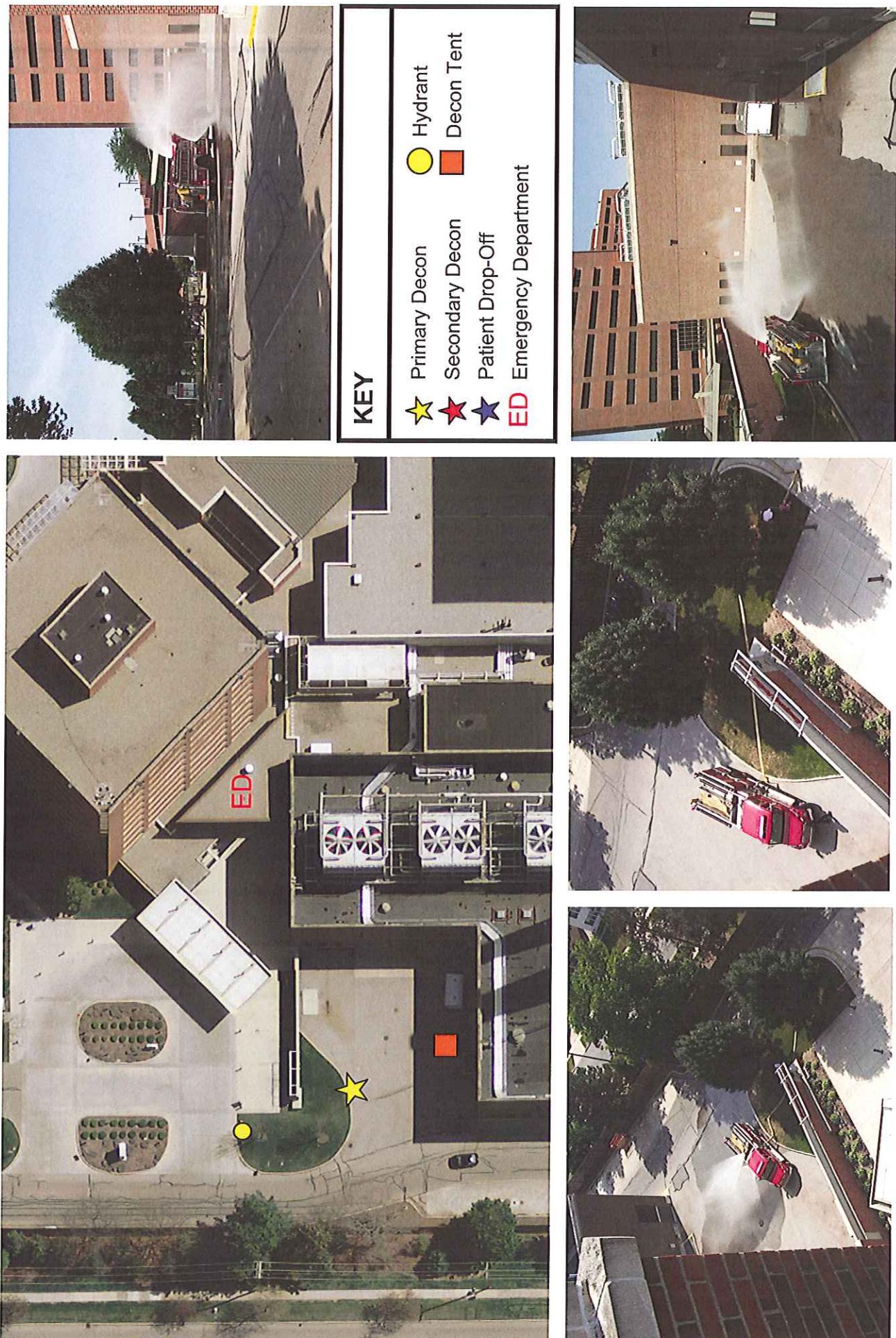
DECON TRAILER YES

DECON SETUP YES (4 Showers & Hydrant Cap)

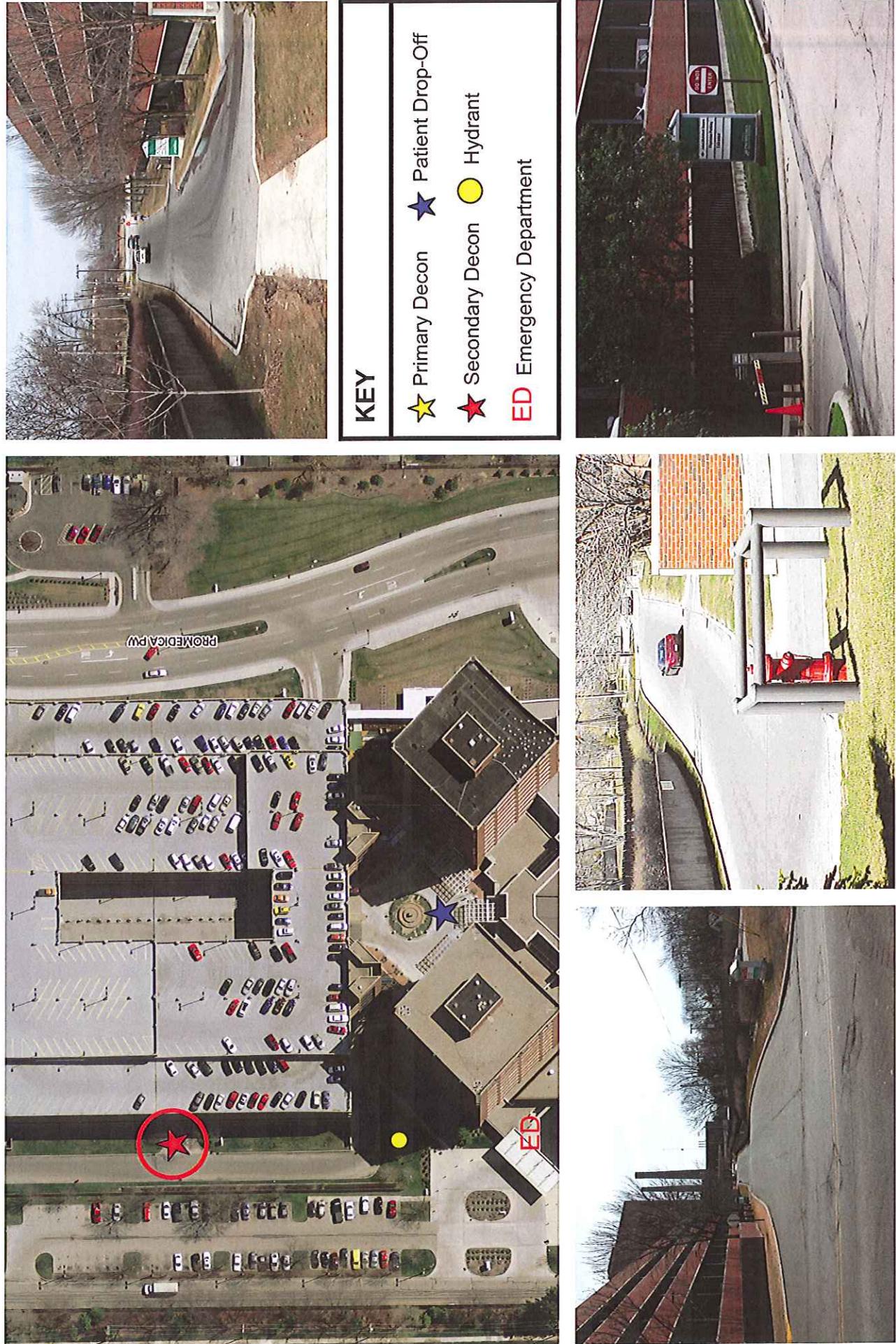
The Toledo Hospital



The Toledo Hospital Primary Decon Site



The Toledo Hospital Secondary Decon Site



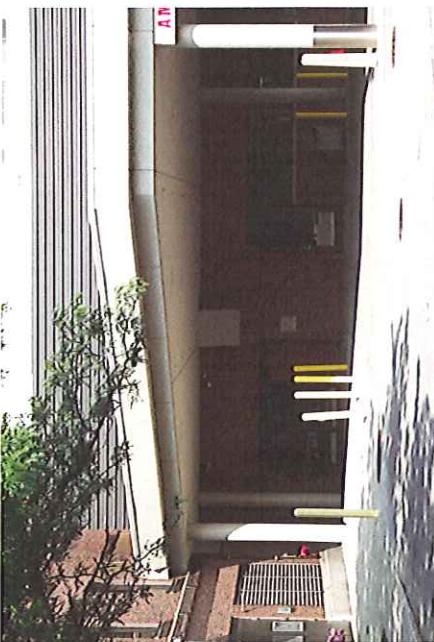
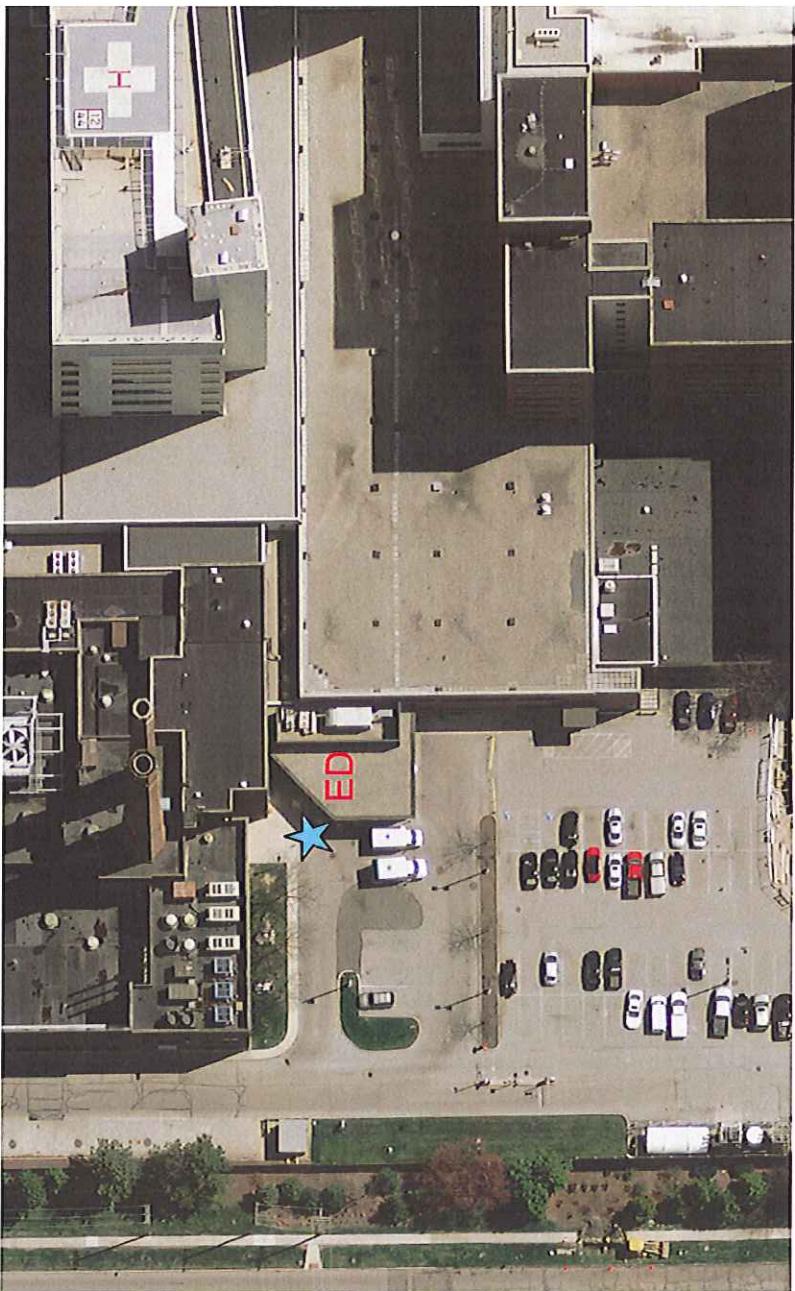
The Toledo Hospital

Deconned Patient Drop-Off

All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off at the regular ED entrance.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Deconned Patient Drop-Off
- Hydrant
- Decon Tent



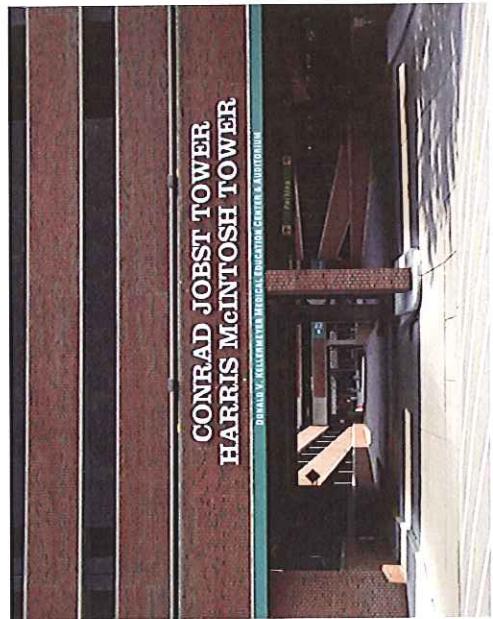
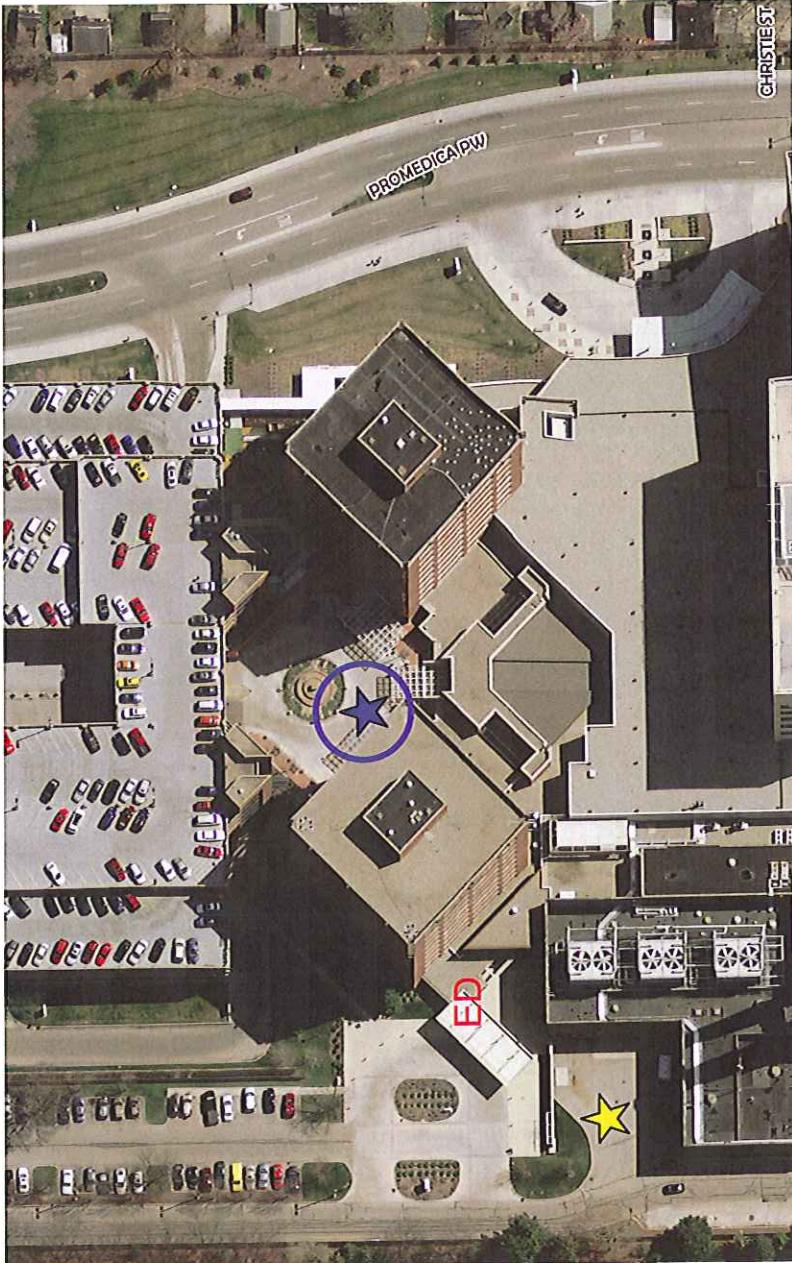
The Toledo Hospital

Non-Contaminated Patient Drop-Off

All patients who are being transported by EMS transports and do not need to be decontaminated will be dropped off at the Jobst – McIntosh Towers parking garage turn-around.

KEY

- Primary Decon
- Secondary Decon
- ED Emergency Department
- Non-Contaminated Patient Drop-Off
- Hydrant
- Decon Tent



U.T. Medical Center



3000 Arlington Ave.
Toledo, OH 43614
(419) 383-4000

Director of Safety & Health:

Mike Valigosky
(419) 383-4521 Office
(419) 266-5491 Cell

Sr. Industrial Hygienist:

Heather Lorenz
(419) 530-3603 Office
(419) 206-0896 Cell

Safety & Health Specialist:

Tim Niederkorn
(419) 383-5089 Office
(419) 704-1576 Cell

SPECIAL NOTES:

DECON TEAM YES (2)

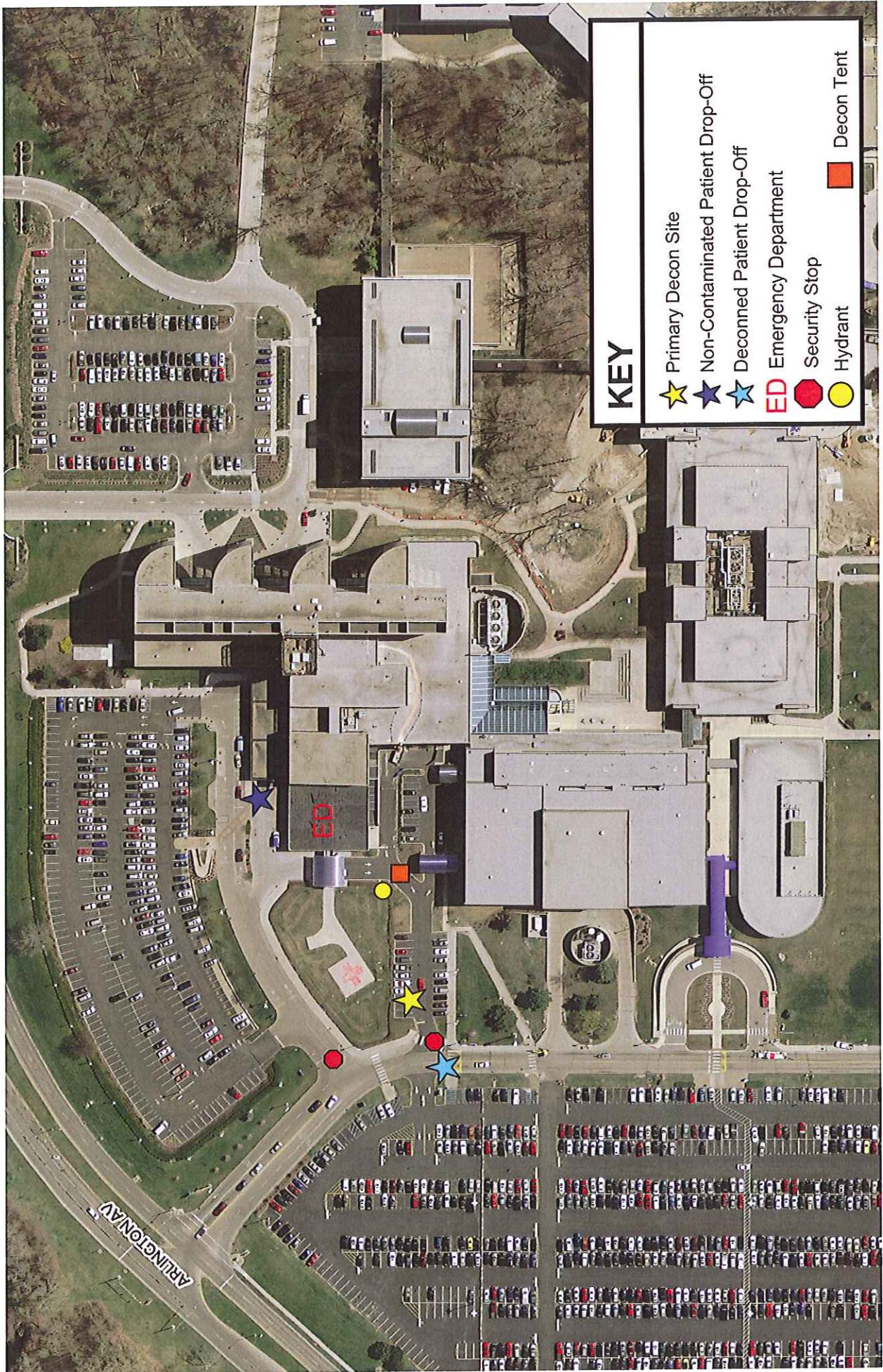
DECON TENT YES

DECON ROOM YES

DECON TRAILER YES

DECON SETUP YES (2 Pre-Plumbed Tents)

U.T. Medical Center



UTMC Primary Decon Site



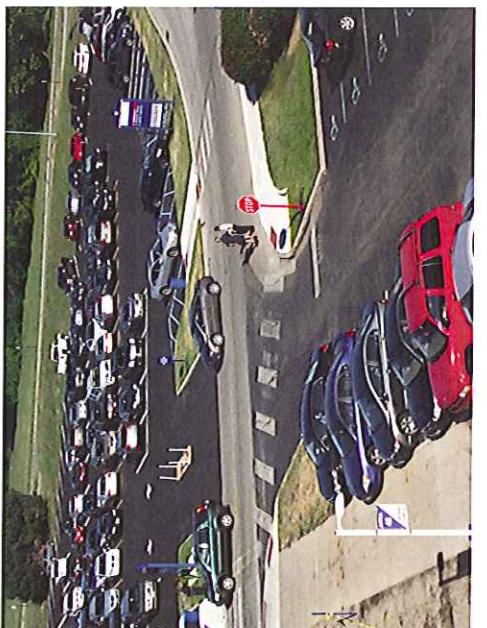
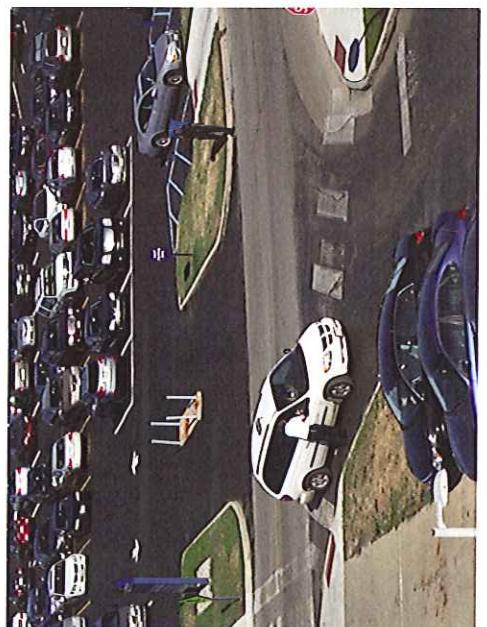
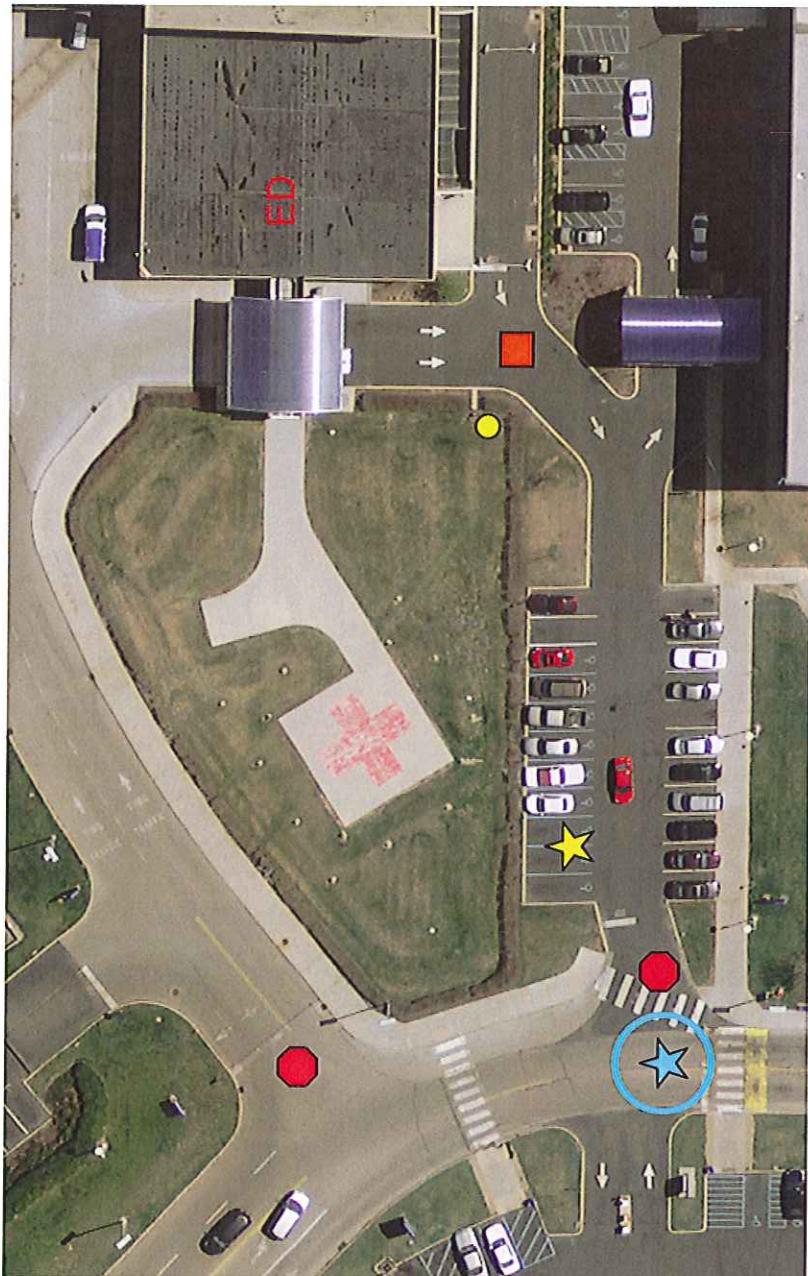
U.T. Medical Center

Deconned Patient Drop-Off

All patients who have been deconned at the Incident Site and are being transported by EMS transports will be dropped off at the second Security Checkpoint off of Arlington Ave. in front of the Primary Decon Site.

KEY

- Primary Decon
- Security Stop
- ED Emergency Department
- Deconned Patient Drop-Off
- Hydrant
- Decon Tent



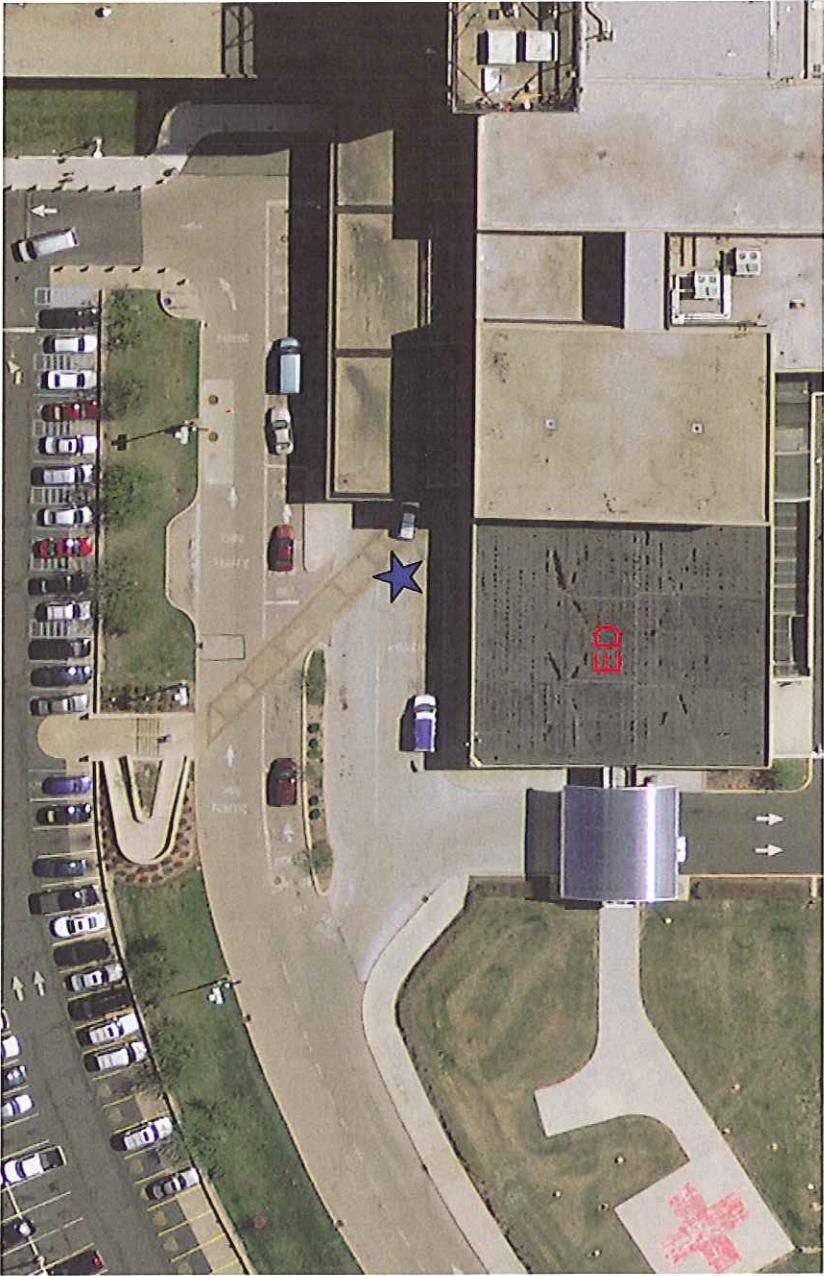
U.T. Medical Center

Non-Contaminated Patient Drop-Off

All patients who are being transported by EMS transports and do not need to be decontaminated will go past the first Security Checkpoint off of Arlington Ave. entrance and be dropped off at the UTMC ED transport entrance.

KEY

- ★ Primary Decon
- Hydrant
- Security Stop
- Decon Tent
- ED Emergency Department
- ☆ Non-Contaminated Patient Drop-Off





WMD RESPONSE ADDENDUM

QUICK RESPONSE GUIDELINES FOR A SUSPECTED CHEM/BIO ATTACK

INDICATORS OF A CHEM/BIO ATTACK

- Large volume of calls reporting sick or injured persons with no known reasons.
- Numerous persons reporting similar illness (signs/symptoms).
- Numerous calls from the same general geographic area or large gathering of people (e.g. a sporting event) reporting unusual illness.
- Symptoms indicative of chemical agent exposure (drooling, tearing, shortness of breath, difficulty breathing, irritation of the eyes, nose, throat, and/or skin, redness or itching of skin).
- Report of an explosion with little or no structural damage.
- Reports of unexplained liquids (droplets, oily substances).
- Reports of unusual odors (mowed grass, garlic, bitter almonds).
- Reports of a release of a spray (hissing sounds, presence of a mist or vapor).
- Suspicious devices/packages (spray devices, damp/wet packages or bags, explosive device that causes little explosive damage).
- Unexplained dead wildlife/animals.
- Discarded PPE (masks, gloves, gowns).

S C E N E **A S S E S S M E N T** **E V A C U A T I O N** **R E S C U E** **M E D I C A L** **T R E A T M E N T**

DETERMINE IF THERE ARE LIVING VICTIMS?

- Look through windows/doors to determine if there are any live victims.
- Incident Commander must determine if rescue of victims will be conducted by using firefighter turnout gear and SCBA or to wait for arrival of HazMat teams with level A protection.
- Turnout gear and SCBA provide sufficient protection for 30 minutes to rescue known live victims in a nerve agent vapor hazard. SCBA must remain I/S while going through self-decon.
- If there is the possibility of live victims and you are unable to visually see them from the outside, taped turnout gear and SCBA provide sufficient protection to conduct a 3 minute reconnaissance to search for live victims in an unknown nerve agent environment.

Note: The risks associated with entering a contaminated area in turnout gear with SCBA must be understood prior to making the decision on performing rescue operations. *Decon must be set up & Mark I Kits on scene prior to making entry.*

S C E N E **A S S E S S M E N T** **E V A C U A T I O N** **R E S C U E** **M E D I C A L** **T R E A T M E N T**

RESCUE OF AMBULATORY VICTIM

- Use bull horns and vehicle public address (PA) system to instruct live ambulatory victims to evacuate.
- Instruct ambulatory victims to evacuate alive non-ambulatory victims.
- If victims cannot be evacuated, instruct them to shelter in place in a safe location.
- After victims have been rescued, move them immediately to the decontamination corridors for decontamination ASAP.
- Avoid physical contact with victims.

T O L E D O F I R E & R E S C U E D E P A R T M E N T
SPECIAL OPERATIONS BUREAU



2144 Monroe Street
Toledo, Ohio 43624
(419) 466-2833
(419) 466-2236

S C E N E **A S S E S S M E N T** **E V A C U A T I O N** **R E S C U E** **M E D I C A L** **T R E A T M E N T**

SCENE ASSESSMENT AND SAFETY

- Don PPE (firefighter turn-out gear and SCBA).
- Stage apparatus upwind and upgrade at least 300 feet away from scene.
- Observe plume direction.
- Secure the perimeter/deny access.
- Avoid contact with all liquids.
- Establish Hot Warm and Cold Zones
- Be alert for the possibility of secondary devices. If device is found:
 - Don't touch or disturb,
 - Do not use radios or cell phones within 300 feet,
 - Notify police and request bomb squad, and
 - Evacuate area around device.
- Remember the perpetrator may be among the victims.
- Request HazMat and police response.
- Shut down the HVAC system.
- Do not perform treatment in the hot zone.
- Remember it is a crime scene, do not disturb evidence.
- Establish accountability system for all personal.

RESCUE OF NON-AMBULATORY VICTIMS

- Don firefighter turnout gear and SCBA, tape all openings.
- Prior to attempting to rescue victims, responders must make sure that a decon corridor is set-up and Mark 1 kits are available.
- In a known or suspected Bio incident, standard turnout gear with SCBA will provide enough protection for Bio agents.
- Use PPV fans to decrease chemical agent vapor concentration and to increase protection that standard turnout gear will provide.
- Consider the downwind hazard of unprotected people before using PPV.
- Use negative pressure for ventilation of closed interior rooms.
- If all victims are dead or dying, do not make a rescue attempt.
- Use stretchers to move victims.
- If rescuer comes in contact with the liquid, decontaminate immediately.

O N S

- Follow the Simple Triage and Rapid Treatment (START) system.
- Segregate victims and prioritize victims to go through decon based on
 - Casualties closest to the point of release
 - Casualties reporting exposure to vapor or aerosol
 - Casualties with serious medical symptoms
 - Casualties with conventional injuries.

DECONTAMINATION

- Instruct all victims to disrobe and to go through decon ASAP.
- Use high volume / low pressure water to decontaminate.
- Attempt to control water run-off. However, decontamination of live victims takes priority over controlling water run-off.
- Have a separate decon for responders.
- Initial responders should use the Single Engine Decontamination System to begin decontaminating victims until other responders arrive.
- Once manpower allows, begin using the Emergency Decontamination Corridor System (EDCS).
- Nozzle pressure should be between 60 and 90 PSI.
- Consider cold weather decontamination issues when contamination is less certain and time permits, decontaminate victims using the following guidelines:
 - When the ambient temperature is 65°F and above, decontamination can proceed outdoors.
 - When the ambient temperature is greater than 35°F and less than 65°F, disrobing and water decontamination can proceed outdoors, but after showering, victims should be moved into a heated shelter.
 - When the ambient temperature is 35°F or below, the decontamination process should take place in heated shelters.
 - Asymptomatic victims need to be decontaminated.

O P E R A T I O N S

AGENT	STATE	SIGNS & SYMPTOMS	ODOR	DECONTAMINATION	PERSISTENCE
NERVE					
GA/GB/GD	Liquid	Pinpoint Pupils, SLUDGE, Twitching, Convulsions, Unconsciousness	Fruity Sulfur	Remove contaminated clothing. Flush with large volumes of water.	Minutes, days in heavy concentrations Days to weeks
VX	Like Oil				
BLISTER					
Mustard	Liquid	Reddened skin, eye pain, blisters	Garlic Geraniums	Remove contaminated clothing. Flush with large volumes of water.	Days to years Hours to days
Lewisite	Liquid	Eye pain, burning lungs, blisters			
BLOOD					
Hydrogen Cyanide	Gas	Bright red lips & skin, headache, gasping, nausea	Bitter Almonds	Remove contaminated clothing. Flush with large volumes of water.	Minutes
Cyanogen Chloride					
CHOKING					
Phosgene	Gas	Coughing, choking, pneumonia	New-mown hay Bleach	Remove contaminated clothing. Flush with large volumes of water.	Minutes
Chlorine	Gas	Coughing, choking			

CBRNE SYMPTOMS MATRIX

NUCLEAR, INCENDIARY, CHEMICAL & EXPLOSIVES

SIGNS & SYMPTOMS	Nerve	Blister	Lewisite	Blood	Choking	Irritants	Nuclear	Incendiary	Explosives
Response Guide Number	1	2	3	4	5	6	7	8	9
Fever									
Non-Productive Cough									
Shortness of Breath									
Headaches									
Muscular Pain									
Vomiting									
Respiratory Failure									
Nausea									
Burns									
Pinpoint Pupils									
Running Nose									
Difficulty Breathing									
Loss of Consciousness									
Convulsions									
Temporary Breathing Stoppage									
Copious Secretions									
Sweating									
Feeling of Weakness									
Seizures									
Sluggish									
Apathetic									
Lethargic									
Immediate Eye Pain									
Loss of Sight									
Immediate Skin Pain									
Blistering									
Hoarseness									
Loss of Voice									
Depression									
Odor of Garlic									
Odor of Geraniums									
Increased Respiratory Rate									
Dizziness									
Cardiac Symptoms									
Odor of Burnt Almonds									
Odor of Peach Kernels									
Choking									
Chest Tightness									
Odor of Chlorine									
Odor of Bleach									
Odor of Swimming Pool									
Odor of Newly Mowed Hay/Grass									
Involuntary Closing of Eyes									
Stinging Sensation on Moist Skin									
Odor of Hair Spray									
Odor of Pepper									
Trauma									
Burnt/Blackened/Clothing									
Projectile Wounds									
Difficulty Hearing									
Temporary Blindness									
Bleeding from Ears									

GUIDE 1		NERVE AGENTS					
Example: Tabun (GA), Sarin (GB), Soman (GD), V Agent (VX), Malathion, Parathion							
SIGNS AND SYMPTOMS:							
Pinpoint Pupils		Loss of Consciousness		Nausea			
Runny Nose		Sweating		Vomiting			
Difficulty Breathing		Convulsions		Seizure			
CHARACTERISTICS:							
AGENT:	Tabun	Sarin	Soman	VX			
Boiling Point	~428° F	~316°F	~388°F	~568°F			
Vapor Density (Air+1)	5.63	4.86	6.33	9.2			
Specific Gravity (H ₂ O=1)	N/A	1.0887@	1.022@	N/A			
INDICATORS:							
Dead Animals		Unusual Droplets					
Lack of Insect Life		Areas That Look Different in Appearance					
Mass Casualties		Unexplained Odors					
Definite Patterns of Casualties		Low Lying Clouds					
ROUTES OF EXPOSURE:							
Inhalation							
Absorption							
The most effective way to weaponize this product is to aerosolize it.							
EMERGENCY RESPONSE:							
<ul style="list-style-type: none"> ● Approach from Upwind, Uphill, or Upstream ● Isolate Immediate Area in all directions for a SMALL INCIDENT 700 feet or LARGE INCIDENT 2000 feet (SMALL = < 55 Gallons, Large = > 55 Gallons) ● Keep Unauthorized Persons Away ● Consider Immediate Downwind Evacuation for a SMALL INCIDENT DAY of 1.2 Miles or NIGHT of 5.5 Miles, or LARGE INCIDENT DAY of 4.6 Miles or NIGHT of 7 Miles. ● Consider Immediate All Direction Evacuation Distance of 2640 feet during the day ● Stay Upwind ● Make Notifications, Decon With Water, Obtain Immediate Medical Treatment 							
TYPE OF HARM:							
Chemical							
Possible Thermal							
Possible Asphyxiation							
Possible Mechanical							
PERSONAL PROTECTION:							
Time - Keep Exposure and Product Contact to Minimum							
Distance - Stay 700 and 2000 feet away on Upwind Side							
Shielding - Chemical Protective Clothing							

GUIDE 2	NUCLEAR (RADIOLOGICAL) MATERIAL
Example: Alpha, Beta, Gamma	
SIGNS AND SYMPTOMS:	
<ul style="list-style-type: none"> • Short Term: <ul style="list-style-type: none"> Nausea Burns 	
INDICATORS:	
<p>Overt Threats Groups Taking Credit for Incident Specialized Packaging Near the Scene Radiological Placards on Vehicles Radiological Labels of Items</p>	
ROUTES OF EXPOSURE:	
Inhalation Absorption Ingestion Injection	
EMERGENCY RESPONSE:	
<ul style="list-style-type: none"> • Approach from Upwind, Uphill, or Upstream (if there is potential for dissemination of nuclear material or particulate matter) • Isolate Immediate Area in all directions distance of at least 80 - 160 feet • Keep Unauthorized Persons Away • Consider Immediate Downwind Evacuation Distance of 330 feet at night • Consider Immediate All Direction Evacuation Distance of 1000 feet during the day • Stay Upwind • Make Notifications • Obtain immediate medical evaluation for all exposed or potentially exposed personnel 	
TYPE OF HARM:	
Radiological Possible Chemical Possible Thermal	
PERSONAL PROTECTION:	
Time - Keep Exposure and Product Contact to Minimum Distance - Stay 300 feet away on Upwind Side Until Agent is Identified Shielding - Vehicles, Buildings, or Other Large Mass Items	

GUIDE 3	INCENDIARY DEVICES
SIGNS AND SYMPTOMS: Burns	
INDICATORS: Overt Threats / Prior Warning Multiple Fire Locations Signs of Accelerant Use Presence of Flammable Liquid Containers Splatter Patterns Fusing Residue Signs of Forced Entry Out-of-Place Common Appliances	
ROUTES OF EXPOSURE: Inhalation Absorption Ingestion Injection	
EMERGENCY RESPONSE: <ul style="list-style-type: none"> ● Approach from Upwind, Uphill, or Upstream ● Isolate Immediate Area in all directions distance of at least 330 - 660 feet ● Keep Unauthorized Persons Away ● Consider Immediate Downwind Evacuation Distance of 1000 feet at night ● Consider Immediate All Direction Evacuation Distance of 2640 feet during the day ● Stay Upwind ● Make Notifications ● Obtain immediate medical evaluation for all exposed or potentially exposed personnel 	
TYPE OF HARM: Thermal Possible Chemical Possible Asphyxiation Possible Mechanical	
PERSONAL PROTECTION: Time - Keep Exposure and Product Contact to Minimum Distance - Stay at least 330 feet away on Upwind Side Until Agent is identified Shielding - Vehicles, Buildings, or Other Large Mass Items	

GUIDE 4	BLISTER AGENTS (VESICANTS)					
Example: Mustard (H), Distilled Mustard (HD), Nitrogen Mustard (HM1, HM2, HM3)						
SIGNS AND SYMPTOMS:						
Reddening Blistering Convulsion	Respiratory Failure Sluggish	Apathetic Lethargic				
CHARACTERISTICS:						
Boiling Point: Varies Vapor Density (Air=1): Varies Specific Gravity (H ₂ O=1): Varies						
INDICATORS:						
Dead Animals Lack of Insect Life Mass Casualties Casualty Pattern Differentiated by Indoor/ Outdoor Location	Unusual Liquid Droplets Areas That Look Different in Appearance Unexplained Odors Low Lying Clouds Unusual Metal Debris					
ROUTES OF EXPOSURE:						
Inhalation Absorption Ingestion						
EMERGENCY RESPONSE:						
<ul style="list-style-type: none"> Approach from Upwind, Uphill, or Upstream Isolate Immediate Area in all directions for a SMALL INCIDENT 700 feet or LARGE INCIDENT 2000 feet (SMALL = < 55 Gallons, Large = > 55 Gallons) Keep Unauthorized Persons Away Consider Immediate Downwind Evacuation for a SMALL INCIDENT DAY of 1.2 Miles or NIGHT of 5.5 Miles, or LARGE INCIDENT DAY of 4.6 Miles or NIGHT of 7 Miles. Consider Immediate All Direction Evacuation Distance of 2640 feet during the day Stay Upwind Make Notifications, Decon With Water, Obtain Immediate Medical Treatment 						
TYPE OF HARM:						
Chemical Possible Thermal Possible Asphyxiation Possible Mechanical						
PERSONAL PROTECTION:						
Time - Keep Exposure and Product Contact to Minimum Distance - Stay 700 and 2000 feet away on Upwind Side Shielding - Chemical Protective Clothing						

GUIDE 5	LEWISITE
SIGNS AND SYMPTOMS:	
Immediate Eye and Skin Pain	Nausea
Loss of Sight	Vomiting
Reddening of Skin	Hoarseness
Irritation of Mucous Membranes	Fever
	Apathy Depression Odor of Garlic or Geraniums
CHARACTERISTICS:	
Boiling Point: 374°F	
Vapor Density (Air=1): 7.1	
Specific Gravity (H ₂ O=1): 1.88 @ 25°C	
INDICATORS:	
Dead Animals	Unusual Liquid Droplets
Lack of Insect Life	Areas That Look Different in Appearance
Mass Casualties	Unexplained Odors
Casualty Pattern Differentiated by Indoor/ Outdoor Location	Low Lying Clouds Unusual Metal Debris
ROUTES OF EXPOSURE:	
Inhalation	
Absorption	
Ingestion	
EMERGENCY RESPONSE:	
<ul style="list-style-type: none"> ● Approach from Upwind, Uphill, or Upstream ● Isolate Immediate Area in all directions for a SMALL INCIDENT 700 feet or LARGE INCIDENT 2000 feet (SMALL = < 55 Gallons, Large = > 55 Gallons) ● Keep Unauthorized Persons Away ● Consider Immediate Downwind Evacuation for a SMALL INCIDENT DAY of 1.2 Miles or NIGHT of 5.5 Miles, or LARGE INCIDENT DAY of 4.6 Miles or NIGHT of 7 Miles. ● Consider Immediate All Direction Evacuation Distance of 2640 feet during the day ● Stay Upwind ● Make Notifications, Decon With Water, Obtain Immediate Medical Treatment 	
TYPE OF HARM:	
Chemical	
Possible Thermal	
Possible Asphyxiation	
Possible Mechanical	
PERSONAL PROTECTION:	
Time - Keep Exposure and Product Contact to Minimum	
Distance - Stay 700 and 2000 feet away on Upwind Side	
Shielding - Chemical Protective Clothing	

GUIDE 6**BLOOD AGENTS**

Example: Hydrogen Cyanide (AC), Cyanogen Chlorine (CK)

SIGNS AND SYMPTOMS:

Increased Rate and Depth of Breathing
Great Difficulty Breathing
Dizziness
Nausea
Vomiting

Headaches
Convulsions
Cardiac Symptoms
Odor of Burnt Almonds or Peach Kernels

CHARACTERISTICS:**Hydrogen Cyanide****Cyanogen Chlorine**

Boiling Point:	78° F	55° F
Vapor Density (Air=1):	0.094	2.1
Specific Gravity H ₂ O=1)	0.69	1.22

INDICATORS:

Dead Animals
Lack of Insect Life
Mass Casualties
Definite Patterns of Casualties

Unusual Droplets
Areas That Look Different in Appearance
Unexplained Odors
Low Lying Clouds

ROUTES OF EXPOSURE:

Inhalation
Absorption
The most effective way to weaponize this product is to aerosolize it.

EMERGENCY RESPONSE:

- Approach from Upwind, Uphill, or Upstream
- Isolate Immediate Area in all directions for a **SMALL INCIDENT 700 feet or LARGE INCIDENT 2000 feet**
(SMALL = < 55 Gallons, Large = > 55 Gallons)
- Keep Unauthorized Persons Away
- Consider Immediate Downwind Evacuation for a **SMALL INCIDENT DAY of 1.2 Miles or NIGHT of 5.5 Miles, or LARGE INCIDENT DAY of 4.6 Miles or NIGHT of 7 Miles.**
- Consider Immediate All Direction Evacuation Distance of 2640 feet during the day
- Stay Upwind
- Make Notifications, Decon With Water, Obtain Immediate Medical Treatment

TYPE OF HARM:

Chemical
Possible Thermal
Possible Asphyxiation
Possible Mechanical

PERSONAL PROTECTION:

Time - Keep Exposure and Product Contact to Minimum
Distance - Stay 700 and 2000 feet away on Upwind Side
Shielding - Chemical Protective Clothing

GUIDE 7**CHOKING AGENTS (PULMONARY)**

Example: Chlorine (CL), Phosgene (CG)

SIGNS AND SYMPTOMS:

Nausea
Vomiting
Coughing
Chocking

Chest Tightness
Delayed Pulmonary Edema
Odors of Chlorine, Bleach, Swimming Pools, Newly Mown Hay or Grass

CHARACTERISTICS:

	Chlorine	Phosgene
Boiling Point:	~29° F	45.6° F
Vapor Density (Air=1):	2.5	3.42
Specific Gravity H ₂ O=1)	1.46	1.38

INDICATORS:

Dead Animals	Unusual Droplets
Lack of Insect Life	Areas That Look Different in Appearance
Mass Casualties	Unexplained Odors
Definite Patterns of Casualties	Low Lying Clouds
Casualty Pattern Differentiated by Indoor/ Outdoor Location	Unusual Metal Debris

ROUTES OF EXPOSURE:

Inhalation

EMERGENCY RESPONSE:

- Approach from Upwind, Uphill, or Upstream
- Isolate Immediate Area in all directions distance of 400-1100 feet
- Keep Unauthorized Persons Away
- Consider Immediate All Direction Evacuation Distance of 1 Mile during the day
- Consider Immediate Downwind Evacuation for a **SMALL SPILL DAY** of .4 Miles or **NIGHT** of 1.7 Miles,
or **LARGE SPILL DAY** of 1.4 Miles or **NIGHT** of 6.2 Miles. (**SMALL** = < 55 Gallons,
Large = > 55 Gallons)
- Stay Upwind
- Make Notifications, Obtain Immediate Medical Treatment

TYPE OF HARM:

Chemical
Possible Thermal
Possible Asphyxiation
Possible Mechanical

PERSONAL PROTECTION:

Time - Keep Exposure and Product Contact to Minimum
 Distance - Stay 400 and 1100 feet away on Upwind Side
 Shielding - Chemical Protective Clothing

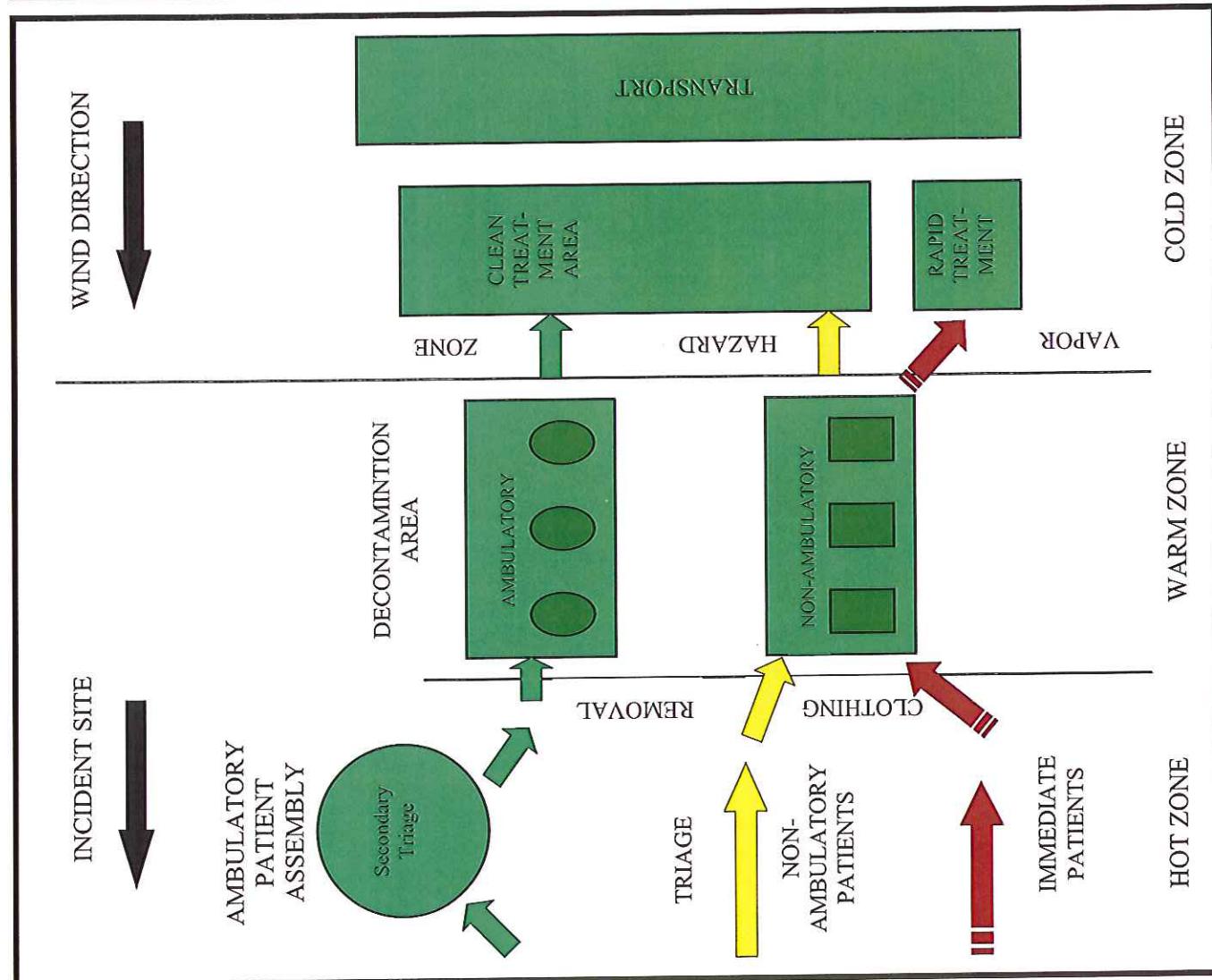
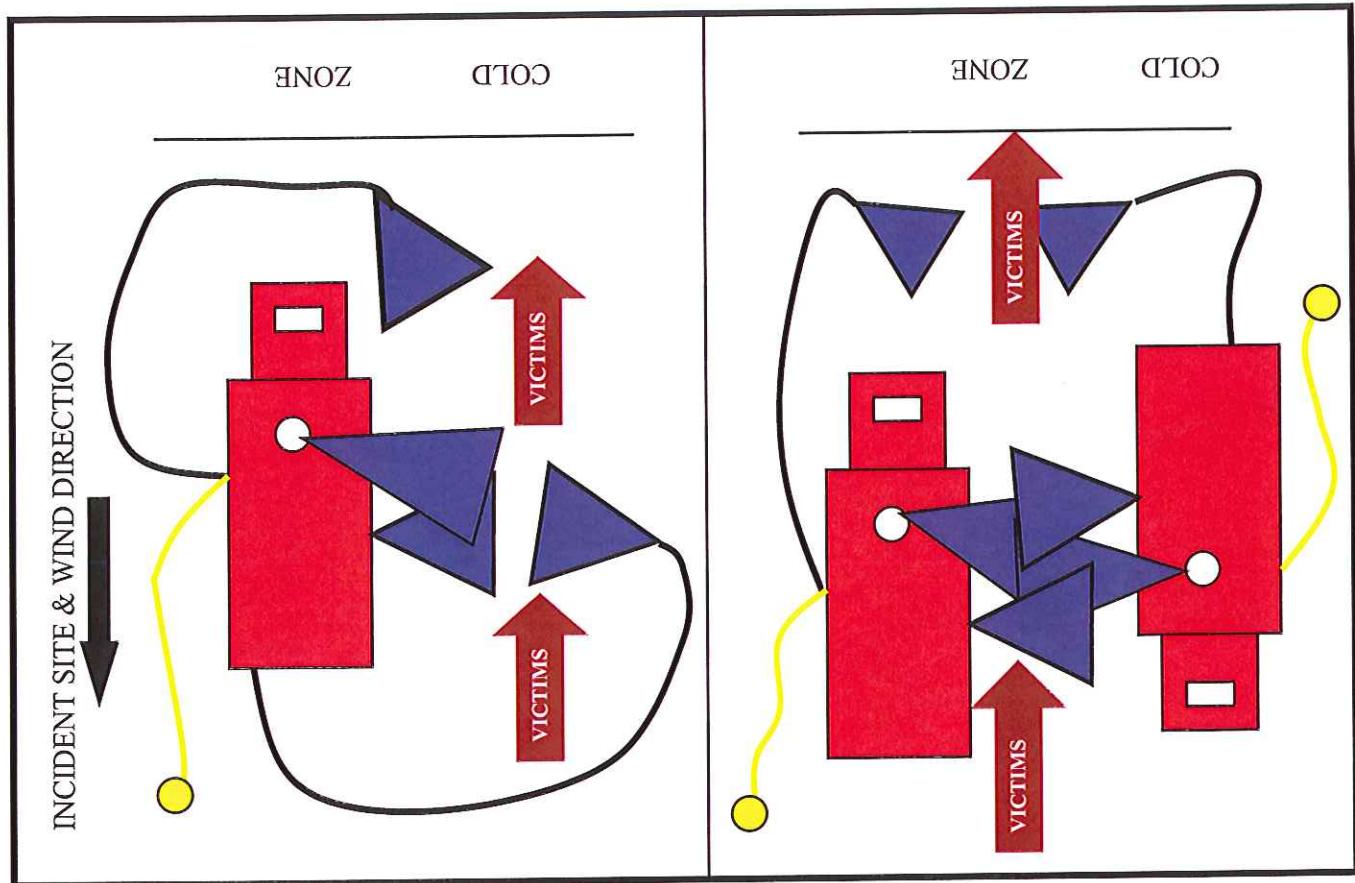
GUIDE 8	IRRITANTS
Example: Tear Gas (CS), Tear Gas (CR), Mace (CN), Pepper Spray (OC)	
SIGNS AND SYMPTOMS:	
Burning Sensation of the Eyes Coughing Difficulty Breathing Involuntary Closing of the Eyes	Stinging Sensation on Moist Skin Burning of Mucous Membrane Odor of Hair Spray or Pepper
INDICATORS:	
Definite Patterns of Casualties Casualty Pattern Differentiated by Indoor/Outdoor Location Unexplained Odors Unusual Metal Debris	
ROUTES OF EXPOSURE:	
Inhalation Absorption	
EMERGENCY RESPONSE:	
<ul style="list-style-type: none"> ● Approach from Upwind, Uphill, or Upstream (if there is potential for dissemination of nuclear material or particulate matter) ● Isolate Immediate Area in all directions distance of at least 80 - 160 feet ● Keep Unauthorized Persons Away ● Consider initial Downwind Evacuation Distance of atleast 330 feet at night ● Consider Immediate All Direction Evacuation Distance of 2640 feet during the day ● Stay Upwind ● Make Notifications, Decon With Water, Obtain Immediate Medical Treatment ● Obtain immediate medical evaluation for all exposed or potentially exposed personnel 	
TYPE OF HARM:	
Chemical Possible Asphyxiation	
PERSONAL PROTECTION:	
Time - Keep Exposure and Product Contact to Minimum Distance - Stay 80 and 160 feet away on Upwind Side Until Agent is Identified Shielding - Vehicles, Buildings, or Other Large Mass Items	

GUIDE 9	EXPLOSIVES
SIGNS AND SYMPTOMS:	
Mechanical Injuries (i.e., Trauma) Blackened or Burnt Clothing Projectile Wounds	Difficulty Hearing Temporary Blindness Bleeding from Ears
INDICATORS:	
Abandoned Containers Out-of-Place Obvious Devices (e.g., Blasting Caps, Timers, Booster Charges, ect.) Abandoned Vehicles Not Belonging in Immediate Environment Strong Chemical Odors Unusual or Foreign Devices Attached to Pressurized Containers, Bulk Storage Containers, or Supply Pipes Containers, or Supply Pipes Trip Wires or Other Booby Traps Suspicious Mailing Containers Written or Verbal Threats	
ROUTES OF EXPOSURE:	
Inhalation Absorption Ingestion Injection	
EMERGENCY RESPONSE:	
<ul style="list-style-type: none"> ● Approach from Upwind, Uphill, or Upstream (if there is potential for dissemination of nuclear material or particulate matter) ● Isolate Immediate Area in all directions distance of at least 1650 feet ● Do Not Operate Radio, Cellular Phone, or Mobile Data Terminal within the Isolation Distance ● Keep Unauthorized Persons Away ● Consider initial Evacuation Distance of at least 2500 feet in all directions ● Stay Upwind ● Make Notifications ● Obtain Immediate Medical Attention 	
TYPE OF HARM:	
Thermal Chemical Mechanical Possible Etiological Possible Radiological	
PERSONAL PROTECTION:	
Time - Keep Exposure and Product Contact to Minimum Distance - Stay 1650 feet away on Upwind Side Shielding - Large Physical Objects (i.e., Buildings)	



DECON SET-UP SCHEMATICS

**EMERGENCY DECONTAMINATION SETUP
FOR 1 OR 2 ENGINES**



DECON ZONES LAYOUT

WIND
DIRECTION



HOT ZONE

EXIT

CONTAMINATION
REDUCTION
ZONE
(WARM ZONE)

TECH DECON

COLD ZONE
WORKING

ENTRY

CLEAN

VICTIM
DECON

EMERGENCY
DECON

ENGINE

ENGINE

HAZMAT RIG

DECON TRAILER



LIFE SQUAD

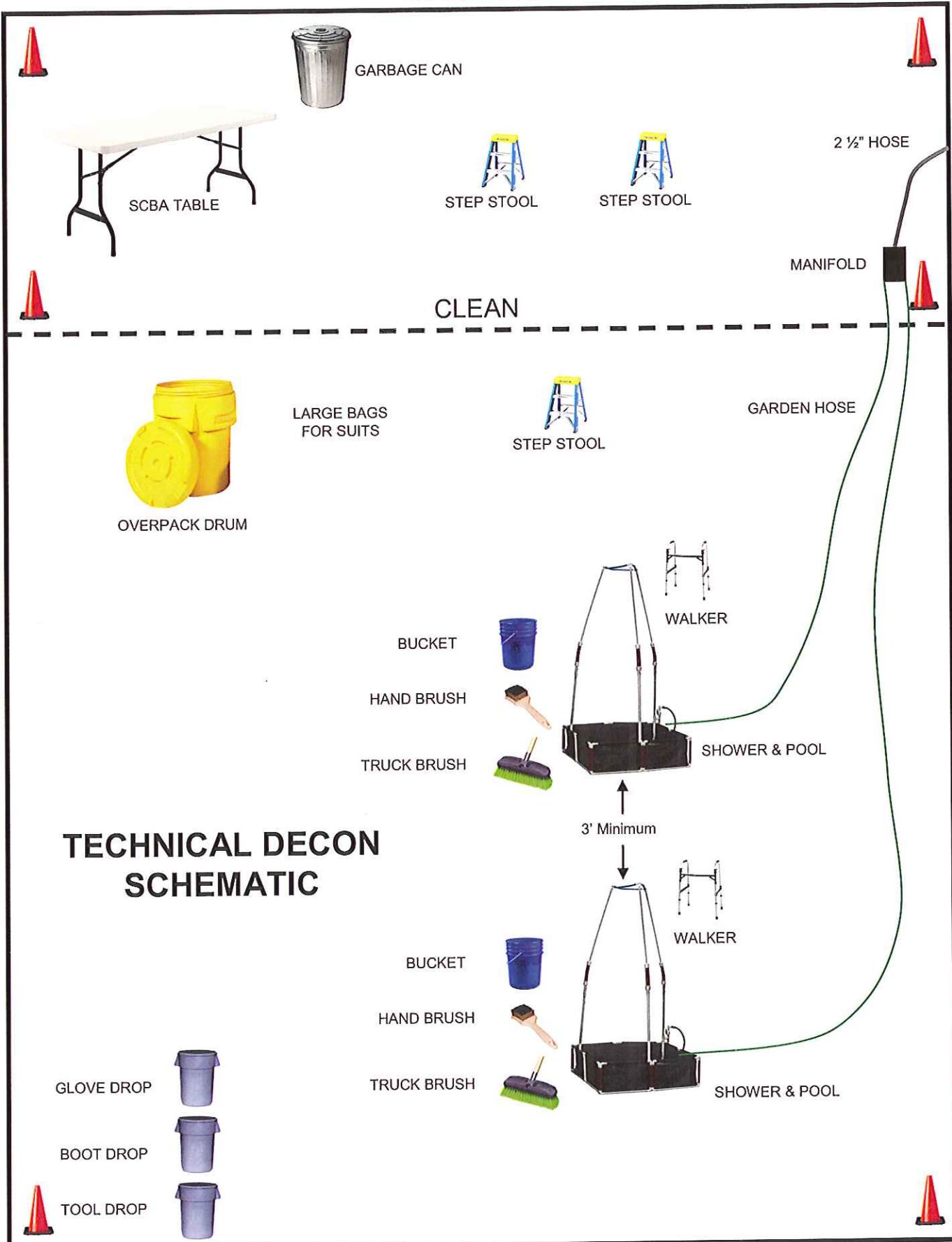
COLD ZONE
SUPPORT

SUPPORT
AGENCIES

COMMAND
POST

STAGING

COLD ZONE



TECHNICAL DECON SCHEMATIC

HOT ZONE



LUCAS COUNTY HOSPITALS DECONTAMINATION PREPLANS

RADIOLOGICAL CONTAMINATION PROTOCOL

One of the Action Steps to protect the hospitals is that "No victim would be transported from the incident site without first being deconned by first responders."

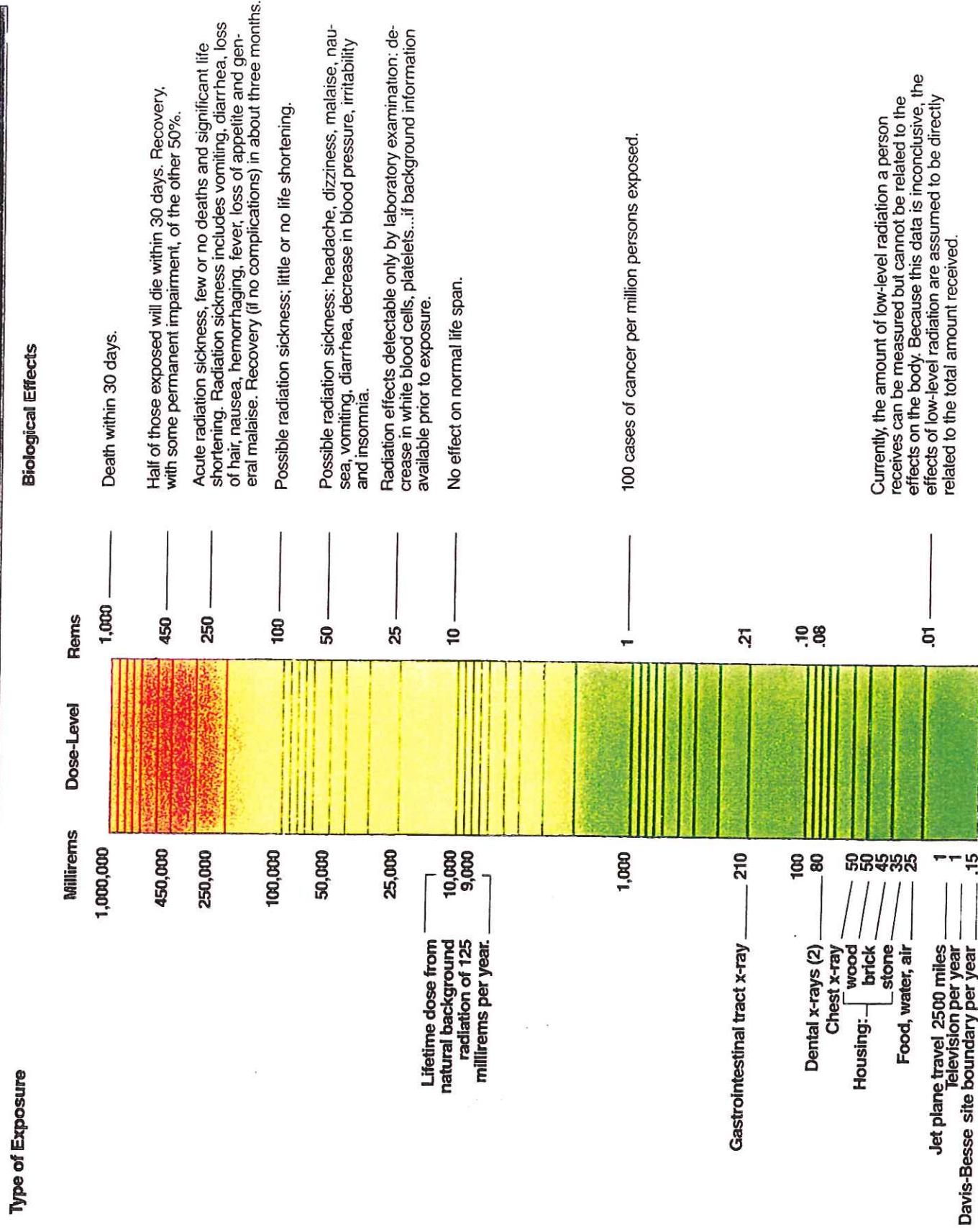
However, in the event of a radiological incident, critically injured trauma victims will be transported to hospital emergency rooms without decontamination at the incident scene for the following reasons:

1. The injuries sustained by the trauma will cause the victim's death long before the impact of even large amounts of radiological contamination.
2. The radiation exposure from the most probable or likely sources of WMD contamination sources will be small.
3. Previous radiological incidents involving contaminated patients showed that there was no cross contamination from victim to medical personnel.

Ohio EMA Action Dose Guidelines

DOSE RATE Recommendations	RADIOLOGICAL VALUES
Contaminated (Persons)	2 x Background Reading
HOT ZONE ESTABLISHED	1 mR/hr (0.001 R/hr)
WORK IN HOT ZONE	1 mR/hr – 1 R/hr
TURN BACK DOSE RATE (Except for Life-Saving)	1 R/hr
TURN BACK DOSE RATE (Even for Life-Saving)	25 R/hr

Biological effects of acute, whole-body radiation exposure



STAY TIME TABLE

Gamma Dose Rate on Meter		Time to Receive This Dose (Times rounded off. Table only calculates dose from external sources.)										
		All Emergency Responder Activities Under the Emergency Conditions				Protect Property	Life-Saving	Life-Saving Volunteers Only		Potentially Lethal		
		100 mrem	0.1 rem	1 rem	2 rem	5 rem	10 rem	25 rem	50 rem	100 rem	300 rem	500 rem
SET UP HOT LINE CAUTION	10 µR/hr	1 year										
	50 µR/hr	12 week	2 year									
	100 µR/hr	6 week	1 year									
	500 µR/hr	8 days	12 week	24 week	1 year							
	750 µR/hr	5.5 days	8 week	16 week	40 week	1.5 year						
WORK IN HOT ZONE DANGER	1000 µR/hr 1 mR/hr											
	2 mR/hr	4 days	6 week	12 week	30 week	1 year						
	5 mR/hr	50 hr	3 week	6 week	15 week	30 week	74 week					
	7.5 mR/hr	20 hr	8 days	16 days	6 week	12 week	30 week	1 year				
	10 mR/hr	13 hr	5.5 days	11 days	4 week	8 week	20 week	40 week	80 week			
CAUTION	20 mR/hr	10 hr	4 days	8 days	3 week	6 week	15 week	30 week	1 year			
	30 mR/hr	5 hr	2 days	4 days	10 days	3 week	7 week	15 week	30 week	2 year		
	40 mR/hr	3.3 hr	33 hr	3 days	1 week	2 week	5 week	10 week	20 week	60 week		
	50 mR/hr	2.5 hr	1 day	2 days	5 days	11 days	4 week	8 week	15 week	1 year		
	75 mR/hr	2 hr	20 hr	40 hr	4 days	8 days	3 week	6 week	12 week	35 week	1 year	
DANGER	100 mR/hr	80 min	13 hr	1 day	3 days	5.5 days	2 week	4 week	8 week	24 week	40 week	
	200 mR/hr	1 hr	10 hr	20 hr	2 days	4 days	10 days	3 week	6 week	18 week	30 week	
	300 mR/hr	30 min	5 hr	10 hr	1 day	2 days	5 days	11 days	3 week	9 week	15 week	
	400 mR/hr	20 min	3 hr	7 hr	16 hr	32 hr	3 days	1 week	2 week	6 week	10 week	
	500 mR/hr	15 min	2.5 hr	5 hr	12 hr	1 day	2.5 days	5.5 days	11 days	31 days	52 days	
DANGER	750 mR/hr	12 min	2 hr	4 hr	10 hr	19 hr	2 days	4 days	8 days	25 days	40 days	
	1000 mR/hr 1 R/hr	8 min	78 min	2.6 hr	6.5 hr	13 hr	33 hr	3 days	5.5 days	16 days	4 week	
	1.5 R/hr	6 min	1 hr	2 hr	5 hr	10 hr	25 hr	50 hr	4 days	12 days	3 week	
	2 R/hr	3 min	40 min	78 min	3.5 hr	6.5 hr	16.5 hr	33 hr	3 days	8 days	14 days	
	3 R/hr	3 min	30 min	1 hr	2.5 hr	5 hr	13 hr	25 hr	2 days	6 days	11 days	
DANGER	4 R/hr	2 min	20 min	40 min	100 min	200 min	8 hr	16 hr	1.5 days	4 days	1 week	
	5 R/hr	90 sec	15 min	30 min	75 min	2.5 hr	6.5 hr	13 hr	1 day	3 days	6 days	
	7.5 R/hr	72 sec	12 min	24 min	1 hr	2 hr	5 hr	10 hr	20 hr	2.5 days	4 days	
	10 R/hr	48 sec	8 min	16 min	40 min	78 min	200 min	6.5 hr	13 hr	40 hr	3 days	
	20 R/hr	36 sec	6 min	12 min	30 min	1 hr	2.5 hr	5 hr	10 hr	30 hr	50 hr	
LIFE-SAVING ONLY DANGER	30 R/hr	18 sec	3 min	6 min	15 min	30 min	75 min	2.5 hr	5 hr	15 hr	1 day	
	40 R/hr	10 sec	2 min	4 min	10 min	20 min	50 min	96 min	3 hr	10 hr	17 hr	
	50 R/hr	9 sec	90 sec	3 min	7.5 min	15 min	38 min	75 min	2.5 hr	7.5 hr	12 hr	
	75 R/hr	7 sec	72 sec	80 sec	6 min	12 min	30 min	1 hr	2 hr	6 hr	10 hr	
	100 R/hr	5 sec	50 sec	100 sec	4 min	8 min	20 min	40 min	80 min	4 hr	6.5 hr	
VOLUNTEERS GRAVE DANGER	200 R/hr	4 sec	30 sec	1 min	3 min	6 min	15 min	30 min	1 hr	3 hr	5 hr	
	300 R/hr	2 sec	18 sec	30 sec	90 sec	3 min	7 min	15 min	30 min	90 min	2.5 hr	
	400 R/hr	1 sec	10 sec	20 sec	1 min	2 min	5 min	10 min	20 min	1 hr	100 min	
	500 R/hr	1 sec	9 sec	15 sec	45 sec	90 sec	3.5 min	7.5 min	15 min	45 min	75 min	
	750 R/hr	1 sec	7 sec	15 sec	30 sec	72 sec	3 min	6 min	12 min	36 min	1 hr	
1000 R/hr	1 sec	5 sec	9 sec	24 sec	48 sec	2 min	4 min	8 min	24 min	40 min		
	1 sec	3 sec	7 sec	18 sec	36 sec	90 sec	3 min	6 min	18 min	30 min		



EQUIPMENT START-UP GUIDES

CDV-700 SURVEY METER

USE FOR BACKGROUND RADIATION READINGS AND
PERSONNEL SURVEYS



OPERATING PROCEDURE	
1	Check calibration label. Use only if calibration due date has not been exceeded.
2	Turn the RANGE switch to the OFF position.
3	Separate the instrument halves.
4	Remove battery clip(s). Install batteries correctly. Reinstall battery clip(s).
5	Attach instrument halves.
6	Turn the RANGE switch to the “ x10 ” position.
7	Allow 2 minutes for warm-up.
8	Connect the headset to the phone jack.
9	Remove the probe from the handle and unwind cable. Ensure plastic probe cover is in place.
10	Rotate window on probe to open position.
11	Place open window directly on side of instrument over check source.
12	Headset should make clicking noises. Needle should deflect to reading indicated on label. Allow 45 to 60 seconds for response.
13	If needle does not deflect, repeat from step 2 with replacement batteries.
14	If instrument passes test in step 12, it is ready for use. Always remove batteries when not in use.
NOTES	
◆	Instrument detects low-intensity gamma and most beta radiation.
◆	Detects a maximum of 50mRem/hr.
◆	Must be checked once a week on “tool day”.

CDV-715 SURVEY METER

USE FOR INITIAL ENTRY WHEN HIGH LEVELS
OF RADIATION ARE SUSPECTED



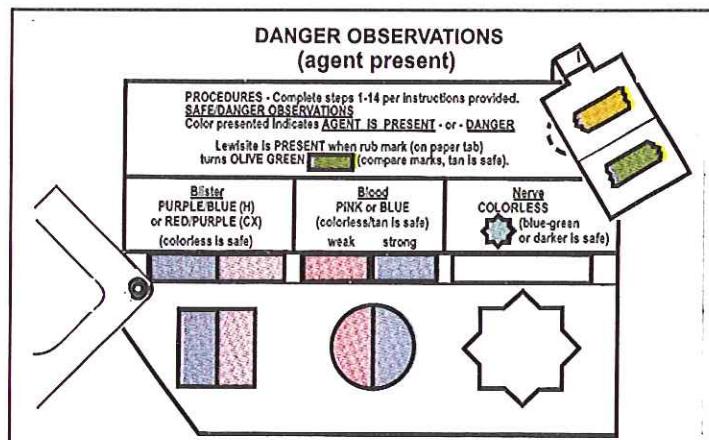
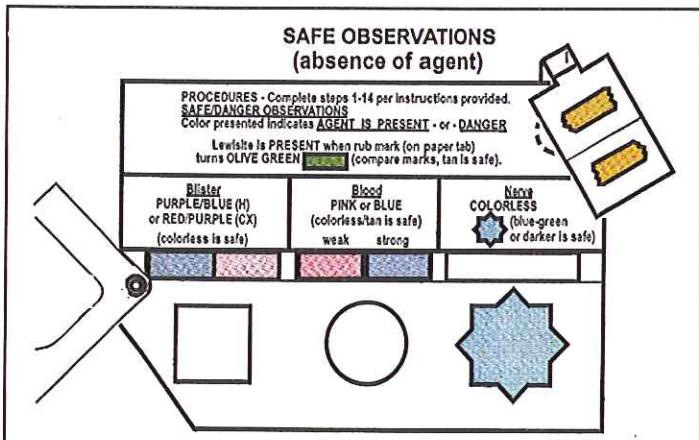
OPERATING PROCEDURE	
1	Check calibration label. Use only if calibration due date has not been exceeded.
2	Turn the RANGE switch to the OFF position.
3	Separate the instrument halves.
4	Insert standard "D" cells correctly.
5	Attach instrument halves.
6	Rotate selector switch to " ZERO " position.
7	Allow 2 minutes for warm-up.
8	Rotate ZERO KNOB until needle is on zero of meter scale.
9	Rotate selector switch " CIRCUIT CHECK " position and hold. Meter should give an up-scale reading in or near red area marked "Circuit Check."
10	If needle does not move within the red area, replace the battery and repeat from step 2. If instrument continues to fail this check after several attempts at changing the battery and repeating steps 2 – 5, the instrument is faulty and should not be used.
11	If step 9 is successful, rotate selector switch to x100 , x10 , x1 , positions separately. Each time, the needle should not jump by more than plus or minus 0.2.
12	Next, rotate the selector switch to the x 0.1 position. The needle should not jump by more than plus or minus 0.4.
13	If instrument passes test in step 12, it is ready for use. Always remove batteries when not in use.
NOTES	
◆	High range instrument for measuring gamma exposure.
◆	Use when high range radiation hazards are present.
◆	This meter should be used first. This would identify any high levels early.
◆	The CD V-715 will measure up to 500 Rem/hr. of gamma radiation.
◆	These shall be checked once a week on "tool day".

RADOS-60 DOSIMETER OPERATING PROCEDURE	
1	Switch on Press push button until all segments are displayed and the dosimeter beeps.
2	Change display (dose to dose rate) or vice versa <ol style="list-style-type: none"> Press push button once. Display changes to dose or to dose rate for 5 seconds.
3	Change display mode permanently (dose/dose rate) <ol style="list-style-type: none"> Press push button once. Display changes to dose or to dose rate. Press and hold push button until a bleep occurs. The display mode is now changed.
4	Switch off <ol style="list-style-type: none"> Press push button shortly until display changes to OFF. Press and hold push button until a bleep occurs. The display goes blank.
5	Chirp on/off <ol style="list-style-type: none"> Press push button shortly until display changes to CChr. Press and hold push button until a bleep occurs. The chirp is activated/deactivated The loudspeaker symbol is displayed when the chirp is active.
6	Reset cumulative dose (CLR) <ol style="list-style-type: none"> Press push button shortly until display changes to CLR. Press and hold push button until a bleep occurs. Display blinks cumulative dose. Press and hold push button until a bleep occurs. The cumulative dose is now reset.
7	Show dose alarm level (dAL) <ol style="list-style-type: none"> Press push button shortly until display changes to dAL. Press and hold push button until a bleep occurs. Current alarm level is displayed. Wait for return to dose/dose rate display. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> The Dose Alarm Level should be set to 100 mR </div>
8	Change dose alarm level (dAL) <ol style="list-style-type: none"> Press push button shortly until display changes to dAL. Press and hold push button until a bleep occurs. Current dose alarm level is blinking. Select alarm level by short pushes. Confirm the selected level by pressing and holding push button until a beep occurs. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> The Dose Rate Alarm Level should be set to 100 mR/h </div>
9	Show dose rate alarm level (drA) <ol style="list-style-type: none"> Press push button shortly until display changes to drA. Press and hold push button until a bleep occurs. Current alarm level is displayed. Wait for return to dose/dose rate display.
10	Change dose rate alarm level (drL) <ol style="list-style-type: none"> Press push button shortly until display changes to drA. Press and hold push button until a bleep occurs. Current dose rate alarm level blinks. Select alarm level by short pushes. Confirm the selected level by pressing and holding push button until a beep occurs.
11	Battery and display test (dIA) <ol style="list-style-type: none"> Press push button shortly until display changes to dIA. Press and hold push button until a bleep occurs. The alarm sounds for 5 seconds. If the battery symbol occurs on the display the battery is weak.



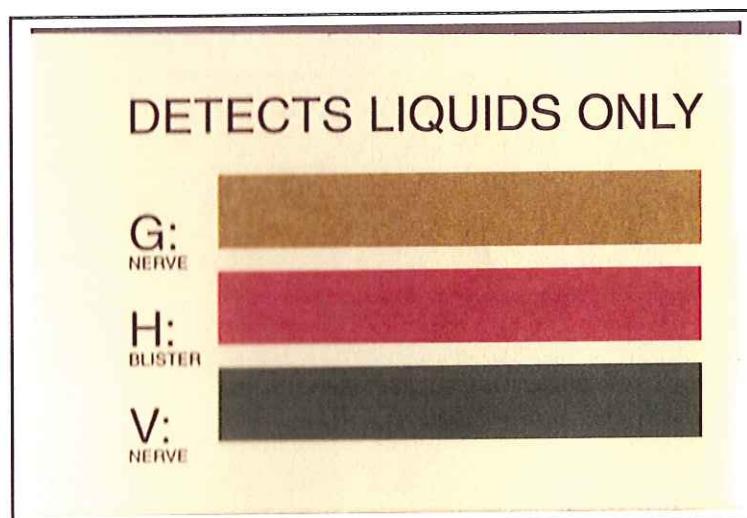
M-256A1 CHEMICAL AGENT DETECTOR KIT

OPERATING PROCEDURE	
1	Protective mask, gloves and goggles must be worn when using this kit.
2	Check the expiration date on the sampler to ensure it is usable.
3	Discard sampler, if there are any broken or missing ampoules or missing spots. Ensure that the protective strip is covering all spots.
4	Pull and discard tab #1 to expose tablet.
5	Rub top half of white paper tab #2 on tablet.
6	Hold sampler with arrow facing up (\uparrow). Using heater pads, crush ampoules in three center pockets labeled (#3).
7	Rotate sampler so arrow is now facing (\downarrow) down. Force liquid to each spot with right hand while pressing protective strip with left hand to ensure wetting of covered spots.
8	With left thumb over center of protective strip, hold sampler flat and swing heater (green ampoules) away from blister spot.
9	Being sure <u>NOT TO</u> use pads, crush one heater ampoule #4 and immediately swing heater over spot. Vent heater vapor away from firefighter's body.
10	Leave heater over spot for 2 minutes, then swing heater and protective strip away from spots.
11	Expose spots to air (shielding from direct sun) for 10 minutes.
12	Crush second green ampoule #4 and immediately swing heater back over test spot. Leave in place 1 minute. Swing heater away from spot.
13	Hold sampler with arrow facing (\downarrow) down. Crush two outside ampoules #5 with pads.
14	Re-rub bottom half of white paper tab #2 next to 1 st mark.
15	Immediately look for a difference in color between the two marks.
16	Turn sample over to determine safe or dangerous conditions. Wait 3 minutes for nerve agent results. Disregard any blue-green edge around nerve spot rim.



M-8 PAPER

OPERATING PROCEDURE	
1	M-8 paper is specifically designed to react to nerve and blister agents in <i>liquid</i> form only.
2	Locate liquid contamination and remove a sheet of paper from carrying packet.
3	Blot (Do not rub) M8 paper on suspected liquid agent.
4	If colored spots appear, put on protective mask if not already in place.
5	Compare color on paper to color chart in booklet.
6	Identify type of agent.
7	Yellow-Gold indicates G (nerve) agent
8	Red-Pink indicates H (blister) agent
9	Dark Green indicates V (nerve) agent.
10	If any other color appears than the ones listed the liquid cannot be identified.
11	If there is a lack of color change the liquid cannot be identified.
12	This paper will NOT detect gas or vapor.



START Triage

"30 – 2 – CAN DO"

RPM

RESPIRATION

ALL WALKING WOUNDED

MINOR

YES

NO

OPEN AIRWAY?

YES

NO

IMMEDIATE

DEAD/DYING

OVER 30/MIN

UNDER 30/MIN

IMMEDIATE

PULSE

CAPILLARY REFILL
LESS THAN 2 SECONDS

CAPILLARY REFILL
GREATER THAN 2 SEC.

MENTAL STATUS

FAILS TO FOLLOW
SIMPLE COMMANDS

FOLLOWS SIMPLE
COMMANDS

IMMEDIATE

IMMEDIATE

DELAYED

HOSPITAL DECON SKILL CHECKLIST

Upon given the assignment to gross decon, the unit or company will complete the following:

	ARRIVAL AT HOSPITAL	YES	NO
1	Stop apparatus at a safe distance away from the assigned decon site to allow the engine driver time to don gear before arriving at the site.		
2	Begin moving up to appropriate Decon position as illustrated in "Hospital Decon Procedures" Manual.		
3	All members in Personal Protective Equipment (PPE) with S.C.B.A or Air Purifying Respirator (APR) in place and in-service prior to exiting the apparatus.		
4	Take the hydrant.		
5	Position apparatus to begin Decon operation as identified by hospital procedures, accounting for wind direction and other variables.		
6	Quickly estimate the number of victims and severity of injuries.		
7	Communicated the request for assistance and or equipment if needed.		
	DECON OPERATION	YES	NO
8	Water flowing within 1 minute. Consider using a stretched hand line and pumping from the tank.		
9	Change over from tank to hydrant.		
10	Established proper "hands-off" water flow by using a 2 ½" nozzle on the side discharge and incorporating the deck gun.		
11	Once "hands-off" water flow is established considered shutting down stretched hand line if deemed necessary for safety.		
12	Monitored the effectiveness of water pressure, (normally between 60-80 psi), and fog patterns being used to decon patients.		
13	Considered turning off apparatus if hydrant pressure allows for effective water flow.		
14	Directed patients to disrobe and enter water for at least 3 minutes.		
15	Considered use of PA system to address the crowd.		

Critical steps which must be met in order to pass are in **Bold** type.

Date _____ Location _____

Unit _____ Officer _____

Evaluator _____

Comments _____