Eastern Washington University
Cheney, Washington

Campus Fire Access Study

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INTRODUCTION

Project Summary
This document summarizes a study of emergency vehicle access routes for the Eastern Washington University (EWU) campus. The study was undertaken to compare the existing campus facilities to current governing codes and ordinances, identify areas with deficiencies and propose solutions to those areas in order to bring emergency vehicle access to campus facilities into code compliance.

Methodology
A campus base map suitable for this study was prepared by using EWU provided AutoCAD campus-wide drawing files, the latest available aerial photography, and drawing files from recent and current campus projects. A visual field verification of existing conditions was conducted in specific study areas to confirm opportunities and constraints.

Information provided by EWU, the City of Cheney Fire Marshall, and field review was used to identify and map current emergency access routes, building heights, building sprinkler systems, locations of knox boxes, enunciator panels, FDCs and fire hydrants. This information is presented in the Existing Campus Fire Access Plan and the Building Fire Access Plans.

The existing routes and conditions were compared to the fire access design criteria as requested by the City of Cheney Fire Department in accordance with current codes and ordinances. Deficiencies in fire access were identified and solutions developed to create the Proposed Fire Access Plan. Improvement Concepts for the deficiency areas were then prepared and described herein.

Design Criteria
Through meetings with and Cheney Fire Department and EWU staff, the following criteria was identified and utilized to develop the proposed fire access plan.

- Emergency Access for fire response to all buildings
  - 20' wide minimum, all weather surface access route
  - 13.5’ vertical clearance
  - 28’ minimum inside turning radius
  - Fire truck access within 150’ of all points of the building for fire hose run
  - Aerial truck access and working pad to all buildings over 30’ high

- Aerial Fire Truck Working Pad
  - One working pad for each building over 30’ high, for roof access
  - All weather surface 26’ x 50’ (to accommodate truck approximately 33’ long)
  - 15’ minimum from building to working pad. Depending on building height, up to 30’ from building is acceptable.

Additional Considerations

- Utility Tunnels
  The existing campus utility tunnel locations were provided electronically by EWU and included on the Proposed Fire Access Plan Improvements Map for reference. In some locations the fire access routes or the aerial truck working pads may be over the tunnels. As part of implementation of the proposed improvements it is recommended that structural review of the existing tunnels be provided where necessary to confirm the tunnel can support the fire truck route or working pad.
Service Access
Primary delivery and service access routes to campus buildings were provided by EWU. Building service doors, where apparent, were also noted during field review and shown on the Building Fire Access Plans. As a result, some locations shown as fire access points could also be building delivery and service points. Additional signage in these areas may be appropriate if conflicts are anticipated.

The following areas could have delivery and service conflicts:

**Fire truck access for:** Aquatics, Computer Science Building, Jim Thorpe Fieldhouse, Louise Anderson Hall, Science Building.

**Aerial working pad locations for:** Archives, Art Building, Computing and Engineering Building, John F. Kennedy Library, Jim Thorpe Fieldhouse, Music Building, Showalter Hall, Tawanka Commons, Theater Building, Williamson Hall.
IMPROVEMENTS SUMMARY

1. **Aquatics (AQT)**
   A new asphalt road 20’ wide would be constructed beginning near the southwest corner of the Jim Thorpe Fieldhouse. The new road would approximately follow the existing dirt road alignment and would end at the northeast corner of Aquatics, allowing hose drop access around the building. A fire engine aerial access pad would be located on the west side of the building. The paved road would widen out at this spot to make a 50’ x 26’ pad as required for aerial engine outrigger employment.

2. **Communications Building (CMC)**
   The concrete walkway on the southwest edge of the Robert Reid School playfield area would be widened to 20’ to improve fire engine access and allow hose drop access around the building. In turn, this would require the chain link fence abutting this walkway to be relocated. The playfield irrigation system in this area would also require relocation of sprinkler heads and associated piping, valving, and wiring.

3. **Computer Science (CSB)**
   The asphalt entrance at the northeast corner of the building would be widened to 26’ to provide a fire engine aerial access pad. The paved area at the northwest corner of the building would be designated as a "No Parking" zone to ensure fire truck access needed to allow hose drop access around the building. Signage to that effect would be installed.

4. **Dressler Hall (DRE)**
   The concrete walkway on the southwest edge of the Dressler lawn would be widened to 20’ to permit fire engine access and allow hose drop access around the building. In turn, this would require relocation of the nearby fire hydrant. A new 20’ wide driveway approach would be needed and knock down bollards provided. The retaining wall at the edge of the sidewalk would be pulled back 6’ to permit fire engine access. The Dressler lawn irrigation system in this area would require relocation of sprinkler heads and associated piping, valving, and wiring.

5. **Dryden Hall (DRY)**
   The concrete walkways on the west side of Dryden Hall would be widened to construct fire engine aerial access pads 50’ x 26’ in size and allow hose drop access around the building. New 20’ wide driveway approaches would be needed for each sidewalk. Landscape planter beds would be modified between the building and the sidewalks. Two large conifers would be removed to allow aerial deployment at this location.

6. **Hargreaves Hall (HAR)**
   This building is currently in design for renovation and expansion. Fire access improvements will be provided as part of design and construction of the building project.

7. **John F. Kennedy Library (JFK)**
   The concrete walkway on the southwest edge of the JFK lawn would be widened to 20’ to permit fire engine access and allow hose drop access around the building. The southeast edge of the asphalt parking lot would be widened to construct the fire engine aerial access pad 50’ x 26’ in size. The campus mall north of the building would be widened to 20’ to provide fire engine access. Widening this section of the mall would also require relocation of eight light poles with concrete bases and modifications to the length of seat wall sections.

8. **Kingston Hall (KGS)**
   The concrete walkway on the northeast side of Kingston Hall would be widened to 20’. A new 20’ wide driveway approach would be installed. The sidewalk would be widened to provide a fire engine aerial
access pad 50' x 26' at the building end of the sidewalk. A campus map sign and parking meters would be relocated. Two large trees would be removed to allow aerial deployment at this location.

The parking lot south of Kingston Hall would be modified as follows: the north and south side 90 degree parking stalls would be removed and re-striped as parallel parking stalls. Parking meters would be removed and relocated as necessary. The concrete sidewalk at the northwest side of the parking lot would be widened to 20' to allow fire engine and hose drop access around the building.

9. Louise Anderson Hall (LAH)
The existing "No Parking" zone on the east side of Louise Anderson Hall would be extended to allow fire engine parking. The street curb would be repainted and "No Parking" signage would be installed as necessary.

10. Martin Hall (MAR)
The concrete walkway on the west side of Martin Hall leading into the "courtyard" area would be widened to 26' to provide and aerial access pad, permit fire engine access and allow hose drop access around the building. The Martin lawn irrigation system in this area would require relocation of sprinkler heads and associated piping, valving, and wiring. The campus mall north of the building would be widened to 20' to provide fire engine access. Widening this section of the mall would also require relocation of five light poles with concrete bases and modifications to the length of seat wall sections.

11. Monroe Hall (MON)
The concrete walkway on the east side of Monroe Hall would be widened to 20' to permit fire engine access and allow hose drop access around the building. The sidewalk would be widened to provide a fire engine aerial access pad 50' x 26' in size on the sidewalk at the front entry of the building. One tree would be removed and the lawn irrigation system in this area would require relocation of sprinkler heads and associated piping, valving, and wiring.

12. Music Building (MUS)
Remove 21' of the brick wall to provide an aerial access location for the Art Building, fire engine access and allow hose drop access around the building. The bike rack would be relocated and the paver sidewalk would be repaired to match the existing walkway. The parking stalls in the northeast corner of the parking lot would be repainted to shift the handicap parking stall one spot to the west, eliminate the last stall in the row, and allow fire engine access around the parking lot. One parking stall would also be removed from the northwest corner of the lot.

13. Patterson Hall (PAT)
The asphalt walkway at the northwest corner of the building would be widened to construct a fire engine aerial access pad 50' x 26' in size and allow hose drop access around the building. The concrete sidewalk along the east side of the building would be widened to 20' to permit fire engine access and allow hose drop access around the building. Six walkway lights and concrete bases would be relocated and a concrete seatwall would require modification. The lawn irrigation system in this area would require relocation of sprinkler heads and associated piping, valving, and wiring.

14. Press Box (PBS)
The 16' wide chain link gate would be removed and replaced with a 26' wide chain link gate to provide an aerial access pad and to permit fire engine access and allow hose drop access around the building.

15. P.E. Activities (PEA)
The three trees on the west edge of the driveway would be removed to make way for an aerial access pad and fire engine access and allow hose drop access around the building.
16. P.E. Classrooms (PEC)
The gate across the access road south of the building would be widened to 20’ to permit fire engine access and allow hose drop access around the building.

17. Pearce Hall (PRC)
The existing "No Parking" zone on the east side of the building would be relocated to allow fire engine parking and an aerial access location. The street curb would be repainted and "No Parking" signage would be installed as necessary.

18. Pence Union Building (PUB)
To permit fire engine access and allow hose drop access around the building, nine lights would be relocated and four large deciduous trees would be removed from the walkway on the east side of the building.

19. Rozell (ROZ)
An asphalt fire engine aerial access pad 50’ x 26’ in size would be constructed on the northwest corner of the building to permit access and allow hose drop access around the building.

20. Robert Reid School (RRL)
Seven bollards would be removed from the paver walkway northwest of the school to permit fire engine access and allow hose drop access around the building. Southwest of the building an access gate would be replaced with a 20’ wide gate and an asphalt access widened to 20’ to provide fire engine access and hose drop access around the building.

21. Radio / T.V. Building (RTV)
A trailer on the west side of the building would be removed and relocated elsewhere on campus. The asphalt parking lot surface would be repaired to match the existing parking lot surfacing. This would allow fire engine access and allow hose drop access around the building. East of the building the sidewalk would be widened to 20’ to provide fire engine access and hose drop access around the building.

22. Science Building (SCI)
Two parking spaces in the lot south of the building would be removed, the parking lot restriped, and "No Parking" signage installed as necessary to permit fire engine access. The south concrete sidewalk would be widened to 20’ to permit fire engine access and allow hose drop access around the building. The walk immediately in front of the south entry to the Science Building would be widened to provide a fire engine aerial access pad 50’ x 26’ in size. Seven walkway lights would be relocated. The lawn irrigation system in this area would also require relocation of sprinkler heads and associated piping, valving, and wiring. The campus mall north of the building would be widened to 20’ to provide fire engine access. Three light poles and concrete bases would also be relocated.

23. Streeter / Morrison Halls (STR / MOR)
The east concrete walkway would be widened to 20’ to permit fire engine access and allow hose drop access around the building. A 20’ wide driveway approach would be constructed, street parking spaces restriped, the curb repainted and "No Parking" signage would be installed as necessary. The walk immediately adjacent to both halls would be widened to provide a fire engine aerial access pad 50’ x 26’ in size. Two walkway lights would be relocated and five large trees removed. The lawn irrigation system in this area would also require relocation of sprinkler heads and associated piping, valving, and wiring.
FIRE ENGINE AERIAL ACCESS PAD (50'x26').

CONSTRUCT NEW ASPHALT ROAD, 20' WIDTH.
RELOCATE EXISTING IRRIGATION HEADS AND COMPONENTS AND ADJUST AS NECESSARY.

WIDEN EXISTING SIDEWALK TO 20'.

RELOCATE EXISTING CHAINLINK FENCE.
RELOCATE FIRE HYDRANT.

ADJUST LENGTH OF WALL AS NECESSARY.

REMOVE AND REPLACE W/ 20' CURB CUT. ADD TWO KNOCK DOWN BOLLARDS.

WIDEN EXISTING SIDEWALK TO 20'. REMOVE LANDSCAPE PLANTINGS AS NECESSARY. RELOCATE EXISTING IRRIGATION HEADS AND COMPONENTS AND ADJUST AS NECESSARY.

REMOVE AND REPLACE W/ 20' DRIVEWAY APPROACH, AND MATCH EXISTING GRADE TO PROVIDE AERIAL ACCESS.
WIDEN EXISTING SIDEWALKS TO 26'. REMOVE LANDSCAPE MATERIAL AS NECESSARY.

REMOVE AND REPLACE 20' WIDE DRIVEWAY APPROACHES.

REMOVE EXISTING TWO TREES.
WIDEN EXISTING BRICK PAVER SIDEWALK TO 20'. ADJUST WALL LENGTH AS NECESSARY.

RELOCATE 8 LIGHT POLES.

WIDEN EXISTING ASPHALT PAVEMENT FOR FIRE ENGINE AERIAL ACCESS PAD (50'x26').

WIDEN EXISTING SIDEWALK TO 20'.
RELOCATE EXISTING CAMPUS SIGN.

WIDEN EXISTING DRIVEWAY APPROACH TO 20' AND 26'.

WIDEN EXISTING SIDEWALK TO 20'.

REMOVE TWO EXISTING TREES.

WIDEN EXISTING SIDEWALK TO 20' WIDE.

REMOVE HEAD-IN STALLS AND RESTRIPE EXISTING PARKING LOT FOR EIGHT PARALLEL PARKING STALLS. REMOVE / RELOCATE PARKING METERS AS NECESSARY.
ADD SIGN AND EXTEND 50' LONG NO PARKING ZONE.

AERIAL ACCESS LOCATION.
WIDEN EXISTING BRICK PAVER SIDEWALK TO 20'. ADJUST WALL LENGTH AS NECESSARY.

RELOCATE 5 LIGHT POLES.

WIDEN EXISTING SIDEWALK TO 26' FOR AERIAL ACCESS. RELOCATE EXISTING IRRIGATION HEADS AND COMPONENTS AND ADJUST AS NECESSARY.
FIRE ENGINE AERIAL ACCESS PAD (50'x26').

REMOVE EXISTING TREE.

WIDEN EXISTING SIDEWALK TO 20'.
RELOCATE EXISTING IRRIGATION HEADS AND COMPONENTS AND ADJUST AS NECESSARY.
REMOVE ONE PARKING STALL.

REMOVE 21' OF EXISTING BRICK WALL AND REPAIR BRICK PAVERS.

REPAINT PARKING LOT ROW TO SHIFT HANDICAPPED PARKING SPACE TO WEST AND REMOVE LAST SPACE IN ROW.
Widen existing asphalt for fire engine aerial access pad (50'x26').

Widen existing sidewalk to 20'.

Relocate 6 lights.

Adjust wall length as necessary.
REMOVE EXISTING GATE AND REPLACE WITH 26' WIDE GATE.
REMOVE 3 EXISTING TREES.
PEC

WIDEN EXISTING ACCESS GATE TO 20'.
MOVE EXISTING NO PARKING ZONE TO THIS LOCATION AND EXTEND TO 50' LENGTH.
CONSTRUCT PAVED ACCESS AND FIRE ENGINE AERIAL PAD (50'x26').
REMOVE 7 EXISTING BOLLARDS IN SIDEWALK.

WIDEN EXISTING ASPHALT TO 20'.

REMOVE EXISTING GATE AND REPLACE WITH 20' WIDE GATE.
REMOVE EXISTING TRAILER. REPAIR ASPHALT PAVEMENT AS NECESSARY. MATCH EXISTING PAVEMENT GRADE.

WIDEN EXISTING SIDEWALK TO 20'.

Radio / T.V. Building-Improvements
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# 21
WIDEN EXISTING BRICK PAVER SIDEWALK TO 20'. ADJUST WALL LENGTH AS NECESSARY.

RELOCATE 3 LIGHT POLES.

FIRE ENGINE AERIAL ACCESS PAD (50'x26').

REMOVE 2 PARKING SPACES.

RELOCATE 7 LIGHTS.
RELOCATE 2 LIGHTS.

FIRE ENGINE AERIAL ACCESS PAD (50'x26').

REMOVE 5 TREES.

CONSTRUCT 20' WIDE CURB DROP.

RESTRIPE AND SIGN "NO PARKING".

MOR

STR

# 23

Streeter/Morrison-Improvements
EASTERN WASHINGTON UNIVERSITY
CAMPUS FIRE ACCESS STUDY
ARCHIVES
EASTERN WASHINGTON UNIVERSITY
CAMPUS FIRE ACCESS STUDY

March 30, 2007  Scale: 1"=100'

Legend:
- Fire Hydrant
- Fire Hydrant Valve
- Building (Fire Aerial Access)
- Building (Fire Engine Access)
- Building
- Fire Aerial Access
- Fire Engine Access
- General Route
- Service Access
- Building Access
- Aerial Pad
- Knox Box
- Enunciator Panel
- FDC - Standpipe
- FDC - Sprinkler
- FDC - Sprinkler / Standpipe
- Full
- Yes
- Building (Sprinkler System)
- Fire Hose Run 150' Max.

Archives
ARC

WSP

ARC

AMA

THE

PLAYGROUND

ECC