

## WINTER STORM MARA AFTER ACTION REPORT





# PURPOSE OF THIS REPORT

This report describes the events related to Austin Resource Recovery's emergency response to Winter Storm Mara, to identify the unique issues and challenges faced throughout the overall response from January 31, 2023, through April 19, 2023, and identify effective strategies for responding to similar incidents in the future.

# OVERVIEW

| Executive Summary  | 1                |
|--|------------------|
| Storm Impact   | 2                |
| Incident Analysis<br>Plans, Procedures and Preparedness<br>Response Operations<br>Leadership and Coordination<br>Communication | 3<br>4<br>8<br>9 |
| Improvement Plan   | 11               |
| Appendix 1- Corrective Action Plan   | 15               |
| <b>Appendix 2- Summary of Events</b>   | 18               |
|  |                  |

## EXECUTIVE SUMMARY

On Monday, January 30, 2023, Austin Resource Recovery (ARR) began to monitor and communicate storm updates to ARR's management and crews. Based on weather conditions, ARR deployed personnel to Emergency Operations Center (EOC). On Tuesday, January 31, 2023, ARR had emergency response structure and personnel in place and ready to respond to a half inch of ice accumulation according to weather predictions. The weather event was worse than expected. Winter Storm Mara was a natural disaster with a historic amount of freezing rain and the actual ice accumulation measured approximately .71 inch – the most in Austin's history. The weight of the ice caused trees, limbs, communications infrastructure, wires, and poles to sag or snap resulting in additional "hurricane level" damage. The storm damage caused loss of electricity for a significant portion of the Austin-metro area. The icy conditions also led to hundreds of car crashes in Central Texas, and many roadways contained storm debris that presented hazards. The storm resulted in a boil-water notice in western Travis County.

On February 3, 2023, ARR activated existing emergency contracts for storm debris management and monitoring. ARR used various platforms to communicate available storm response updates to customers and stakeholders as part of Citywide press conferences, TV, radio and print interviews, social media messaging, emails, text alerts, and through ARR website resources.



Between February 3, 2023, and April 19, 2023, ARR crews and contractors collected over 170,000 tons of storm debris. This is enough storm debris to fill the Q2 Stadium four times over. ARR demobilized contractor operations on April 19, 2023. ARR crews continued storm debris collections for customers who still needed it through the end of May and early June.



## STORM IMPACT

The impact of the storm and the aftereffects were spread citywide. Winter Storm Mara produced a large volume of storm debris consisting of tree limbs and associated brush. Fallen tree limbs and downed powerlines created a challenge for residents and businesses to return to normal. Citywide field observations revealed the magnitude of the damage and the need for an emergency response by ARR and other City of Austin departments.

The following are the total tons collected by ARR crews and contractors. As of April 19, 2023, ARR crews collected a total of 3,306 tons. ARR's storm debris management contractors collected a total of 164,116.52 tons. ARR crews at Hornsby Bend accepted over 3,000 tons in drop offs. This combined to total over 170,000 tons of storm debris collected from ARR residential customers. Private businesses and multifamily properties managed the collection and removal of storm debris through private haulers or through their established private contracts. ARR was not able to obtain that tonnage amount that was collected.

### INCIDENT ANALYSIS PLANS, PROCEDURES AND PREPAREDNESS

#### Overview

The City of Austin Recovery Plan defines responsibilities, establishes a recovery organization, defines lines of communications, and is designed to be part of the City of Austin Emergency Management Program. ARR also maintains a Continuity of Operations Plan and an Emergency Operations Plan that guide the department during emergency events. These plans will be updated with information from this incident, information obtained from Austin/Travis County Homeland Security and Emergency Management and the Federal Emergency Management Agency (FEMA).

#### Strengths

Debris collection and monitoring contracts were in place and ready to execute prior to the storm event.

Some temporary debris sites were pre-identified.

Plan and supplies to prepare equipment for a cold weather event were in place prior to the storm event.

#### **Areas for Improvement**

- **1 Observation:** Expenses from emergency events are expensed to enterprise department's operational budgets.
  - **Recommendation:** Create a citywide budget to fund emergency events so that event expenses are not charged to individual department operating funds.
- **2 Observation:** TCEQ approval process should start when our vendors are put on notice.
  - **Recommendation:** Identify additional temporary debris collection sites prior to next storm event to prevent additional delays with debris collection and improve drop-off functionality. Identification and communication of predetermined sites would allow the City of Austin departments to function at a higher level of efficiency and allow public awareness.

### INCIDENT ANALYSIS RESPONSE OPERATIONS

#### Overview

The Field Operations focus area encompasses those specific actions related to the management of debris resulting from the incident and the recovery activities associated with the return to normal operations for residents, responder agencies as well as critical infrastructure.

#### Strengths

Plan for supervisors and safety personnel to evaluate routes for safety ahead of the crews.

Well-defined operations zones for ARR crews and contractors.

Cold weather operations vehicle preparation plan.





#### Areas for Improvement

| 3 | <b>Observation:</b> Supervisors and employees experienced difficulty when |
|---|---|
|   | completing storm event related documentation as they lacked               |
|   | proper training in completing disaster related paperwork and              |
|   | documentation.  |

- **Recommendation:** Be more vigilant with monitoring the weather. Complete training on emergency event documentation with employees and supervisors based on weather forecasts and/or at the beginning of January for winter events.
- 4 Observation: Hornsby Bend truck scale and housing experienced various calibration issues and power failure during weather event.
  Recommendation: Strengthen by developing a bi-annual maintenance schedule for ensuring the operation and functionality of the equipment to guarantee readiness for any emergency.
- **5 Observation:** The event caused excessive wear and tear on ARR's fleet, increasing the rate of repairs. Fleet Services could not keep up with the increased repair needs with its normal staffing.
  - **Recommendation:** An established/standing contract for emergency fleet repair should be solicited for future disaster events. In addition to this, ARR should hire additional staff to supplement fleet personnel.
- **6 Observation:** Not all division manager level staff qualified to work the storm event due to lack of emergency operations management training.
  - **Recommendation:** Create an assignment list of division manager level employees who will be assigned to work at the emergency operations center (EOC) during emergency events. This would entail sending all Division Managers through EOC certification training.

Observation: Departmental contract management teams needed Corporate Purchasing support but was unaware of who to contact. Recommendation: Request schedule of on-call Corporate Purchasing support personnel.

**B Observation:** There was not enough administrative support staff for operations during the storm event. Administrative staffing was needed for departmental on the spot purchasing, initial operational paperwork review, and associated tasks related to field employee support.

**Recommendation:** Assign administrative personnel to department command center to answer questions, process paperwork and ensure all documents are completed correctly.



Observation: Contractors displaying unsafe behaviors during storm event.
 Recommendation A: Review and approve contractor safety plans prior to next emergency event.
 Recommendation B: Establish a process to document, report and correct contractor's unsafe behavior during an emergency event.

- **10 Observation:** Operational staff were not aware of what emergency equipment and materials were available to use during the storm event.
  - **Recommendation:** Maintain an updated list of all ARR equipment, including emergency equipment needed for disaster response, this list will include materials available during emergency events across City of Austin departments. Example: tire chains, PPE, de-icing equipment.



- **11 Observation:** Employees who were required to work the storm event received the same compensation as employees that are not considered "essential employees."
  - **Recommendation:** Consider changing City policy to compensate employees who are required to work storm events with a stipend during the emergency event in addition to the compensation permitted for exempt employees during EOC activations and administrative leave.
- **12 Observation:** Operational and administrative staff unable to respond for several days, regardless of "essential status."
  - **Recommendation:** Create a plan to provide transportation and lodging for essential personnel who do not have access to a vehicle capable of operating safely in inclement weather and consequences for essential personnel who do not report. This would require establishing some standing contracts for both alternative transportation and for hotel lodging.
- **13 Observation:** Gated communities and private streets created collection challenges for ARR, contractors and other city departments. Private contractors were not permitted entry or access to these communities as assigned by ARR.
  - **Recommendation:** Create a plan to communicate with residents of the gated communities and those residents on private drives to obtain documented permission and/or waivers to grant access to provide collection services for storm and or disaster debris.

### INCIDENT ANALYSIS LEADERSHIP AND COORDINATION

#### Overview

The Leadership and Coordination focus areas includes the performance of leadership and their ability to coordinate the storm event and subsequent cleanup effort. This evaluation includes the leadership and coordination at the City and departmental levels and with outside organizations.

#### Strengths

Departmental internal communication.

- •Daily meeting with COA staff and contractors was very effective.
- •Departmental coordination meetings prior to HSEM daily meetings worked well.

Interdepartmental communication and coordination.

Ability to shift personnel and equipment to respond to event.

#### **Areas for Improvement**

**14 Observation:** Departmental emergency operations would function more effectively and efficiently with a departmental emergency operations center.

- **Recommendation A:** Designate and establish a departmental emergency operations center/communication hub equipped with communication and monitoring equipment.
- **Recommendation B:** Assign a fully-trained administrative staff person to assemble all information and data, produce reports, set meetings, ensure all necessary sections are represented in the meetings and ensure personnel receive all necessary communications. This would require the department to train and certify all admin staff in the areas of administrative disaster response.

## INCIDENT ANALYSIS COMMUNICATION

#### Overview

The Communications Focus Area included issues associated with providing timely and accurate information to the maximum number of customers enabling them to take appropriate protective actions to minimize storm impact and property losses. ARR used various platforms to communicate available storm response updates to customers and stakeholders as part of Citywide press conferences, TV, radio and print interviews, social media messaging, emails, text alerts and through ARR website resources.



#### Strengths

Council communication, press releases and community communication.

Coordination with other City of Austin departments.

Daily meetings with ARR staff and contractors.

TEAMS chat worked well to disseminate information across divisions.

#### **Areas of Improvement**

**15** Observation: Austin 3-1-1 was relaying 14-day collection timeframe and not allowing the service delivery timeframe to change.
 **Recommendation:** ARR should provide a specific timeframe for collections and Austin 3-1-1 should communicate information provided by and authorized by the department.

**16 Observation:** Confusion regarding which personnel were classified as "essential personnel."

**Recommendation:** Establish and communicate which employees are essential and that business needs during an emergency event may change the status of nonessential personnel to essential.

| 17              | d<br>b<br>ti<br>a<br>D<br><b>Recommendat</b><br>n<br>T<br>a | nternal and external disaster related maps created overlap,<br>luplication and confusion when rolled out to the public. It would<br>be valuable for the departments and the public to have a real-<br>time map with consolidate information with departments such<br>as Austin Fire Department, Transportation and Public Works<br>Department, along with outside organizations.<br><b>tion:</b> Create a consolidated emergency response map that<br>may be adapted to the type of emergency response experience.<br>This would include city departments and outside organizations<br>assisting with disaster response. Establish a standard for<br>lepartmental reporting and authorization to release information. |
|-----------------|---|---|
| 18              | a<br>fr<br><b>Recommendat</b><br>is<br>h                    | There was a shortage of ARR handheld frequency radios,<br>and some vehicle-mounted communication radios were not<br>unctioning.<br>tion: Ensure that all emergency-response management staff are<br>ssued a handheld radio and maintain a reserve of backup<br>andhelds that may be issued to vendors or when vehicle<br>nounted radios are inoperable. Ensure vehicle equipment is   |
| 19              | ir<br>ra<br><b>Observation:</b> T<br>c                      | There is no standardized departmental SitRep that is used to<br>communicate updates during a storm event.<br>tion: Create a departmental SitRep that can use and  |
| <mark>20</mark> | n<br>e<br>Observation: A                                    | nake available digitally. This SitRep will provide decision<br>nakers and readers with a quick understanding of the current<br>mergency. Conduct training on capability of tool.<br>ARR management did not have key points of contact   |
| 21              | n<br><b>Recommendat</b><br>S                                | nformation for all COA departments, surrounding cities, and<br>conprofit organizations.<br>tion: Create a list of key contacts for all COA departments,<br>surrounding cities and nonprofit organizations.  |
| 21              | c<br>w<br>Recommendat<br>s<br>d<br>n<br>c<br>b              | ARR's staff was unclear as to who the PIO and Media<br>contact was for the department, so messaging and responses<br>were sent to various ARR staff members.<br>tion: ARR Director should identify and designated the<br>spokesperson(s) for the department regarding PIO and media<br>lisaster response. Designated spokesperson(s) should have<br>necessary training, knowledge, and experience in media<br>communication and response. This designation should<br>be shared with department staff, City of Austin Corporate<br>Communications Department, and other departments.   |

## IMPROVEMENT PLAN

#### **Improvement Outcome 1**

Establish a citywide emergency operations fund. This would alleviate the negative budget impacts on each of the responding operational departments.

#### **Critical Root Causes of Incident Impact**

Currently, departments must fund emergency operations from their departmental operating budget.

#### Key indicators of Progress Towards Resilience

Threats and Hazards Identification, Planning, Environmental Response/ Health and Safety, Long-term Vulnerability Reduction, Logistics and Supply Chain Management, and Economic Recovery.

#### **Key Recommendations**

COA should establish an emergency budget so that event expenses are not charged to individual department operating funds.

#### **Measuring Progress**

Emergency fund established in the general fund prior to next emergency event.



#### Improvement Outcome 2

Establish a departmental emergency operations center/communication hub. This will allow the department to communicate in real time and provide transparency in critical operational decision making.

#### **Critical Root Causes of Incident Impact**

Lack of communication and coordination hub.

#### Key indicators of Progress Towards Resilience

Threats and Hazards Identification, Planning, Environmental Response/ Health and Safety, Long-term Vulnerability Reduction, Logistics and Supply Chain Management, and Economic Recovery.

#### **Key Recommendations**

Assign administrative personnel to department command center to answer questions, process paperwork and ensure all documents are completed correctly. Example: Finance (contract management, purchasing and accounting), HR (timekeeping and employee questions) and general administrative staff for paperwork completion.

#### **Measuring Progress**

Departmental emergency response team is established and trained on an annual basis.

#### Improvement Outcome 3

Make all emergency contracts "citywide" contracts. This would allow all city departments access to critical emergency contracts.

#### **Critical Root Causes of Incident Impact**

Requesting authorization during emergency events made it difficult to access emergency contracts and resulted in excessive delays.

#### Key indicators of Progress Towards Resilience

Threats and Hazards Identification, Planning, Environmental Response/ Health and Safety, Long-term Vulnerability Reduction, Logistics and Supply Chain Management, and Economic Recovery.

#### **Key Recommendations**

Make all emergency contracts "citywide" contracts. Request corporate purchasing personnel schedules during emergency events.

#### **Measuring Progress**

Emergency contracts are made "citywide" contracts prior to next emergency event.



#### **Improvement Outcome 4**

Establish departmental emergency response team. The established response team would already know their roles and be able to respond to emergencies immediately.

#### **Critical Root Causes of Incident Impact**

Lack of pre-identified personnel led to duplication of efforts.

#### Key Indicators of progress Towards Resilience

Planning, Operational Coordination, Situational Assessment, Logistics and Supply Chain Management, Operational Communications, and Environmental Response/Health and Safety.

#### **Key Recommendation**

ARR should establish a departmental emergency response team. ARR will designate roles and responsibilities for each emergency response team member.

#### **Measuring Progress**

ARR has identified emergency response team members and has assigned specific duties for each of the team members.

#### Improvement Outcome 5

Pre-Approved Temporary Brush Collection Locations. The pre-approved sites would allow departments the ability to respond immediately to disaster collection efforts.

#### **Critical Root Causes of Incident Impact**

Waiting for TCEQ approval of debris sites caused inefficiencies in debris collection.

#### Key indicators of Progress Towards Resilience

Planning, Operational Coordination, Situational Assessment, Logistics and Supply Chain Management, Operational Communications, and Environmental Response/Health and Safety.

#### **Key Recommendations**

ARR should identify additional viable locations for temporary brush collection sites.

ARR should complete site plan, traffic plan, and required equipment for each site.

#### **Measuring Progress**

Temporary brush collection locations have been identified and approved by Austin Resource Recovery and other departments. The TCEQ approval process will begin in October of each year to eliminate any waiting periods.



### APPENDIX 1 Corrective Action plan

| # | Recommendation   | Focus<br>Area                              | POC                |
|---|--|--|--------------------|
| 1 | Create a City-wide budget to fund emergency<br>events so that event expenses are not charged to<br>individual department operating funds.  | Corporate<br>Budget<br>Office              | Ed Van<br>Eenoo    |
| 2 | Identify and seek authorization for temporary debris collection sites on an annual basis.  | ARR<br>Diversion<br>Facilities<br>Services | Donald<br>Hardee   |
| 3 | Complete training on emergency event<br>documentation with employees and supervisors<br>prior to next emergency event.   | ARR HR                                     | Wendy<br>Riggins   |
| 4 | Complete Hornsby Bend truck scale and housing maintenance bi-annually.   | ARR<br>Diversion<br>Facilities<br>Division | Donald<br>Hardee   |
| 5 | Ensure ARR has resources needed to keep up<br>with departmental fleet needs during emergency<br>events. An established/standing contract for<br>emergency fleet repair should be solicited for<br>future disaster events. In addition to this, ARR<br>should hire additional staff to supplement fleet<br>personnel. | ARR<br>Contract<br>Mgmt                    | Victoria<br>Rieger |
| 6 | Ensure that all non-operational division manager<br>level staff had completed HSEM training prior to<br>emergency event.   | ARR<br>Emergency<br>Manager                | Chad<br>Presley    |
| 7 | Create an assignment list of division manager<br>level employees who will be assigned to work at<br>the EOC during emergency events.   | ARR<br>Emergency<br>Manager                | Chad<br>Presley    |

| #   | Recommendation  | Focus<br>Area                | POC                  |
|-----|---|------------------------------|----------------------|
| 8   | Request Corporate Contract Management staff on-call schedules during emergency events.  | ARR<br>Finance<br>Manager    | Victoria<br>Rieger   |
| 9   | Assign administrative personnel to department<br>command center to answer questions, process<br>paperwork, and ensure all documents are<br>completed correctly.   | ARR<br>Emergency<br>Manager  | Chad<br>Presley      |
| 10a | Review and approve contractor safety plans prior to next emergency event.   | ARR<br>Operations<br>Support | Chad<br>Presley      |
| 10b | Establish a process to document, report, and correct contractor's unsafe behavior during an emergency event.  | ARR<br>Operations<br>Support | Chad<br>Presley      |
| 11  | Make a list of emergency equipment and<br>materials available during emergency events.<br>Example: tire chains, PPE, de-icing equipment.  | ARR<br>Operations<br>Support | Raymond<br>Benavidez |
| 12  | Consider changing City policy to compensate<br>employee who are required to work storm events<br>with a stipend during the emergency event.   | Corporate<br>HRD             | Rebecca<br>Kennedy   |
| 13  | Create a plan to provide transportation for<br>essential personnel who do not have access to a<br>vehicle capable of operating safety in inclement<br>weather and consequences for essential<br>personnel who do not report.          | ARR<br>Operations<br>Support | Chad<br>Presley      |
| 14a | Establish a departmental emergency operations center/ communication hub.  | ARR<br>Emergency<br>Manager  | Chad<br>Presley      |
| 14b | Assign administrative staff to assemble all<br>information and data, produce reports, set<br>meetings, ensure all necessary sections<br>are represented in the meetings and ensure<br>personnel receive all necessary communications. | ARR<br>Emergency<br>Manager  | Chad<br>Presley      |

| #  | Recommendation   | Focus<br>Area                | POC               |
|----|--|------------------------------|-------------------|
| 15 | Austin 3-1-1 should request and communicate information provided by and authorized by the department.  | 3-1-1                        | Patty<br>Martinez |
| 16 | Establish and communicate that all ARR<br>employees are essential and create a process<br>to pre-identify and notify what employees are<br>essential in a specific emergency.                                      | ARR HR                       | Wendy<br>Riggins  |
| 17 | Create a consolidated emergency response map<br>that may be adapted to the type of emergency<br>response experience. Establish standard for<br>departmental reporting and authorization to<br>release information. | HSEM                         | Tanner<br>Hunt    |
| 18 | Ensure that all operational management are<br>issues a handheld radio and maintain a reserve of<br>backup handheld that may be issued to vendors<br>or when vehicle mounted radios are inoperable.                 | ARR<br>Operations<br>Support | Chad<br>Presley   |
| 19 | Create a standardized departmental SitRep that the admin can use and make available digitally.   | ARR<br>Operations<br>Support | Chad<br>Presley   |
| 20 | Create a list of key contacts for Travis County, surrounding counties and cities, and nonprofit organizations.   | ARR<br>Directors<br>Office   | Ron<br>Romero     |
| 21 | Identify the spokesperson for the department   | ARR<br>Directors<br>Office   | Gena<br>McKinley  |

### APPENDIX 2 SUMMARY OF EVENTS

#### **Pre-Event Preparation**

- Completed winterization of vehicles and equipment prior to weather event.
- Eliminated biodiesel before (and during) freezing events.
- Obtained tire cables for vehicles.
- Obtained better cold weather PPE for operators.
- Acquired Emergency Preparedness Conex to store the items that would be needed in weather events.

#### Saturday, Jan. 28, 2023

• No activity.

#### Sunday, Jan. 29, 2023

- Weather Summary: The National Weather Service predicted that western Travis County could see 0.1-inch ice accumulation, but downtown Austin would not see winter impacts.
- Senior management and safety staff monitored weather reports.

#### Monday, Jan. 30, 2023

- Weather Summary: Temperatures dropped below freezing. The National Weather Service predicted one quarter inch to half a inch of ice accumulation possible.
- Public Works Street and Bridge was contacted in advance and asked to lay down sand in our parking lots and equipment yard to allow for traction when leaving for the routes.
- Completed facilities cold weather event preparation.
- Ensured adequate levels of winter weather PPE were on hand.
- Began schedule for ARR representatives at the EOC.

#### Tuesday, Jan. 31, 2023

- Weather Summary: The National Weather Service predicted half an inch of ice accumulation possible, mostly north and west of Austin area.
- Personnel activated as ARR EOC representative.
- Safety and supervisors completed reconnaissance of routes prior to deploying crews to obtain roads conditions in the areas of collection.

#### Tuesday, Jan. 31, 2023, Cont.

- Operators were instructed to contact Dispatch with information on any hazardous areas or roads.
- Operations were suspended when roadways conditions became hazardous. Crews were directed to return to Service Center without dumping to reduce the potential for accidents.
- Austin police responded to 215 collision reports on Tuesday.

#### Wednesday, Feb. 1, 2023

- Personnel activated as ARR EOC representative.
- No field operations.

#### Thursday, Feb. 2, 2023

- Weather Summary: Actual ice accumulation reaches 0.71 inch in Central Austin; the worst ice storm in Austin history.
- Delayed collections start time to 11 a.m.
- Personnel activated as ARR EOC representative.
- Ten ARR employees were assigned to the EOC to operate large vans for passenger transportation to warming shelters, hotels and other locations.
- Safety and supervisors completed reconnaissance of routes prior to deploying crews to obtain road conditions in the areas of collection.
- Crews were assigned to complete areas on routes not serviced on Tuesday
  and Wednesday.
- Instructors were reassigned to assist Safety.
- Safety and supervisors drove routes assigned ahead of crews to identify additional hazards.
- All hazards were called in to Dispatch to assemble a list of hazards.

#### Friday, Feb. 3, 2023

- Austin declared to be a local disaster.
- Personnel activated as ARR EOC representative.
- Two employees were assigned to the EOC for transportation activities.
- Safety and supervisors completed reconnaissance of routes prior to deploying crews to obtain road conditions in the areas of collection.
- Crews were assigned to complete areas on routes not serviced on Thursday and Friday.
- Safety and supervisors drove routes assigned ahead of crews to identify additional hazards.
- Collections deployed at normal start time.
- Instructors were reassigned to assist Safety.
- All hazards were called in to Dispatch to assemble a list of hazards.
- Notice To Proceed provided to debris haulers and monitoring contractor.
- Held discussions with Public Works and Austin Energy on assisting with debris removal from impacted rights of way.

#### Friday, Feb. 3, 2023, Cont.

- Recycle and Reuse Drop-off Center (RRDOC) re-established operations after weather closure and began to reschedule residents affected by the closure. Those residents were rescheduled at their convenience.
- Hornsby Bend public brush collection site received 177 tons of storm debris.

#### Saturday, Feb. 4, 2023

- Personnel activated as ARR EOC representative.
- Deployed Brush crews to remove storm debris in storm-impacted areas.
- Safety and supervisors drove routes assigned ahead of crews to identify additional hazards.
- Assembled photographs and videos of storm-impacted areas.
- Met with Contractors to discuss plan of action and needs from the City and mobilization timeline.
- Began discussions for potential temporary debris sites.
- Hornsby Bend public brush collection site received 224 tons of storm debris.

#### Sunday, Feb. 5, 2023

- Personnel activated as ARR EOC representative.
- Deployed Brush crews to remove storm debris in storm-impacted areas.
- Completed site review of potential alterative dump sites.
- Debris removal contractors began truck certification process.
- ARR crews collected 91.68 tons of storm debris.
- Hornsby Bend public brush collection site received 156 tons of storm debris.
- Daily grand total collected: 247.68 tons of storm debris.

#### Monday, Feb. 6, 2023

- Personnel activated as ARR EOC representative.
- Additional cleanup contractors arrive.
- Debris removal contractor truck certification continues.
- TCEQ and Texas Historical Commission paperwork completed for Circle C Ranch Metropolitan Park Temporary Debris Management Site.
- ARR crews collected 100.00 tons of storm debris.
- ARR's storm debris management contractors collected 972.44 tons of storm debris.
- Hornsby Bend public brush collection site received 109 tons of storm debris.
- Daily grand total collected: 1,181.44 tons of storm debris.

#### **Tuesday, Feb. 7, 2023**

- ARR crews collected 105.6 tons of storm debris.
- ARR's storm debris management contractors collected 1,705.33 tons of storm debris.
- Hornsby Bend public brush collection site received 130 tons of storm debris.
- Daily grand total collected: 1,940.93 tons of storm debris.

#### Wednesday, Feb. 8, 2023

- ARR crews collected 134.74 tons of storm debris.
- ARR's storm debris management contractors collected 2,134.14 tons of storm debris.
- Hornsby Bend public brush collection site received 114 tons of storm debris.
- Daily grand total collected: 2,382.88 tons of storm debris.

#### Thursday, Feb. 9, 2023

- TCEQ and Texas Historical Commission paperwork completed for Bolm District Park and Old Manor Road Temporary Debris Management Sites (TDMS).
- ARR crews collected 131.54 tons of storm debris.
- ARR's storm debris management contractors collected 2,405.21 tons of storm debris.
- Hornsby Bend public brush collection site received 11 tons of storm debris.
- Daily grand total collected: 2,547.75 tons of storvm debris.

#### Friday, Feb. 10, 2023

- ARR crews collected 98.23 tons of storm debris.
- ARR's storm debris management contractors collected 3,349.22 tons of storm debris.
- Hornsby Bend public brush collection site received 81 tons of storm debris.
- Daily grand total collected: 3,528.45 tons of storm debris.

#### Saturday, Feb. 11, 2023

- ARR crews collected 195.27 tons of storm debris.
- ARR's storm debris management contractors collected 3,899.72 tons of storm debris.
- Hornsby Bend public brush collection site received 168 tons of storm debris.
- Daily grand total collected: 4,262.99 tons of storm debris.

#### Sunday, Feb. 12, 2023

- ARR's storm debris management contractors collected 3,410.04 tons of storm debris.
- Hornsby Bend public brush collection site received 71 tons of storm debris.
- Daily grand total collected: 3,481.04 tons of storm debris.

#### Monday, Feb. 13, 2023

- ARR crews collected 80.32 tons of storm debris.
- ARR's storm debris management contractors collected 3,846.36 tons of storm debris.
- Hornsby Bend public brush collection site did not record any drop off tonnage due to the focus on grinding and the relocation of piles of storm debris.
- Daily grand total collected: 3,926.68 tons of storm debris.

#### Tuesday, Feb. 14, 2023

- ARR crews collected 63.13 tons of storm debris.
- ARR's storm debris management contractors collected 3,989.16 tons of storm debris.
- Hornsby Bend public brush collection site received 61 tons of storm debris.
- Daily grand total collected: 4,113.29 tons of storm debris.

#### Wednesday, Feb. 15, 2023

- ARR crews collected 89.44 tons of storm debris.
- ARR's storm debris management contractors collected 4,439.11 tons of storm debris.
- Hornsby Bend public brush collection site received 25 tons of storm debris.
- Daily grand total collected: 4,553.55 tons of storm debris.

#### Thursday, Feb. 16, 2023

- ARR crews collected 61.25 tons of storm debris.
- ARR's storm debris management contractors collected 4,652.98 tons of storm debris.
- Hornsby Bend public brush collection site received 55 tons of storm debris.
- Daily grand total collected: 4,769.23 tons of storm debris.

#### Friday, Feb. 17, 2023

- ARR crews collected 108.26 tons of storm debris.
- ARR's storm debris management contractors collected 4,710.02 tons of storm debris.
- Hornsby Bend public brush collection site received 31 tons of storm debris.
- Daily grand total collected: 4,849 tons of storm debris.

#### Saturday, Feb. 18, 2023

- ARR crews collected 202.51 tons of storm debris.
- ARR's storm debris management contractors collected 5,327.71 tons of storm debris.
- Hornsby Bend public brush collection site received 47 tons of storm debris.
- Daily grand total collected: 5,577.22 tons of storm debris.

#### Sunday, Feb. 19, 2023

- ARR's storm debris management contractors collected 4,876.78 tons of storm debris.
- Hornsby Bend public brush collection site received 53 tons of storm debris.
- Daily grand total collected: 4,929.78 tons of storm debris.

#### Monday, Feb. 20, 2023

- ARR crews collected 79.77 tons of storm debris.
- ARR's storm debris management contractors collected 4,963.38 tons of storm debris.
- Hornsby Bend public brush collection site received 14 tons of storm debris.
- Daily grand total collected: 5,057.15 tons of storm debris.

#### **Tuesday, Feb. 21, 2023**

- ARR crews collected 93.76 tons of storm debris.
- ARR's storm debris management contractors collected 5,010.18 tons of storm debris.
- Hornsby Bend public brush collection site received 34 tons of storm debris.
- Daily grand total collected: 5,137.94 tons of storm debris.

#### Wednesday, Feb. 22, 2023

- ARR crews collected 108.55 tons of storm debris.
- ARR's storm debris management contractors collected 4,931.36 tons of storm debris.
- Daily grand total collected: 5,039.91 tons of storm debris.

#### Thursday, Feb. 23, 2023

- ARR crews collected 73.84 tons of storm debris.
- ARR's storm debris management contractors collected 4,963.58 tons of storm debris.
- Hornsby Bend public brush collection site received 47 tons of storm debris.
- Daily grand total collected: 5,084.42 tons of storm debris.

#### Friday, Feb. 24, 2023

- Haul-outs of mulch began from Contractor TDMS sites to Hornsby Bend.
- ARR crews collected 131.11 tons of storm debris.
- ARR's storm debris management contractors collected 5,133.89 tons of storm debris.
- Hornsby Bend public brush collection site received 26 tons of storm debris.
- Daily grand total collected: 5,293 tons of storm debris.

#### Saturday, Feb. 25, 2023

- ARR crews collected261.65 tons of storm debris.
- ARR's storm debris management contractors collected 5,764.26 tons of storm debris.
- Hornsby Bend public brush collection site did not record any drop off tonnage due to the focus on grinding and the relocation of piles of storm debris.
- Daily grand total collected: 6,025.91 tons of storm debris.

#### Sunday, Feb. 26, 2023

- ARR's storm debris management contractors collected 5,400.58 tons of storm debris.
- Hornsby Bend public brush collection site did not record any drop off tonnage due to the focus on grinding and the relocation of piles of storm debris.
- Daily grand total collected: 5,400.58 tons of storm debris.

#### Monday, Feb. 27, 2023

- ARR crews collected 119.61 tons of storm debris.
- ARR's storm debris management contractors collected 5,150.40 tons of storm debris.
- Hornsby Bend public brush collection site received 121 tons of storm debris.
- Daily grand total collected: 5,391.01 tons of storm debris.

#### Tuesday, Feb. 28, 2023

- ARR crews collected 66.46 tons of storm debris.
- ARR's storm debris management contractors collected 5,138.39 tons of storm debris.
- Hornsby Bend public brush collection site received 60 tons of storm debris.
- Daily grand total collected: 5,264.85 tons of storm debris.

#### Wednesday, March 1, 2023

- ARR crews collected 66.33 tons of storm debris.
- ARR's storm debris management contractors collected 5,080.59 tons of storm debris.
- Hornsby Bend public brush collection site received 79 tons of storm debris.
- Daily grand total collected: 5,225.92 tons of storm debris.

#### Thursday, March 2, 2023

- ARR crews collected 10.04 tons of storm debris.
- ARR's storm debris management contractors collected 5,019.72 tons of storm debris.
- Hornsby Bend public brush collection site received 97 tons of storm debris.
- Daily grand total collected: 5,126.78 tons of storm debris.

#### Friday, March 3, 2023

- ARR crews collected 85.24 tons of storm debris.
- ARR's storm debris management contractors collected 5,050.11 tons of storm debris.
- Daily grand total collected: 5,135.35 tons of storm debris.

#### Saturday, March 4, 2023

- ARR crews collected 202.61 tons of storm debris.
- ARR's storm debris management contractors collected 4,977.25 tons of storm debris.
- Hornsby Bend public brush collection site received 3 tons of storm debris.
- Daily grand total collected: 5,128.86 tons of storm debris.

#### Sunday, March 5, 2023

- ARR crews collected 1.99 tons of storm debris.
- ARR's storm debris management contractors collected 4,932.13 tons of storm debris.
- Daily grand total collected: 4,934.12 tons of storm debris.

#### Monday, March 6, 2023

- ARR crews collected 59.50 tons of storm debris.
- ARR's storm debris management contractors collected 4,466.28 tons of storm debris.
- Daily grand total collected: 4,525.78 tons of storm debris.

#### Tuesday March 7, 2023

- ARR crews collected 41.48 tons of storm debris.
- ARR's storm debris management contractors collected 4,663.61 tons of storm debris.
- Hornsby Bend public brush collection site received 168 tons of storm debris.
- Daily grand total collected: 4,873.09 tons of storm debris.

#### Wednesday, March 8, 2023

- ARR crews collected 12.69 tons of storm debris.
- ARR's storm debris management contractors collected 4,377.88 tons of storm debris.
- Hornsby Bend public brush collection site received 127 tons of storm debris.
- Daily grand total collected: 4,517.57 tons of storm debris.

#### Thursday, March 9, 2023

- ARR crews collected 28.71 tons of storm debris.
- ARR's storm debris management contractors collected 3,932.63 tons of storm debris.
- Hornsby Bend public brush collection site received 150 tons of storm debris.
- Daily grand total collected: 4,111.34 tons of storm debris.

#### Friday, March 10, 2023

- ARR's storm debris management contractors collected 3,977.96 tons of storm debris.
- Hornsby Bend public brush collection site received 2 tons of storm debris.
- Daily grand total collected: 3,979.96 tons of storm debris.

#### Saturday, March 11, 2023

- ARR's storm debris management contractors collected 3,931.88 tons of storm debris.
- Hornsby Bend public brush collection site received 81 tons of storm debris.
- Daily grand total collected: 4,012.88 tons of storm debris.

#### Sunday, March 12, 2023

- ARR's storm debris management contractors collected 3,555.59 tons of storm debris.
- Hornsby Bend public brush collection site received 84 tons of storm debris.
- Daily grand total collected: 3,639.59 tons of storm debris.

#### Monday, March 13, 2023

- ARR's storm debris management contractors collected 3,367.88 tons of storm debris.
- Hornsby Bend public brush collection site received 34 tons of storm debris.
- Daily grand total collected: 3,401.88 tons of storm debris.

#### Tuesday, March 14, 2023

- ARR's storm debris management contractors collected 3,066.85 tons of storm debris.
- Hornsby Bend public brush collection site received 36 tons of storm debris.
- Daily grand total collected: 3,092.85 tons of storm debris.

#### Wednesday, March 15, 2023

- ARR's storm debris management contractors collected 2,686.24 tons of storm debris.
- Hornsby Bend public brush collection site received 29 tons of storm debris.
- Daily grand total collected: 2,715.24 tons of storm debris.

#### Thursday, March 16, 2023

- ARR crews collected 3.94 tons of storm debris.
- ARR's storm debris management contractors collected 2,047.49 tons of storm debris.
- Hornsby Bend public brush collection site received 110 tons of storm debris.
- Daily grand total collected: 2,161.43 tons of storm debris.

#### Friday, March 17, 2023

- ARR crews collected 12.58 tons of storm debris.
- ARR's storm debris management contractors collected 1,207.60 tons of storm debris.
- Hornsby Bend public brush collection site received 7 tons of storm debris.
- Daily grand total collected: 1,227.18 tons of storm debris.

#### Saturday, March 18, 2023

- ARR's storm debris management contractors collected 965.80 tons of storm debris.
- Hornsby Bend public brush collection site received 34 tons of storm debris.
- Daily grand total collected: 999.80 tons of storm debris.

#### Sunday, March 19, 2023

- ARR's storm debris management contractors collected 465.14 tons of storm debris.
- Hornsby Bend public brush collection site received 93 tons of storm debris.
- Daily grand total collected: 558.14 tons of storm debris.

#### Monday, March 20, 2023

- ARR crews collected 13.24 tons of storm debris.
- ARR's storm debris management contractors collected 134.09 tons of storm debris.
- Hornsby Bend public brush collection site received 51 tons of storm debris.
- Daily grand total collected: 198.33 tons of storm debris.

#### Tuesday, March 21, 2023

- ARR crews collected 9.94 tons of storm debris.
- ARR's storm debris management contractors collected 32.06 tons of storm debris.
- Hornsby Bend public brush collection site received 83 tons of storm debris.
- Daily grand total collected: 125.00 tons of storm debris.

#### Wednesday, March 22, 2023

- ARR crews collected 32.81 tons of storm debris.
- Hornsby Bend public brush collection site received 65 tons of storm debris.
- Daily grand total collected: 97.81 tons of storm debris.

#### Thursday, March 23, 2023

- ARR crews collected 26.81 tons of storm debris.
- Hornsby Bend public brush collection site received 79 tons from 66 dropoffs.
- Daily grand total collected: 105.81 tons of storm debris.

#### Friday, March 24, 2023

- ARR crews collected 39.96 tons of storm debris.
- Hornsby Bend public brush collection site received 20 tons of storm debris.
- Daily grand total collected: 59.96 tons of storm debris.

#### Saturday, March 25, 2023

- Hornsby Bend public brush collection site received 140 tons of storm debris.
- Daily grand total collected: 140 tons of storm debris.

#### Sunday, March 26, 2023

- Hornsby Bend public brush collection site received 78 tons of storm debris.
- Daily grand total collected: 78 tons of storm debris.

#### Monday, March 27, 2023

- ARR crews collected 22.58 tons of storm debris.
- Hornsby Bend public brush collection site received 36 tons of storm debris.
- Daily grand total collected: 58.58 tons of storm debris.

#### Tuesday, March 28, 2023

- ARR crews collected 42.22 tons of storm debris.
- Daily grand total collected: 42.22 tons of storm debris.

#### Wednesday, March 29, 2023

- ARR crews collected 39.67 tons of storm debris.
- Daily grand total collected: 39.80 tons of storm debris.

#### Thursday, March 30, 2023

- ARR crews collected 34.33 tons of storm debris.
- ARR's storm debris management contractors collected 0.25 tons of storm debris.
- Daily grand total collected: 34.58 tons of storm debris.

#### Friday, March 31, 2023

- ARR crews collected 24.80 tons of storm debris.
- Daily grand total collected: 25.18 tons of storm debris.

#### Saturday, April 1, 2023

- Hornsby Bend public brush collection site received 125.83 tons of storm debris.
- Daily grand total collected: 125.83 tons of storm debris.

#### Monday, April 3, 2023

- ARR crews collected 29.07 tons of storm debris.
- Daily grand total collected: 29.57 tons of storm debris.

#### Tuesday, April 4, 2023

- ARR crews collected 16.64 tons of storm debris.
- ARR's storm debris management contractors collected 0.63 tons of storm debris.
- Daily grand total collected: 17.27 tons of storm debris.

#### Wednesday, April 5, 2023

- ARR crews collected 18.55 tons of storm debris.
- Hornsby Bend public brush collection site received 121.07 tons of storm debris.
- Daily grand total collected: 140.37 tons of storm debris.

#### Thursday, April 6, 2023

- ARR crews collected 4.56 tons of storm debris.
- Hornsby Bend public brush collection site received 93.99 tons of storm debris.
- Daily grand total collected: 99.43 tons of storm debris.

#### Tuesday, April 11, 2023

- ARR's storm debris management contractors collected 462.54 tons of storm debris.
- Daily grand total collected: 462.54 tons of storm debris.

#### Wednesday, April 12, 2023

- ARR crews collected 3.53 tons of storm debris.
- ARR's storm debris management contractors collected 568.88 tons of storm debris.
- Daily grand total collected: 572.41 tons of storm debris.

#### Thursday, April 13, 2023

- ARR's storm debris management contractors collected 472.58 tons of storm debris.
- Hornsby Bend public brush collection site received 32.52 tons of storm debris.
- Daily grand total collected: 505.10 tons of storm debris.

#### Friday, April 14, 2023

- ARR's storm debris management contractors collected 354.19 tons of storm debris.
- Daily grand total collected: 354.19 tons of storm debris.

#### Saturday, April 15, 2023

- ARR crews collected 22.85 tons of storm debris.
- ARR's storm debris management contractors collected 102.03 tons of storm debris.
- Daily grand total collected: 124.88 tons of storm debris.

#### Sunday, April 16, 2023

- ARR's storm debris management contractors collected 69.42 tons of storm debris.
- Hornsby Bend public brush collection site received 39.28 tons of storm debris.
- Daily grand total collected: 108.70 tons of storm debris.

#### Monday, April 17, 2023

- ARR's storm debris management contractors collected 63.69 tons of storm debris.
- Hornsby Bend public brush collection site received 28.02 tons of storm debris.
- Daily grand total collected: 91.71 tons of storm debris.

#### Tuesday, April 18, 2023

- ARR's storm debris management contractors collected 77.98 tons of storm debris.
- Hornsby Bend public brush collection site received 59.93 tons of storm debris.
- Daily grand total collected: 136.91 tons of storm debris.

#### Wednesday, April 19, 2023

- ARR's storm debris management contractors collected 45.5 tons of storm debris.
- Hornsby Bend public brush collection site received 37.69 tons of storm debris.
- Daily grand total collected: 83.19 tons of storm debris.

#### June 2023

 ARR was presented a 2023 Best of Austin Award for the Best Disaster Response by the Austin Chronicle. An excerpt from the award read, "One city agency went above and beyond when it came to not just cleaning up, but keeping everyone updated on what was happening and when. Austin Resource Recovery not only kept the trash from piling up, but worked for months to clear away the massive brush piles and stacks of branches that covered the melted city. Next time, can we just have them handle a crisis?"