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| **Revision Date:**  | 2015MAR | **State of Illinois Emergency Management Agency** | **Hazard ID:** | **TORNADO** |
| **Revised By:**  |  |  | **Use By:** |  |

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| **SHORT-TERM RESPONSE OBJECTIVES** |  | **RESOURCE GUIDELINE FOR RESPONSE** |
| * Conduct Search and Rescue
* Establish Immediate EMS/Medical Surge Capacity
* Provide Force Security & Protection
* Restore Communications
* Restore Power
* Restore WWTF and Potable Water Supplies/Systems
* Provide Public Information Messaging
* Establish Evacuation Systems
* Establish Shelters
* Provide Potable Water/Ice/Food
* Conduct Debris Removal
* Implement Debris Management

**SECONDARY CONSIDERATIONS*** Environmental impact
* Long-term monitoring and clean-up
* Loss of economy and infrastructure
* Foodborne/waterborne illnesses
* Medical capacity and capability
* Monitoring, Sampling, and Mitigation
* Personnel Protective Equipment
* Psychological implications
* Secondary hazardous materials releases
* Secure access and area security
* Vendor and insurance fraud
 |  | **RESOURCE TYPE** | **QNTY** | **PURPOSE** |
| Telecom Repair TechniciansTelecom Repair TechniciansICC Regional RepresentativeSworn Officer – L/EGenerators ( 3-100kW, 3-30Kw) IESMAGenerator Support Trailer – IESMAITEC Team and TrailerOffender Crews (1 L/E, 8 inmate/per)End LoaderChipperTrucks w/ PlowsBack Hoe/DiggerSkid SteerChainsawsMessage BoardsArrow BoardsSweeperBurn curtainHWY Labor (Personnel)Day Labor, General (Personnel)FW Raytheon KA 350Mobile CommandCommunications VehicleSatellite VehicleRegional Command TrailersLogistics TrailerCars, PassengerPersonnel – UAC – FWD AOPersonnel – UAC – FWD AOEMAT – IESMATechnical Rescue Team (MABAS) |  | Support IT/Telecom repairs – Govt. FacilitiesSupport IT/Telecom repairs – Remote CMDLiaison w/ Private Sector – TransportationForce Security and Protection / T/APower RestorationPower RestorationCommunications RestorationDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and ManagementDebris Removal and Management/ Res MgmtAerial MonitoringUAC, RSOI, Logs Base, (C3)Interoperable Communications / C3Interoperable Communications / C3FWD Command, Communications, D/AResource Management / Logistics / FWD AOTransport / Damage Assessment / MobilityLiaison / Staffing UACRecovery Specialists / DAEmergency ManagementSearch and Rescue |

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| **SAFETY CONSIDERATIONS AND WARNINGS** |
| * **Staff will maintain a safe working environment throughout operations.**
* **Due to the extended working period, staff will be cognizant of stress, fatigue, and the need for adequate rest periods.**
* **All staff should be cognizant of potential lift, trip, fall, pinch, electrical, puncture, chemical and environmental hazards associated with operations.**
* **Any and all situations warranting law enforcement intervention will be immediately directed to the appropriate authorities. At no time will staff intercede in law enforcement activities.**
* **Injuries or medical concerns/conditions will be reported to the medical staff on-site immediately and/or 911 as appropriate.**
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| **DEBRIS ESTIMATION – Mixed & Vegetative Only** |  | **DEBRIS ESTIMATION - Homes** | **DEBRIS - RULES OF THUMB** |
| ***Ground Measurements***One acre of debris 10 feet high converts to 16,133 CY 43,560 SF x 10 FT = 16,133 CY 27***Conversion Factors for tons and cubic yards of debris***Construction and demolition debris: 1 ton = 2 CYMixed debris: 1 ton = 4 CYVegetative debris:  Hardwoods: 1 ton = 4 CY Softwoods: 1 ton = 6 CY* 15 trees 8 inches in diameter = 40 cy (average)
* Root system (8’-10’ diameter) = one flatbed trailer

***VCM for Single Family Homes***

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| **Typical House (Square Feet)** | **Vegetative Cover Multiplier** |
| **None** | **Light (1.1)** | **Medium (1.3)** | **Heavy (1.5)** |
| 1000 SF | 200 CY | 220 CY | 260 CY | 300 CY |
| 1200 SF | 240 CY | 264 CY | 312 CY | 360 CY |
| 1400 SF | 280 CY | 308 CY | 364 CY | 420 CY |
| 1600 SF | 320 CY | 352 CY | 416 CY | 480 CY |
| 1800 SF | 360 CY | 396 CY | 468 CY | 540 CY |
| 2000 SF | 400 CY | 440 CY | 520 CY | 600 CY |
| 2200 SF | 440 CY | 484 CY | 572 CY | 660 CY |
| 2400 SF | 480 CY | 528 CY | 624 CY | 720 CY |
| 2600 SF | 520 CY | 572 CY | 676 CY | 780 CY |

* ***For multiple-story residences, the debris generated by the demolished residence should be calculated using the total number of stories.***
 |  | ***Mobile Home Formulas***Typical single-wide mobile home: 290 CYTypical double-wide mobile home: 415 CY***Personal Property on Public Rights-of-Way***Slab on grade home: 25–30 CYHome with a basement: 45–50 CY***General Building Formula***Length x Width x Height x 0.33 = CY 27***Single Family Residence Formula***Length x Width x S x 0.20 x VCM = CY* *Length and Width must be in feet*
* *S = number of stories in the building*
* *0.20 = a constant based on the study data*
* *VCM = a vegetative cover multiplier*
 | * To convert cubic yards of Construction & Demolition (C&D) debris to tons, divide by 2.

Cubic Yards = ­­\_\_\_\_\_\_\_\_T 2* *To convert tons of C&D debris to cubic yards, multiply by 2.*
* To convert cubic yards of woody debris to tons, divide by 4.

Cubic Yards = ­­\_\_\_\_\_\_\_\_T 4* *To convert tons of woody debris to cubic yards, multiply by 4.*

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| **ENHANCED FUJITA SCALE** | **LINKS** |
| **http://www.spc.noaa.gov/efscale/** | **NWS – NOAA****National Weather**[**http://www.weather.gov/**](http://www.weather.gov/)**River forecasts**[**http://water.weather.gov/ahps/**](http://water.weather.gov/ahps/)**Storm Prediction Center**[**http://www.spc.noaa.gov/**](http://www.spc.noaa.gov/) |