Draft Environmental Assessment

Fulton Fire Station

151 West Tennyson Road – Fulton, Missouri

EMW-2009-FC-00493R

April 2010

FEMA

U.S. Department of Homeland Security
9221 Ward Parkway, Suite 300
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FEMA Environmental Assessment (DRAFT)

Fulton Fire Station
151 West Tennyson Road
Fulton, Missouri

Prepared for
City of Fulton

Prepared by
Barr Engineering Company

April 2010

BARR

FEMA ENVIRONMENTAL ASSESSMENT

Proposed New Fulton Fire Station

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1.0 Introduction

Fulton, Missouri is located in the central portion of the state and is the seat of Callaway County. The U.S. Census Bureau estimated a population of 12,707 in 2008 for Fulton, which represents more than 3,700 households. The city has had growth in the past 10 years and is expecting more growth in the city's southern portion, which has required the Fulton Fire Department/EMS response teams to travel further from the one existing fire station located on 1201 Westminster. Current response times for the southern city limits of Fulton may reach 8-10 minutes, which exceed the 4-minute national standard. The Fulton Fire Department is staffed by 24 paid firefighters and 14 volunteer firefighters operating out of just the one station. A 2008 statistical study conducted by the City of Fulton recommended the addition of a new fire station in the southern part of the city to provide adequate protection. Site selection has placed the proposed station within one mile of a retirement center, proposed industrial park, new residential subdivisions, the Fulton Commons commercial area, and will significantly reduce response times and distances for this underserved southern portion of the city limits.

The National Environmental Policy Act (NEPA) requires that federal agencies evaluate the environmental impacts of their proposed actions and the natural and human environment before deciding to fund an action. The President's Council on Environmental Quality (CEQ) has developed a series of regulations for implementing the NEPA. These regulations are included in Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508, requiring the preparation of an Environmental Assessment (EA). EA documents must include an evaluation of alternative means of addressing the purpose and need for federal action, and a discussion of the potential environmental impacts of the proposed federal action. An EA provides the evidence and analysis to determine whether the proposed federal action will have a significant adverse effect on the human environment. An EA, related to a Federal Emergency Management Agency (FEMA) program, must be prepared according to the requirements of the Stafford Act and 44 CFR, Part 10. This section of the Federal Code requires that FEMA take environmental considerations into account when authorizing funding or approving actions. This EA was conducted in accordance with both CEQ and FEMA regulations for NEPA.

2.0 Purpose and Need for Federal Action

This EA provides information to support the Department of Homeland Security's Assistance to Firefighters Fire Station Construction Grants (SCG) process. The purpose of the proposed action is to provide funding under the American Recovery and Reinvestment Act (ARRA) through the Fire Station Construction Grant Program of the Department of Homeland Security. The City of Fulton needs the proposed fire station to provide effective and timely fire protection and emergency services to an area that has experienced growth of commercial and residential properties and population, and an expected growth of industrial operations. The proposed station will serve hundreds of households, a new industrial park, a retirement center, and commercial businesses that presently rely on fire protection and emergency services centered from 2-4 miles away. Current response times to the southern city limits of Fulton exceed the 4-minute national response standard. The new station will significantly reduce the overall distance and response time and improve overall public safety for an area that continues to grow.

3.0 Alternatives

NEPA requires the investigation and evaluation of reasonable project alternatives, including impacts to the natural and human environment as part of the planning process. This EA addresses two alternatives: the proposed alternative and no-action alternative.

3.1 Fulton Fire Station, 151 W. Tennyson (Proposed Alternative)

The proposed alternative will result in the construction of a new Fulton fire station located east of U.S. Business Highway 54 along Tennyson Road and within two miles of a planned industrial park and within one mile of new residential and commercial areas on the city's south side. The proposed alternative will include construction of a 10,242 square-foot station housing two firefighting trucks, a brush truck, and two fulltime firefighters with full living quarters. The city designed the facility intending to pursue the silver level rating under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. The station will provide fire protection, hazardous materials response, and emergency medical services to the south portion of the city. The existing system of one fire station has routinely exceeded the 4-minute national average for response times to the area south of downtown Fulton since the fire station is located north of downtown near Westminster College.

3.2 No-Action/No-Construction Alternative

The no-action/no-construction alternative would eliminate the fire station from the south portion of Fulton. This action would leave emergency response times to the southern portion of the city as they currently exist, or the response times will degrade with increased development. Internal studies of this concern indicate that the south portion of Fulton is underserved with the existing system of only one northern fire station located over 4 miles from the southwestern city extent near the industrial park. The no-action alternative results in a lower level of overall public safety than the proposed alternative.

4.0 Affected Environmental and Potential Impacts

The City of Fulton is the county seat of Callaway County, which is located in the central portion of Missouri. Fulton, the largest city in Callaway County, was founded and became the county seat in 1825 but was not incorporated until March 14, 1859. The city was named after Robert Fulton, the engineer and inventor. The Missouri General Assembly had voted to establish an asylum for the insane in Fulton (February 26, 1847), the first mental health facility west of the Mississippi; the General Assembly agreed (February 28, 1851) to establish a school for the education of the deaf in Fulton; in 1842 the Presbyterian Church had opened a female seminary later known as Synodical College; in the fall of 1851 the Presbyterian Church established the all-male Fulton College, now known as Westminster College; and Fulton was the seat of county government.

The city is governed by a mayor and city council representing a population of 12,707 as estimated in 2008 (U.S. Census Bureau). Fulton is located on the east side of U.S. Highway 54, five miles south of Interstate 70, approximately 25 miles east of Columbia, Missouri, and 25 miles northeast of Jefferson City, Missouri.

The proposed Fulton fire station is to be located on a 2-acre parcel of land within a larger 56-acre parcel of vacant ground owned by the City of Fulton. The ground is pastureland that lies adjacent to a residential subdivision on the east and other private residences to the north, and additional pastureland to the south and west (see Figures 1 and 2). The proposed site is zoned R-1.

This section describes potential environmental consequences of the proposed alternative by comparing with potentially affected environmental components. The proposed alternative is also evaluated against existing environmental documentation on current and planned actions and information on anticipated future projects to determine the potential for cumulative impacts. The potential for significant environmental consequences is evaluated herein using the context and intensity considerations as defined in CEQ regulations for implementing the procedural provisions of NEPA (40 CFR 1508.27). Table 1 summarizes the potential impacts of the proposed alternative with mitigation measures to minimize those impacts, where appropriate. The term "N/A," as used in Table 1, means "not applicable." Additional review of the various environmental resources is provided in sections following the table.

TABLE 1 - Affected Environment and Impacts Summary

Affected Environment	Impacts	Mitigation
Geology and Soils	The proposed alternative would disturb the shallow soils and surfacial geology during site preparation work. As the site is gently sloping to the south, grading will be required on the north end of the development. Effects to geology and soils would be minor and temporary in nature.	Exposed soils could be subject to erosion; therefore, stormwater best management practices would be required during construction.
Air Quality	Air emissions would likely occur during construction of the proposed alternative. Such emissions would likely have minor and temporary effects on air quality in proximity to the site during equipment use (vehicle exhaust) and soil grading activities (fugitive dust).	The contractor will be required to minimize air pollution through proper maintenance of equipment and suppressing dust during construction.
Waters of the U.S., including Wetlands	The proposed alternative would not impact waters of the U.S. or wetlands, and would not require a Section 404 permit. Vicinity review finds no navigable waters in the area; therefore, Section 10 of the Rivers and Harbors Act of 1899 does not apply.	N/A
Floodplains	The proposed action is located in Zone X, rated for minimal flooding, as shown on the FEMA Flood Rate Insurance Map for the area.	N/A
Water Quality	A construction stormwater general permit from the MDNR Water Pollution Control Program will be required.	Fulton will apply for a general stormwater permit and implement pollution prevention measures during construction. A permanent stormwater retention pond is planned for the southwest corner of the development.
Flora and Fauna	Construction of the proposed alternative will occur on pastureland. Effects to flora and fauna would be no different than from cultivation, and any such effects would be temporary and short term.	N/A
Threatened and Endangered Species	The proposed alternative would have no effect on threatened and endangered species.	N/A

Cultural Resources	Coordination with the State Historic Preservation Officer concluded that the proposed alternative would have no affect on properties listed in the National Register of Historic Places.	N/A
Socioeconomic Resources	The new fire station would provide additional public safety and protection.	N/A
E.O. 12898 -Environmental Justice	As the new fire/EMS station would potentially benefit all citizens equally, the proposed alternative would not have an adverse effect on minority or low-income populations.	N/A
Cumulative Impacts including Land Use and Planning	The proposed alternative would be constructed on land presently zoned as residential under the local zoning codes. The proposed use as a fire station will improve public safety for nearby residential neighborhoods.	N/A

4.1 Physical Resources

4.1.1 Geology and Soils

Soil survey information for Callaway County, Missouri, published by the U.S. Department of Agriculture (USDA) Soil Conservation Service (SCS), was reviewed. The site is located within the general soil association known as Calwood loam (also divided into the Mexico and Armstrong silty loams) with moderate slopes. These soils consist of poorly drained clays with a high water table at lower elevations and a deeper water table in uplands, which is present at the proposed site. The City of Fulton advanced geotechnical soil borings at the proposed fire station site and reported approximately 22 inches of a fat clayey material with a lean clayey material down to depths of 20 feet below ground. Bedrock was not encountered at this 20-foot depth. The upland soils are more suitable for pastureland than growing row crops.

Barr reviewed the Geology of the Conterminous United States (Schruben, Arndt, Bawiec, 1994) geologic age and stratigraphic resource. According to this publication, subsurface geologic conditions in the site vicinity are influenced by the underlying Des Moinesian Formation, which is composed primarily of shales and limestone. Depth to the Pennsylvanian-aged Des Moinesian formation is variable, but is assumed to be greater than 20 feet below ground surface based on geotechnical borings drilled at the proposed fire station site. Depth to groundwater in the upper saturated zones within the unconsolidated alluvial deposits and weathered bedrock at the subject site is estimated to be between 15 to 20 feet.

Groundwater flow direction in the area is anticipated to be to the southeast toward the Dark Hollow Branch tributary of Stinson Creek or to the southwest towards the Big Hollow Branch tributary of Stinson Creek.

The proposed alternative was reviewed for potential impacts on prime farmlands in accordance with Section 1541 of the Farmland Protection Policy Act (FPPA). The Calwood loam is not considered prime farmland, and the proposed site is zoned R-1 residential by the City Planning and Zoning Division. The USDA excludes land within urban development areas or used for water storage from the provisions of FFPA per Title 7 Part 658.2. As such, the proposed alternative will not impact prime farmland.

Under the no-action alternative, no construction activities would occur to impact geology or soils.

4.1.2 Air Quality

The U.S. Environmental Protection Agency (EPA) establishes and maintains the National Ambient Air Quality Standards that define the maximum allowable concentrations of pollutants to protect human health (primary standard) and welfare (secondary standard) within a reasonable margin of safety. These standards include maximum concentrations for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter with a diameter of 10 microns or less.

The nearest Air Quality Monitoring System location to the project site is located near New Bloomfield, Missouri, just ten miles south of the proposed site. The monitoring location is managed by the Environmental Services Program of the Missouri Department of Natural Resources (MDNR). Callaway County is currently listed as unclassifiable/attainment. Air quality in the project and surrounding area currently complies with federal and state air quality standards and neither the City of Fulton nor Callaway County is covered by the State of Missouri Air Quality State Implementation Plan (MDNR, 2010).

As a construction project, the proposed action will require earth-moving procedures, such as excavation, cutting, filling, and placing soil and/or engineered fill. These procedures could create fugitive dust. Construction best management practices would be used to minimize dust. The proposed project would require between 6 and 10 months of construction using various but limited pieces of heavy equipment such as haul trucks, backhoes, bulldozers, and scrapers. Any affects to air quality will be the result of construction activity and will be minimal, short in duration, temporary, and of local impact. Emissions would most likely originate with vehicle emissions and fugitive dust, which would be similar to returning the property to mechanized cultivation. Implementing best management practices to control dust will mitigate this concern. Even so, the emissions would be temporarily increased and no long-term air

quality degradation is anticipated. The emissions would effectively cease upon completion of the construction project.

Under the no-action alternative, no construction activities would take place and there would be no potential impacts to air emissions and/or air quality.

4.2 Water Resources

The United States Army Corps of Engineers (USACE) is responsible for permitting and enforcement functions dealing with building into or discharging dredge or fill material into Waters of the United States. USACE regulations for building or working in navigable waters of the United States are authorized by the Rivers and Harbors Act of 1899. These regulations go together with Section 404 of the Clean Water Act, which establishes the USACE permit program for discharging dredged or fill material. The regulations are often used together because building in navigable waters of the United States also constitutes discharging dredged or fill material into water of the United States. In addition to regulating construction or work being done in navigable water of the United States, USACE regulates discharging into wetlands through the Section 404 permit program.

Field reconnaissance performed on June 30, 2009 and February 26, 2010 did not observe any defined surface drainage features such as rivers, creeks, ponds, etc., on or immediately adjacent to the subject property. The wooded area forming the western boundary of the planned development appears to receive most precipitation runoff from the site, and there is a very shallow ditch trending north to south through the woods to a storm drain adjacent to Tennyson Road on the southwest corner of the site. There typically is not standing water in this small ditch. Barr downloaded digital information from the U.S. Fish & Wildlife Service National Wetlands Inventory showing areas of wetlands near the proposed site. Barr has provided a copy of the digital figure in Appendix A of this EA. There are no wetlands on or adjacent to the proposed site. As such, development at the site will not adversely impact Waters of the United States.

4.2.1 Water Quality

The Calwood loam, when disturbed during times of construction activity, could result in erosion and runoff. Erosion can directly impact surface water quality. In order to minimize stormwater pollutants from the construction activities of the proposed action that would impact one acre or more in the State of Missouri, a general National Pollutant Discharge Elimination System (NPDES) permit would be required to be obtained from the MDNR Water Pollution Control Branch. The general NPDES permit is obtained by developing a Stormwater Pollution Prevention Plan that implements a series of best management

practices (e.g., silt fences, hay bales, etc.). The City of Fulton will file an application to be covered under the NPDES permit for the anticipated construction activities.

During construction, MDNR requires specific best management practices to reduce or eliminate runoff impacts during proposed construction activities of the proposed action. The site will be landscaped and vegetated to reduce the potential for soil erosion after construction. In addition, the city will construct a permanent 8,500-cubic-foot stormwater retention basin on the southwest corner of the proposed development. There should be no impacts to Waters of the United States, and no Section 404 CWA permit required.

Under the no-action alternative, no construction activities would take place, and there would be no potential impacts to wetlands.

4.2.2 Wetlands

The USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to take action to minimize the destruction or modification of wetlands, by considering both direct and indirect impacts to wetlands that may result from federally funded actions. Activities disturbing jurisdictional wetlands require a permit from the USACE. Two types of authorization are available from the USACE for activities regulated under Section 404 of the Clean Water Act; general permits, which are issued for a specific category of similar activities and include nationwide permits defined in 33 CFR Part 30, and individual permits issued after review of the project, project alternative, and proposed mitigation.

The proposed site area does not contain any categories of wetlands. There would be no impacts to wetlands from the proposed alternative.

Under the no-action alternative, construction activities would not take place, and there would be no potential impacts to wetlands.

4.2.3 Floodplains

Executive Order 11988, Floodplain Management, requires federal agencies to minimize the occupancy and modifications of floodplains. The order specifically prohibits federal agencies from funding

construction in a 100-year floodplain (or 500-year floodplain for critical facility) unless there are no practical alternatives. According to FEMA Flood Rate Insurance Map Number 290027C0304D, the proposed site is located outside of defined floodplains. Barr has provided a copy of the relevant portion of the FEMA map in Appendix B.

The proposed alternative is located outside of defined floodplains. As such, the proposed alternative would not have an impact on floodplains.

Under the no-action alternative, construction activities would not take place, and there would be no potential impacts to floodplains.

4.3 Biological Resources

Native or naturalized vegetation, wildlife, and the habitats in which they occur are collectively referred to as biological resources. Existing information on plant and animal species and habitat types in the vicinity of the proposed alternative was reviewed for the presence of any species listed as threatened or endangered by federal or state agencies to assess their sensitivity to the effects of the alternatives.

The Endangered Species Act (ESA) of 1973 causes the conservation, protection, and restoration of threatened or endangered plants and animals and their habitats. The ESA charges federal agencies to conserve threatened or endangered species, and all federal agencies must ensure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction of critical habitat for these species. The species listed as threatened, endangered, or candidate species in Callaway County are limited to the following (source: http://www.fws.gov/midwest/endangered/lists/missouri-cty.html):

Gray bat (*Myotis grisescens*) – Endangered

Indiana bat (*Myotis sodalis*) – Endangered

Pallid sturgeon (*Scaphirhynchus albus*) – Endangered

Topeka shiner (*Notropis topeka*) – Endangered

Running buffalo clover (*Trifolium stolonifereum)* – Endangered

Shannon Cave of the Missouri Department of Conservation was contacted to evaluate the proposed site for crucial wildlife habitats and threatened or endangered species. Ms. Cave indicated that no such state-

listed habitat or species will be significantly affected by the proposed project. Charlie Scott from the Columbia Ecological Field Services office of the U.S. Fish & Wildlife Service was also contacted to evaluate the proposed site for crucial wildlife habitats and threatened or endangered species. Mr. Scott also indicated that no such federally listed habitat or species will be significantly affected by the proposed project, and that the proposed development will have negligible impacts on wetlands, migratory birds, priority fish, and wildlife resources. Barr has provided copies of agency correspondence in Appendix C.

4.3.1 Threatened and Endangered Species and Critical Habitat

Construction of the proposed alternative will have no adverse affect on federally or state-listed habitats or threaten or endangered species.

Under the no-action alternative, construction activities would not take place, and there would be no potential impacts to biological resources.

4.4 Cultural and Historic Resources

Consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800. The regulations require identifying significant cultural resources that may be impacted by the alternatives. Cultural resources are prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Cultural resources determined to be potentially significant under NHPA are subject to protection from adverse impacts resulting from an undertaking. To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service that would make that resource eligible for inclusion in the National Register of Historic Places (NRHP). The term “eligible for inclusion in the NRHP” includes all properties that meet the NRHP listing criteria, which are specified in the Department of Interior regulations Title 36 CFR 60.4 and NRHP Bulletin 15. Therefore, sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominated properties. Whether prehistoric, historic, or traditional, significant cultural resources are referred to as “historic properties.”

Archaeological Research Center of St. Louis, Inc. (ARC) was hired to perform a Phase I Cultural Resource Survey of the two-acre tract of land proposed for the new fire station. Meredith McLaughlin,

Principal Investigator for ARC, performed the survey and concluded that no archaeological resources, either historic or prehistoric, were identified at the site. She also concluded that the lack of any archaeological materials in the intact soils indicates that there is very little possibility for buried cultural remains. Ms. McLaughlin recommended project clearance from the MDNR State Historic Preservation Office (SHPO).

The MDNR State Historic Preservation Office (SHPO) was contacted and provided a copy of the ARC Phase I Cultural Survey as part of the EA review process. The SHPO responded in a letter dated March 11, 2010 that their review of the proposed site area relative to the state's cultural resources files, according to 36 CFR 800, indicates that there should be no effect on the properties listed on the National Register of Historic Places or identified by the State of Missouri. See Appendix D for agency correspondence.

4.4.1 Cultural and Historic Resource Consequences

As stated above, the proposed construction would have "no effect" on cultural or historic resources.

Although no significant properties have been identified, activities will cease if evidence of cultural resources (i.e., human remains, etc.) are discovered, and the Missouri SHPO and the FEMA Regional Environmental Officer would be notified before work would continue.

Under the no-action alternative, construction activities would not take place, and there would be no potential impacts to cultural or historic resources.

4.5 Socioeconomic Resources

The 2000 census indicates that the population of Fulton consisted of 81.26% White, 15.44% African American, 0.41% Native American, 1.06% Asian, 0.02% Pacific Islander, 0.38% from other races, and 1.43% from two or more races. Hispanic or Latino of any race was 1.09% of the population. The median income in 2000 for a household in the city was $32,635, and the median family income was $41,722, below the Missouri statewide 4-person family income of $61,173.

4.5.1 Environmental Justice

President Clinton signed EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" on February 11, 1994. EO 12898 directs federal agencies to focus attention on human health and environmental conditions in minority and/or low-income

communities. The EO's goals are to achieve environmental justice, fostering non-discrimination in federal programs that substantially affect human health or the environment, and to give minority or low-income communities greater opportunities for public participation in and access to public information on matters relating to human health and the environment. Also identified and addressed, as appropriate, is disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.

Based on the findings of this EA, there is little likelihood the proposed alternative would have a disproportionate impact on low-income or minority groups. The additional fire, hazardous materials response, and emergency medical service, once operating out of the new station, will improve public safety in an area that is presently experiencing slower response times than the rest of the city.

Under the no-action alternative, construction activities would not take place, eliminating any positive socioeconomic impacts potential for the community.

4.6 Cumulative Impacts, Including Land Use and Planning

Cumulative impacts are defined as the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future action. The "green initiative" occurring in contemporary design and construction projects is increasing the use of stringent environmental standards and energy efficiencies to increase sustainability and lower the impact of new buildings on the environment. In the case of the proposed alternative, the site property is located in the section of the city experiencing increased industrial, commercial, and residential development.

The proposed Fulton fire station facility is designed with the intent to pursue silver certification under the U.S. Green Building Council's LEED certification system. Water draining from the new building's roof during precipitation events will be diverted into a 4,000-gallon holding tank that the fire department will use as a source of water for training. When finished, the fire station will have a parking spot designated for a "plug-in" electric car to recharge its batteries during a work shift. Shade trees will be planted along the southwest corner of the station to block the sunlight. Construction will also include a ground-source heat pump and the use of recycled materials. The western parking lot will be constructed of a porous pavement that allows infiltration of precipitation into the subsurface.

Under the no-action alternative, construction activities would not take place, and no adverse impact to land use and planning would occur at this location.

5.0 Public Involvement

The public was invited to comment on the proposed action and the Draft Environmental Assessment. A legal notice was posted in the Fulton Sun on April 11, 2010 and on FEMA's website (http://www.FEMA.gov/plan/ehp/envdocuments/index). Additionally, the Draft Environmental Assessment was made available for review for a period of 30 days at Fulton City Hall located at 18 East Fourth Street and the Callaway County Public Library located at 710 Court Street, both in Fulton, Missouri. A copy of the public notice is provided in Appendix E.

6.0 List of Preparers

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7.0 Parties Consulted/References

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FIGURES

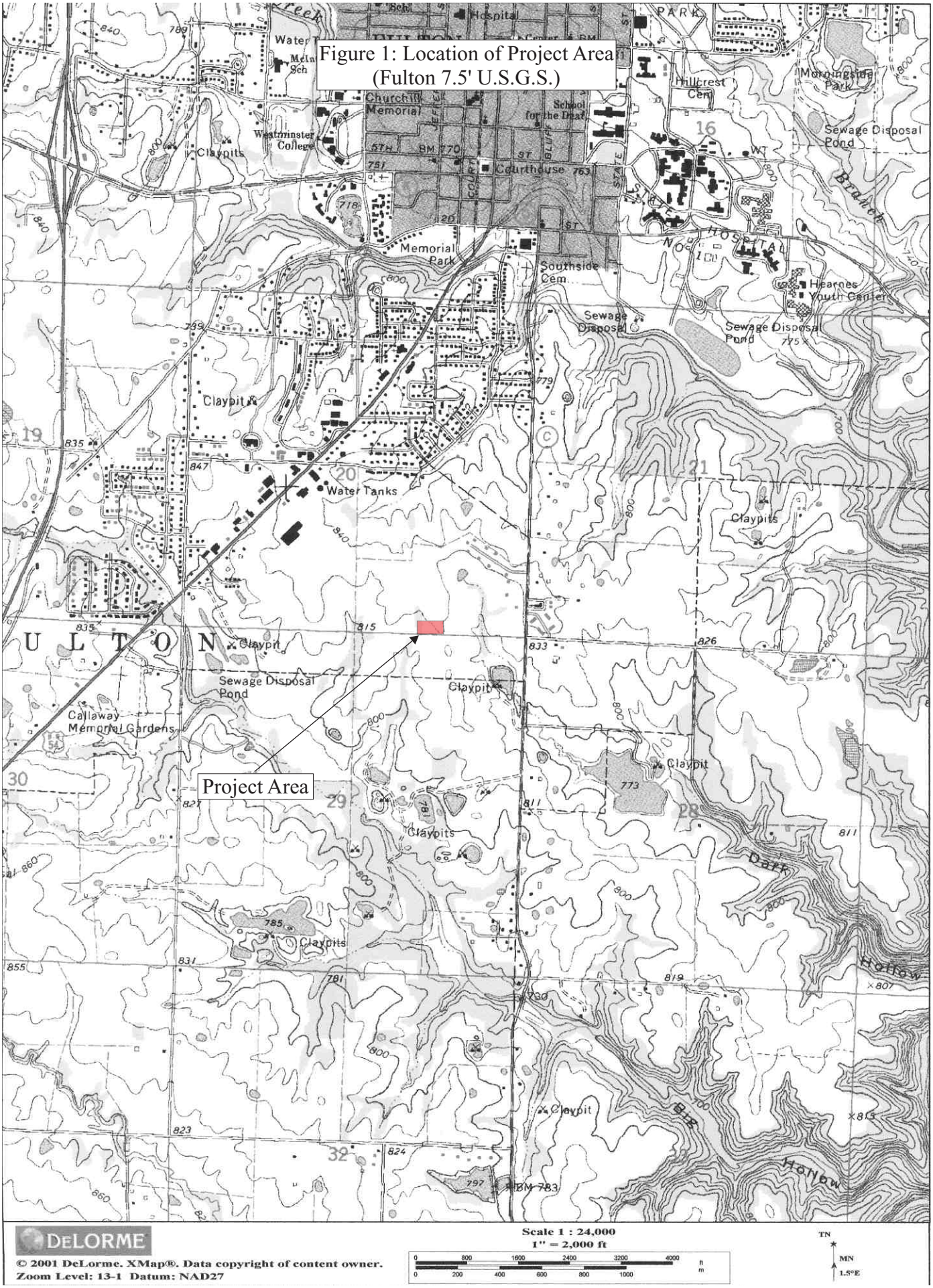


Figure 1: Location of Project Area
(Fulton 7.5' U.S.G.S.)
Project Area
Hospital
Churchill Memorial
Westminster College
Claypits
Courthouse
Memorial Park
Southside Cem
Hillcrest Cem
Morningside Park
Sewage Disposal Pond
Hearnes Youth Center
Water Tanks
Callaway Memorial Gardens
Dark Hollow
Big Hollow
BM 770
BM 783
DELORME
© 2001 DeLorme. XMap®. Data copyright of content owner.
Zoom Level: 13-1 Datum: NAD27
Scale 1 : 24,000
1" = 2,000 ft

Figure 2: Aerial View of Project Area
(Google Earth 2010)

N

1 inch = 20 FEET

5 15 25 100

0 10 20 50

(Graphic Scale - Feet)

LEGEND

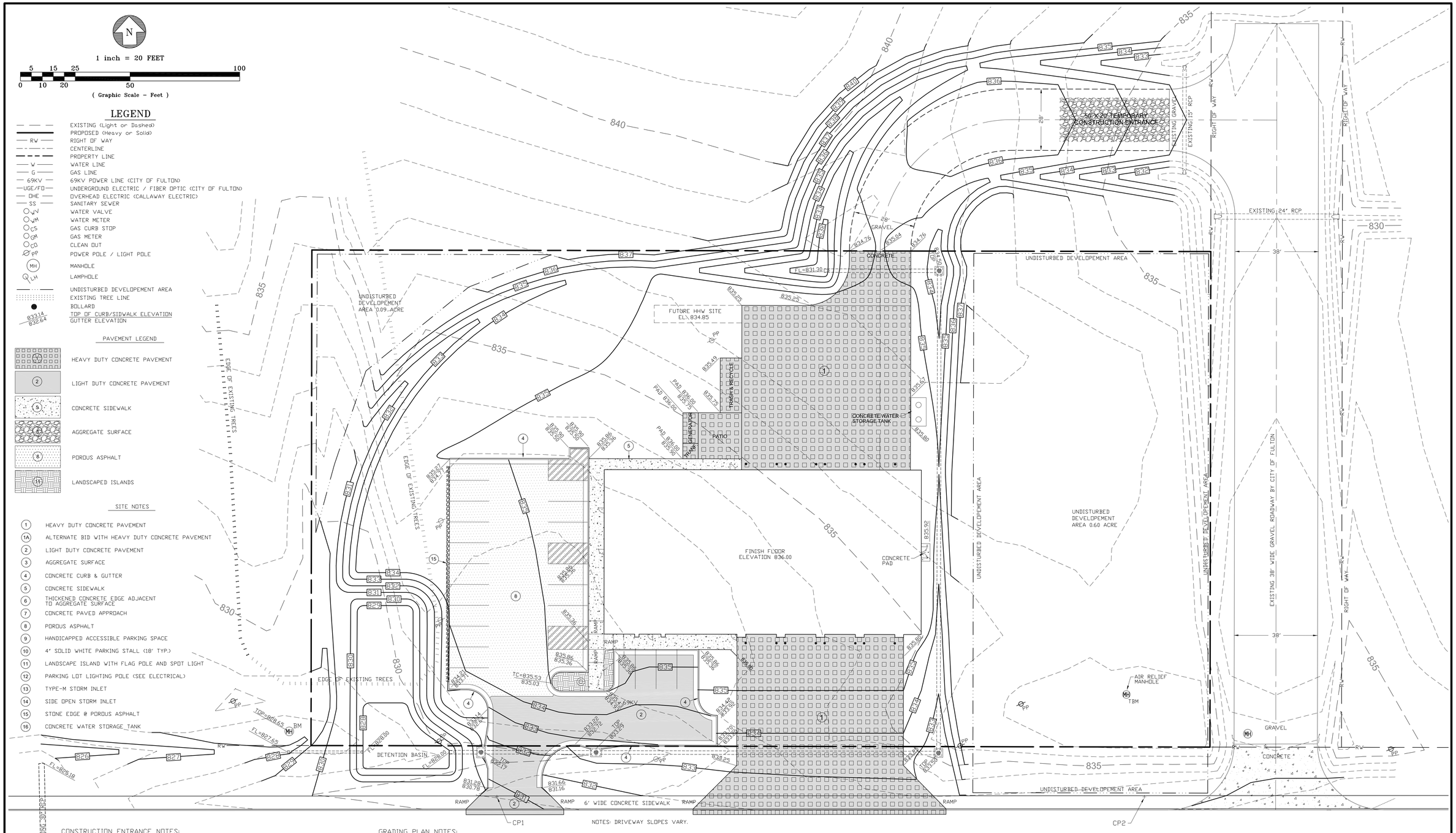
- EXISTING (Light or Dashed)
- PROPOSED (Heavy or Solid)
- RW — RIGHT OF WAY
- CENTERLINE
- PROPERTY LINE
- W — WATER LINE
- G — GAS LINE
- 69KV — 69KV POWER LINE (CITY OF FULTON)
- UGE/FO — UNDERGROUND ELECTRIC / FIBER OPTIC (CITY OF FULTON)
- OHE — OVERHEAD ELECTRIC (CALLAWAY ELECTRIC)
- SS — SANITARY SEWER
- WV — WATER VALVE
- WM — WATER METER
- GS — GAS CURB STOP
- GM — GAS METER
- CO — CLEAN OUT
- PP — POWER POLE / LIGHT POLE
- MH — MANHOLE
- LH — LAMPHOLE
- UNDISTURBED DEVELOPEMENT AREA
- EXISTING TREE LINE
- BOLLARD
- 833.14 / 832.64 — TOP OF CURB/SIDVALK ELEVATION / GUTTER ELEVATION

PAVEMENT LEGEND

- (1) HEAVY DUTY CONCRETE PAVEMENT
- (2) LIGHT DUTY CONCRETE PAVEMENT
- (9) CONCRETE SIDEWALK
- (3) AGGREGATE SURFACE
- (8) POROUS ASPHALT
- (11) LANDSCAPED ISLANDS

SITE NOTES

(1) HEAVY DUTY CONCRETE PAVEMENT
(1A) ALTERNATE BID WITH HEAVY DUTY CONCRETE PAVEMENT
(2) LIGHT DUTY CONCRETE PAVEMENT
(3) AGGREGATE SURFACE
(4) CONCRETE CURB & GUTTER
(5) CONCRETE SIDEWALK
(6) THICKENED CONCRETE EDGE ADJACENT TO AGGREGATE SURFACE
(7) CONCRETE PAVED APPROACH
(8) POROUS ASPHALT
(9) HANDICAPPED ACCESSIBLE PARKING SPACE
(10) 4" SOLID WHITE PARKING STALL (18' TYP.)
(11) LANDSCAPE ISLAND WITH FLAG POLE AND SPOT LIGHT
(12) PARKING LOT LIGHTING POLE (SEE ELECTRICAL)
(13) TYPE-M STORM INLET
(14) SIDE OPEN STORM INLET
(15) STONE EDGE @ POROUS ASPHALT
(16) CONCRETE WATER STORAGE TANK



CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE - USE 2" STONE OR RECLAIMED OR RECYCLED EQUIVALENT.
2. LENGTH - AS SHOWN, BUT NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 3:1 SLOPES SHALL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AS NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

GRADING PLAN NOTES:

ALL DESIGN CONTOURS ARE FINISHED EARTH AND FINISHED PAVEMENT GRADES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL PERIMETER EROSION CONROL MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PERIMETER EROSION CONTROL MEASURES, ALL NECESSARY INSPECTIONS AND LOGS REQUIRED BY PERMITS. THE CONTRACTOR SHALL ALSO INSTALL SITE AREA INLET BARRIERS AS THE STORM DRAINAGE SYSTEM IS CONSTRUCTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL EROSION CONTROL MEASURES REQUIRED AS CONSTRUCTION ON THE SITE PROGRESSES.

BENCHMARKS

BM - TOP CENTER OF MANHOLE LID 36' NORTH OF TENNYSON ROAD CURB AND GUTTER AND 10' WEST OF THE WEST PROPERTY LINE. ELEVATION 828.65.

TBM - TOP CENTER OF AIR RELIEF MANHOLE LID 52' NORTH OF TENNYSON ROAD CURB AND GUTTER AND 38' WEST OF THE EAST PROPERTY LINE. ELEVATION 837.21.

SURVEY CONTROL POINTS

POINT NUMBER	NORTH	EAST	ELEVATION	DESCRIPTION
CP1	1090456.11	1796833.78	831.17	PK NAIL IN NORTH EDGE OF SIDEWALK SEAM
CP2	1090449.42	1797128.49	832.58	PK NAIL IN NORTH EDGE OF SIDEWALK SEAM

GREGORY S. HAYES
LICENSED PROFESSIONAL
ENGINEER E26305

REV. NO	DATE	BY	DESCRIPTION

CITY OF FULTON
ENGINEERING DEPARTMENT

CITY OF FULTON
ENGINEERING DEPARTMENT
18 E. 4TH ST. FULTON, MO 65251

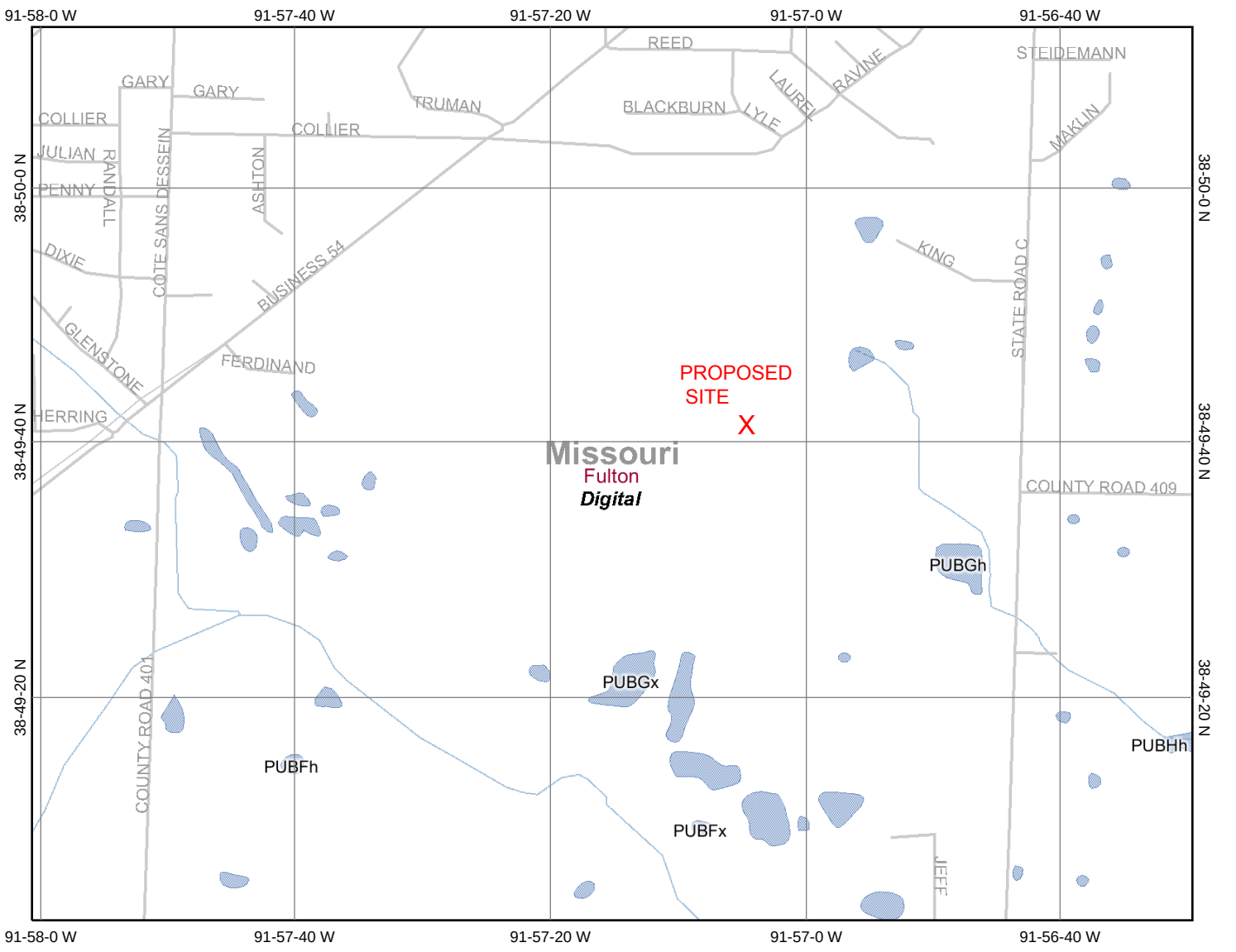
FIGURE 3
PROPOSED FIRE STATION LAYOUT

PROJECT NO: COF 09-03 | DRAWN BY: SMG
DATE: 1-4-10 | BY: SMG | CK: GSH | SH C-3

APPENDIX A

Digital Wetlands Map

Fire Station Wetlands



Map center: 38° 49' 38" N, 91° 57' 15" W

Legend

Ohio_wet_scan

- 0
- 1
- Out of range

Interstate Major Roads

- Other Road
- Interstate
- State highway
- US highway

Roads

Cities

USGS Quad Index 24K

Lower 48 Wetland Polygons

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data

- Non-Digital
- Digital
- No Data
- Scan

NHD Streams

Counties 100K

States 100K

South America

North America

N

Scale: 1:15,144

APPENDIX B

FEMA Floodplain Map

METERS
150 0 150 300

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0304D

FIRM

FLOOD INSURANCE RATE MAP

CALLAWAY COUNTY, MISSOURI
AND INCORPORATED AREAS

PANEL 304 OF 575

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CALLAWAY COUNTY	290049	0304	D
FULTON, CITY OF	290051	0304	D

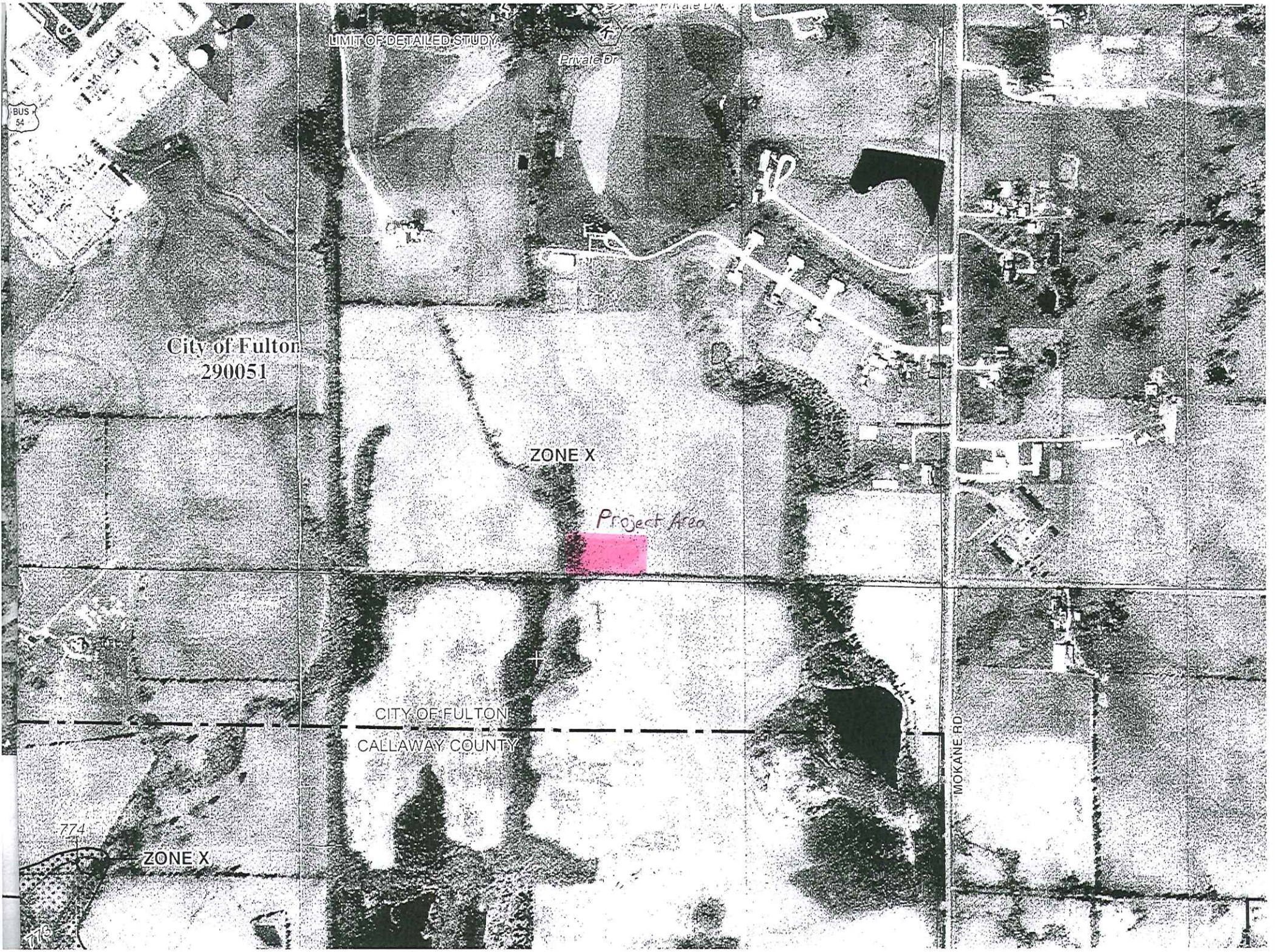
SEE REMOVAL NOTE FOR R2 HEARING

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
29027C0304D

EFFECTIVE DATE
FEBRUARY 18, 2005

Federal Emergency Management Agency


LIMIT OF DETAILED STUDY
Private Dr
BUS 54
City of Fulton
290051
ZONE X
Project Area
CITY OF FULTON
CALLAWAY COUNTY
MOKANE RD
774
ZONE X

APPENDIX C

Endangered Species Correspondence

Barr Engineering Company
3236 Emerald Lane • Jefferson City, MO 65109
Phone: 573-636-5331 • Fax: 573-636-5323 • www.barr.com

An EEO Employer

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND

February 1, 2010

Mr. Charlie Scott
Columbia Ecological Field Services
U.S. Fish & Wildlife Service
101 Park Deville Drive - Suite A
Columbia, MO 65203-0057

RE: Endangered Species at 151 West Tennyson Road - Fulton, Missouri

Dear Mr. Scott:

The City of Fulton is applying for a Department of Homeland Security Assistance to Firefighters Fire Station Construction Grant to pay for construction of a new fire station at the south end of the city to improve fire response times in that area. As part of the grant application process, the city needs to obtain a letter from a federal agency stating that the project should not adversely affect any threatened or endangered species or crucial habitats.

The city would greatly appreciate it if you could provide me with this information either in writing or by e-mail. I have attached a figure showing the location of the proposed new fire station.

My contact information is:

Rob Murphy, P.E.
Barr Engineering Company
3236 Emerald Lane
Jefferson City, MO 65109
rmurphy@barr.com
(573) 638-5019

Thanks for any help you can provide.

Sincerely,

Rob Murphy

Encl.

Barr Engineering Company
3236 Emerald Lane • Jefferson City, MO 65109
Phone: 573-636-5331 • Fax: 573-636-5323 • www.barr.com
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rmurphy@barr.com
(573) 638-5019

Thanks for any help you can provide.

Sincerely,

Rob Murphy

Encl.

"The U.S. Fish and Wildlife Service (Service) has reviewed the proposed action and determined that no federally listed species, candidate species, or designated critical habitat occurs within the project area. Furthermore, the Service has determined that this action will have negligible impacts on wetlands, migratory birds, and other priority fish and wildlife resources."

Field Supervisor — Date 2/6/10

BARR

Barr Engineering Company
3236 Emerald Lane • Jefferson City, MO 65109
Phone: 573-636-5331 • Fax: 573-636-5323 • www.barr.com

An EEO Employer

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND

February 1, 2010

Ms. Shannon Cave
Missouri Department of Conservation
2901 W. Truman Boulevard
PO Box 180
Jefferson City, MO 65102

RE: Endangered Species at 151 West Tennyson Road - Fulton, Missouri

Dear Ms. Cave:

The City of Fulton is applying for a Department of Homeland Security Assistance to Firefighters Fire Station Construction Grant to pay for construction of a new fire station at the south end of the city to improve fire response times in that area. As part of the grant application process, the city needs to obtain a letter from a state agency stating that the project should not adversely affect any threatened or endangered species or crucial habitats.

The city would greatly appreciate it if you could provide me with this information either in writing or by e-mail. I have attached a figure showing the location of the proposed new fire station.

My contact information is:

Rob Murphy, P.E.
Barr Engineering Company
3236 Emerald Lane
Jefferson City, MO 65109
rmurphy@barr.com
(573) 638-5019

Thanks for any help you can provide.

Sincerely,

Rob Murphy

Encl.

Missouri Department of Conservation

Heritage Review Report

February 5, 2010 -- Page 1 of 2

Policy Coordination Unit
P. O. Box 180
Jefferson City, MO 65102
Prepared by: Shannon Cave
shannon.cave@mdc.mo.gov
573-522-4115X3250

rmurphy@barr.com
Rob Murphy
Barr Engineering Company
3236 Emerald Lane
Jefferson city, MO 65109

Project type:	Fire station construction grant
Location/Scope:	Section 20 of T47N R9W
County:	Callaway
Query reference:	151 West Tennyson Road, Fulton
Query received:	February 5, 2010

Authenticity may be confirmed by Policy Coordination Unit, Missouri Department of Conservation, 573-522-4115.

This NATURAL HERITAGE REVIEW is not a site clearance letter. Rather, it identifies public lands and sensitive resources known to have been located close to and/or potentially affected by the proposed project. On-site verification is the responsibility of the project. Heritage records were identified at some date and location. This report considers records near but not necessarily at the project site. Animals move and, over time, so do plant communities. To say "there is a record" does not mean the species/habitat is still there. To say that "there is no record" does not mean a protected species will not be encountered. These records only provide one reference and other information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Look for additional information about the biological and habitat needs of records listed in order to avoid or minimize impacts. More information may be found at www.mdc.mo.gov/nathis/endangered/ and mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx. Contact information for the department's Natural History Biologist is online at http://www.mdc.mo.gov/nathis/contacts/.

Level 3 issues: Records of federal-listed (also state-listed) species or critical habitats near the project site:

Heritage records identify no wildlife preserves, no designated wilderness areas or critical habitats, no state or federal endangered-list species records within one mile of the site, or in public land survey sections 20, 29 or sections adjacent, or within five miles downstream on streams draining the project site.

The project should be managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any "Clean Water Permit" conditions. Revegetate areas in which the natural cover is disturbed to minimize erosion using native plant species compatible with the local landscape and wildlife needs. Pollutants, including sediment, can have significant impacts far downstream. Use silt fences and/or vegetative filter strips to buffer streams and drainages, and monitor those after rain events and until a well-rooted ground cover is reestablished.

FEDERAL LIST species/habitats are protected under the Federal Endangered Species Act. Consult with the U.S. Fish and Wildlife Service (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; 573-234-2132).

General recommendations related to this project or site, or based on information about the historic range of species (unrelated to any specific heritage records):

- Callaway county has known karst geologic features (e.g. caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are species of conservation concern) are influenced by changes to water quality, so check your project site for any karst features and make every effort to protect groundwater in the project area. See http://mdc.mo.gov/nathis/caves/manag_construc.htm for best management information.
- Streams in the area should be protected from soil erosion, water pollution and in-stream activities that modify or diminish aquatic habitats. Best management recommendations relating to streams and rivers may be found at http://mdc.mo.gov/79.
- Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment, so inspect and

clean equipment thoroughly before moving between project sites.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (≧104° F, typically available at do-it-yourself carwash sites), and dry in the hot sun before using again.

These recommendations are ones project managers might prudently consider based on a general understanding of species needs and landscape conditions. Heritage records largely reflect only sites visited by specialists in the last 30 years. This means that many privately owned tracts could host remnants of species once but no longer common.

Pre-screen heritage data requests at http://tinyurl.com/heritagereview. A "Level 1 response" makes further submission to MDC or USFWS unnecessary.

APPENDIX D

Cultural Resource Survey Correspondence

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director

www.dnr.mo.gov

March 11, 2010

Rob Murphy
Barr Engineering Company
3236 Emerald Lane
Jefferson City, Missouri 65109

Re: Two Acre Tract, Fulton (FEMA) Fulton, Callaway County, Missouri

Dear Mr. Murphy:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which requires identification and evaluation of cultural resources.

We have reviewed the March 2010 report entitled *Phase I Cultural Resource Survey of a 2 Acre Tract in Fulton, Callaway County, Missouri* by Archaeological Research Center of St. Louis, Inc. Based on this review it is evident that a thorough and adequate cultural resources survey has been conducted of the project area. We concur with the investigator's recommendation that there will be **no historic properties affected** and, therefore, we have no objection to the initiation of project activities.

Please be advised that, should project plans change, information documenting the revisions should be submitted to this office for further review. In the event that cultural materials are encountered during project activities, all construction should be halted, and this office notified as soon as possible in order to determine the appropriate course of action.

If you have any questions, please write Judith Deel at State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call 573/751-7862. Please be sure to include the SHPO Log Number **(007-CY-10)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

Mark A. Miles
Director and Deputy
State Historic Preservation Officer

MAM:jd

c Roger Benson, FEMA
Joe Harl, ARC

APPENDIX E

Public Notice

U.S. Department of Homeland Security
9221 Ward Parkway, Suite 300
Kansas City, Missouri, 64114-3372

PUBLIC NOTICE OF AVAILIBILITY
FULTON FIRE STATION
DRAFT ENVIRONMENTAL ASSESSMENT
FULTON, CALLAWAY COUNTY, MISSOURI
EMW-2009-FC-00493R

Interested parties are hereby notified that the Federal Emergency Management Agency (FEMA) has adopted a Draft Environmental Assessment (DEA) for construction of a fire station in the city of Fulton, Callaway County. FEMA will fund the proposed project under the Department of Homeland Security Assistance to Firefighters Fire Station Construction Grant Program. The Proposed Action would build a new Fire Station at 151 West Tennyson Road, east of U.S. Business Highway 54, within the city limits of Fulton, Missouri. This new facility would consist of approximately 10,242-square-feet of new construction. The new facility will be built to all the current codes and standards. Utility services such as power, sewer, water, and telephone exist at the site. This location would allow the new facility to support growth and needs to an area that has experienced growth of commercial and residential properties and population.

Per the National Environmental Policy Act (42 U.S.C. 4371 et seq.), and associated environmental statutes, a DEA was written to evaluate the proposed action's potential impacts on the human and natural environment. The DEA summarizes the purpose and need, site selection process, affected environment, and potential environmental consequences associated with the proposed action. The public comment period will be from April 12, 2010 to May 11, 2010. Written comments on the DEA can be faxed to FEMA's Regional Office in Kansas City, Missouri at (816) 283-7018 to the attention of the Regional Environmental Officer. The DEA can be viewed locally at the Fulton City Hall, 18 E. 4th Street and the Callaway County Public Library, 710 Court Street, both in Fulton. The DEA can also be downloaded from FEMA's website at http://www.fema.gov/plan/ehp/envdocuments/index.shtm. If no substantive comments are received, the DEA will become final and this initial Public Notice will also serve as the final Public Notice. Then this DEA will be moved to FEMA's archives page at http://www.fema.gov/plan/ehp/envdocuments/archives_index.shtm.