Agenda

• Background/Context

• Lessons:
  • Preparation
  • Immediate Response
    • Structural Engineering Impacts: Nonstructural Damage
      • Eagle River Elementary School
      • Gruening Middle School
      • King Technical High School
  • Recovery
    • District Wide Mitigation Grants
    • Public Assistance

• Q&A
Background/Context

- 7.1 magnitude; 8:29 AM; November 30, 2018
- 92 buildings (86 schools)
  - Every structure impacted and evacuated
  - High schools and middle schools in session
- District closed for 10 days
  - 2 schools remain closed due to structural damages
- Federal disaster declared January 31, 2019
Preparation

• Organization
  • Internal – redundant command and control means
    • Communications (radios, cell phones, VOIP, other)
  • Municipality of Anchorage
    • Nested emergency plans and capabilities

• Training and rehearsals
  • Emergency Operations Center (EOC)
  • Response teams

• Contracting
  • Job Order Contracting (JOC)
  • Term contracts
  • External resources (ServePro)

• Insurance
Response

- Established EOCs; deploy liaison team to city EOC
- Priority: Accountability; student/parent reunification
  - Utilities – *What buildings still work? What hazards?*
- Rapid Visual Assessment (RVA) – 18 hours
  - ASD RVA teams and contractors – *triage*
  - Areas of responsibility – proportional work load
  - ASD Maintenance
- Emergency procurements/contracting
  - Ended practice 10 days after earthquake – FEMA
- Objective: Safe, clean, and functional buildings
  - Achieve *normalcy*
  - Flexibility; shifting priorities and resources
  - Make decisions – deliberate communications
Eagle River Elementary School

Rapid Visual Assessment – UNSAFE

Initial Damage reported:

- Multiple broken windows
- Brick has fallen down
- Crack in gym grown from 6' now to 20' at 11:50 am, building is making loud cracking sounds. There are no occupants, everyone has evacuated
- Water shut off
- Exterior structural damage
- Structural damaged hallway by stairs on left side of building (report from BPO)
- Flooding in some classrooms
- Gas, water and sprinkler systems are off
- Plumbing leaks throughout building
- Ceiling grid throughout building down, hanging
- Light fixtures throughout building down, broken and hanging
Eagle River Elementary School
Eagle River Elementary
Gruening Middle School
Rapid Visual Assessment – UNSAFE

Initial Damage reported:
- Glycol leak, full system has flooded the MPR floor
- Minor structural
- Broken pipes in mechanical room, glycol tank is empty
- MPR is not safe per assessment team
- Needs further structural evaluation
- No access to balcony in MPR, Balcony knee wall unstable (left of stage), hand rail separated 1/2' due to stress weld break, entire wall is ‘wobbly’
- CMU at columns is collapsed
- Generator running on arrival
- Exterior masonry damage to left of dock at approximately 14' elevation
- Hissing sound from pipes in mechanical room
- GAS Leak, above and below grade, seismic valve tripped / gas is off
- Ceiling grid, tile and lights are down in classrooms throughout school
Gruening Middle School
Gruening Middle School
Initial Damage reported:

- Wall collapse on 2nd floor main hall
- Wall damage on 1st floor main hall
- Plumbing leaks throughout building
- Ceiling grid throughout building down, hanging
- Light fixtures throughout building down, hanging
King Tech High School
King Tech High School
King Tech Wall Collapse Video
Recovery

• Long-term process
  • Contingency plans – displaced programs
  • Additive capital requirements – impact to master plans
  • Funding

• FEMA
  • Organization – FEMA team
    • Deliberate documentation from the start
    • Comply with FEMA regulatory guidance
  • Pro-active coordination – differing timelines
  • Strings – *no free chicken*…
District Wide Mitigation Grants

- Tier I Seismic Surveys
- Ceiling Bracing
- Additional Seismic Bracing for Mechanical Systems
- Lighting System Bracing
- Flexible Piping for Fire Suppression Systems
- Replacement of Some Non-Structural Walls
- Additional Non-Structural Seismic Bracing
Questions & Discussion