

**CITY OF JOPLIN
ADDENDUM NUMBER 1**

Issued to all Bid Document Holders of Record.

Date: September 4, 2013

Project Name: 20th Street Grade Separation
Federal Project: TDG-3200(718) Project 4

This addendum forms a part of the contract described above. The original Contract Documents remain in full force and effect except as modified by the following, which shall take precedence over any contrary provisions in the prior documents.

The following changes have been made:

MISCELLANEOUS

- 1) Pre bid meeting minutes. See attached minutes and sign in sheet.
- 2) Expansion joints shall be placed at 100 foot intervals (max.) for curb and gutter, concrete sidewalk and roadway barrier construction.
Contraction joints shall be placed at 12.5 foot intervals (max.). Contraction joints for non-reinforced sidewalk shall be placed at 6.25 foot intervals (max.). Contraction joints for sidewalk shall be placed directly opposite all contraction joints in the curb & gutter and/or concrete pavement.
- 3) Wall Mount Luminaire Specification: Wall mount fixture shall be an LED luminaire with IES Type II distribution capable of providing an average of 1.0 footcandles illuminance, and a minimum of 0.2 footcandles on the ground for a width of 15 feet immediately adjacent to the wall. A Light Loss Factor (LLF) of 0.72 shall be applied to the luminaire when performing the calculations. Color temperature shall be between 3000K and 4000K. Total system watts shall not exceed 150. The housing shall be die-cast aluminum alloy with integral cooling fins. The reflector housing shall be capable of rotating in relation the ballast housing to provide up to 10 degrees of adjustment from nadir. The housing shall include a surface mount box as shown in plan details for mounting directly to the wall. The housing shall be sealed from elements and shall be finished in black polyester powder coat paint. All electrical components shall be UL listed and shall be accessible by opening the lens frame only. The driver shall be rated for -40°F starting.

SPECIFICATIONS

- 1) Itemized Bid Proposal
 - a. Replace with attached Itemized Bid Proposal – “0427_06-IBS.pdf”:
 - b. The following items have been added to the bid form:
 - Select Granular Backfill (Special)
 - Geogrid
 - Type 2 Preformed Marking Tape (Grooved), 24 in., White
 - Post, Signal 8 ft.
 - Video Detection System
 - Conduit, 2 in., Trench
 - Conduit, 3 in., Trench

Conduit, 4 in., Trench
 Conduit, 4 in., Pushed
 Cable, 16 AWG 2 Conductor
 Cable, 16 AWG 5 Conductor
 Cable, 16 AWG 7 Conductor
 Base, Concrete
 Signal Sign, Type SHR2L-1

- c. The following items have been revised on the bid form:
 15” and 18” RCP
 Construction Signs
 Type 2 Preformed Marking Tape (Grooved), Left/Right Arrow
 4 in. White Acrylic Waterborne Pavement Marking Paint
 4 in. Yellow Acrylic Waterborn Pavement Marking Paint
 Pavement Marking Removal
 Concrete Footings, Embedded

2) Job Special Provisions-See attached document “0427_11-JSP.pdf”

- a. Section D, Utilities JSP-93-26C – Revise City of Joplin Sewer comments to reference JSP **D**, **Sec.** 1.11.
 b. Section H. Possession of Right of Way – Replace section H, 1.1 table with the following:

City of Joplin			
Status - Possession of Right-of-Way			
20th Street Grade Separation; TDG-3200 (718) Project 4			
Parcel #	Owner/Address	Acquisition Status	Anticipated Acquisition Date
104	Richard J. Reed & Debora J. Reed	Pending	November 8, 2013
105	Rosalie M. Burt & Charles F. Burt Trustee	Pending	November 8, 2013
106	Charles Burt, Inc.	Pending	November 8, 2013
107	Peace Lutheran Church	Acquired	
108	M&B Annex, LLC	Pending	November 8, 2013
109	Candace Ellet	Acquired	
110	Schroeder Investment, LLC	Acquired	
111	Randal A. Kraft & Shelly A. Kraft	Pending	November 8, 2013
113A	Charles Allyn Burt & Pennie Sue Burt	Acquired	
113B	Charles Allyn Burt & Pennie Sue Burt	Acquired	
114	Dillon Real Estate Co.	Pending	November 8, 2013
115	Bernie J. Collins	Acquired	
116	Rebecca Schepper & Fredrick D. Schepper	Acquired	
117	Ronald E. Copeland & Edna P. Copeland	Acquired	
118	David A. Dowell & Janet L. Dowell	Acquired	
121	Hampshire Terrace II, Limited Partnership	Acquired	
124	KCS Rail Road	Pending	November 8, 2013
125	Harmony Heights Baptist Church	Acquired	
126	Melvin Formby	Pending	November 8, 2013
127	David Dowell & Janet L. Dowell	Acquired	

- c. Section T & U- Revised MoDOT Standard Specification Section in paragraph 1.0.
 d. Section SS. Hughes Juniper – Delete the duplicate section 4.0 Basis of Payment.

- e. The following JSP's have been added:

HHH. ON THE JOB TRAINING

III. SELECT GRANULAR BACKFILL (SPECIAL)

JJJ. GEOGRID

3) Appendix

- a. Added signed copy of Notice of Intent Permit. See attached document "Permit from MDNR_with signature.pdf".
- b. Added geotechnical report for additional subsurface investigations – Boring BH-W129. See attached document "2013-7-22 - 20th Street Test Pit Exploration.pdf".
- c. Added geotechnical report for MSE Wall – Assumed Base Bid Quantities. See attached document "2013-8-30 - MSE Wall Follow Up Letter.pdf".

PLANS

1) Sheet 12, Summary of Quantities Sheet 4 of 10

- a. Replace with attached sheet. Made revisions to 15" & 18" RCP quantities.

2) Sheet 14, Summary of Quantities Sheet 6 of 10

- a. Replace with attached sheet. Made revisions to pavement marking quantities.

3) Sheet 18, Summary of Quantities Sheet 10 of 10

- a. Replace with attached sheet. Made revisions to construction signs and pavement marking removal.

4) Sheet 19, 20th Street Plan Sta. 239+35.83 to 243+00

- a. Replace with attached sheet. Made minor revision to existing and proposed ROW for Parcel 106.

5) Sheet 23, 20th Street Plan Sta. 248+00 to 253+00

- a. Combine Parcel No. 110A and Parcel No 110. The revised Parcel shall indicate the following:

(110)
SCHROEDER
INVESTMENT, LLC
6.120 SF NEW R/W
1.980 SF TEMP. ESM' T.
17.530 SF REMAINING

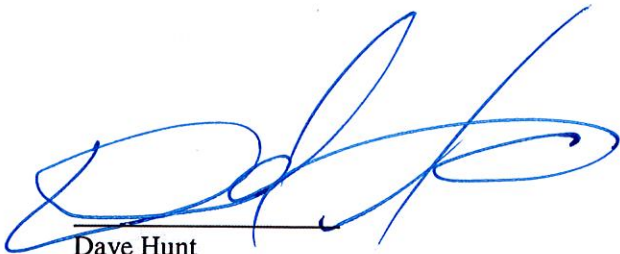
- 6) Sheet 30, Kansas Avenue Plan and Profile
 - a. Replace Parcel number 113 with Parcel number 113B.
- 7) Sheet 33, New Hampshire Plan
 - a. Replace with attached sheet. Added construction note for storm inlet modification.
- 8) Sheet 70, Roadway Barrier and Sidewalk Detail.
 - a. Replace with attached sheet. The following note were added:

See sheet 147 for the Lighting Pedestal Details.
All concrete and reinforcing steel for the light pedestal will be considered completely covered by the contract unit price for Roadway Barrier.
- 9) Sheet 94-99
 - a. Replace with attached sheets.
- 10) Sheet 108, 20th Street Marking Plan, Sheet 1 of 2
 - a. Replace with attached sheet. Made revisions to 20th Street and Indiana Avenue intersection.
- 11) Sheet 119, Storm Sewer Details Sheet 2 of 4
 - a. Replace Note for “Ram-Nek Rope” with note for “Preformed Flexible, Butyl Rubber Joint Sealant”.
- 12) Sheet 125-130, MSE retaining walls
 - a. Replace with attached sheets. Made revisions primarily regarding subgrade stabilization, select granular backfill (special), geogrid and allowable bearing pressure.
- 13) Sheet 133, Bridge General Notes and Quantities
 - a. Replace with attached sheet. Made revisions to estimated quantities for slab on steel. Class B-2 Concrete was revised from 91.0 cu. yd. to 254.3 cu. yd..
- 14) Sheet 147, Light Pedestal Details
 - a. Replace with attached sheet. Revised typical light pedestal section note as follows:

Shown along right fascia. Barrier reinforcing not shown for clarity.

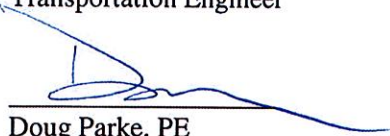
Added the following note:

All concrete and reinforcing steel for the light pedestal will be considered completely covered by the contract unit price for Safety Barrier Curb.



Dave Hunt
Transportation Engineer

9-4-13
Date



Doug Parke, PE
TranSystems

9/3/13
Date

Each Bidder shall acknowledge receipt of this addendum by affixing his signature below noting this addendum on his bid form, and by attaching this addendum to his bid.

ACKNOWLEDGEMENT

The undersigned acknowledges receipt of this addendum and the Bid submitted in accordance with information, instruction and stipulations set forth herein.

Bidder: _____

Signed By: _____

August 30, 2013

Mr. Douglas B. Parke, P.E.
TranSystems
2400 Pershing Road, Suite 400
Kansas City, Missouri 64108

RE: MSE Wall . Assumed Base Bid Quantities
20th Street Overpass Project
Joplin, Missouri
PPI Project Numbers: 211850

Dear Mr. Parke:

This letter summarizes recent conversations between Palmerton & Parrish, Inc. (PPI) and Transystems regarding **Assumed Base Bid Quantities for (1) removal and replacement with Select Granular Backfill, and (2) placement of geogrid reinforcement** for the new MSE Wall Construction for the 20th Street Overpass Project. The sections below summarize Project History, Preliminary Recommendations for use as Assumed Base Bid Quantities, and Assumptions.

PROJECT HISTORY

General / MSE Wall Design: Palmerton & Parrish, Inc. (PPI) completed a Subsurface Investigation for the 20th Street Overpass Project, with a Geotechnical Engineering Report dated May 1, 2013. The final MSE Wall Design is the Contractor's responsibility. PPI's Geotechnical Engineering Report provided soil strength parameters and general construction guidance for the Wall Designer's use.

The Project was advertised for bid on August 16, 2013. The City received a question from one of the MSE Wall System Design Engineers, Mr. Ed Austin, P.E. with Sine Wall, LLC on August 23, 2013. Mr. Austin indicated that the wall would require an allowable bearing capacity on the order of 7,000 pounds per square foot (psf) based upon the wall height, and that the on-site soil would require some sort of remediation.

The City and Transystems request PPI provide design recommendations for improving the wall foundation capacity to an allowable bearing capacity of 7,000 psf. Transystems and PPI elected to proceed with the design of planned foundation capacity improvement based upon an Assumed Base Bid Quantity, with the understanding that the quantity would be treated as an add/deduct during construction, based upon encountered conditions.

Old "Clay Pond": A second issue with regard to the MSE Wall Foundation is the presence of an old clay pond on the southeast corner of the intersection of the KCS Railway and 20th Street. Mine spoils were encountered to a depth of 10.5 ft. in Boring BH-W129 during PPI's initial Subsurface Investigation (reference Geotechnical Engineering Report dated May 1, 2013). PPI worked with the City to complete additional test pit explorations in the vicinity of Boring BH-W129 on July 3, 2013. The results of that investigation were summarized in a Letter Report dated July 22, 2013.

PPI's July 22, 2013 Report includes historic aerial photographs and topographic maps that show a pond feature. PPI's report states that the pond is most likely a mining feature that was

backfilled to accommodate later development. Subsequent to issuance of PPI's report, PPI and Transystems spoke with long-time Joplin residents, who had a collective memory of an old clay pond on the property. It is believed that the pond was used as a borrow pit for clay bricks that were used during construction of a former mansion that was present on the southern end of the property. Historic memory is that the pond was 25 to 35 feet deep.

Additional investigation of the clay pond feature is not possible at this time, since the City does not own the Right of Way. PPI recommended that additional drilling be completed in the area of the clay pond to characterize the extents and type of backfill material. Completion of this investigation is planned after the Right of Way is obtained. This letter provides preliminary recommendations for shallow remediation of the pond feature, which may be revised after completion of the additional investigation, and may also be modified based upon conditions encountered during construction.

PRELIMINARY RECOMMENDATIONS / BASE BID QUANTITIES

Wall Foundation Improvement: On a Preliminary Basis, the following approaches are anticipated for foundation improvement to provide 7,000 psf allowable bearing capacity:

- Over-excavation of existing soils to a depth 3 feet below the top of the leveling pad, for the entire footprint of the roadway embankment, plus a horizontal distance of 5 feet beyond the wall toe on each side of the wall. Over-excavation should extend a distance of 200 lineal feet back from the overpass abutment on both sides.
- Proof-rolling of the excavated subgrade with a heavy, tandem-axle dump truck, and noting any areas that rut or deflect. Additional subgrade improvement measures, if required, will be determined on a case by case basis in the field during construction.
- Placement and compaction of Select Granular Backfill (in accordance with MoDOT Specification 1010) within the over-excavated area.

Transystems has developed an estimated quantity for inclusion on the Design Plans in accordance with the information presented in the above list.

"Clay Pond" Stabilization: There are at least three (3) potential Design and Performance Concerns associated with the presence of the old clay pond: global slope stability failure, localized bearing capacity failure, and differential settlement potential. As previously discussed, additional investigations are planned after the Right of Way is acquired to characterize the extent and nature of the clay pond backfill. It is believed that some amount of remediation will be required in the area of the clay pond to mitigate the design and performance concerns.

On a preliminary basis, PPI performed general global slope stability analysis to examine the possible extents of required remediation in the area of the clay pond adjacent to the MSE wall. Several assumptions were required, including the dimensions of the clay pond and the shear strength parameters of the clay pond backfill.

PPI recommends the following remediation approach be assumed for the purposes of establishing Base Bid Quantities.

- Existing backfill should be over-excavated within the area of the clay pond in the vicinity of the MSE wall, extending a minimum of 15 feet behind the wall or the northern extents of the clay pond, whichever is less, and a minimum of 15 feet in front of the wall toe.
- Existing backfill should be over-excavated to a total minimum depth of 6 feet below the top

elevation of the wall leveling pad.

- A geogrid in accordance with the Job Special Provisions (in general, Tensar BX1200, Hanes RX1200, or equivalent) shall be placed on the soil subgrade at the base of the excavation (6 feet below top of the leveling pad elevation).
- Select granular fill (in accordance with MoDOT Specification Section 1010) shall be placed in lifts and compacted within the entire excavation.
- A second layer of geogrid shall be placed at a depth of 4 feet, followed by additional Select granular fill placement.

ASSUMPTIONS AND LIMITATIONS

Preliminary Recommendations provided in this Letter are intended to help establish Assumed Base Bid Quantities for foundation improvement and remediation within the area of the pond. The Final MSE Wall Design is the responsibility of the Contractor, and should be signed and sealed by a Professional Engineer licensed in the State of Missouri. Final requirements for allowable bearing capacity, settlement tolerance, and global slope stability should be specified by the Wall Designer.

Encountered subgrade conditions should be observed during construction by a qualified representative of PPI to determine the allowable bearing capacity of the exposed subgrade. Field decisions should be made to improve the soil subgrade to meet the allowable bearing capacity required by the Wall Design. If possible, the soil subgrade improvements should utilize unit items (i.e. Select Granular Fill and Geogrid) as specified in the Bid Documents.

REPORT LIMITATIONS

This report has been prepared in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. PPI observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. PPI's findings and conclusions must be considered not as scientific certainties, but as opinions based on our professional judgment concerning the significance of the data gathered during the course of this investigation. Other than this, no warranty is implied or intended.

CLOSURE


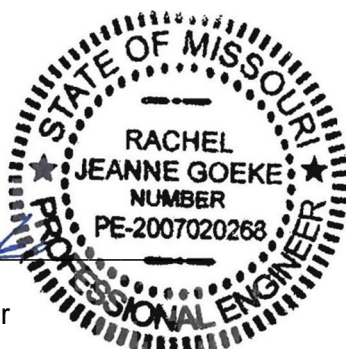
PPI appreciates the opportunity to continue to work with TranSystems on the TIGER Grant Project for the City of Joplin. Please call PPI's Springfield Office at 417 864-6000 if you have any questions regarding this letter.

PALMERTON & PARRISH, INC.

By:



Rachel J. Goeke, P.E.
Geotechnical Engineer



Brad R. Parrish, P.E.
President

Mr. Douglas B. Parke, P.E.
August 30, 2013



Submitted: 3 Original Copies
1 Electronic (.pdf) Copy via Email (dbparke@transystems.com)

BRP:RJG/rjg

July 22, 2013

Mr. Douglas B. Parke, P.E.
TranSystems
2400 Pershing Road, Suite 400
Kansas City, Missouri 64108

RE: Additional Subsurface Investigation . Boring BH-W129
20th Street Overpass Project
Joplin, Missouri
PPI Project Numbers: 211850

Dear Mr. Parke:

This letter presents the results of Additional Subsurface Investigation and Research completed by Palmerton & Parrish, Inc. (PPI) in the vicinity of Boring BH-W129 that was drilled during the Initial Subsurface Investigation for the 20th Street Overpass Project. PPI's scope of services was generally as outlined in a letter to Transystems dated May 10, 2013. The additional investigation was authorized in an email from the City of Joplin Assistant Director of Public Works, Mr. Jack Schaller, P.E. to you dated May 13, 2013. The Sections below present Project Background Information, Work Performed, Results, and Recommendations.

PROJECT BACKGROUND INFORMATION

PPI completed a Geotechnical Engineering Report for the 20th Street Overpass Project entitled "Geotechnical Engineering Report, 20th Street Grade Separation over the Kansas City Southern Railway, Joplin, Missouri" and dated May 1, 2013. Boring BH-W129 encountered fill materials consisting primarily of fine gravel size mine chat with minor amounts of sand and clay to a depth of 10.5 feet. PPI recommended additional subsurface investigation, consisting of a test pit investigation, in the vicinity of BH-W129 to help characterize the extents of the mine chat and provide additional recommendations as necessary before the Project goes out to bid.

WORK PERFORMED

PPI coordinated completion of the additional investigation with Mr. Dave Hunt, P.E. with the City of Joplin. A backhoe and operator was provided by the City. Four (4) test pits were excavated in the vicinity of Boring BH-W129 on July 3, 2013. Test pits were observed and logged by a geologist from PPI's staff, Mr. Don Nowack, P.E., R.G. A second geologist, Mr. Kevin Newbold, was also on-site to observe test pit excavations and assist with sample collection and traffic control.

The test pits were excavated in an asphalt driveway within the 20th Street right-of-way. The four (4) test pits were identified as TP-1 through TP-4, and were excavated in the approximate locations shown in the attached Figure 1. The test pits encountered asphalt pavement underlain by gravel to a depth of approximately 1 foot. Mine chat was encountered below the gravel, and contained minor amounts of clay. The mine chat became saturated at approximately 3 feet below the ground surface. Excavation below a depth of 3.5 to 4 feet was not practical due to saturated gravel falling into the excavation from the sidewalls.

RESULTS

Mine chat was encountered in all four (4) test pits during the test pit investigation. The vertical extents of the chat was not determined due to the unstable sidewall conditions. The north and south extents of the mine chat were not determined due to access considerations (the roadway to the north, and lack of access permission to the south. The east and west extents are somewhat defined by the conditions encountered in Borings BH-W127 (~50 feet west of BH-W129) and BH-W129 (~50 feet east of BH-W129) that were drilled during completion of the initial Subsurface Investigation (reference PPI's May 1, 2013 Report). Natural soils were encountered in both borings.

Overall, encountered subsurface conditions indicate that a fairly large area in the vicinity of Boring BH-W129 may be underlain by mine chat. Boring and test pit locations are shown in the attached Figure 1.

Additional Research: The general Site Region is known to be heavily impacted by past mining activity. PPI performed an initial review of historic mine maps during completion of our May 1, 2013, and did not identify significant past mining impacts. Additional research was performed based up the results of this subsurface investigation.

Historical mining maps available from the University of Missouri Digital Library and the Missouri Department of Natural Resources, Division of Geology and Land Survey were reviewed. PPI did not find mining maps that showed past mines at this location. However, there was a plat map that indicated that the property was owned by the Missouri Lead and Zinc Co. at one time. It should be noted that many mines in this area were never mapped, and also that many historic maps have been lost.

PPI performed a review of historical topographic maps and aerial photographs. Historic topographic maps and aerial photographs show a large body of water in the area of BH-W129, adjacent to the railroad and 20th Street. Because of the historic mining activity, including open pit mining, in this area, it is believed that the body of water may have developed in an open pit mine. The body of water was apparently filled in at some point between 1978 and 1980, based upon the historic aerial photographs.

As we discussed on the phone on July 19, 2013, it is also possible that the water body resulted from a soil borrow pit or an old farm pond. However, based upon the history of the region and our review of the historic aerial photographs and topographic maps, PPI believes it most likely represents a former open pit mine. Somewhat regardless of the origin of the water body, PPI believes it is reasonable to assume that the entire water body was backfilled with mine spoils similar to what was encountered in the test pit investigation.

The approximate site location is shown on the 1975 topographic map and the 1961 aerial photograph in the attached Figures 2 and 3, respectively. Note that the 1961 photograph shows 20th Street with two lanes, whereas it presently has five lanes.

RECOMMENDATIONS

Based upon the data available at this time, it is believed that Boring BH-W129 is most likely located on the northern edge of an old open pit mine that has been backfilled with mine spoils. The results of the subsurface investigations performed to date have not completely delineated the horizontal or vertical extents of the apparent mine feature. However,

it is somewhat reasonable to assume that the horizontal extents may mimic the footprint of the feature shown in the aerial photograph from 1961.

Based upon the alignment of the Project, this area cannot be avoided during construction. **PPI anticipates that there may be significant difficulty with earthwork in this area based upon the apparent widespread presence of mine spoils and the shallow groundwater conditions.** Depending upon the depth of the mine spoils, there is also the possibility of a shallow bearing capacity concern and/or shallow slope stability failure concern for the new MSE wall in this area. The MSE wall height in the vicinity of BH-W129 is anticipated to be 30 feet or more.

PPI recommends additional subsurface investigation to further characterize the vertical and horizontal extents of the apparent mine feature. Additional borings should be drilled along the wall footprint at approximately 10-foot centers. Borings should generally be extended to the depth of natural soils, unless natural soils are not encountered within a reasonable depth. After the horizontal extents of the mine spoils along the wall footprint are determined, additional borings should be drilled both south and north of the wall footprint to further characterize the horizontal and vertical extents of the mine spoils.

In PPI's opinion, it is important to obtain a good understanding of the subsurface conditions within a horizontal distance (measured from the wall toe) at least equal to the wall height. Probe borings using continuous flight augers should be suitable for this investigation, and borings may be backfilled with auger cuttings. Borings should be logged by a qualified engineer or geologist from PPI's staff.

Possible Design Approaches for Remediation: The final Design Approach for remediation of the mine spoils prior to MSE wall construction will depend upon the results of the additional subsurface investigation. In general, PPI anticipates that all areas within the MSE wall footprint and all areas within a horizontal distance of the wall toe equivalent to the wall height that are impacted by mine spoils will require remediation.

It is probable that complete removal and replacement of the mine spoil will not be practical due to cost and general construction considerations. Shallow removal and replacement (on the order of 3 feet below existing grade), possibly in combination with geogrid stabilization, may be appropriate depending upon encountered conditions. **It is important that the Remediation Design include analysis of shallow bearing capacity failure, differential bearing support between adjacent wall sections, and the possibility of differential settlement between adjacent wall sections.**

Recommended Contract Language: After a Final Remediation Design is developed, PPI recommends that the Project Specifications and Design Drawings are worded carefully to allow for flexibility during construction in this area. It is important to have appropriate Unit Price items in place that will help protect both the Owner and the Contractor in the event of add and/or deduct quantities. All of the recommendations presented in this Report should be reviewed by the Project Team and MoDOT for consistency with MoDOT Standards, and to determine if there are other procedures that have worked well on similar Projects in the past.

Construction Observation: PPI should be retained during construction to observe encountered subsurface conditions and confirm that they are consistent with anticipated subsurface conditions. PPI should be retained for Engineering Consultation during construction in the event modifications to the Geotechnical Design Aspects of the Project in this area are appropriate.

REPORT LIMITATIONS

This report has been prepared in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. PPI observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. PPI's findings and conclusions must be considered not as scientific certainties, but as opinions based on our professional judgment concerning the significance of the data gathered during the course of this investigation. Other than this, no warranty is implied or intended.

CLOSURE


PPI appreciates the opportunity to continue to work with TranSystems on the TIGER Grant Projects for the City of Joplin. Please call PPI's Springfield Office at 417 864-6000 if you have any questions regarding this letter.

PALMERTON & PARRISH, INC.

By:



Rachel J. Goeke, P.E.
Geotechnical Engineer



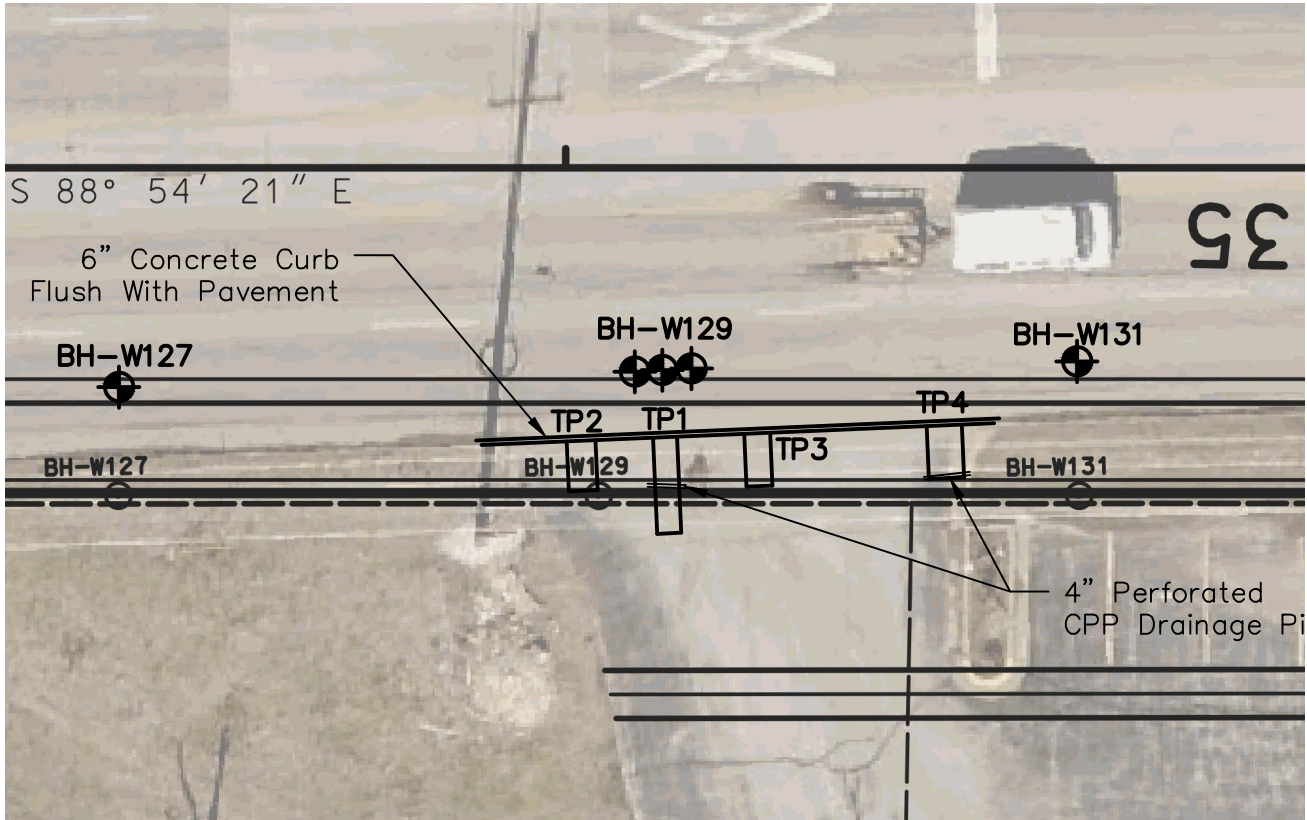
Donald Nowack, P.E., R.G.
Geological Engineer

Attachments: Figure 1
Figure 2
Figure 3
Appendix I: Test Pit Logs
Appendix II: Boring Logs (BH-W127, BH-W129, & BH-W131)
Appendix III: General Notes

Submitted: 3 Original Copies
1 Electronic (.pdf) Copy via Email (dbparke@transystems.com)

BRP:RJG:DN/rjg

FIGURES



6" Concrete Curb
Flush With Pavement

BH-W127

BH-W129

BH-W131

TP2

TP1

TP3

TP4

4" Perforated
CPP Drainage Pipe

Project: 20th Street Grade Separation over the Kansas City Southern Railway
Client: TranSystems Corporation

Boring Location Plan

DATE: July 16, 2013

Project Number: 211850

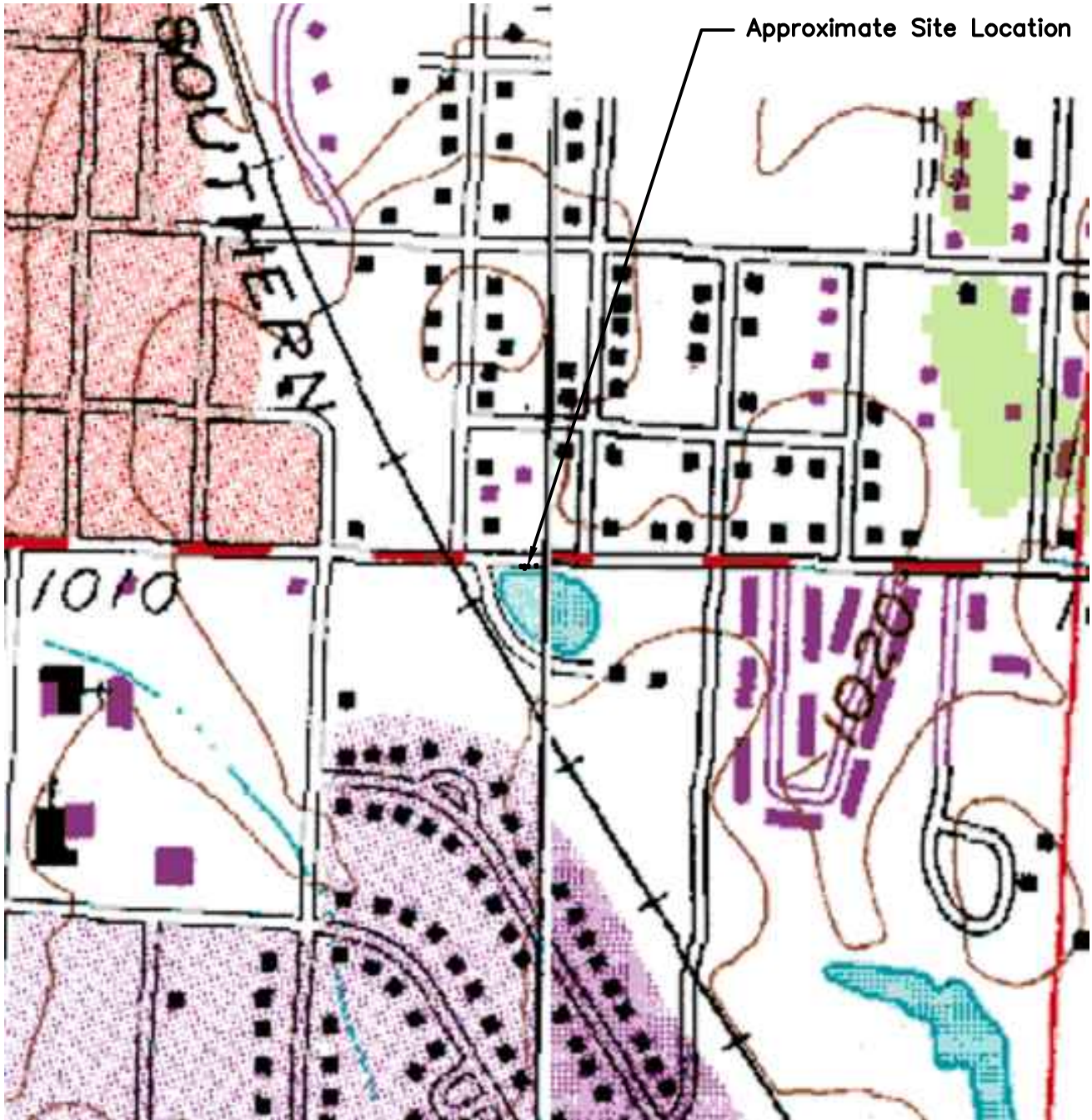
PP PALMERTON & PARRISH, INC.
GEOTECHNICAL AND MATERIALS ENGINEERS/MATERIALS TESTING LABORATORIES/ENVIRONMENTAL SERVICES

FIGURE 1

LEGEND



SCALE
1" = 20'



Approximate Site Location



SCALE
1" = 400'

Project: 20th Street Grade Separation over the Kansas City Southern Railway
Client: TranSystems Corporation

Site Location on Historical Topographic Maps

DATE: July 16, 2013

Project Number: 211850

PP PALMERTON & PARRISH, INC.
GEOTECHNICAL AND MATERIALS ENGINEERS/MATERIALS TESTING LABORATORIES/ENVIRONMENTAL SERVICES

FIGURE 2



SCALE
1"=60'

Project: 20th Street Grade Separation over the Kansas City Southern Railway
Client: TranSystems Corporation

Site Location on 1961 Aerial Photograph

DATE: July 16, 2013

Project Number: 211850



PALMERTON & PARRISH, INC.
GEOTECHNICAL AND MATERIALS ENGINEERS/MATERIALS TESTING LABORATORIES/ENVIRONMENTAL SERVICES

FIGURE 3

APPENDIX I
TEST PIT LOGS



4168 W Kearney Street
Springfield, MO 65803
Telephone: 417-864-6000
Fax: 417-864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER

1

PAGE 1 OF 1

CLIENT Transystems Corporation PROJECT NAME 20th Street Grade Separation
 PROJECT NO. 211850 PROJECT LOCATION Joplin, Missouri
 DATE STARTED 7/3/13 COMPLETED 7/3/13 SURFACE ELEVATION _____ BENCHMARK EL. _____
 DRILLER _____ DRILL RIG Backhoe GROUND WATER LEVELS _____
 HAMMER TYPE _____ AT TIME OF DRILLING None
 LOGGED BY DN CHECKED BY DN AT END OF DRILLING _____
 NOTES _____

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION Unified Soil Classification System	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ SHEAR STRENGTH (ksf) □ 1 2 3 4				ELEVATION (ft)
0	BACKHOE		ASPHALT									
			FILL-1" Baserock, With Larger Rock, Some Clay									
3			FILL- MINE CHAT (Sand & Gravel), With Some Clay & Wood									

Bottom of borehole at 3.5 feet.

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 7/19/13 08:21 - S:\GEOTECH-ENVIRONMENTAL\DONNY\20TH STREET JOPLIN\TEST-PIT LOGS.GPJ



4168 W Kearney Street
Springfield, MO 65803
Telephone: 417-864-6000
Fax: 417-864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER

2

PAGE 1 OF 1

CLIENT Transystems Corporation **PROJECT NAME** 20th Street Grade Separation
PROJECT NO. 211850 **PROJECT LOCATION** Joplin, Missouri
DATE STARTED 7/3/13 **COMPLETED** 7/3/13 **SURFACE ELEVATION** _____ **BENCHMARK EL.** _____
DRILLER _____ **DRILL RIG** Backhoe **GROUND WATER LEVELS** _____
HAMMER TYPE _____ **AT TIME OF DRILLING** None
LOGGED BY DN **CHECKED BY** DN **AT END OF DRILLING** _____
NOTES _____

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION Unified Soil Classification System	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 ■ SHEAR STRENGTH (ksf) ■ 1 2 3 4				ELEVATION (ft)
0	BACKHOE		ASPHALT									
			FILL-1" Baserock	0.3 ft								
1			FILL-FAT CLAY, Cherty, Red	1.0 ft								
3			FILL- MINE CHAT (Sand & Gravel), With Some Clay & Wood	3.2 ft								
4			Bottom of borehole at 4.0 feet.									

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 7/19/13 08:21 - S:\GEOTECH-ENVIRONMENTAL\DONNY\20TH STREET JOPLIN\TEST-PIT LOGS.GPJ



4168 W Kearney Street
Springfield, MO 65803
Telephone: 417-864-6000
Fax: 417-864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER

3

PAGE 1 OF 1

CLIENT Transsystems Corporation PROJECT NAME 20th Street Grade Separation
 PROJECT NO. 211850 PROJECT LOCATION Joplin, Missouri
 DATE STARTED 7/3/13 COMPLETED 7/3/13 SURFACE ELEVATION _____ BENCHMARK EL. _____
 DRILLER _____ DRILL RIG Backhoe GROUND WATER LEVELS _____
 HAMMER TYPE _____ AT TIME OF DRILLING None
 LOGGED BY DN CHECKED BY DN AT END OF DRILLING _____
 NOTES _____

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 7/19/13 08:21 - S:\GEOTECH-ENVIRONMENTAL\DONNY\20TH STREET JOPLIN\TEST-PIT LOGS.GPJ

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION Unified Soil Classification System	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ SHEAR STRENGTH (ksf) □ 1 2 3 4				ELEVATION (ft)
0	BACKHOE		ASPHALT									
			FILL-1" Baserock									
2.5			FILL- MINE CHAT (Sand, Gravel & Some Cobbles)									
4.0												

4 Bottom of borehole at 4.0 feet.



4168 W Kearney Street
Springfield, MO 65803
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Fax: 417-864-6004

GEOTECHNICAL BORING LOG

BORING NUMBER

4

PAGE 1 OF 1

CLIENT Transsystems Corporation PROJECT NAME 20th Street Grade Separation
 PROJECT NO. 211850 PROJECT LOCATION Joplin, Missouri
 DATE STARTED 7/3/13 COMPLETED 7/3/13 SURFACE ELEVATION _____ BENCHMARK EL. _____
 DRILLER _____ DRILL RIG Backhoe GROUND WATER LEVELS _____
 HAMMER TYPE _____ AT TIME OF DRILLING None
 LOGGED BY DN CHECKED BY DN AT END OF DRILLING _____
 NOTES _____

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION Unified Soil Classification System	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	◆ DRY UNIT WT (pcf) ◆ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ SHEAR STRENGTH (ksf) □ 1 2 3 4				ELEVATION (ft)
0	BACKHOE		ASPHALT									
			FILL-1" Baserock & Red Cherty Clay at North End									
2.5			FILL- MINE CHAT (Sand, Gravel & Some Cobbles)									
4.0												

4 Bottom of borehole at 4.0 feet.

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 7/19/13 08:21 - S:\GEOTECH-ENVIRONMENTAL\DONNY\20TH STREET JOPLIN\TEST-PIT LOGS.GPJ

APPENDIX II

BORING LOGS

(BH-W127, BH-W129, & BH-W131)

BORING LOG - PPI - PPI STD TEMPLATE.GDT - 1/24/13 16:31 - S:\GEO TECH-ENVIRONMENTAL\RACHEL\211810 & 211850 - TRANSSYSTEMS - JOPLIN TIGER GRANT\211850 - 20TH STREET OVERPASS\BORING LOGS\211850 - 20TH STREET BORING LOGS.GPJ



4168 W. Kearney
Springfield MO 65803
Telephone: 417-864-6000

GEOTECHNICAL BORING LOG

BORING NUMBER **BH-W127**

PAGE 1 OF 1

CLIENT <u>TranSystems Corporation</u>	PROJECT NAME <u>20th Street Overpass</u>
PROJECT NO. <u>211850</u>	PROJECT LOCATION <u>Joplin, Missouri</u>
DATE STARTED <u>12/20/12</u> COMPLETED <u>12/20/12</u>	SURFACE ELEVATION _____ BENCHMARK EL. _____
DRILLER <u>MR/RC</u> DRILL RIG <u>CME 75 TM</u>	GROUND WATER LEVELS
HAMMER TYPE <u>Auto</u>	AT TIME OF DRILLING <u>None</u>
LOGGED BY <u>DN</u> CHECKED BY <u>RJG</u>	AT END OF DRILLING _____
NOTES _____	

DEPTH (ft)	DRILLING METHOD	STRATA SYMBOL	MATERIAL DESCRIPTION Unified Soil Classification System	SAMPLE TYPE NUMBER	RECOVERY % (RQD %)	CORRECTED BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	◇ DRY UNIT WT (pcf) ◇ 20 40 60 80 100 ▲ N VALUE ▲ 20 40 60 80 PL MC LL 20 40 60 80 □ SHEAR STRENGTH (ksf) □ 1 2 3 4				ELEVATION (ft)		
								1	2	3	4			
0			ASPHALT (6")											
			BASE ROCK (6")											
			LEAN CLAY: dark brown, medium stiff, moist, silty; with chert											
			FAT CLAY: brown, stiff, moist											
5			- Becomes lighter brown with increasing depth											
10														

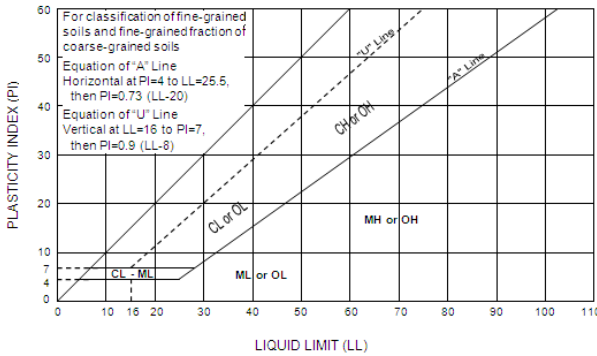
APPENDIX III
GENERAL NOTES

GENERAL NOTES

SOIL PROPERTIES & DESCRIPTIONS

COHESIVE SOILS

Consistency	Unconfined Compressive Strength (Qu)	Pocket Penetrometer Strength	N-Value
	(psf)	(tsf)	(blows/ft)
Very Soft	<500	<0.25	0-1
Soft	500-1000	0.25-0.50	2-4
Medium Stiff	1001-2000	0.50-1.00	5-8
Stiff	2001-4000	1.00-2.00	9-15
Very Stiff	4001-8000	2.00-4.00	16-30
Hard	>8000	>4.00	31-60
Very Hard			>60



Group Symbol	Group Name
CL	Lean Clay
ML	Silt
OL	Organic Clay or Silt
CH	Fat Clay
MH	Elastic Silt
OH	Organic Clay or Silt
PT	Peat
CL-CH	Lean to Fat Clay

Plasticity		Moisture	
Description	Liquid Limit (LL)	Descriptive Term	Guide
Lean	<45%	Dry	No indication of water
Lean to Fat	45-49%	Moist	Indication of water
Fat	≥50%	Wet	Visible water

Fine Grained Soil Subclassification	Percent (by weight) of Total Sample
Terms: SILT, LEAN CLAY, FAT CLAY, ELASTIC SILT Sandy, gravelly, abundant cobbles, abundant boulders with sand, with gravel, with cobbles, with boulders scattered sand, scattered gravel, scattered cobbles, scattered boulders a trace sand, a trace gravel, a few cobbles, a few boulders	PRIMARY CONSTITUENT >30-50] >15-30] – secondary coarse grained constituents 5-15] <5]
The relationship of clay and silt constituents is based on plasticity and normally determined by performing index tests. Refined classifications are based on Atterberg Limits tests and the Plasticity Chart.	

NON-COHESIVE (GRANULAR) SOILS

RELATIVE DENSITY	N-VALUE
Very Loose	0-4
Loose	5-10
Medium Dense	11-24
Dense	25-50
Very Dense	≥51

MOISTURE CONDITION	
Descriptive Term	Guide
Dry	No indication of water
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table.

**GRAIN SIZE IDENTIFICATION		
Name	Size Limits	Familiar Example
Boulder	12 in. or more	Larger than basketball
Cobbles	3 in. to 12 in.	Grapefruit
Coarse Gravel	¾-in. to 3 in.	Orange or lemon
Fine Gravel	No. 4 sieve to ¾-in.	Grape or pea
Coarse Sand	No. 10 sieve to No. 4 sieve	Rock salt
Medium Sand	No. 40 sieve to No. 10 sieve	Sugar, table salt
Fine Sand*	No. 200 sieve to No. 40 sieve	Powdered sugar
Fines	Less than No. 200 sieve	

*Particles finer than fine sand cannot be discerned with the naked eye at a distance of 8 in.

Coarse Grained Soil Subclassification	Percent (by weight) of Total Sample
Terms: GRAVEL, SAND, COBBLES, BOULDERS Sandy, gravelly, abundant cobbles, abundant boulders with gravel, with sand, with cobbles, with boulders scattered gravel, scattered sand, scattered cobbles, scattered boulders a trace gravel, a trace sand, a few cobbles, a few boulders	PRIMARY CONSTITUENT >30-50] >15-30] – secondary coarse grained constituents 5-15] <5]
Silty (MH & ML)*, clayey (CL & CH)* (with silt, with clay)* (trace silt, trace clay)*	<15] 5-15] – secondary fine grained constituents <5]
*Index tests and/or plasticity tests are performed to determine whether the term "silt" or "clay" is used.	

*Modified after Ref. ASTM D2487-93 & D2488-93

**Modified after Ref. Oregon DOT 1987 & FHWA 1997

***Modified after Ref. AASHTO 1988, DM 7.1 1982, and Oregon DOT 1987

GENERAL NOTES

BEDROCK PROPERTIES & DESCRIPTIONS

ROCK QUALITY DESIGNATION (RQD)	
Description of Rock Quality	*RQD (%)
Very Poor	< 25
Poor	25-50
Fair	50-75
Good	75-90
Excellent	90-100

*RQD is defined as the total length of sound core pieces 4 in. or greater in length, expressed as a percentage of the total length cored. RQD provides an indication of the integrity of the rock mass and relative extent of seams and bedding planes.

SCALE OF RELATIVE ROCK HARDNESS		
Term	Field Identification	Approx. Unconfined Compressive Strength (tsf)
Extremely Soft	Can be indented by thumbnail	2.6-10
Very Soft	Can be peeled by pocket knife	10-50
Soft	Can be peeled with difficulty by pocket knife	50-260
Medium Hard	Can be grooved 2 mm deep by firm pressure of knife	260-520
Moderately Hard	Requires one hammer blow to fracture	520-1040
Hard	Can be scratched with knife or pick only with difficulty	1040-2610
Very Hard	Cannot be scratched by knife or sharp pick	>2610

DEGREE OF WEATHERING	
Slightly Weathered	Rock generally fresh, joints stained and discoloration extends into rock up to 25mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered	Rock mass is decomposed 50% or less, significant portions of rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

GRAIN SIZE (TYPICALLY FOR SEDIMENTARY ROCKS)		
Description	Diameter (mm)	Field Identification
Very Coarse Grained	>4.76	
Coarse Grained	2.0-4.76	Individual grains can easily be distinguished by eye.
Medium Grained	0.42-2.0	Individual grains can be distinguished by eye.
Fine Grained	0.074-0.42	Individual grains can be distinguished by eye with difficulty.
Very Fine Grained	<0.074	Individual grains cannot be distinguished by unaided eye.

VOIDS	
Pit	Voids barely seen with naked eye to 6mm (¼-in)
Vug	Voids 6 to 50mm (¼ to 2 in) in diameter
Cavity	50 to 6000mm (2 to 24 in) in diameter
Cave	>600mm

BEDDING THICKNESS	
Very Thick Bedded	> 3' thick
Thick Bedded	1' to 3' thick
Medium Bedded	4" to 1' thick
Thin Bedded	1¼" to 4" thick
Very Thin Bedded	½" to 1¼" thick
Thickly Laminated	⅛" to ½" thick
Thinly Laminated	⅛" or less (paper thin)

DRILLING NOTES

Drilling and Sampling Symbols

NQ – Rock Core (2-in. diameter)	CFA – Continuous Flight (Solid Stem) Auger	WB – Wash Bore or Mud Rotary
HQ – Rock Core (3 in. diameter)	SS – Split Spoon Sampler	TP – Test-Pit
HSA – Hollow Stem Auger	ST – Shelby Tube	HA – Hand Auger

Soil Sample Types

Shelby Tube Samples: Relatively undisturbed soil samples were obtained from the borings using thin wall (Shelby) tube samplers pushed hydraulically into the soil in advance of drilling. This sampling, which is considered to be undisturbed, was performed in accordance with the requirements of ASTM D 1587. This type of sample is considered best for the testing of "in-situ" soil properties such as natural density and strength characteristics. The use of this sampling method is basically restricted to soil containing little to no chert fragments and to softer shale deposits.

Split Spoon Samples: The Standard Penetration Test is conducted in conjunction with the split-barrel sampling procedure. The "N" value corresponds to the number of blows required to drive the last 1 foot of an 18-in. long, 2-in. O.D. split-barrel sampler with a 140 lb. hammer falling a distance of 30 in. The Standard Penetration Test is carried out according to ASTM D-1586.

Water Level Measurements

Water levels indicated on the boring logs are levels measured in the borings at the times indicated. In permeable materials, the indicated levels may reflect the location of groundwater. In low permeability soils, shallow groundwater may indicate a perched condition. Caution is merited when interpreting short-term water level readings from open bore holes. Accurate water levels are best determined from piezometers.

Automatic Hammer

Palmerton and Parrish's CME's are equipped with automatic hammers. The conventional method used to obtain disturbed soil samples used a safety hammer operated by company personnel with a cat head and rope. However, use of an automatic hammer allows a greater mechanical efficiency to be achieved in the field while performing a Standard Penetration resistance test based upon automatic hammer efficiencies calibrated using dynamic testing techniques.

*Modified after Ref. ASTM D2487-93 & D2488-93

**Modified after Ref. Oregon DOT 1987 & FHWA 1997

***Modified after Ref. AASHTO 1988, DM 7.1 1982, and Oregon DOT 1987

JOB SPECIAL PROVISIONS – TABLE OF CONTENTS

Page 1 of 2

(Job Special Provisions shall prevail over Specification and/or General Provisions whenever in conflict therewith)

- A. Work Zone Traffic Management Plan
- B. Project Contact for Contractor/Bidder Questions
- C. Emergency Provisions and Incident Management
- D. Utilities
- E. ADA Compliance
- F. Liquidated Damages Specified
- G. Guidelines for Obtaining Environmental Clearance
- H. Possession of Right of Way
- I. Kansas City Southern Railway Company Requirements
- J. Acceptance of Structural Steel.
- K. Crushed Stone Base
- L. Asphaltic Concrete Pavement
- M. Asphaltic Priming and Tack Coat
- N. Concrete Pavement
- O. Pipe Collar
- P. Curb and Gutter Standard Upright (City of Joplin)
- Q. Type S Curb (City of Joplin)
- R. Concrete Sidewalk
- S. ADA Sidewalk Ramp
- T. Concrete Sidewalk (Reinforced)
- U. Roadway Barrier
- V. Acceptance of Precast Concrete Members and Panels
- W. Bridge Railing
- X. Form Liners
- Y. Construction Requirements
- Z. MSE Wall Design Clarification
- AA. Reinforced Concrete Pipe (City of Joplin)
- BB. Precast Flared End Section
- CC. Type A Curb Inlet (City of Joplin)
- DD. Type B Curb Inlet (City of Joplin)
- EE. Type D Curb Inlet (City of Joplin)
- FF. Connect to Existing Inlet
- GG. Storm Inlet Modification
- HH. Precast Concrete Manhole (City of Joplin)
- II. Manhole Adjustment
- JJ. Modular Block Retaining Wall
- KK. Seeding, Mulching and Fertilizing (City of Joplin)
- LL. Erosion Control
- MM. Linear Erosion Control
- NN. Ditch Check
- OO. Inlet Protection
- PP. Compost Filter Sock
- QQ. Silt Fence
- RR. Straw Wattle
- SS. Hughes Juniper (*Juniperus Horizontalis*)
- TT. River Rock Landscaping
- UU. Landscape Edging
- VV. Hardwood Mulch

JOB SPECIAL PROVISIONS – TABLE OF CONTENTS

Page 2 of 2

(Job Special Provisions shall prevail over Specification and/or General Provisions whenever in conflict therewith)

WW.	Street Lighting Installation
XX.	Changed Conditions
YY.	Unbalanced Bids
ZZ.	Mobilization
AAA.	Removal of Improvements
BBB.	Compactin in Cut
CCC.	Contractor Furnished Surveying and Staking
DDD.	Concrete Protective Coatings
EEE.	Conduit System on Structure
FFF.	Geotechnical Instrumentation
GGG.	Sidewalk Wall
HHH.	On the Job Training
III.	Select Granular Backfill (Special)
JJJ.	Geogrid

A. WORK ZONE TRAFFIC MANAGEMENT PLAN JSP-02-06A

1.0 Description. Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

2.0 Traffic Management Schedule.

2.1 Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, hours traffic control will be in place, and work hours.

2.2 The contractor shall notify the engineer prior to lane closures or shifting traffic onto detours.

2.3 The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

2.4 In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone.

2.5.1 Traffic Delay. The contractor shall be responsible for maintaining the existing traffic flow through the job site during construction. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from occurring again.

2.5.2 Traffic Safety.

2.5.2.1 Where traffic queues routinely extend to within 1000 feet (300 m) of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet (150 m) of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

2.5.2.2 When a traffic queue extends to within 1000 feet (300 m) of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet (150 m) of the ROAD WORK AHEAD, or similar, sign on an undivided highway due to non-recurring congestion, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet (300 m) and no more than 0.5 mile (0.8 km) in advance of the end of the traffic queue on divided highways and no less than 500 feet (150 m) and no more than 0.5 mile (0.8 km) in advance of the end of the traffic queue on undivided highways.

3.0 Work Hour Restrictions.

3.1 There are three major summer holiday periods: Memorial Day, Independence Day, and Labor Day. All lanes shall be scheduled to be open to traffic during these holiday periods, from 12:00 noon on the last working day preceding the holiday until 9:00 a.m. on the first working day subsequent to the holiday.

B. PROJECT CONTACT FOR CONTRACTOR/BIDDER QUESTIONS

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below:

Jack Schaller, P.E.
Assistant Public Works Director
417-624-0820, Ext. 531
JSchalle@joplinmo.org

The following list of contacts has been provided for coordination with the Kansas City Southern Railroad during construction:

Project Contact – Sri Honnur – Shonnur@KCSouthern.com; 816-983-1138
Permits – Sylvia Schmidt – Schmidt.Sylvia@am.jll.com; 817-230-2688
Track Inspector – Rodney Bechdoldt – Rbechdoldt@KCSouthern.com; 417-592-3972
Divisional Engineer – Mark Wille
At-grade Crossing – Danny Lites – Dlites@KCSouthern.com; 318-676-6296
Signal – Calvin Jones – Cjones@KCSouthern.com; Steve Jones – Sjones@KCSouthern.com

C. EMERGENCY PROVISIONS AND INCIDENT MANAGEMENT JSP-90-11

1.0 The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

Jack Schaller, P.E.
Assistant Public Works Director
417-624-0820, Ext. 531

2.0 In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

Missouri Highway Patrol 417-895-6868 (non emergency)
City of Joplin
Fire: 417-624-0820 ext. 405 (emergency), 417-623-0403 (non emergency)
Police: 417-624-0820 ext. 405 (emergency), 417-623-3131 (non emergency)

2.1 This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

2.2 The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

3.0 No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

D. UTILITIES JSP-93-26C

1.0 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Comments</u>
AT&T Reed Harper 321 W. 8th Street Joplin, MO 64801 (417) 625-8024	Yes	Communication See JSP D, Sec 1.4
Cable One Digital Tom Leistner 2600 S Davis Blvd Joplin, MO 64803 (417) 206-5399	Yes	Communication See JSP D, Sec. 1.5
City of Joplin (Sewer) Dan Johnson 602 S. Main Street Joplin, MO 64801 (417) 624-0820	Yes	To be adjusted with project. See JSP 1.11
Empire District Electric Co. John Donaldson 602 Joplin Street Joplin, MO 64801 (417) 625-6538	Yes	Electric See JSP D, Sec. 1.6
Empire District Electric Co. Brad Meyers 602 Joplin Street Joplin, MO 64801	Yes	Communication See JSP D, Sec. 1.7

(417) 625-6538

Kansas City Southern Railway Lee Peek (816) 983-1919	Yes.	Communication/Electric See JSP D, Sec. 1.8
--	------	---

Missouri American Water Co. Matt Dwyer 727 Craig Rd. St. Louis, MO 63141 (314) 996-2217	Yes	Water See JSP D, Sec. 1.9
---	-----	------------------------------

Missouri Gas Energy Trevor Bough 520 E 5 th St Joplin, MO 64801	Yes	Gas See JSP D, Sec. 1.10
---	-----	-----------------------------

1.1 The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available to the Commission at this time. This information is provided by the Commission "as-is" and the Commission expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the Commission shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location and status of any facility. Such verification includes direct contact with the listed utilities.

1.2 The contractor agrees that any effects of the presence of the utilities, their relocation, contractor's coordination of work with the utilities and any delay in utility relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including but, without limitation, delay, impact, incidental or consequential damages. The contractor's sole remedy for the effects of the presence of utilities, delay in their relocation or any other effects shall be an excusable delay as provided in Section 105.7.3. The contractor waives, for itself, its subcontractors and suppliers the compensability of the presence of utilities, delay in their relocation and any cost to the contractor, its subcontractors and suppliers in any claim or action arising out of or in relation to the work under the contract.

1.3 The contractor shall be solely responsible and liable for incidental and consequential damage to any utility facilities or interruption of the service caused by it or its subcontractors operation. The contractor shall hold and save harmless the Commission from damages to any utility facilities interruption of service by it or its subcontractor's operation.

1.4 AT&T Relocation consists of underground facilities. Relocation will be on the south side of 20th Street. The relocation of these facilities are anticipated to be completed prior to the notice to proceed.

The contractor shall directly contact AT&T Distribution to verify the status of their relocation work and verify the location of their facilities.

1.5 CABLE ONE DIGITAL Relocation consists of underground facilities. Relocation of facilities is still in design. The relocation of these facilities are not anticipated to be completed prior to the notice to proceed. Relocation is anticipated to occur concurrently with construction.

The contractor shall directly contact the utility company to verify the status of their relocation work and verify the location of their facilities

1.6 EMPIRE DISTRICT ELECTRIC Relocation consists of underground and above ground facilities. Relocation of facilities is still in design. The relocation of these facilities are not anticipated to be completed prior to the notice to proceed. Relocation is anticipated to occur concurrently with construction.

The contractor shall directly contact the utility company to verify the status of their relocation work and verify the location of their facilities

1.7 EMPIRE DISTRICT ELECTRIC (Fiber) Relocation consists of underground and above ground facilities. Relocation of facilities is still in design. The relocation of these facilities are not anticipated to be completed prior to the notice to proceed. Relocation is anticipated to occur concurrently with construction.

The contractor shall directly contact the utility company to verify the status of their relocation work and verify the location of their facilities

1.8 KANSAS CITY SOUTHERN RAILWAY Relocation is anticipated to occur concurrently with construction.

1.9 MISSOURI AMERICAN WATER Relocation consists of underground facilities. Relocation of facilities is still in design. The relocation of these facilities are not anticipated to be completed prior to the notice to proceed. Relocation is anticipated to occur concurrently with construction.

The contractor shall directly contact the utility company to verify the status of their relocation work and verify the location of their facilities

1.10 MISSOURI GAS ENERGY Relocation consists of underground facilities. Relocation of facilities is still in design. The relocation of these facilities are not anticipated to be completed prior to the notice to proceed. Relocation is anticipated to occur concurrently with construction.

The contractor shall directly contact the utility company to verify the status of their relocation work and verify the location of their facilities

1.11 CITY OF JOPLIN SEWER The project's construction will require the adjustment of sanitary sewer manholes in the vicinity of the project. The contractor will be constructing the sanitary sewer adjustments as a part of this project. The contractor shall be required to coordinate with the City of Joplin's Utility Department prior to proceeding with construction to arrange for City inspection of the construction, and to assure continuous service of the sewer system. The contractor is advised that the existing sewer is an active sewer; should the contractor use bypass pumping to maintain

continuous flow of the sewer system, there will be no extra payment for such pumping. All construction of City utilities shall follow the Standard Detail Drawings of the City of Joplin.

Any item of work, specified or implied, which does not appear as a specific pay item in the proposal, but is essential to the proper completion of the project, shall be considered incidental to the construction and shall be included in the cost of other items.

Upon completion of the sewers, acceptance tests will be conducted by the Contractor in the presence of the City Inspector to determine their acceptability. The Contractor shall furnish at no additional expense the necessary materials and labor to perform all tests. All defects in the sewer and water lines shall be repaired to the satisfaction of the City Inspector.

2.0 Prior to beginning work, the contractor shall request locates from Missouri One Call

E. AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE AND FINAL ACCEPTANCE OF CONSTRUCTED FACILITIES JSP-10-01A

1.0 Description. The contractor shall comply with all laws pertaining to the Americans with Disabilities Act (ADA) during construction of pedestrian facilities on public rights of way for this project. An ADA Checklist is provided herein to be utilized by the contractor for verifying compliance with the ADA law. The contractor is expected to familiarize himself with the plans involving pedestrian facilities and the ADA Post Construction Checklist prior to performing the work.

2.0 ADA Checklist. The contractor can locate the ADA Checklist form on the Missouri Department of Transportation website:

http://www.modot.mo.gov/business/contractor_resources/forms.htm

2.1 The ADA Checklist is intended to be a helpful tool for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

2.2 It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with the requirements of ADA and the ADA Checklist or have documented reasons for the non-complaint items to remain.

3.0 Coordination of Construction.

3.1 Prior to construction and/or closure on an existing pedestrian path of travel, the contractor shall submit a schedule of work to be constructed, which includes location of work performed, the duration of time the contractor expects to impact the facility and an accessible signed pedestrian detour complaint with MUTCD Section 6D that will be used during each stage of construction. This plan shall be submitted to the engineer for review and approval at or prior to the pre-construction conference. Accessible signed detours shall be in place prior to any work being performed that has the effect of closing an existing pedestrian travel way.

3.2 When consultant survey is included in the contract, the contractor shall use their survey crews to verify that the intended design can be constructed to the full requirements as established in the 2010 ADA Standards. When 2010 ADA Standards do not give sufficient information to construct the contract work, the contractor shall refer to the PROWAG.

3.3 When consultant survey is not included in the contract, the contractor shall coordinate with the engineer, prior to construction, to determine if additional survey will be required to confirm the designs constructability.

4.0 Final Acceptance of Work. The contractor shall provide the completed ADA Checklist to the engineer at the semi-final inspection. ADA improvements require final inspection and compliance with the ADA requirements and the ADA Checklist. Each item listed in the checklist must receive either a “YES” or an “N/A” score. Any item receiving a “NO” will be deemed non-compliant and shall be corrected at the contractor’s expense unless deemed otherwise by the engineer. Documentation must be provided about the location of any non-complaint items that are allowed to remain at the end of the construction project. Specific details of the non-complaint items, the ADA requirement that the work was not able to comply with, and the specific reasons that justify the exception are to be included with the completed ADA Checklist provided to the engineer.

4.1 Slope and grade measurements shall be made using a properly calibrated, 2 foot long, electronic digital level approved by the engineer.

5.0 Basis of Payment. The contractor will receive full pay of the contract unit cost for all sidewalk, ramp, curb ramp, median, island, approach work, cross walk striping, APS buttons, pedestrian heads, detectible warning systems and temporary traffic control measures that are completed during the current estimate period as approved by the engineer. Based upon completion of the ADA Checklist, the contractor shall complete any necessary adjustments to items deemed non-compliant as directed by the engineer.

5.1 No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract documents.

F. LIQUIDATED DAMAGES SPECIFIED JSP-93-28

1.0 Description. If the 20th Street Grade Separation over the Kansas City Southern Railroad is not complete and open to traffic within 550 calendar days of the notice to proceed date, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in

various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$2,825.00 per day for each full calendar day that the 20th Street Grade Separation over the Kansas City Southern Railroad is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.1 The said liquidated damages specified will be assessed regardless if whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

G. GUIDELINES FOR OBTAINING ENVIRONMENTAL CLEARANCE

PROCEDURES FOR ENVIRONMENTAL CLEARANCE OF BORROW SITES AND OTHER DISTURBED AREAS OUTSIDE RIGHT OF WAY

SUCH AS:
HAUL ROADS
BURN PITS
STAGING AREAS
SPOIL SITES

The City of Joplin is responsible for ensuring that all necessary clearances for disturbed areas such as those mentioned above are obtained prior to using these areas for projects. Contractors are encouraged to consider using material from previously disturbed locations (substantial disturbance) or disturbed areas that have been cleared previously, precluding the need to address most, if not all, of the issues described below. The contractor should include the federal project number on all correspondence. The primary environmental concerns related to obtaining clearance of disturbed areas such as borrow sites are described next.

Once the contractor has obtained all required documentation, it should be provided to the City of Joplin and the MoDOT district contact.

The Endangered Species Act

The U.S. Fish and Wildlife Service (FWS) administers the Federal Endangered Species Act, which protects rare species and their habitats. Violations of this act can result in extensive project delays and severe fines. To determine whether an activity will impact any rare species or their habitats, contact the Missouri Department of Conservation's (MDC's) Policy and Coordination Section and request a query of the MDC Heritage Database. A description of the activity and a good quality map illustrating the location of the proposed site must accompany all queries. Allow at least three weeks for a response to all requests.

Missouri Department of Conservation
Policy and Coordination Section
P.O. Box 180
Jefferson City MO 65102-0180

Telephone (573) 751-4115 or FAX (573) 751-4495

If there are no known records of rare species or sensitive habitats at the proposed site, and it is unlikely that any will be impacted by the activity, the MoDOT district contact will give the contractor clearance to proceed. However, if rare species are known or likely to occur at the site or known critical habitat exists, further coordination with MDC and the FWS will be necessary. Written clearance from the U.S. Fish and Wildlife Service may be required before the project can proceed.

U.S. Fish and Wildlife Service
Columbia Field Office
101 Park DeVillie Dr.
Columbia MO 65203-0057
Telephone (573) 234-2131 or FAX (573) 234-2182

Floodplain/Regulatory Floodway

Executive Order 11988, Floodplain Management, and subsequent federal floodplain management guidelines mandate an evaluation of floodplain impacts. The Federal Emergency Management Agency (FEMA) and Federal Highway Administration (FHWA) guidelines 23 CFR 650 have identified the base (1%) flood as the flood having a one percent probability of being equaled or exceeded in any given year. The base floodplain is the area of one percent flood hazard within a county or community. The regulatory floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the one percent flood discharge can be conveyed without increasing the base flood elevation more than a specified amount. FEMA has mandated that projects can cause no rise in the regulatory floodway, and a one-foot cumulative rise for all projects in the base (1%) floodplain.

When available, flood hazard boundary maps (National Flood Insurance Program) and flood insurance studies for the project area are used to determine the limits of the base (1%) floodplain and the extent of encroachment. Questions concerning the need for a floodplain development permit or whether, for projects proposed within regulatory floodways, a “no-rise” certificate must be obtained before a Floodplain Development Permit can be issued should be addressed to the local floodplain administrator. Use the menu or map feature under Local Floodplain Administrator on the State Emergency Management Agency website at <http://www.sema.dps.mo.gov/programs/floodplain/> to find contact information for your local floodplain administrator.

For projects that involve the state of Missouri, the State Emergency Management Agency (SEMA) issues floodplain development permits. In the case of projects proposed within regulatory floodways, a "no-rise" certificate, if applicable, should be obtained prior to issuance of a permit. Questions regarding floodplain and regulatory floodway for these projects should be addressed to:

SEMA
P.O. Box 116
Jefferson City MO 65102
Telephone (573) 526-9141

Documentation of consultation with the local floodplain administrator or SEMA regarding the presence of base (1%) floodplain/regulatory floodway should be included in the final collection of information to be submitted to the MoDOT district contact.

Federal Emergency Management Agency (FEMA) Buyout Lands

The Flood Disaster Protection Act of 1973, as amended by the Disaster Relief and Emergency Assistance Act of 1988 (The Stafford Act), identified the use of disaster relief funds under Section 404 for the Hazard Mitigation Grand Program (HMGP), including the acquisition and relocation of flood-damaged property. The Volkmer Bill further expanded the use of HMGP funds to “buy out” flood damaged property that was affected by the Great Flood of 1993.

There are numerous restrictions on these FEMA buyout properties. No structures or improvements may be erected on these properties unless they are open on all sides. The site shall be used only for open space purposes, and shall stay in public ownership. These conditions and restrictions (among others), along with the right to enforce same, are deemed to be covenants running with the land in perpetuity and are binding on subsequent successors, grantees, or assigns. Any decision involving these properties should take into consideration that 2–3 years is needed to obtain an exemption from FEMA to use these parcels. This exemption would likely be a permanent easement rather than a transfer of property. If any proposed site is located on a FEMA buyout property, an alternative site should be chosen.

Farmland Protection

The Farmland Protection Policy Act (FPPA) seeks to minimize federal programs' contributions to the unnecessary and irreversible conversion of farmland caused by nonagricultural uses. FPPA compliance can be achieved through coordination with United States Department of Agriculture's (USDA's) Natural Resources Conservation Service (NRCS) and completion of Form AD-1006 Farmland Conversion Impact Rating <EPG 127.11 Form AD-1006>. Form AD-1006 can also be obtained by calling the NRCS State office in Columbia at (573) 876-9411. An aerial map of the site or sites will be needed, with the area to be disturbed identified on the map. This aerial map can be obtained from the local NRCS office. In some areas of the state, this office may be located in an adjoining county.

The contractor will need to complete Parts I and III on the Form AD-1006. The form should then be sent to the NRCS State Office for completion of Parts II, IV and V. The address for the NRCS State Office is:

Natural Resource Conservation Service
State Soil Scientist
601 Business Loop 70 West
Parkade Center, Suite 250
Columbia, MO 65203-2546
Telephone (573) 876-0907

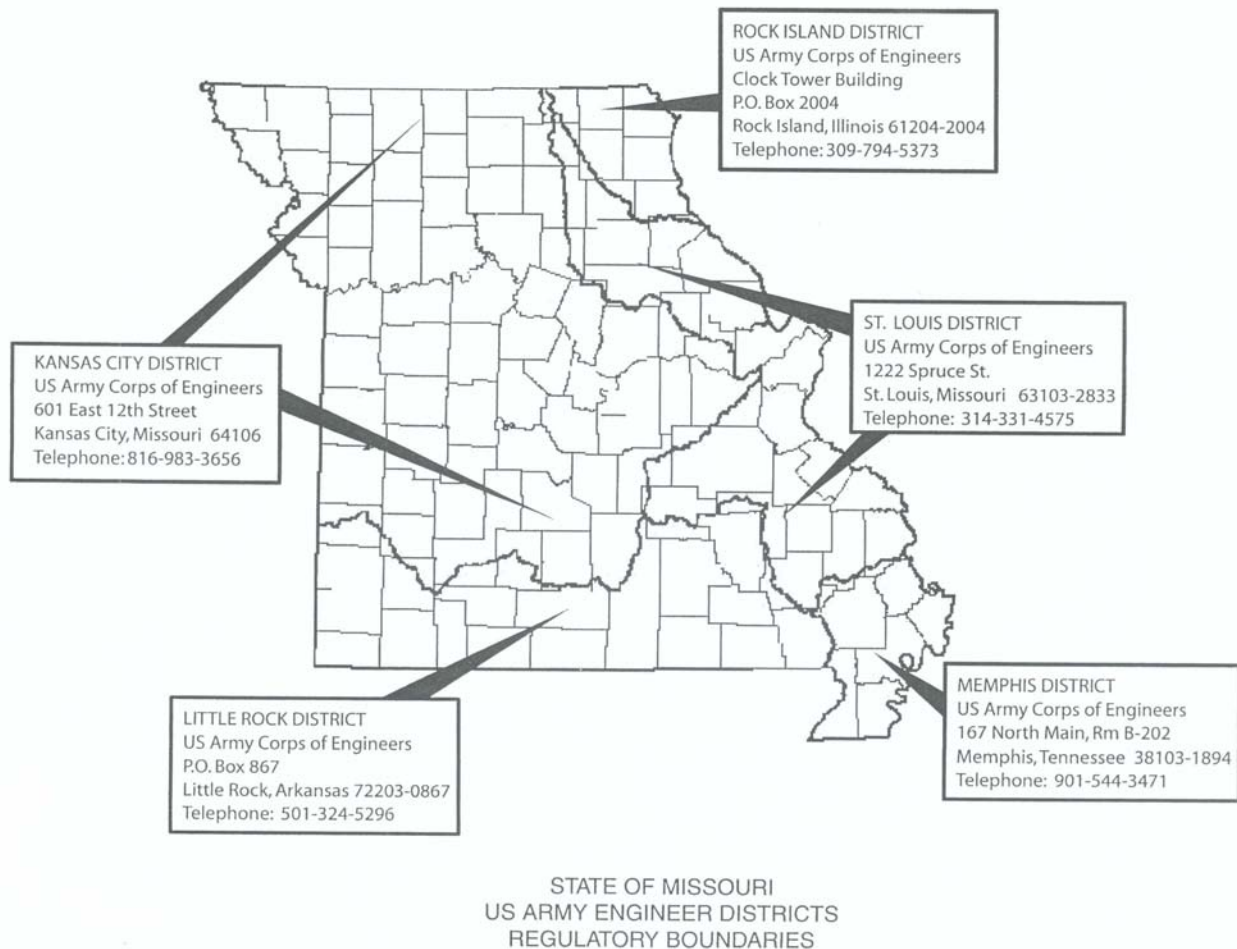
After the NRCS office returns the form, the contractor fills out Parts VI and VII and provides a copy of the completed form to the MoDOT district contact for documentation of compliance with the Farmland Protection Policy Act.

Wetlands

Federal executive order has decreed a national policy of "no net loss of wetlands." Under this policy, impacts to wetlands must be avoided if at all practical. Where wetlands are impacted, these impacts must be mitigated by construction or enhancement of a like quantity **and** quality of new wetlands. For these reasons, avoiding impacts to wetlands is a primary goal.

To determine whether wetlands occur on a site, contact the NRCS. The NRCS has identified and mapped wetlands as a requirement under the Food Security Act. These maps are available from county NRCS offices, usually located in the county seat. If wetlands are identified on Food Security Act wetland maps, a site visit may be needed to confirm the location of wetlands. If there are no wetland impacts, no other action need be taken.

If there are any questions about the extent of wetlands in the event that wetlands cannot be avoided, contact the U.S. Army Corps of Engineers (COE). If wetlands cannot be avoided, the appropriate COE district would process a COE Section 404 permit. There are five COE districts in Missouri. The locations, addresses, and phone numbers of their offices are on the map on next page.



Water Quality/Land Disturbance

If the City of Joplin does not have a valid general National Pollutant Discharge Elimination System (NPDES) permit for storm water runoff and the site to be disturbed is 1 acre or more in size, a specific NPDES permit from DNR is required. If the site to be disturbed is entirely within MoDOT right of way, the City of Joplin may use MoDOT’s general permit for land disturbance but must follow all conditions in the permit and stormwater pollution prevention plan. A pollution prevention plan may be required with the NPDES application. Permits may be obtained from the Department of Natural Resources at (573) 751-1300. These permits are necessary even if the runoff is directed into a basin.

Hazardous Waste Sites

More than likely, areas to be disturbed will be located in rural areas that have been used for agriculture or similar purposes. Hazardous wastes are most typically associated with commercial or previously industrial properties.

If the proposed area is basically farmland or pasture and has not been used for any commercial activity or dumping, hazardous wastes are unlikely. The contractor should simply document the existing and historic land use of the parcel and tell how this assessment was obtained.

In nonrural, suburban or commercial areas a nonintrusive investigation may be used to "diagnose" the environmental conditions of a selected site. The following is a non-inclusive list of suggested items for a cursory nonintrusive investigation.

Examine any noticeable contamination in the form of surface staining, oil sheen, odors, stressed vegetation, spills, leaks, illegal dumping, etc.

Conduct interviews of local citizens and current owners to identify past land use practices and hazardous waste management practices.

Consult with local and state [Missouri Department of Natural Resources, Hazardous Waste Program, (573) 751-3176] environmental regulatory agencies to identify whether any past problems (complaints, citations, etc.) have occurred at the site, any permits/licenses have been filed for the site, or enforcement actions have occurred.

If the above analyses produce negative results, the contractor should provide documentation to the MoDOT district contact regarding who was contacted and the results of the contact. However, if potential problems are identified through the search for information described above, it would be wise to locate another site.

The potential to encounter wastes from sites that are unknown should always be a consideration. Any unknown sites that are found must be handled in accordance with federal and state laws and regulations.

Historic Preservation

All jobs requiring environmental clearance for historic preservation (archaeological sites and structures) must be reviewed and approved by the State Historic Preservation office (SHPO), Department of Natural Resources. To initiate SHPO's review and clearance of a proposed site for cultural resources, a Section 106 Project Information Form.

<http://www.dnr.mo.gov/shpo/sectionrev.htm>

must be completed and submitted to SHPO along with a copy of a United States Geological Survey (USGS) topographic map indicating the location of the project. In addition, photographs of **any** structures that will be impacted must be provided. The Section 106 Project Information Form also can be requested from the SHPO at:

Missouri Department of Natural Resources
State Historic Preservation Office
Attn: Section 106 Review

P.O. Box 176
Jefferson City, MO, 65102-0176
Telephone (573) 751-7858

Based on the information supplied, SHPO may clear the project at that time or request that the contractor acquire the services of an archaeological consultant to conduct a historic preservation survey of the proposed area. A list of currently acceptable and available archaeological consultants who can complete a survey if required can be accessed at the SHPO's website at <http://www.dnr.mo.gov/shpo/profqualifications.htm>. Any questions can be directed to MoDOT's Historic Preservation Section at (573) 751-0473.

Public Land

If borrow sites are proposed on any publicly owned land, contact MoDOT's Environmental Section at (573) 526-6678 before proceeding. Section 4(f) of the Department of Transportation (DOT) Act of 1966 (now codified as 49 U.S.C. 303 and 23 U.S.C. 138) protects certain public lands. Section 4(f) requires that all U.S. DOT-funded transportation projects must avoid impacts to public parkland and wildlife refuges (and cultural resources deemed eligible for the National Register of Historic Places), unless it is successfully demonstrated that no feasible and prudent alternative exists that avoid "use" or impacts to the park or refuge. It is strongly recommended that public lands not be considered as potential borrow sites.

H. POSSESSION OF RIGHT OF WAY

1.0 The contractor's attention is directed toward the following parcels which could be subject to delayed possession, See table below:

1.1 The contractor shall not enter or proceed with physical construction across said Parcels until authorization is granted by the engineer. The contractor will take no action that will result in unnecessary inconvenience, disproportionate injury or any other action coercive in nature to the business or operations thereon. Possession of parcels are listed below. This possession date is estimated and is not warranted, and a later possession date is equally possible.

City of Joplin			
Status - Possession of Right-of-Way			
20th Street Grade Separation; TDG-3200 (718) Project 4			
Parcel #	Owner/Address	Acquisition Status	Anticipated Acquisition Date
104	Richard J. Reed & Debora J. Reed	Pending	November 8, 2013
105	Rosalie M. Burt & Charles F. Burt Trustee	Pending	November 8, 2013
106	Charles Burt, Inc.	Pending	November 8, 2013
107	Peace Lutheran Church	Acquired	
108	M&B Annex, LLC	Pending	November 8, 2013
109	Candace Ellet	Acquired	
110	Schroeder Investment, LLC	Acquired	
111	Randal A. Kraft & Shelly A. Kraft	Pending	November 8, 2013
113A	Charles Allyn Burt & Pennie Sue Burt	Acquired	
113B	Charles Allyn Burt & Pennie Sue Burt	Acquired	
114	Dillon Real Estate Co.	Pending	November 8, 2013
115	Bernie J. Collins	Acquired	
116	Rebecca Schepper & Fredrick D. Schepper	Acquired	
117	Ronald E. Copeland & Edna P. Copeland	Acquired	
118	David A. Dowell & Janet L. Dowell	Acquired	
121	Hampshire Terrace II, Limited Partnership	Acquired	
124	KCS Rail Road	Pending	November 8, 2013
125	Harmony Heights Baptist Church	Acquired	
126	Melvin Formby	Pending	November 8, 2013
127	David Dowell & Janet L. Dowell	Acquired	

1.2 The contractor is required to plan its order of work, manpower and equipment loading, and bid, taking into consideration all effects of the possible delayed possession of the parcel. Any effects, impacts, cumulative impacts or consequences of delay in possession of the parcel shall be noncompensable. This shall include any claim for extra work, as well as delay effects on work not delayed, suspension or acceleration of the work, differing site condition, interference or otherwise .

1.3 The contractor and the Commission understand and agree that by executing this contract, the contractor releases the Commission from any possible liability under this contract or for a possible breach of this contract for failing to make the job site available until the possession of the parcel is authorized by the engineer, and for all direct and indirect, incidental, or consequential damages or losses the contractor may suffer from this delay in making the job site available or issuing a timely authorization. The contractor further waives any right the contractor may have by contract, at law or in equity to challenge the validity or enforceability of the contract, in return for the award of this TDG-3200(718) Project 4 contract to the contractor at its stated contract prices as bid for the required work. It is provided, however, as contractors SOLE REMEDY for any delay in possession of the above parcel that the completion date of this contract may be extended, day for day, for each day that delayed possession actually interferes with the major items of work as determined by the engineer.

I. KANSAS CITY SOUTHERN RAILWAY COMPANY REQUIREMENTS

To report an emergency on The Kansas City Southern Railway Company right-of-way call: (800) 892-6295.

This project is located on the KCS Heavener Subdivision, MP 155.97, designated as DOT # 330 057L.

1.0 Authority of Railroad Engineer and State Engineer.

1.1 The authorized representative of The Kansas City Southern Railway Company, herein called "Railroad Engineer", shall have final authority in all matters affecting the safety of employees of The Kansas City Southern Railway Company, herein called "Railroad", and the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks. The Railroad designates the following individual as the Railroad Engineer for this project. Except as otherwise provided in this document, herein called "Railroad Requirements", the City of Joplin's Contractor, herein called "Contractor", shall address all notices to the Railroad concerning this project to the following person:

Mr. John Jacobsen
Senior Vice President and Chief Engineer
The Kansas City Southern Railway
427 West 12th Street
Kansas City, MO 64105
c/o Mr. Srikanth Honnur, P.E.
Office: (816) 983-1138; Fax: (816) 983-1186
E-mail:SHonnur@KCSouthern.com

1.2 The authorized representative, herein called "Engineer", of the City of Joplin, herein called "City", shall have authority over all other matters as prescribed herein and in the project plans and specifications.

1.3 The Railroad's right of way (hereinafter, "Railroad ROW") is located within this project, which requires the Contractor to perform work on Railroad ROW. Therefore, the Contractor shall coordinate its work activities with the activities of the Railroad as required in this document.

1.4 Indemnification of Railroad by Contractor.

1.5 The term Contractor as used herein includes any and all subcontractors. The Contractor agrees to defend, indemnify and hold harmless Railroad, its directors, officers, employees, agents, successors and assigns from and against any injury or death of persons whomsoever or from any loss or damage to the Railroad's property, right of way, tracks and other facilities, herein called "Railroad's property," and from the Railroad's liability or loss incurred for damage to any other property in Railroad's care, custody or control in or upon Railroad's property, caused by acts or omissions of the Contractor in performing work on this project, whether on, over, under or in the vicinity of the Railroad's property.

1.6 In the event the Contractor shall fail to restore the Railroad's property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's property is called to the Contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the Contractor. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's property.

2.0 Construction Requirements.

2.1 Prior to entering the Railroad's ROW, outside the City's easements or other property rights, the Contractor shall obtain a Right of Entry Permit from the Railroad by paying any and all fees by contacting:

Sylvia Schmidt
Jones Lang Lasalle
3017 Lou Menk Drive, Suite 100
Fort Worth, TX 76131
Ph: 817-230-2688
Email: Sylvia.Schmidt@am.jll.com

2.2 The Contractor's work on the Railroad's ROW shall be performed in accordance with these Railroad Requirements. The Contractor shall supply adequate equipment, labor and materials to perform the proposed work at the job site. The Contractor shall take special precaution and care to prevent any debris or material from falling on the Railroad's right of way. The safe operation of the Railroad shall take precedence over all work and nothing shall be done by the Contractor that will endanger the Railroad's operations. The Contractor shall protect the Railroad property from any damage resulting from the Contractor's acts or omissions during the highway project.

3.0 Contractor Plans and Procedures. Before performing any excavation, demolition, blasting, lifting of structural members or construction of falsework on or over Railroad's ROW or adjacent to the Railroad's ROW that may interfere with the safe operation of the trains, the Contractor shall submit its excavation, shoring, demolition, blasting, lifting of structural members and falsework plans and relevant procedures to the Engineer for review, and to the Railroad Engineer for review and approval. These plans and procedures shall be signed and sealed by a Professional engineer licensed in the State of Missouri. However, such approval shall not relieve the Contractor from any liability relating to this project. During the course of the project, the Contractor shall submit any proposed changes to the approved plans or procedures to the Engineer for review and to the Railroad Engineer for review and approval. Any clearing and grubbing to increase the sight distance for a safer construction operation, or erection of temporary structures within the Railroad property shall not be done prior to the approval of the Railroad. The Railroad Engineer shall make a decision within 30 days. Should the Railroad Engineer deny the plans and requires a resubmittal, the Railroad Engineer shall provide approval or denial and requirement for resubmittal within 30 days after receipt of the revised plans.

3.1 The Contractor shall be required to take special precautions and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA and Section IV,

Design and Construction of Shoring Adjacent to and on Railroad Right-Of-Way contained within the “KCS Guidelines for the Design and Construction of Railroad Overpasses and Underpasses”.

3.2 The Contractor shall abide by the following minimum temporary clearances during the course of construction:

(a) 14 feet horizontal from centerline of track

(b) 22 feet vertical above top of rail.

3.3 The Contractor shall comply with the Railroad's rules and regulations concerning protection of persons and property and the Contractor shall consult with the Railroad Engineer concerning the Railroad's rules and regulations. Any questions arising about coordination of work between the Contractor and the Railroad Engineer or between the Contractor and others shall be taken up with the Engineer and the Contractor, Railroad Engineer and Engineer shall agree upon a method of coordination before commencing the work.

3.4 Prior to commencing any work upon, over or under the Railroad's ROW, the Contractor shall furnish to the Railroad Engineer evidence that the Contractor's insurance is in compliance with Section 6 of this special provision.

3.5 If the Contractor must cross tracks with cleated or crawler type equipment, the track shall be protected with a temporary surfacing as approved by the Railroad Engineer. Except as authorized by the Railroad, neither the City nor its Contractor(s) or subcontractor(s) will construct a crossing over any track at any location. Where crossings are needed or desired, City's Contractor shall make arrangements with Railroad and obtain a Permit paying any and all fees.

3.6 The Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from Contractor's operations; to promptly repair eroded areas within Railroad's right-of-way and to repair any other damage to the property of the Railroad or its tenants which may result from Contractor's operations. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense. If the Contractor's method of erosion control differs from the approved plans, the Contractor shall submit a proposed method of erosion control and have the method reviewed by the Railroad and Commission prior to beginning any grading work on the Project site. Erosion control methods must comply with all applicable local, state and federal regulations.

3.7 The Contractor shall, reasonably throughout each work day and at the end of each work day when performing work near the Railroad's tracks, inspect the track area and clean up any debris that may have been dropped on or within ten (10) feet of Railroad's tracks. Upon completion of the Project, the Contractor shall return the Railroad ROW and all other Railroad property to a condition equal to or better than existed prior to commencement of the work. Contractor shall remove all waste, excess materials, false work and other temporary structures, and equipment, leaving the location of the work cleaned to the reasonable satisfaction of Railroad. The Contractor shall repair to the reasonable satisfaction of Railroad Engineer, and at the Contractor's sole cost and expense, any and all damages to the Railroad's property caused during construction of the Project.

4.0 Site Inspections By Railroad's Designated Representative.

4.1 In addition to the office review of construction submittals, site inspections may be performed by Railroad's Designated Representative at milestone events during construction, including but not limited to the following:

- (a) Preconstruction meetings.
- (b) Excavations, shoring placement/removal, pile driving, drilling of caissons or drilled shafts adjacent to tracks.
- (c) Reinforcement and concrete placement for near track piers.
- (d) Erection of precast concrete or steel overpass bridge superstructure.
- (e) Reinforcement and concrete placement of overpass bridge decks.
- (f) Completion of the bridge structure.

4.2 The Railroad Designated Representative can either be an employee of the Railroad or a hired outside consultant. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

4.3 In addition to the project schedule required by the City, the Contractor shall provide to the Engineer a detailed construction schedule for its work on Railroad ROW, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed on Railroad ROW. The Contractor shall submit a copy of this detailed construction schedule to Railroad's Designated Representative for review prior to the start of the work. This schedule shall also include the anticipated dates when the milestone events listed in subsection 4.1 will occur. The Contractor shall update the schedule for these milestone events as necessary, but at least monthly, and shall provide a copy of all updates to the Railroad so that site visits may be scheduled. The City shall reimburse the Railroad all costs associated with Site Inspection work by the Railroad.

5.0 Safety and Railroad Flagging.

5.1 The safe operation of the Railroad shall take precedence over City's work on, under and above the Railroad ROW. Contractor shall not, without Railroad's prior consent, come within 25 feet of Railroad's tracks. All work of the Contractor to be performed on, above, below or adjacent to the Railroad ROW shall be coordinated with Railroad so as to avoid, to the greatest extent possible, interference with railroad operations and to assure, at a minimum, sufficient advance notice to Railroad to ensure operational safety. Contractor shall be solely responsible with complying with any applicable laws, rules and regulations, including but not limited to OSHA regulations governing multi-employer work sites.

5.2 While on the Railroad's ROW, Contractor shall comply with Railroad's rules and regulations concerning protection of persons and property. Railroad shall make its applicable rules available to the Contractor for review and copying.

5.3 Except as authorized by Railroad the Contractor shall not work within the “Minimum Clearance Zone” of any track. The “Minimum Clearance Zone” is defined as an area measured 25 feet, horizontally, on either side of the centerline of track with unlimited vertical distance within the horizontal limits. Additionally, Contractor will locate all equipment, devices, and materials at a sufficient distance from any track to ensure that no apparatus or part of any equipment, device, or material, such as the boom of a crane or a dragline, could under any circumstances encroach on the “Minimum Clearance Zone” of any track. A railroad flagger will also be required when any equipment or its attachment or booms, even though stationed outside the above-mentioned 25 feet of the nearest rail but within the railroad ROW, has a potential to come within the 25 feet of the nearest rail.

5.4 Flagging services provided by a Railroad-qualified flagging contractor will be required whenever agents, employees or equipment of the Contractor or any of its contractors or subcontractors on this Project shall be within twenty-five feet (25’) of the nearest rail, unless specifically waived in writing by the Railroad.

5.5 Contractor shall notify the Railroad concerning any flagging services that will be required during the course of the Project, but the Contractor shall make all arrangements for flagging protection directly with a Railroad-qualified flagging contractor. Railroad’s designation of a flagging contractor as a “Railroad-qualified” flagging contractor shall be construed solely as Railroad’s willingness to allow that flagging contractor to provide flagging services on Railroad’s property without further proof of qualification, and shall not be construed as an endorsement or other verification of the abilities or qualifications of that flagging contractor. Under these Railroad Requirements, all flagging contractors utilized on the Project shall be treated solely as independent contractors of the Contractor for all purposes under these Railroad Requirements.

5.6 The Contractor shall contract directly with any of the Railroad-qualified flagging contractors and pay them directly. The Contractor shall provide at least one month’s notice prior to the first use of flaggers. Current Railroad-qualified flagging contractors are:

<p>Railroad Protective Services 2001 Ryan Road Saint Augustine, FL 32092 Patsy Crisafi 904-273-8121 (Office) 904-813-9905 (Cell) pjcrisafi@aol.com</p>	<p>Rail Pros, Inc. 25 Mauchly Drive, Suite 329 Irvine, CA 92618 Donna Beasley 318-938-2815, Ext. 3 (Office) 714-900-9270 (Cell) 866-762-7619 (Fax) Donna.Beasley@railpros.com</p>
<p>Alternate Contact David Schaffer 904-588-3433 drsshaffer@aol.com</p>	<p>General e-mail flagging@railpros.com</p> <p>Alternate Contact Johnny Johnson 949-278-8637 (Cell) johnny.johnson@railpros.com</p>

5.7 Contractor may also obtain a list of Railroad-qualified flagging contractors together with their address and telephone numbers for flagging purposes at the proposed site by written request, sent at least 30 (thirty) days in advance, by U.S. mail or by e-mail addressed to:

Sri Honnur, P. E.
Engineering Department
Post Office Box 219335
Kansas City, MO 64121-9335
SHonnur@KCSouthern.com

5.8 Contractor shall clear the tracks when directed to do so by the flagger. The presence of the flagger will not relieve Contractor of its duty to keep all of its agents, employees and contractors clear of the tracks when trains are in dangerous proximity to the area where construction is occurring.

5.9 All Contractor employees and supervisors who will routinely perform work within the Railroad ROW, except any personnel employed or assigned by a Railroad-qualified flagging contractor, shall be trained with reference to the Railroad's On Track Safety Rules. Contractor shall provide the accommodations for this classroom training at its own expense, and shall pay any and all applicable fees for this training by a Railroad certified training consultant. The approximate fee for this training is currently \$2,200 for training up to 30 individuals, including travel cost of the instructor. The consultant can be contacted at:

TrackSense Inc.
308 Durst Dr. Warren, OH 44483
Phone: (330) 847-8661; Cell: (330) 219-4721;
Attention: Larry Slater
Email: lslater@neo.rr.com

5.10 All employees of the contractor that will be performing work within Railroad ROW, except the Contractor's employees trained in accordance with subsection 5.9 of these Railroad Requirements and any personnel employed or assigned by a Railroad-qualified flagging contractor, shall complete the safety orientation training available on the internet at www.contractororientation.com. The approximate cost of this safety orientation available through the internet is currently \$11 per person, subject to periodic increase.

5.11 All railroad tracks within and adjacent to the Project site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on the tracks. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with railroad operations. Any and all costs associated with delays caused to the train traffic by the Contractor shall be reimbursed by the Contractor. The City or the Contractor may audit these costs.

5.12 The Contractor shall notify Railroad of the completion of work on Railroad ROW within 30 days after the completion of work on Railroad ROW. Railroad shall inspect Railroad's property within 30 days after the Contractor has given this notice, to verify the Contractor's compliance with

these Railroad Requirements. Railroad shall notify the Engineer of any outstanding issues to be addressed on Railroad ROW. Engineer will notify the Contractor of work to be completed.

6.0 Insurance Requirements. The amount of work to be performed upon, over or under Railroad's right of way is estimated to be ___ percent of the Contractor's total bid for the project. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the contractor shall be required to carry insurance of the following kinds:

(a) Commercial General Liability Insurance, including contractual liability and products completed/operations, against claims arising out of bodily injury, illness and death and from damage to or destruction of property of others, including loss of use thereof, with minimum limits for bodily injury and property damage of \$5,000,000 for each occurrence, with an aggregate of \$10,000,000.

1. The definition of "insured contract" shall be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.
2. No other endorsement limiting the coverage required by paragraph (a) of section 6.0 of these Railroad Requirements shall be included on the policy with regard to the work being performed under the contract between the contractor and the City.

(b) Business Automobile Policy Insurance, including owned, non-owned, and hired vehicles with minimum limits for bodily injury and property damage of \$1,000,000 per occurrence, on all vehicles used on Railroad's property during the term of the contract between the contractor and the City.

(c) Worker's Compensation Insurance or coverage as required under the Worker's Compensation Act of the State of Missouri. The policy shall include occupational disease to required statutory limits, employer's liability of \$1,000,000 to include FELA, if appropriate, and an "all states" endorsement.

(d) A Railroad Protective Liability policy issued in the name of the Railroad with limits of \$5,000,000 for bodily injury and property damage per occurrence, with an aggregate of \$10,000,000. The policy shall remain in force during the construction phase of the project and shall be provided prior to start of work. The following provisions apply to the endorsements to this policy:

1. The policy shall be endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93).
2. The policy shall be endorsed to include the Limited Seepage and Pollution Endorsement.
3. The policy shall be endorsed to remove any exclusion for punitive damages.
4. The policy shall be endorsed to include Evacuation Expense Coverage Endorsement.

5. No other endorsements restricting coverage shall be added to the policy, except as authorized by paragraph 6.1.2 of these Railroad Requirements.

6. The Contractor shall provide the original policy to the Railroad before performing any work or services under the contract between the Contractor and the City.

6.1 Evidence of Insurance. The Declarations shall include the description of operations matching the project description in the Contractor's contract with the City, and shall include the appropriate City project and contract identification numbers. The job number and project location shall appear on the Declarations and shall include the city, state and appropriate highway designation as follows:

15th Street
City of Joplin, Jasper County, MO
Job No. TDG-3200(718)
KCS Heavener Sub MP 155.97 Crossing DOT 330057L

6.1.1 The name and address of the Contractor shall appear on the Declarations. The name and address of the City shall be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party".

6.1.2 Other endorsements/forms that will be accepted are:

- (a) Broad Form Nuclear Exclusion – Form IL 00 21.
- (b) 30-day Advance Notice of Non-renewal or cancellation.
- (c) Required State Cancellation Endorsement.
- (d) Quick Reference or Index Form CL/IL 240.

6.1.3 Endorsements/forms that will NOT be acceptable are:

- (a) Any Pollution Exclusion Endorsement except CG 28 31.
- (b) Any Punitive or Exemplary Damages Exclusion.
- (c) Known injury or Damage Exclusion form CG 00 59.
- (d) Any Common Policy Conditions form.
- (e) Any other endorsement/form not specifically authorized in this special provision.

6.1.4 If any part of the work is sublet, similar insurance and evidence thereof as specified above, shall be provided by or on behalf of the subcontractor to cover the subcontractor's operations on the Railroad ROW, including such operations by any Railroad-qualified flagging contractor.

6.1.5 Prior to entry on the Railroad's right of way, the Contractor shall submit the original Railroad Protective Liability Insurance Policy to the City and to the Railroad at the addresses below, for

review by the City and approval by the Railroad. In addition, the Contractor shall submit certificates of insurance evidencing the Contractor's and any subcontractor's Commercial General Liability Insurance to the Railroad and the City at the addresses below, for review by the City and approval by the Railroad. The certificates of insurance shall state that the insurance coverage shall not be suspended, voided, canceled or reduced in coverage or limits without 30 days advance written notice to the Railroad and the City. No work shall be permitted on the Railroad's right-of-way until the Railroad has reviewed and approved the evidence of insurance required herein.

Railroad
Srikanth Honnur, P. E.
Director, Track & Bridge Construction
The Kansas City Southern Railway Co.
P.O. Box 219335
Kansas City, MO 64121-9335

City
Mr. Jack Schaller
Assistant Director of Public Works
City of Joplin 602 S Main
Joplin, MO 64801

7.0 Failure to Comply. If the Contractor violates or fails to comply with any of these Railroad Requirements, then the provisions in paragraphs (a) and (b) of this section shall apply, and shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

(a) The Railroad Engineer may require that the Contractor shall vacate the Railroad's property.

(b) The Engineer may withhold all monies due to the Contractor until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

8.0 Payment for Cost of Compliance. No separate payment will be made for any extra cost incurred by the Contractor on account of compliance with these Railroad Requirements. The Contractor shall include all such costs in its contract unit price for other items included in its contract with the City.

J. ACCEPTANCE OF STRUCTURAL STEEL

The following procedures have been established for the acceptance of structural steel. Shop drawings shall be submitted for review and approval to the engineer of record for the City of Joplin. The approval is expected to cover only the general design features, and in no case shall this approval be considered to cover errors or omissions in the shop drawings. It is recommended that the contract documents contain provisions that the contractor shall utilize a fabricator that meets the appropriate American Institute of Steel Construction (AISC) certification provisions as outlined in Sec 1080.3.1.6 of the current version of the *MoDOT Standard Specifications for Highway Construction*. Additional information regarding the AISC certification program can be found on their website, www.AISC.org.

All welding operations, including material and personnel, shall meet the American Welding Society (AWS) specifications. Primary welds shall meet the provisions of Sec 1080.3.3.5.2 of the current version of the *MoDOT Standard Specifications for Highway Construction*. The City of Joplin or their engineer of record has the option of inspecting the steel units during fabrication or requiring the

fabricator to furnish a certification of contract compliance and substantiating test reports. In addition, the reports shown below shall be required.

- Certified mill test reports, including results of chemical and physical tests on all structural steel as furnished.
- Non-destructive testing reports.
- Verification of the girder camber, sweep, and other blocking data.
- Verification of coating operations.

The City of Joplin or their engineer of record shall verify and document that the dimensions of the structural steel units were checked at the jobsite and found to be in compliance with the shop drawings.

K. CRUSHED STONE BASE

1.0 Description. This work shall consist of furnishing and construction of a base for asphaltic concrete pavement, portland cement concrete pavement, shoulders, and other purpose when shown in the contract plans. or as directed by the engineer. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 1400 and the Standard Drawings, unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Material. All materials shall be in accordance with Division 1400 in the latest edition of the City of Joplin Standard Specifications

3.0 Construction Requirements. All construction requirements shall be in accordance with Division 1400 in the latest edition of the City of Joplin Standard Specifications

4.0 Method of Measurement. Crushed stone base shall be measured to the nearest square yard.

5.0 Basis of Payment. Accepted construction of a crushed stone base will be paid for at the contract unit price bid for item:

- 304-99.05, Crushed Stone Base (2")
- 304-99.05, Crushed Stone Base (6")
- 304-99.05, Crushed Stone Base (8")
- 304-99.05, Crushed Stone Base (12")

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

L. ASPHALTIC CONCRETE PAVEMENT

1.0 Description. This work shall consist of furnishing and construction of an asphalt concrete base and/or asphalt concrete surface. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 2200 and the Standard Drawings unless otherwise indicated

in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Material. All materials shall be in accordance with Division 2200 in the latest edition of the City of Joplin Standard Specifications

3.0 Construction Requirements. All construction requirements shall be in accordance with Division 2200 in the latest edition of the City of Joplin Standard Specifications

4.0 Method of Measurement. Asphaltic concrete pavement shall be measured to the nearest square yard.

5.0 Basis of Payment. Accepted construction of a asphaltic concrete pavement will be paid for at the contract unit price bid for item:

- 401-99.05, Asphaltic Concrete Base (6")
- 401-99.05, Asphaltic Concrete Base (8")
- 401-99.05, Asphaltic Concrete Surface (2")

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

M. ASPHALT PRIMING AND TACK COAT

1.0 Description. This work shall consist of furnishing and construction of an asphalt material to a prepared pavement, granular base or sub-base. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 2100 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Material. All materials shall be in accordance with Division 2100 in the latest edition of the City of Joplin Standard Specifications

3.0 Construction Requirements. All construction requirements shall be in accordance with Division 2100 in the latest edition of the City of Joplin Standard Specifications

4.0 Method of Measurement. Asphaltic material shall be measured to the nearest gallon.

5.0 Basis of Payment. Accepted construction of a asphaltic material will be paid for at the contract unit price bid for item:

- 407-99, Asphalt Primer
- 407-99, Asphaltic Tack

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

N. CONCRETE PAVEMENT

1.0 Description. This work shall consist of furnishing and construction of a Portland cement concrete pavement, with or without reinforcement as specified. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3100 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Material. All materials shall be in accordance with Division 3100 in the latest edition of the City of Joplin Standard Specifications

3.0 Construction Requirements. All construction requirements shall be in accordance with Division 3100 in the latest edition of the City of Joplin Standard Specifications

4.0 Method of Measurement. Concrete pavement shall be measured to the nearest square yard.

5.0 Basis of Payment. Accepted construction of concrete pavement will be paid for at the contract unit price bid for item:

608-99.01, Concrete Driveway Pavement (8")

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

O. PIPE COLLAR

1.0 Description. This work shall consist of the construction of a Pipe Collar at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4200, the Standard Drawings and the Pipe Collar Detail as shown on the plans. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4200 in the latest edition of the City of Joplin Standard Specifications.

Concrete shall be Class B in accordance with Division 3100 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Pipe Collar shall be measured per each.

4.0 Basis of Payment. Accepted construction of a Pipe Collar will be paid for at the contract unit price bid for item:

604-99, Pipe Collar

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

P. CURB AND GUTTER – STANDARD UPRIGHT (CITY OF JOPLIN)

1.0 Description. This work shall consist of the construction of Standard Upright Curb & Gutter as indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3200 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>.

2.0 Materials. All materials shall be in accordance with Division 3200 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Standard Upright Curb & Gutter shall be measured per linear foot.

4. Basis of Payment. Accepted construction of the Standard Upright Curb & Gutter will be paid for at the contract unit price bid for item:

609-99, Curb and Gutter Standard Upright.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

Q. TYPE S CURB (CITY OF JOPLIN)

1.0 Description. This work shall consist of the construction of Type S Curb as indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3200 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>.

2.0 Materials. All materials shall be in accordance with Division 3200 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Type S Curb shall be measured per linear foot.

4.0 Basis of Payment. Accepted construction of the Type S Curb will be paid for at the contract unit price bid for item:

609-99, Curb Type S.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

R. CONCRETE SIDEWALK

1.0 Description. This work shall consist of the construction of concrete sidewalk on a prepared base as indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3300 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>.

2.0 Materials. All materials shall be in accordance with Division 3300 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The concrete sidewalk shall be measured per square yard.

4.0 Basis of Payment. Accepted construction of concrete sidewalk will be paid for at the contract unit price bid for item:

608-99, Concrete Sidewalk, 4 in.

608-99, Concrete Sidewalk, 9 in.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

S. ADA SIDEWALK RAMP

1.0 Description. This work shall consist of the construction of ADA sidewalk ramps on a prepared base as indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3300, the Standard Drawings and specifications unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>.

2.0 Materials. All concrete materials shall be in accordance with Division 3300 in the latest edition of the City of Joplin Standard Specifications.

Truncated domes shall be in accordance with [Sec 1067](#) of the Missouri Standard Specifications for Highway Construction.

3.0 Method of Measurement. The ADA sidewalk ramps shall be measured per square yard.

No measurement shall be made for truncated domes or integral curb. These items shall be considered subsidiary to the ADA sidewalk ramp.

4.0 Basis of Payment. Accepted construction of the concrete sidewalk will be paid for at the contract unit price bid for item:

608-99, ADA Sidewalk Ramp.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

T. CONCRETE SIDEWALK (REINFORCED)

1.0 Description. This work shall consist of the construction of reinforced concrete sidewalk on a prepared base as indicated on the plans. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 700 unless otherwise indicated in the plans or herein.

2.0 Materials. Material, proportioning, air-entraining, mixing, slump and transporting of concrete shall be in accordance with latest edition of the MoDOT Standard Specifications Section 501. Concrete shall be Class B-1 concrete. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Reinforcing Steel for Concrete Structures	1036
Concrete Curing Material	1055.2
Material for Joints	1057

3.0 Method of Measurement. The reinforced concrete sidewalk shall be measured per square yard. Measurement shall be made from the face of the concrete traffic barrier adjacent to the sidewalk to the back of curb.

5.0 Basis of Payment. Accepted construction of the concrete sidewalk will be paid for at the contract unit price bid for item:

608-99, Concrete Sidewalk (8" Reinforced).

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

U. ROADWAY BARRIER

1.0 Description. This work shall consist of the construction of concrete traffic barrier as indicated on the plans. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 809 unless otherwise indicated in the plans or herein.

2.0 Materials. Material, proportioning, air-entraining, mixing, slump and transporting of concrete shall be in accordance with latest edition of the MoDOT Standard Specifications Section 501.

Concrete shall be Class B-1 concrete. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Reinforcing Steel for Concrete Structures	1036
Concrete Curing Material	1055.2
Material for Joints	1057

3.0 Method of Measurement. The roadway barrier shall be measured per linear foot.

4.0 Basis of Payment. Accepted construction of the concrete traffic barrier will be paid for at the contract unit price bid for item:

617-99, Roadway Barrier.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

V. ACCEPTANCE OF PRECAST CONCRETE MEMBERS AND PANELS.

The following procedures have been established for the acceptance of precast concrete girders, slab panels, MSE wall systems, and other structural members. Shop drawings shall be submitted for review and approval to the engineer of record for the City of Joplin. The approval is expected to cover only the general design features, and in no case shall this approval be considered to cover errors or omissions in the shop drawings. The City of Joplin or their engineer of record has the option of inspecting the precast units during fabrication or requiring the fabricator to furnish a certification of contract compliance and substantiating test reports. In addition, the reports shown below shall be required.

- Certified mill test reports, including results of physical tests on the prestressing strands in reinforcing steel, as required.
- Test reports on concrete cylinder breaks.

The City of Joplin or their engineer of record shall verify and document that the dimensions of the precast units were checked at the jobsite and found to be in compliance with the shop drawings.

W. BRIDGE RAILING

1.0 Description. This item of work consists of furnishing, fabricating and installing the items necessary to complete the barrier mounted pedestrian hand railing as shown on the bridge plans.

2.0 Materials.

2.1 All material for the structural steel tubing shall conform to ASTM A500, Grade B. All material for the structural steel base plates shall conform to ASTM A36.

2.2 All structural steel tubing, base plates and hardware shall be galvanized in accordance with ASTM A 123, ASTM A 153 and [Sec 1081](#).

2.3 Detailed shop drawings of the railing shall be prepared and submitted to the engineer. Shop drawings shall be accordance with [Sec 1080](#). Catalog data may be furnished for components that are standard manufactured items in lieu of detailed drawings, providing governing dimensions are given.

3.0 Construction Requirements. The railing shall be handled and installed in accordance with guidelines and procedures as recommended by the manufacturer and as shown on the plans.

4.0 Method of Measurement. Measurement for railing will be made per linear feet.

5.0 Basis of Payment. Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this work, will be considered completely covered by the contract unit price for “Pedestrian Fence (Structures)”.

X. CONSTRUCTION REQUIREMENTS

1.0 Description. This provision contains general construction requirements for this project.

2.0 Construction Requirements.

2.1 Provisions shall be made to prevent any debris and materials from falling onto the railway. Any debris and materials that falls below the bridge outside the limits mentioned previously and if determined necessary by the engineer, the debris shall be removed as approved by the engineer at the contractor's expense.

2.2 Provisions shall be made to prevent damage to any existing utilities. Any damage sustained to the utilities as a result of the contractor's operations shall be the responsibility of the contractor. All costs of repair and disruption of service shall be as determined by the utility owners and as approved by the engineer.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

Y. FORM LINERS

1.0 Description. This work item shall consist of constructing the form liner aesthetic treatment on cast-in-place concrete, mechanically stabilized earth (MSE) wall systems, and aesthetic concrete elements with architectural details as shown on the plans and described in this special provision.

2.0 Materials.

2.1 Shop Drawings. Contractor shall provide complete shop drawings of all aesthetic treatments.

2.2 Formwork. Formwork for aesthetic treatment of the cast-in-place concrete and architectural elements shall be a type that produces uniform results consistent in both, pattern and depth of relief with the project design aesthetics. The contractor shall be responsible to coordinate the aesthetic treatments of all components to meet the design aesthetic criteria described herein and as shown on plans. No mixing of pattern numbers or manufacturers will be permitted. The form liner pattern shall be one of the patterns listed on the plans or approved equal.

2.3 Form Ties. Wall form ties shall be placed in a uniform pattern. In surface areas receiving the aesthetic treatment form liner, all form ties shall be placed in the simulated stone surface. Form ties shall be fiberglass ties that shall hold the forms in the correct alignment. The color of the ties shall closely match the concrete wall color. Ties shall be ground flush with the surface of concrete prior to pressure washing.

2.4 Form Release Agent. Form release agents shall be the manufacturer's standard non-staining, non-petroleum based and compatible with surface sealer finish coating. Form release agents shall be applied to all surfaces of the form liner at the manufacturer's recommended rate.

2.5 Gaskets. Closed cell compressible neoprene of such thickness as is appropriate to assure leakage prevention shall be used to prevent joint leakage. One face shall be coated with an adhesive tape to assure proper positioning at the time of form closure. The neoprene shall be sufficiently compressible as to assure virtual "zero" separation of the forms as a result of the use of this product.

2.6 Aggregates.

2.6.1 Aggregate Source. The aggregate incorporated into the concrete mix of all aesthetic concrete MSE Wall components shall be from the same source. The aggregate incorporated into the concrete mix of all aesthetic concrete bridge components shall be from the same source as the balance of the bridge concrete work. The purpose for this provision is to ensure uniformity of materials and color once areas are pressure washed and aggregates become exposed. Single-source shall be interpreted as one contiguous rock quarry, gravel pit or dredging location. This provision in no way alters the specification requirements for aggregate quality specified in other sections of the project specifications.

2.6.2 Aggregate Gradation. Concrete mixes supplied for the construction of the architectural elements shall be in accordance with the following requirements. The concrete aggregate for the aesthetic treatment mix shall be Gradation E in accordance with [Sec 1005](#) for any wall areas where aesthetic treatment is formed monolithically with the structure. This requirement for aggregate size is necessary to permit concrete mixture to flow freely and fill completely into reveals and form liner proposed in the aesthetic treatment. Gradation E aggregate shall meet the aggregate source requirements.

2.7 Joint Materials. Bond breaker material shall be polyethylene tape, coated paper, metal foil or similar type materials. The backup material shall be compressible, non-shrink, non-reactive with the sealant and non-absorptive material type such as extruded butyl or polychloroprene foam rubber. The joint sealant shall be an elastomeric, multi-component sealant, in accordance with Federal Specification TT-S-227, Type II. The sealant color shall match the pressure washed concrete surface color.

3.0 Construction Requirements.

3.1 Reveals and Texture. All reveals and texture shall be continuous from element to element through construction joints and around corners. Techniques shall be utilized to ensure true continuous texture between separate elements. Sand blasting will not be permitted for cleaning concrete surface, as sand blasting will reduce the special surface texture specified. Pressure washing with water is the preferred method of removing laitance. Pressure washing cleaning shall provide a minimum pressure of 3000 psi (21 MPa) at a rate of 3 to 4 gallons per minute (11.4 to 15.1 L/min) using a fan nozzle held perpendicular to the surface at a distance of 2 to 3 feet (0.6 to 0.9 m). The completed surface shall be free of blemishes, discolorations, surface voids and conspicuous form marks to the satisfaction of the engineer.

3.2 Sample Test Panels. Sample test panels shall be constructed to demonstrate the contractor's workmanship for all form liner textures and patterns as shown on the plans. The sample test panels may also be used for demonstration special surface finish if approved by the engineer. The architectural surface treatment of the finished work shall achieve the same final effect as demonstrated on the approved sample test panels. The materials used in construction of the sample test panels shall be in accordance with all standards as listed in this specification and the plans. The concrete mix shall be consistent with the project specifications and criteria. The minimum size of the sample test panels shall be 6 x 6 feet x 8 inches (1.8 x 1.8 x 0.2 m). The form liner finish shall be demonstrated in a vertical strip covering one-half to three-quarters of the sample test panel(s).

3.3 Patches. Holes and defects in concrete surface shall be filled within 48 hours of when the forms are removed. The same patching materials and techniques shall be used that were approved on sample test panels. The patches shall be made with a stiff mortar made with the same material sources as the concrete. The mortar mix proportions shall be adjusted so the dry patch matches the dry adjacent concrete. White cement shall be added to the mortar mix if necessary to lighten the mortar mix.

3.4 Joints. Joints shall be sealed when the sealant, air and concrete temperatures are above 40°F (4°C). Joints shall be primed and filled flush with joint sealant in accordance with the manufacturer's recommendation. All construction control and expansion joints shall occur within the vertical joints as shown in the elevation views on the plans. All vertical expansion joints shall be filled with preformed fiber expansion joint filler covered with bond break tape and sealed with elastomeric, multi-component sealant.

4.0 Method of Measurement. Final measurement of form liner will not be made.

5.0 Basis of Payment. Payment for the above described work, including all material, additional concrete, equipment, labor and any other incidental work necessary to complete this item, will be considered subsidiary to the item on which it is used.

Z. MSE WALL DESIGN CLARIFICATION

Delete Sec 720.3.4 and substitute the following:

720.3.4 The contractor will be solely responsible for the content of the design plans, details and computations that are submitted, for the performance of the wall system and for the internal and

external stability of the structure including compound stability. Overall global stability will be the responsibility of the engineer. The contractor shall be solely responsible for ensuring that the information submitted by the manufacturer is in accordance with all contract plans and specifications and with the wall system used. Completed design plans shall contain all material, fabrication and construction requirements for erecting the wall system complete in place. The completed design plans shall show the longitudinal and lateral layout of the drainage systems used for the wall system.

AA. REINFORCED CONCRETE PIPE (CITY OF JOPLIN)

1.0 Description. This work shall consist of trenching, furnishing reinforced concrete pipe (RCP) culvert, laid upon a bed, and backfilled as specified on the plans or as directed by the engineer. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4200 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Material. All materials shall be in accordance with Division 4200 in the latest edition of the City of Joplin Standard Specifications

3.0 Construction Requirements. All construction requirements shall be in accordance with Division 4200 in the latest edition of the City of Joplin Standard Specifications

4.0 Method of Measurement. Reinforced Concrete Pipe shall be measured per linear foot.

5.0 Basis of Payment. Accepted construction of a reinforced concrete pipe will be paid for at the contract unit price bid for item:

- 725-99.03, 12" RCP w/Bedding
- 725-99.03, 15" RCP w/Bedding
- 725-99.03, 18" RCP w/Bedding
- 725-99.03, 24" RCP w/Bedding
- 725-99.03, 30" RCP w/Bedding

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

BB. PRECAST CONCRETE FLARED END SECTION

1.0 Description. This work shall consist of furnishing and installing precast concrete flared end sections of the size and shape shown on the plans or as specified by the engineer. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4200 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Material. All materials shall be in accordance with Division 4200 in the latest edition of the

City of Joplin Standard Specifications

3.0 Construction Requirements. All construction requirements shall be in accordance with Division 4200 in the latest edition of the City of Joplin Standard Specifications

4.0 Method of Measurement. Reinforced Concrete Pipe shall be measured per linear foot.

5.0 Basis of Payment. Accepted construction of a reinforced concrete pipe will be paid for at the contract unit price bid for item:

732-99.02, 15 IN. RCP Precast Concrete FES

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

CC. TYPE A CURB INLET (CITY OF JOPLIN)

1.0 Description. This work shall consist of the construction of the Type A curb inlets at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4400 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4400 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Type A Curb Inlet shall be measured per each.

4.0 Basis of Payment. Accepted construction of a Type A Curb Inlet will be paid for at the contract unit price bid for item:

731-99.02, Type A Curb Inlet (3' x 2')
731-99.02, Type A Curb Inlet (3' x 3')

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

DD. TYPE B CURB INLET (CITY OF JOPLIN)

1.0 Description. This work shall consist of the construction of the Type B curb inlets at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4400 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4400 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Type B Curb Inlet shall be measured per each.

4.0 Basis of Payment. Accepted construction of a Type B Curb Inlet will be paid for at the contract unit price bid for item:

731-99.02, Type B Curb Inlet (2'-6" x 3')
731-99.02, Type B Curb Inlet (2'-6" x 4')
731-99.02, Type B Curb Inlet (5' x 3')

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

EE. TYPE D CURB INLET (CITY OF JOPLIN)

1.0 Description. This work shall consist of the construction of the Type D curb inlets at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4400 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4400 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Type D Curb Inlet shall be measured per each.

4.0 Basis of Payment. Accepted construction of a Type D Curb Inlet will be paid for at the contract unit price bid for item:

731-99.02, Type D Curb Inlet (5' x 3')
731-99.02, Type D Curb Inlet (7' x 4')

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

FF. CONNECT TO EXISTING INLET

1.0 Description. This work shall consist of connecting a new RCP to an existing inlet at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4400 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4400 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Connect to Existing Curb Inlet shall be measured per each.

4.0 Basis of Payment. Accepted construction of Connect to Existing Curb Inlet will be paid for at the contract unit price bid for item:

731-99.02, Connect to Existing Inlet

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

GG. STORM INLET MODIFICATION

1.0 Description. This work shall consist of constructing modifications to an existing inlet at locations indicated on the plans. It includes replacement of the inlet throat and other modifications needed to connect the RCP. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4400 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4400 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Storm Inlet Modification shall be measured per each.

4.0 Basis of Payment. Accepted construction of Storm Inlet Modification will be paid for at the contract unit price bid for item:

731-99.02, Storm Inlet Modification

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

HH. PRECAST MANHOLE

1.0 Description. This work shall consist of the construction of the manholes at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 4300, the Standard Drawings and the Shallow Type Precast Manhole Detail as shown on the plans. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 4300 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Manhole shall be measured per each.

4.0 Basis of Payment. Accepted construction of a Manhole will be paid for at the contract unit price bid for item:

- 731-99.02, Precast Concrete Manhole 4' Dia.
- 731-99.02, Precast Concrete Manhole 5' Dia.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

II. MANHOLE ADJUSTMENT

1.0 Description. This work shall consist of the construction of a Manholes Adjustments at locations indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3100, 4100 and 4300 and the Joplin Standard Drawings. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/downloads/PW/CityStandards/StandardSpecs/index.pdf>.

2.0 Materials. All materials shall be in accordance with Division 4300 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The Manhole Adjustment shall be measured per each structure.

4.0 Basis of Payment. Accepted construction of a Manhole Adjustment will be paid for at the contract unit price bid for item 731-99, MANHOLE ADJUSTMENT. Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

JJ. MODULAR BLOCK RETAINING WALL

1.0 Description: This section covers the specifications needed to construct the Modular Block Retaining Wall.

2.0 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Concrete	501
Select Granular Backfill for Structural Systems	1010
Geotextile	1011
Miscellaneous Drainage Material	1013
Resin Anchor Systems	1039

2.1 The unit fill shall consist of a granular backfill in accordance with Gradation D or E of Sec 1005.

2.2 Class B or B-1 concrete shall be used for cast-in-place concrete leveling pads used for the wall system.

3.0 Design requirements:

3.1 The concrete wall modules shall be manufactured by Ridgerock, Anchor Wall, Keystone, or an approved equal. Construction of the Modular Concrete Retaining Wall shall comply with manufactures specifications.

3.2 Soil reinforcement strips will not be allowed behind the wall.

3.3 Precast top cap units shall be used on the wall systems. The top cap units shall be permanently attached, utilizing either a resin anchor system or an equivalent detail.

3.4 Drainage system shall be built as determined by the wall system manufacturer.

3.5 The contractor shall submit six complete sets of the manufacturer's design plans, details and computations for each individual wall structure to the engineer. All submitted information shall be clear and complete, and thoroughly checked before the information is submitted. All submitted information shall be legible and of sufficient contrast to be suitable for archiving in accordance with MoDOT's current practice for archiving. Submitted information determined to be unsuitable for archiving purposes will be returned for corrective action.

3.6 The contractor will be solely responsible for the content of the design plans, details and computations that are submitted, and for the performance of the wall system. The contractor shall be solely responsible for ensuring that the information submitted by the manufacturer is in accordance with all contract plans and specifications and with the wall system used. Completed design plans shall contain all material, fabrication and construction requirements for erecting the wall system complete in place. The completed design plans shall show the longitudinal and lateral layout of the drainage systems used for the wall system.

3.7 All design plans, details and computations submitted for distribution shall be signed, sealed and stamped in accordance with the laws relating to architects and professional engineers (Chapter 327, RSMo).

3.8 Modular block retaining walls shall be designed in accordance with the AASHTO specifications shown on the plans and in accordance with additional publications or specifications referenced within the AASHTO specifications. The seismic performance category, angle of internal friction for the selected granular backfill for structural systems and other design requirements shown on the plans shall be incorporated into the design of the wall system.

3.0 Measurement and Payment:

4.1 Measurement of the modular block retaining wall will be made to the nearest square foot. The quantity to be paid will be measured from the wall outline as shown on the plans. No adjustments in the measured quantity will be permitted for additional wall area required to meet the minimum wall elevations shown on the plans for any particular wall system.

4.2 Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

4.3 No measurement will be made for required excavation for the construction of the modular block retaining wall (including the placement of the leveling pad for the wall system).

5.0 Basis of Payment. The accepted quantity of modular block retaining wall will be paid for at the contract unit price bid for Modular Block Retaining Wall. Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item including but not limited to all select granular backfill, backfill geotextile, concrete leveling pads and drainage systems (both at the top and bottom of the wall). Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

KK. SEEDING, FERTILIZING AND MULCHING (CITY OF JOPLIN)

1.0 Description. The contractor shall seed, mulch, and fertilize all areas disturbed during construction operations. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 5100 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>

2.0 Materials. All materials shall be in accordance with Division 5100 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. Seeding, Fertilizing and Mulching shall be measured to the nearest 0.1 acre.

4.0 Basis of Payment. Accepted seeding, fertilizing and mulching will be paid for at the contract unit price bid for item:

805-99, Seeding, Fertilizing and Mulching

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

LL. EROSION CONTROL

1.0 Description. The CONTRACTOR shall be responsible for and provide all temporary erosion and water pollution control measures as described in the contract documents, approved Stormwater Pollution Prevention Plan (SWPPP), or as ordered by the ENGINEER during the life of the contract to control water pollution and soil erosion. The CONTRACTOR shall inspect the project site to assure the designed erosion and sedimentation best management practices are in place prior to various phases of soil disturbing activities. The CONTRACTOR shall maintain all records required by the general permit authorized by MDNR. All records shall be kept on-site or in a readily available location identified in the Notice of Intent (NOI) until final stabilization has been completed. After

final stabilization has been completed, records shall be turned over to the OWNER. Records which shall be maintained by the CONTRACTOR include, but are not limited to:

- The NOI authorized by MDNR used to apply for authorization under general permit;
- The Stormwater Pollution Prevention Plan (SWPPP) for the site named in the authorized NOI, and any amendments to the SWPPP;
- All site inspection records as required by MDNR under general permit;
- All CONTRACTOR'S certifications.

The City of Joplin has submitted the application for the NOI and anticipated receiving prior to construction. A copy of the application materials and SWPPP has been included in the Appendix.

Any monetary penalties assessed to the City or MoDOT for the contractor's failure to comply with this provision shall be deducted from the contract.

2.0 The contractor is required to have a joint meeting with the Engineer and the contractor's erosion control subcontractor, if used, prior to any construction activities to discuss schedules and plans for the implementation of temporary pollution control, temporary and permanent erosion and sediment control work, any environmental impacts, the SWPPP, and any permits needed.

MM. LINEAR EROSION CONTROL

1.0 Description. This work shall consist of furnishing, installing, maintaining and removal of Linear Erosion Control at locations indicated on the plans. Linear Erosion Control shall consist of straw wattles, compost filter socks, silt fence or other equivalent products as approved by the Engineer.

2.0 Materials. When used, straw wattles, compost filter socks and silt fence shall meet the material requirements given by other items in this specification. All other material specifications are as shown in the Standard Drawings or on the plans.

3.0 Method of Measurement. Linear Erosion Control shall be measured per linear foot.

4.0 Basis of Payment. Accepted construction of linear erosion control will be paid for at the contract unit price bid for item:

806-99, Linear Erosion Control

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

NN. DITCH CHECK

1.0 Description. This work shall consist of furnishing, installing, maintaining, removing and disposal of Ditch Checks at locations indicated on the plans. Ditch Checks shall consist of straw wattles, compost filter socks, silt fence, or other equivalent products as approved by the Engineer.

2.0 Materials. When used, straw wattles, compost filter socks and silt fence shall meet the material requirements given by other items in this specification. All other material specifications are as shown in the Standard Drawings or on the plans.

3.0 Method of Measurement. The Ditch Check shall be measured per each.

4.0 Basis of Payment. Accepted construction of linear erosion control will be paid for at the contract unit price bid for item:

806-99, Ditch Check

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

OO. INLET PROTECTION

1.0 Description. This work shall consist of furnishing, installing, maintaining, and removal of Inlet Protection at locations indicated on the plans. Inlet Protection shall consist of straw wattles, compost filter sock, silt fence or other equivalent products as approved by the Engineer.

2.0 Materials. When used, straw wattles, compost filter socks and silt fence shall meet the material requirements given by other items in this specification. All other material specifications are as shown in the Standard Drawings or on the plans.

3.0 Maintenance. Sediment shall be removed from each inlet after every rainfall event that exceeds ½” or which results in a visible accumulation of sediment. Particular attention shall be paid to prevent blockage of inlets or cases where re-suspension of captured sediment is likely.

4.0 Method of Measurement. The Inlet protection shall be measured per each. Each inlet will be measured only one time for the duration of the project regardless of the number of phases or protection methods used to protect a single inlet.

5.0 Basis of Payment. Accepted construction of Inlet Protection will be paid for at the contract unit price bid for item:

806-99, Inlet Protection

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

PP. COMPOST FILTER SOCK

1.0 Description. This work shall consist of constructing, maintaining and removal of the Compost at a location indicated on the plans.

2.0 Materials. Compost to be used in filter socks shall meet the respective requirements for compost specified in AASHTO MP-9 as applied to filter berms, except as modified by this specification. Tubes used for compost filter socks shall be produced from a 5 mil thick continuous HDPE filament, woven into a tubular mesh netting material, with openings in the knitted mesh of 3/8" (10 mm). Tubes shall have a diameter of either 12 or 18 inches, as specified. The 12 inches tubes are for general use and the 18 inch tubes are typically for steep slope protection and minor check dams. Stakes for securing filter socks shall be hardwood with a 2" by 2" nominal dimension. Steel or other non-biodegradable stakes shall not be used.

3.0 Construction Requirements. Compost filter socks shall be constructed on site or delivered to the jobsite. When assembled on site, the sock shall be filled using a pneumatic blower. The sock shall be formed continuously for the length needed, up to 200 feet long. When multiple socks are needed, the end of one sock shall be pulled over the second to create a "sleeved" overlap. Once overlapped, the second section is filled with compost to create a seamless unit. Once placed, the filter sock will settle into an oval shape. Trenching is not required. Existing soil in the vicinity of the filter sock shall remain undisturbed to the extent practical. The sock shall be anchored by driving stakes through the center of the filter sock at 10 foot intervals, at all sleeved overlaps, and at each end. Where an adjustable section of filter sock is necessary (such as to permit dry weather vehicle access), the stakes may be placed on the downhill side of the sock rather than through it. Filter socks may be seeded.

4.0 Measurement and Payment. No measurement shall be made for compost filter sock. This item shall be considered subsidiary to the Linear Erosion Control, Ditch Check or Inlet Protection where it is used.

QQ. SILT FENCE

1.0 Description. This work shall consist of furnishing, installing, maintaining, removing and disposing of silt fence at locations indicated on the plans. All work shall be in accordance with the latest edition of the MoDOT Standard Specifications Section 806.70 and Standard Drawing 806.10H unless otherwise indicated in the plans or herein.

2.0 Materials. All materials shall be in accordance with Section 806.70 in the latest edition of the MoDOT Standard Specifications.

3.0 Measurement and Payment. No measurement shall be made for silt fence. This item shall be considered subsidiary to the Linear Erosion Control, Ditch Check or Inlet Protection where it is used.

RR. STRAW WATTLES

1.0 Description. This work shall consist of furnishing, installing, maintaining and removal of Straw Wattles at locations indicated on the plans.

2.0 Materials. Wattles shall consist of a rice or wheat straw fibers as filler within containment netting. Filler shall be certified as weed free in accordance with state standards. Fibers shall have an average length greater than 3 inches. Containment netting shall be high-density polyethylene and ethyl vinyl acetate and shall contain ultraviolet inhibitors. The strand thickness shall be no less than

0.030 inches, the knot thickness no less than 0.055 inches and the netting weight no less than 0.35 ounces per foot. The entire wattle unit shall be sufficiently durable to withstand weather, construction, and installation conditions for no less than 3 months, including multiple movements and reinstallations. Wattles shall have a 9-inch diameter (1-inch tolerance) and a minimum unit weight of 1.4 lbs/ft. Wood or steel posts of sufficient strength withstand installation and weather shall be used for anchoring.

3.0 Construction Requirements. Wattles shall be located as shown on the plans or as directed by the Engineer. Individual units shall be installed in accordance with manufacturer's recommendations and the Standard Drawings. Units shall be laid end to end and abutted firmly or overlapped against the next consecutive unit.

4.0 Maintenance. Remove silt when it accumulates to 1/2 the height of the wattle. Repair torn, ripped, or degraded segments. Avoid driving over wattles and repair any segments damaged by vehicles. Correct American Public Works Association Kansas City Metropolitan Chapter 14 May 2008 shifts in wattle alignment. Repair rills or gullies upslope of the wattle and any undercutting that may occur. Units that do not satisfy the durability requirement shall be replaced at no extra cost.

5.0 Measurement and Payment. No measurement shall be made for straw wattles. This item shall be considered subsidiary to the Linear Erosion Control, Ditch Check or Inlet Protection where it is used.

SS. HUGHES JUNIPER (JUNIPERUS HORIZONTALIS)

1.0 Description. This work shall consist of furnishing and planting Hughes Juniper (*Juniperus Horizontalis*) in the locations designated on the plans or established by the Landscape Architect. All work shall be in accordance with Section 808.

2.0 Materials. All materials shall be in accordance with Section 808.

3.0 Method of Measurement. Hughes Juniper (*Juniperus Horizontalis*) shall be measured per each.

4.0 Basis of Payment. Accepted installation of the Hughes Juniper (*Juniperus Horizontalis*) will be paid for at the contract unit price bid for item 808-99, Hughes Juniper (*Juniperus Horizontalis*). Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the installation of the item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

TT. RIVER ROCK LANDSCAPING

1.0 Description. This work shall consist of furnishing and installing river rock mulch on a geotextile weed barrier as shown on the plans and in accordance with the plans and details.

2.0 Materials. The river rock shall be 3-6" in diameter, smooth round and earth tone in color, as approved by the Engineer.

The weed barrier shall be a minimum 3 oz. per square yard geotextile with a minimum 130 lbs of tensile strength designed for commercial use. The material shall be free of rips, tears or errant cuts.

3.0 Construction Requirements. River rock landscaping shall be installed according the manufacturers recommendation unless otherwise indicated in the plans or herein.

4.0 Method of Measurement. River rock landscaping shall be measured per square yard.

5.0 Basis of Payment. Accepted construction of river rock landscaping will be paid for at the contract unit price bid for item:

808-99, River Rock Landscaping

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

UU. LANDSCAPE EDGING

1.0 Description. This work shall consist of installing the Steel Edging as shown on the plans and in accordance with the plans and details.

2.0 Materials. Edging shall be hot rolled low carbon steel (ASTM-A-36, ASTM-A-283, ASTM-A-569) with dimensions of 1/8" x 6" x 10' lengths minimum. The edging shall be treated with a rust preventative and factory finished black. Edging joints shall be secured with stakes or unless otherwise approved by the Engineer. Stakes shall be 12" minimum length unless otherwise recommended by the manufacturer.

3.0 Construction Requirements. Landscape edging shall be installed according the manufacturers recommendation unless otherwise indicated in the plans or herein. The edging finish grade shall be 1/2" above the finish grade.

4.0 Method of Measurement. "Landscape Edging" shall be measured per linear foot.

5.0 Basis of Payment. Accepted construction of landscape edging will be paid for at the contract unit price bid for item:

808-99, Landscape Edging

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

VV. HARDWOOD MULCH

1.0 Description. This work shall consist of furnishing and placing Hardwood Mulch in the locations designated on the plans or established by the Landscape Architect and as outlined in Section 808. All work shall be in accordance with Section 802.

2.0 Materials. Shall conform to Section 802.

3.0 Method of Measurement. Hardwood Mulch shall not be measured.

4.0 Basis of Payment. All costs associated with providing and installing all mulch indicated on the plans shall be considered subsidiary other landscaping bid items.

WW. STREET LIGHTING INSTALLATION

1.0 Description. This work shall consist of furnishing and installing lighting equipment and material as shown on the plans. All work shall meet NEC, NESC and NEMA standards. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 901 unless otherwise indicated in the plans or herein.

2.0 Materials. All materials shall be in accordance with latest edition of the MoDOT Standard Specifications Section 901 unless otherwise indicated in the plans or herein.

3.0 Method of Measurement. The street lighting installation measurement shall be in accordance with latest edition of the MoDOT Standard Specifications Section 901.18. Items not included in Section 901.18 shall be measured as follows:

3.1 Measurement of Tear Drop, Post Top, and Wall Mount luminaires, Type ATC bracket arms, and ductile iron pole base with tenon, including all required material and hardware, will be made per each as separate items

3.2 Measurement of Type CH poles, including anchor bolts and all hardware necessary for installation, will be made per each.

3.3 Measurement of junction boxes, including all specified material and hardware necessary for installation, will be made per each.

4.0 Basis of Payment. Accepted street lighting will be paid for in accordance with the latest edition of the MoDOT Standard Specifications Section 901.19 at the contract unit price for each of the pay items included in the contract.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

XX. CHANGED CONDITIONS

1.0 Section 104 of the Missouri Standard Specifications for Highway Construction apply to this projects Scope of Work.

YY. UNBALANCED BIDS

1.0 Contractors are cautioned that unbalanced bids can be rejected.

ZZ. MOBILIZATION

1.0 Description. This item shall consist of preparatory work and operations, including, but not limited to those necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site: for the establishment of all offices, buildings and other facilities necessary for work on the project, except as provided in the contract as separate pay items; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.

2.0 Posted Notices. Prior to commencement of construction activities, the Contractor must post the documents listed below in a prominent and accessible place where they may be easily viewed by all employees of the prime contractor and by all employees of sub-contractors engaged by the prime contractor. These notices must remain posted until final acceptance of the work by the owner

See website:

http://www.modot.org/business/contractor_resources/External_Civil_Rights/jobtraining.htm

3.0 Basis of Payment. Based on the contract lump sum price for “Mobilization”, partial payments will be allowed on the next pay estimate as follows:

- a. With the first pay request; 25 percent.
- b. When 25 percent or more of the original contract amount is earned, an additional 25 percent.
- c. When 50 percent or more of the original contract amount is earned, an additional 40 percent.
- d. After Final Inspection and Staging Area clean-up; the final 10 percent.

AAA. REMOVAL OF IMPROVEMENTS

1.0 Description. This work shall consist of removing and disposing of all existing improvements for roadway contracts from the right of way and within the limits of any construction easement outside the right of ways, except improvements designated to remain in place or to be removed under other items of work. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 202.3 unless otherwise indicated in the plans or herein.

2.0 Measurement and Payment. Removal of improvements measurement and payment shall be in accordance with latest edition of the MoDOT Standard Specifications Section 202.3.

BBB. COMPACTING IN CUT

1.0 Description. This work shall consist of compaction of existing subgrade materials below the required roadway excavation. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 203 unless otherwise indicated in the plans or herein.

2.0 Method of Measurement. Compacting and cut shall measured in accordance with latest edition of the MoDOT Standard Specifications Section 203.8.

3.0 Basis of Payment. Accepted compacting in cut will be paid for at the contract unit price bid for item:

203-70.75, Compacting in Cut

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item.

CCC. CONTRACTOR FURNISHED SURVEYING AND STAKING

1.0 Description. This work shall consist of providing the necessary surveying and staking for the successful prosecution of the work. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 627 unless otherwise indicated in the plans or herein.

2.0 Method of Measurement. Contractor furnished surveying and staking will not be measured for payment, but will be considered a lump sum unit.

3.0 Basis of Payment. Accepted contractor furnished surveying and staking will be paid for at the contract unit price bid for item:

627-40.00, Contractor Furnished Surveying and Staking

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item.

DDD. CONCRETE PROTECTIVE COATINGS

1.0 Description. This work shall consist of surface preparation and application of protective coatings for sealing and protecting exposed concrete elements. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 711 unless otherwise indicated in the plans or herein.

2.0 Method of Measurement. Protective coatings for exposed concrete will not be measured for payment, but will be considered a lump sum unit.

3.0 Basis of Payment. Accepted protective coatings for exposed concrete will be paid for at the contract unit price bid for item:

711-04.00, Sacrificial Graffiti Protection System

711-05.00, Temporary Coating-Concrete Bents (Weathering Steel)

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item.

EEE. CONDUIT SYSTEM ON STRUCTURE

1.0 Description. This work shall consist of furnishing and placing all material and equipment and performing all work necessary to create a complete conduit system as shown on the plans. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 707 unless otherwise indicated in the plans or herein.

2.0 Method of Measurement. The work provided herein will not be measured for payment, but will be considered a lump sum unit.

3.0 Basis of Payment. The accepted conduit system on structure will be paid for at the contract unit price bid for item:

707.10, Conduit System on Structure

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item.

FFF. GEOTECHNICAL INSTRUMENTATION

1.1 Description. The work shall consist of constructing and installing settlement gauges as indicated in the contract documents.

General Requirements. It shall be the responsibility of the contractor to furnish all necessary material, labor, and equipment for the purpose of constructing, installing, and monitoring settlement gauges in accordance with the standard specifications and standard drawings, Embankment Monitoring, Section 204. *Deviation from Embankment Monitoring, Section 204, is as follows: Section 204.10.3.2 specifies installation of settlement monuments below natural grade. For this project, settlement monuments shall be installed below finished grade +/- 2 feet. Settlement monitoring data will then be relevant to the top of the near-completed embankment fill. Also, pore pressure monitoring devices will not be utilized for this project.*

1.2 Number of Settlement Monuments Required. Contractor shall provide an allowance to install three (3) settlement monuments at the top of each of the two (2) retaining walls / bridge abutments, for a total of six (6) settlement monuments. Settlement monuments shall be installed at the top of the wall and/or slope crest. At each retaining wall / abutment, a settlement monument shall be installed at the point of approximate deepest fill and then at 50-foot increments. Unit price shall include all subsequent settlement monitoring (surveying) required as outlined. Contractor shall provide an add/deduct price per settlement monument in the event that settlement monuments are added or removed from the project scope.

1.3 Embankment Monitoring. In lieu of paragraph 204.10.3.5 of the Standard Specifications. Settlement monuments shall be installed within 0 to 96 hours of substantial embankment completion. Initial settlement monument elevations shall be obtained within 24 hours of installation, and confirmed within 24 to 48 hours thereafter. Settlement data elevations shall be obtained and recorded at a minimum once every two weeks after monitoring is commenced, and may be obtained more frequently at the Contractor's sole discretion.

1.4 Construction Schedule Restrictions. Approach slab and pavement construction within the areas of new embankment fill shall not commence for the lesser of: 60 days after embankment fill construction is complete, or settlement is “complete”. For this project “complete” settlement is defined as settlement equal or less than 0.01 foot in a two-week period, for two consecutive two week periods. The Engineer, with MODOT’s concurrence, reserves the right to relax this requirement in the event that the construction schedule becomes critical.

1.5 Basis of Payment. Measurement and payment of settlement gauges shall be as defined in Sec. 204.20.6.

GGG. CONCRETE SIDEWALK WALL

1.0 Description. This work shall consist of the construction of concrete sidewalk on a prepared base as indicated on the plans. All work shall be in accordance with the latest edition of the City of Joplin Standard Specifications Division 3300 and the Standard Drawings unless otherwise indicated in the plans or herein. The City of Joplin Standard Specifications and Drawings can be found at the following website: <http://www.joplinmo.org/DocumentCenter/>.

2.0 Materials. All materials shall be in accordance with Division 3300 in the latest edition of the City of Joplin Standard Specifications.

3.0 Method of Measurement. The concrete sidewalk wall shall be measured per square foot.

4.0 Basis of Payment. Accepted construction of the concrete sidewalk wall will be paid for at the contract unit price bid for item 610-99, Concrete Sidewalk Wall. Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

HHH. ON THE JOB TRAINING

ON-THE JOB TRAINING SPECIAL PROVISIONS (OJT TSP)

DESCRIPTION. This provision supplements subparagraph 7e of the Contract Provision entitled, "Standard Federal Equal Opportunity Construction Contract Specification ", and in the implementation of CFR Part 230, Subpart A, Appendix B

Purpose:

It is the policy of the MoDOT to require full utilization of all available training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of the On the Job Training Program is to recruit entry-level individuals, when feasible, and provide them with meaningful training intended to lead to journey-level employment. MoDOT and it’s sub-recipients, in carrying out the responsibilities of a federally assisted contract, shall determine which federal-aid construction contract shall include “Training Special Provisions.” Under the Training Special Provisions, the Contractor shall make every reasonable effort to enroll minority, disadvantaged persons and women trainees to the extent such persons are available within a reasonable recruitment

area. This training provision is not intended, and shall not be used to discriminate against any applicant for training.

The Contractor is hereby advised that it is no excuse for a union, with which the Contractor has a collective bargaining agreement providing for exclusive referral, to fail to refer minority and female employees (23 CFR 230.411(e)(1)). Contractors are hereby made aware that if union referral practices prevent the contractor from meeting the EEO requirements, the contractor should make written notification to MoDOT's External Civil Rights Division (ECR) immediately. Furthermore, the FHWA's Form FHWA-1273 EO bid conditions are to be included in the Contractor's affirmative action plan (AAP). The EEO bid conditions specifically state, "In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Contractor will, through independent recruitment efforts, fill the employment vacancies. Unions are not allowed to discriminate based on race, color, national origin or sex, union membership or non-membership, or domicile.

Contractors can sometimes demonstrate that they referred minorities and women to the unions for referral back to them, or the Contractors can demonstrate efforts made to request minorities and women from the union when they see their work force is deficient in certain construction trades. These efforts should be documented and will be verified by MoDOT.

Missouri State Department of Transportation's Responsibility to Federal Highway Administration (FHWA)

A. Program Administration

All training goals, including the number of training hours, on federally funded projects are to be established by the External Civil Rights Division with Federal Highway Administration (FHWA) oversight. The following guidelines will be utilized in selecting projects and determining the goal to be set:

1. Availability of minorities and women for training.
2. The potential for effective training.
3. Duration of the contract.
4. Dollar value of the contract (# of working days).
 - Under \$1,000,000 – 0
 - Over \$1,000,000 to \$3,000,000 – 1-2
 - Over \$3,000,000 to \$5,000,000 – 2-3
 - Over \$5,000,000 to \$10,000,000 – 3-4
 - Over \$10,000,000 to \$15,000,000 – 4-5
 - Over \$15,000,000 to \$20,000,000 – 5-6
 - Over \$20,000,000 – * 6-7

* One Additional trainee per \$5,000,000 of estimated construction Contract amount over \$20,000,000.

5. Total normal work force that the average bidder could be expected to use.
6. Geographical location.
7. Type of work.

8. The need for additional journeymen in the area.
9. The need to correct underutilization of minorities and females in specific trades. A satisfactory ratio of trainees to journeymen expected to be on the contractor's workforce during normal operations (considered to fall between 1:10 and 1:4). Recognition of the suggested minimum goal for the State

The intent of the program is to recruit entry-level individuals when feasible and provides them with meaningful training, which will normally be expected to lead them towards journeyman-level. The unions, Associated General Contractors (AGC), and the Contractors have voiced concern over the lack of young people seeking employment in the highway construction trades. This, coupled with an aging workforce, could cause us to experience a major shortage of trained highway construction workers in the near future. The industry is already experiencing a shortage of minority and female construction workers in most trades with the only exception being possibly Laborers in some areas. If the Contractors do not voluntarily train as many people as possible with beneficial training, they will have no one to work on contracts, which will affect their bidding ability as well as their business.

Trainee goals will be set in 1,000 increments or 1 slot (person) per 1,000 hours per project. For example, if the trainee goal on the project is 2,000 hours a maximum of 2 trainees will be approved for the project. In the event a trainee leaves the project for valid reasons the trainee shall be replaced as soon as possible. **No apprentice/trainee can be assigned less than 500 hours on a contract.** MoDOT will not assign training on contracts that will not support the 500 hours. **Providing less than 500 hours is not considered to be beneficial training nor helping to achieve journey-level status. Therefore, a trainee/apprentice, regardless of craft, must have been trained on the contract for at least 500 hours to be eligible for reimbursement.** However, the contractor may transfer the trainee, with MoDOT's approval, to another MoDOT highway construction project in order to continue the training. Upon reaching the 500 hours, the contractor will be compensated as noted herein. If the enrollee is transferred to a **non**-federal project, MoDOT, upon availability of funding, may have the option of reimbursing the contractor for those hours completed that achieve the 500-hour minimum and for any hours that continue the successful training of the individual(s). The same documentation will be required to be submitted in order to determine if hours will be approved. However, if the trainee is moved to another federally funded enhancement, then a "change order" could be requested for the additional hours and thus offer the Contractor the necessary credit so as to accomplish the 500 hour plateau. FHWA and MoDOT will only approve training programs meeting the requirements of the Training Special Provisions (TSP). A program will be approved if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training will also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts.

No individual shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman status or in which the individual has been employed as a journeyman. The Contractor shall satisfy this requirement by including appropriate questions in the employee application or by other suitable means. It is the Contractor's responsibility

to verify that the individual has not be trained or worked at the journey level and their records shall document the findings. Training under the TSP should only be directed toward those trades where underutilization/under representation exists. Flagging/traffic control programs are not considered as meeting the intent of the TSP. However, other programs that including flagging training will be approved if the flagging portion is limited.

A contractor may choose to transfer a trainee to another project, whether MoDOT or not. The contractor must submit monthly trainee reports for that project to the RE Office where the hours will be credited. The contractor must submit with the monthly trainee reports, copies of the certified payrolls so the RE Office can verify the number of hours worked on the project, as well as the wage the trainee was being paid. Once the RE reviews the monthly reports, copies of the monthly reports should be sent to the External Civil Rights Division. The RE Office should include with the report a note indicating the hours that are being transferred from the other project. Both job numbers must be included in the note. The contractor cannot bank hours from one project and transfer those hours to another project to fulfill a trainee requirement.

The OJT Program is only intended to be utilized if the contractor is failing to attain the affirmative action goals in its contract, which are determined by the county the project is located. The affirmative action goals are broken down by minority and female goals. If the contractor is meeting or exceeding the minority and female goals in all crafts being utilized on the project, then the OJT requirements are not applicable. If the contractor is not obtaining the minority and female goals in each craft, then the OJT goal will be depended upon the actual participation achieved and the authentic contract as outlined in the contract.

B. Approval Process General

The intended training plan must be submitted **30** days prior to work commencing. Failure to submit the plan will result in withholding of the first monthly progress payment. A written explanation outlining why the delay occurred may be submitted to the External Civil Rights Division for consideration. A revised training plan must be resubmitted when modifications to the plan or schedule occur. The plan must contain the trades proposed in which to accomplish the training item in the contract, the number of trainees, hours assigned to the trade, and the estimated beginning work date for the trainee/apprentice. Acceptable training programs include:

1. BAT Programs – Apprenticeship programs approved by the U.S. Department of Labor, Bureau of Apprenticeship and Training.
2. Any other program, such as the Missouri Manpower Programs, which have been approved by FHWA and MoDOT on an annual basis.

Apprentice/Trainee Approval Forms

Submittal of the TRAINEE NOTIFICATION/APPROVAL/UPGRADE – After the training plan has been approved, the Trainee Approval Form should be submitted prior to the trainee commencing work on the project. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification will be

permitted only with the approval of the External Civil Rights Division with concurrence from the FHWA Division Office. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training. Reimbursement to the Contractor for off-site training as indicated above may only be made when the Contractor does one or more of the following and the trainees are concurrently employed on federal-aid projects.

Contributes to the cost of the training.

Provides the instruction to the trainee.

Pays the trainee's wages during the off-site training period.

Good Faith Efforts (GFE)

Substantial Compliance – Although the OJT Program is specifically designed to increase minority and female participation on federal aid highway construction projects where underutilization exists, it is not intended to be discriminatory. Contractors and subcontractors may utilize a non-minority male apprentice/trainee if sufficient documented good faith efforts are taken to fill the specific training position with either minorities or females. The Contractor shall enroll minorities, women or economically disadvantaged individuals, where possible, and document their good faith efforts, prior to the hiring of non-minority males not identified as economically disadvantaged. The Contractor may suggest that a subcontractor fulfill a portion of the contract work. However, he/she shall determine how many, if any, of the trainees are to be trained by the subcontractor, and secure approval from MoDOT. Never the less, the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Special Provision. The Contractor shall apply the requirements of this Training Special Provision to such subcontracts. Where feasible, 25% of apprentice or trainees in each craft shall be in their first year of apprenticeship training. The Contractor shall be aware that even if a trainee has been previously approved to work on a prior MoDOT project, that trainee may not be approved on future projects if the trainee is not in their first year of apprenticeship training.

A good faith effort requires that the Contractor furnish evidence of his/her systematic and direct recruitment efforts through the use of public and private sources likely to yield minorities and females. The following, example, represents one element of good faith efforts: The Contractor must submit letters that are project specific (where is the project, how long it will last, type of pay) and targeted for the crafts utilized and must be sent to Community Based Organizations (CBOs) (two or three that are likely to refer minorities or females), and unions/apprenticeships (if union shop). The letters must be forwarded prior to job startup to alert CBOs to the possibility of the Contractor needing assistance finding minorities and females. These letters should be ongoing and targeted when the Contractor needs assistance in locating minorities and/or females in a specific craft. The Contractor's letters should also address anything the Contractor has done to hire minorities and/or females as well as files including employee referrals. The Contractor in his or her letter **must** request a response and the Contractor must note the results of the Contractor's request for assistance. Good faith efforts must be two-way communications with documented results. If a union contractor, contact the union first, then any and all other resources to include two or three CBOs.

The Contractor shall, upon requests, be able to provide documentation of written solicitations to the unions, local or regional community action agencies, or other sources likely to refer minorities or women, such as the St. Louis Agency on Training and Employment or (SLATE), if applicable. Such

efforts may be considered good-faith efforts if they were **results oriented**. If the Contractor's efforts are repetitive mechanical exercises that have never produced a referral or are "stuffing" - that is copies of letters not sent, then the non-productive activity cannot be considered to have been made in good faith. If, however, the Contractor can demonstrate that it employed referrals from the sources contacted on prior occasions and some efforts were not productive due to the lack of availability from usually dependable and responsive sources, then the non-productive effort can be considered good faith. In the absence of reasonable representation in any craft, the Contractor should be able to provide proof of its having requested referrals of minorities and women (i.e., records of telephone requests, including dates and times, persons talked with, and for which crafts minorities and women were requested). Letter should be detailed and include the type of vacancy to be filled, location of the project, potential employment opportunities with the company, and current as it relates to the specific job opportunity (ies).

All sources relied upon by the Contractor in advertising for vacancies and recruiting employees, especially those that resulted in referrals and employment should be identified and reported. Lists of minority organizations and other recruiting sources that have not been used or which have not been used recently or which if used have never referred anyone for employment should not be considered to meet the good faith effort test. All efforts reported by the Contractor to contact recruiting sources will be verified with the recruiting source listed. Contractors often send these recruiting sources "form" letters indicating they are under contract for a federal project. To be considered valid, recruitment letters should be specific. For example, recruitment letters should specify the positions for which referrals are sought, the number of employees needed, position requirements, estimated dates, who to contact, wage/salary range, and other information sufficient to elicit interest and references of potential employees. Form letters without specific information **will not** be considered good-faith efforts.

The terms and conditions of employment practiced by the Contractor should be explored to allow the Contractor the opportunity to demonstrate whether there is adequate representation of minorities and women throughout the life of the contract.

While it is the Contractor's prerogative to select who will be hired, recalled, rehired, or name requested, it is also the Contractor's responsibility to ensure equal employment opportunity for minorities and women.

The hours of minority and female employment and training should be substantially uniform throughout the length of the contract, and in each trade, and the Contractor is required to make a good faith effort to employ minorities and women evenly on each project when there are opportunities to do so. The Contractor should not wait to hire minorities and women at the "eleventh hour" or "bicycle" employees from project to project.

In the event the External Civil Rights Division denies the Good Faith Effort (GFE) submitted by the contractor, the contractor shall have the right to an Administrative Reconsideration Hearing. The request for an administrative reconsideration hearing must be made within seven (7) days of the receipt of the denial letter. The Administrative Reconsideration Committee may be constituted, as MoDOT deems appropriate and fair, provided that no committee member on the Reconsideration Committee shall have taken part in the original MoDOT determination that the contractor failed to meet the OJT contract goal and/or failed to make adequate good faith efforts to do so.

If the Administrative Reconsideration Committee does not find the contractor met the OJT contract goal, and/or does not find that the contractor made adequate and sufficient good faith efforts to do so, then The Administrative Reconsideration Committee will recommend that liquidated damages as outlined in the non-compliance sanctions section below be carried out. If the Administrative Reconsideration Committed does find that the contractor has met a good faith effort (GFE), then no liquidated damages will be assessed.

Ethnicity Verification

When there is a questionable ethnic claim concerning an individual submitted for participation in the OJT Program, further documentation of that claim may be necessary to ensure eligibility. Acceptable documentation for ethnicity verification includes, in order of preference:

- Birth certificate

- Naturalization papers

- Native American – Indian Tribal roll, tribal voter registration certificate, or other official document

- History of individual having held himself to be a member of the minority group or community (driver's license, school, medical, and service records)

- Recognition of applicant in a particular minority community as a minority through sworn and notarized statements from bona fide members of the community who are clearly disinterested parties

- Proof of membership and interaction in recognized minority organizations

- If requested, the Contractor will be required to obtain this information from the employee claiming the minority status

- If an individual requesting minority status cannot provide acceptable documentation and does not manifest the visual characteristics of the ethnic group claimed, the individual **cannot** claim minority status for the purpose of the OJT Program

- If a person manifests the visual characteristics of an acceptable ethnic minority group, the contractor may consider the person to be a member of that group

Economically Disadvantaged Verification

When a contractor submits a trainee who is economically disadvantaged the following information should be submitted with the trainee notification to verify this status.

- The previous year's tax return verifying the individual's income is less than the federal poverty guidelines

- Verification of enrollment in food stamps received from Missouri Department of Social Services

- Verification of housing assistance received from Missouri Department of Social Services

Beneficial Training

MoDOT will ensure its contractors provide on-the-job training aimed at developing or contributing to full journey level status in the type of trade(s) involved. Training shall be consistent with the trainee/apprentice program. Training tasks will be consistent with the approved trade classification for the specific contract. The Contractor shall furnish the trainee a copy of the program the Contractor will follow in providing the training. The Contractor shall provide each trainee and

Resident Engineer documentation showing the type and length of training that will be completed include classroom and on-the-job hours. This includes providing information on the monthly trainee report and trainee notification as to the total working and classroom hours the trainee/apprentice has completed to date.

Training Reimbursement Process

Submittal of a certified invoice requesting payment for training is required. Except as otherwise noted herein, the Contractor will be reimbursed \$3.50 per hour of training given an employee on this contract in accordance with an approved training program.

Payments will not be made through a contract adjustment, if the failure to provide the required training is caused by the Contractor and a lack of good faith on the part of the Contractor to meet the training requirements has been determined. For example, if the goal on the project is 1,000 hours and only one trainee reaches the 500 minimum threshold, then the Contractor will be reimbursed for the 500 hours, and must continue to train a new trainee for the remaining 500 hours or they will be assessed liquidated damages for failure to achieve the OJT goal of 1,000 hours. However, if the trainee goal on the project is 1,000 hours and the trainee receive less than the 500-hour minimum, the Contractor will not secure credit for any of the hours under 500 that the trainees completed. If the trainee goal on the project is not met, then the remaining hours will be subject to the sanctions as outlined in this TSP noted below. If a trainee quits the project voluntarily, then the Contractor is required to fill the trainee slot as soon as possible and shall be reimbursed according to these standards. The hours completed by the previous trainee will not be counted toward the new enrollee, if the original unskilled party has not obtained the 500 hours.

Training will not be reimbursed if the Contractor fails to provide beneficial training. This includes only partially meeting the training goal on the project.

Change orders may be submitted to the External Civil Rights Division to increase the Training Hours assigned to a contract. Approval of such requests by the External Civil Rights Division will be granted on a case-by-case basis.

Overrun hours of the training item must not exceed 25% or 500 hours of the contract quantity of hours assigned or 1,000 hours, whichever is less.

This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided those sources do not specifically prohibit the contractor from receiving other reimbursement.

Monitoring

MoDOT will monitor contractors to ensure trainees and apprentices are receiving beneficial training in the type of trades submitted. Training shall be consistent with the training program or those OJT Programs the FHWA and MoDOT have approved.

It is normally expected that the trainee/apprentice will begin training on the project as soon as possible, utilizing the skills involved and remaining on the project as long as training opportunities exist in the work classifications or until the completion of the training program.

Onsite Interviews are performed to determine:

- Whether apprentice/trainee is receiving in designated craft
- Work place environment
- If trainee/apprentice is experiencing problems on the job site
- If the apprentice/trainee is being treated fairly

MoDOT monitors contracts with training through onsite visits, monthly training reports and construction reports. These reports are generated by the Contractor and are to be disseminated to the Resident Engineer Office. If there are problems, the External Civil Rights Division will contact the Contractor to address the deficiencies.

1. If there are deficiencies, the Contractor must provide a corrective action plan addressing the deficiencies. No payment will be made under the bid item "Training" if the Contractor fails to provide the required training.
Payment will not be made if the Contractor fails to submit trainee reports in a timely manner.

Wages

Trainees will be paid at the rate set by the training program. The appropriate minimum journeyman's rate paid cannot be less than the amounts set out in the 23 CFR Subpart A, Appendix B. For example, at least 60 percent of the appropriate minimum journey person's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period and 90 percent for the last quarter of the training period. The appropriate rates approved by the Department of Labor or Transportation in connection with the existing programs shall apply to all apprentice or trainees being trained for the same classification who are covered by the Training Special Provision.

Reports

The Contractor shall provide for the maintenance of records and furnish monthly reports documenting the Contractor's performance under this provision. All trainee notifications must be submitted prior to the start of the project. If a trainee has been previously approved by MoDOT, the Contractor must still notify MoDOT of the name of the individual(s) and proposed craft the trainees will be trained in, as well as, indicate which project the trainees will be working on. The trainee notifications or listing of the proposed trainees must be submitted via fax, mail or electronically to the ECR Division. If the Contractor fails to submit the trainee notification or list of proposed trainees prior to the onset of the project, the Contractor will be subject to the sanctions as outlined in this OJT TSP. Monthly reports shall include at least the following information:

- Contractor's name and address
- Period, which the report covers
- Job Number, Description, and Federal Aid number
- Information for each employee being trained on the project, including:
 - Name
 - Social Security Number

- Trade/craft
- Pay percent, based on portion of training complete (if applicable)
- Journeyman's full prevailing wage applicable
- Trainee wage
- Hours this period
- Total trainee hours for the project for this period

Non-Compliance Sanctions

Progress payments shall be withheld for failing to comply with all OJT Program requirements unless MoDOT accepts Good Faith Efforts.

Sanctions (Violations of EEO/OJT Provisions):

When the job is 50% complete the Contractor must have at least 50% of the trainee hours assigned on that job completed. The percentage of job completion is based on the total value of the contract paid to the Contractor. The remaining amount of the hours must be completed before the completion of the project or the Contractor will be subject to liquidated damages unless a GFE is submitted to and approved by the External Civil Rights Division.

If the training hours have not been obtained and a GFE has not been displayed upon project completion, the Contractor will be assessed liquidated damages in the amount of \$7.00 per hour for those hours not realized. For instance, if the project goal was 1,000 hours and only 450 hours were met, then liquidated damages would be assessed at $550 \times \$7.00 = \$3,850.00$.

If the External Civil Rights Division approves a GFE, then liquidated damages will not be assessed.

If the Contractor does not achieve the full OJT goal, they will not receive partial credit for hours completed. For instance, if the goal on the project was 1,000 hours and only 450 were convened, then no reimbursement will be given for any hours fulfilled. If the goal on the project is 2,000 hours and only 1,500 hours are completed and no GFE is demonstrated, the contractor will receive credit for the 1,500 hours and also be assessed liquidated damages in the amount of the 500 hours there were not met.

In the event the Contract exceeds the trainee goal on the project, the Contractor must submit a request to ECR to obtain an extension of hours. The maximum amount of hours beyond those enumerated in the contract cannot exceed 500 hours per 1,000. For instance, if the goal was 1,000, the Contractor can be granted an extra 500 hours subject to the **advance** approval of the ECR Division, and concurrence from the FHWA.

Trainee reports must be submitted following the last pay period of the month. Failure to timely submit the reports, hours completed during that month will not be credited. In the cases of voluntary or involuntary trainee termination or when the trainee completes the hours specified in the program, the contractor must complete the trainee completion form within five working days. The Contractor's failure to submit the proper reports in a timely manner may result in the loss of reimbursement for the training hours for that month

Failure to satisfactorily comply with the OJT requirements will also be reflected in the contractor's performance evaluation.

III. SELECT GRANULAR BACKFILL (SPECIAL)

1.0 Description. This work shall consist of placing aggregate on a prepared subgrade as a part of mechanically stabilized earth wall system. All work shall be in accordance with latest edition of the MoDOT Standard Specifications Section 720 unless otherwise indicated in the plans or herein.

2.0 Materials. Materials shall be in accordance with latest edition of the MoDOT Standard Specifications Section 1010.

3.0 Method of Measurement. The select granular backfill (special) shall be measured per cubic yard.

4.0 Basis of Payment. Accepted quantities of the select granular backfill (special) will be paid for at the contract unit price bid for item:

720-99, Select Granular Backfill (Special)

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. No direct payment will be made for excavation, hauling or disposal of subgrade removed for construction of the select granular backfill (special). Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

JJJ. GEOGRID

1. GENERAL

1.1. DESCRIPTION OF APPLICATION: This specification provides the requirements for a biaxial geogrid used in roadway, rail and other trafficked structures for the purpose of confining aggregate, thereby improving the apparent shear strength of the aggregate.

1.2. STANDARD SPECIFICATIONS & GUIDES: American Association of State Highway and Transportation Officials (AASHTO), 2010, "Standard of Practice for Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures," AASHTO Designation: R50-09, Washington, D.C.

1.3. REFERENCED TEST STANDARDS

1.3.1. ASTM D4759 - Standard Practice for Determining the Specification Conformance of Geosynthetics.

1.3.2. ASTM D6637 - Standard Test Method for Determining Tensile Properties of Geogrids by the Single (Method A) or Multi-Rib (Method B) procedure.

1.3.3. ASTM D7748 - Standard Test Method for Stiffness of Geogrids.

1.3.4. ASTM D7737 - Individual Geogrid Junction Strength (performed at 10% per minute

strain rate).

1.3.5. ASTM D1603 Standard Test Method for Determination of Carbon Black Content.

1.3.6. ASTM D4355 - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus.

1.3.7. EPA 9090A - Compatibility Test for Wastes and Membrane Liners.

1.3.8. ASTM D5818 - Standard Practice for Exposure and Retrieval of Samples to Evaluate Installation Damage of Geosynthetics.

2. DEFINITIONS

2.1. Manufacturer – Company or organization that produces the biaxial geogrid from raw materials to the designed finish product.

2.2. Supplier – Manufacturer or Company/Organization directly selling the finished product to the project purchasing company/organization.

3. SUBMITTALS FOR PRODUCT ACCEPTANCE (by Supplier)

3.1. Product Data: Submit a product data sheet (PDS) for the product meeting this specification.

3.1.1. The trade name of the product to be delivered to the project must be shown on the PDS.

3.1.2. All index properties listed on Table 1 must be present on the submitted PDS, along with the corresponding test protocols used in TABLE 1.

3.1.3. For each PDS index property listed, a detailed description of the test procedure used to obtain the values shown on the PDS shall be provided if such procedure is not in strict conformance to the test protocols designated in TABLE 1.

3.2. Sample: Submit a sample of the product to be A) Delivered to the project and B) Certified in accordance to Section 4.1.

3.3. Recycled Resin: Submit a signed (Supplier Owner or Officer) and dated certificate that the geogrid product does not contain post-consumer recycled resins.

3.4. Instructions: Submit the Supplier's published transportation, storage & installation instructions.

3.5. Product Warranty: Submit a signed (Supplier owner or officer) and dated certificate of warranty from the geogrid Supplier stating that:

3.5.1. The product, when delivered, conforms to this specification in its entirety.

3.5.2. If it is determined that the delivered product does not meet this specification, the Supplier shall, upon notification, immediately replace the product with product meeting this specification at no cost to the Owner.

3.6. Quality Assurance (QA) Validation

As a minimum requirement, a written report shall be produced, signed and dated by an independent testing facility/agency properly equipped and AMRL or GAI-LAP certified to perform all Geometric, Mechanical & Durability (installation damage test excluded) properties listed on TABLE 1. The report shall:

3.6.1. Include tested values, produced at the facility defined in Section 3.6., for all Geometric, Mechanical and Carbon Black Content Durability properties shown on TABLE 1 for the product listed in Section 3.1.

3.6.2. Include the date of testing per Section 3.6.1. that is no more than 18 months prior to the submittal.

3.6.3. Identify the QA-tested product by a) Product Trade Name, b) Manufacturer's Lot or Batch Number and c) Manufacturer's Roll Number(s).

3.6.4. Test Variation Details: For each index property listed in TABLE 1, a detailed description of the QC test procedure used shall be provided if such procedure is not in strict conformance to the test protocols designated in TABLE 1.

4. MATERIALS

The geogrid shall be formed by punching and stretching (i.e., drawn or oriented) a single sheet of polypropylene film to form a stable, regular grid network of rectangular, square or triangular apertures that exhibits the following characteristics:

4.1. In the absence of full scale, field-performance testing as described in Section 4.2.2., the geogrid shall exhibit all index properties listed on TABLE 1: BIAXIAL GEOGRID PROPERTIES.

4.2. Alternate geogrids having properties different from those listed above may be submitted for approval provided that:

4.2.1. The product has been subjected to full-scale, rolling wheel load, field-performance testing in accordance with the requirements of 4.2.2. and demonstrated that the product provides equal or better performance than those geogrids listed in Sec. 4.4.

4.2.2. Full scale, rolling wheel load, field-performance testing shall:

4.2.2.1. Be conducted in the United States.

4.2.2.2. Be conducted by an independent consultant or testing firm qualified to

perform such testing.

4.2.2.3. Be documented in a report providing sufficient data to allow for independent review of the evaluated geogrid's performance.

4.2.2.4. Include QA test results for the field performance tested product from an independent laboratory meeting the requirements of Sec. 3. The QA test results shall include all geometric, mechanical and carbon black durability characteristics listed in TABLE 1. The QA verification testing must be conducted on the same geogrid product roll or rolls evaluated in the full-scale trials, identified by the Manufacturer's Batch or Lot number and Manufacturer's Roll number(s). Simply listing of product style or like nomenclature will not be accepted as sufficient correlation between the field performance testing and the product QA characterization.

4.2.2.5. Include the submission of a signed and dated chain-of-custody document that validates the transfer of the product between facilities or within a facility conducting testing in accordance to Sections 4.2.2.2. and 4.2.2.4.

4.2.2.6. Consist of geogrid-enhanced and control (no geogrid) sections designed to isolate and quantify the performance improvement provided by addition of the geogrid.

4.2.2.7. Consist of sections trafficked by full-scale, rubber-tired vehicles representative of standard on-highway truck loadings (9,000 lbs wheel loads) and tire pressures.

5. CERTIFICATION

5.1. Product delivered to the project must be accompanied by a certification that the product meets or exceeds all requirements stated in TABLE 1. The certification shall:

5.1.1. Be signed and dated by the owner or an officer of the Supplier, and

5.1.2. List all Manufacturer's Lot/Batch and Roll numbers delivered to the project.

5.2. Quality Control (QC) Validation

If required by the Project Engineer or Owner, product delivered to the project must be accompanied by the Manufacturer's QC test results. As minimum requirements, the QC test results shall include for each Lot/Batch number of project-delivered geogrid:

5.2.1. Product name

5.2.2. Date of testing

5.2.3. Lot/Batch number(s) tested

5.2.4. Roll numbers associated with each Lot/Batch number of delivered product

5.2.5. Data for all quality control testing for each mechanical index property and the carbon black content property listed on TABLE 1.

5.3. Test Variation Details: For each property listed on the QC Validation spreadsheet, a detailed description of the QC test procedure used shall be provided if such procedure is not in strict conformance to the test protocols designated in TABLE 1.

TABLE 1 BIAXIAL GEOGRID PROPERTIES

The biaxial geogrid shall be composed of at least 96% polypropylene, with no post-consumer recycled resins, and manufactured using a punch-and-stretch process from a single sheet of extruded polymer.

PROPERTY	PROCEDURE	U.S. Standard		Metric	
		MD	XMD	MD	XMD
Geometric¹					
Aperture Shape	Observed	Rectangular			
Aperture Open Area	Measured	77%			
Aperture Size (opening)	Measured	1.0 inch	1.4 inch	25 mm	37 mm
Rib Spacing (pitch)	Measured	1.1 inch	1.5 inch	28 mm	38 mm
Rib Depth (height or thickness)	Measured	0.07 inch	0.05 inch	1.9 mm	1.2 mm
Rib Width	Measured	0.10 inch	0.11 inch	2.6 mm	2.9 mm
Rib Shape (cross section)	Observed	Rectangular			
Mechanical^{2,3}					
Tensile Strength - Ultimate	ASTM D6637-09 Procedure B	1,310 lbs/ft	1,970 lbs/ft	19.2 kN/m	28.8 kN/m
Tensile Load @ 2% Strain		410 lbs/ft	620 lbs/ft	6.0 kN/m	9.0 kN/m
Tensile Load @ 5% Strain		810 lbs/ft	1,340 lbs/ft	11.8 kN/m	19.6 kN/m
Junction Efficiency ^{4,5}	ASTM D7737/D6637	93%			
Junction Strength ⁵	ASTM D7737-11	1,210 lbs/ft	1,830 lbs/ft	17.8 kN/m	26.7 kN/m
Flexural Rigidity	ASTM D7748-12	1,200,000 mg-cm			
Aperture Stability	GRI-GG9	6.6 cm-kg/deg = 0.65 m-N/deg			
Durability					
UV Degradation Resistance ^{6,9}	ASTM D4355/D6637	100%			
Carbon Black Content	ASTM D1603	0.5%			
Chemical Damage Resistance ^{7,9}	EPA 9090A	100%			
Installation Damage Resistance ^{8,9}	ASTM D5818/D6637	SM ≥ 95%, GP1 ≥ 95%, GP2 ≥ 90%			

Footnotes:

- 1 Nominal value(s)
- 2 All Mechanical properties are based on the Manufacturer's laboratory test results at 21 ±1° C
- 3 Unless indicated otherwise, values are MARV, determined in accordance with ASTM D4759-02.
- 4 Expressed as a comparison of ASTM D7737 strength to ASTM D6637 strength of the same sample
- 5 ASTM D7737 performed at 10% per minute strain rate
- 6 500 hour exposure
- 7 120 day emersion testing
- 8 SM – Silty sand, GP1 – Poorly graded gravel with sand, GP2 – Course, poorly graded gravel
- 9 Expressed as a percentage of Ultimate Tensile Strength

6. **Method of Measurement.** The geogrid shall be measured per square yard.
7. **Basis of Payment.** Accepted installation of the geogrid will be paid for at the contract unit price bid for item:

624-99, Geogrid.

Such payment shall constitute full compensation for all materials, labor, tools, and equipment necessary to complete the construction item. Items not specifically called out in the contract for the installation of this item shall be considered subsidiary to other related items.

ITEMIZED BID PROPOSAL

THE UNDERSIGNED hereby proposes to furnish the labor and material for:

20th Street Grade Separation

In the City of Joplin, Missouri, according to Job No. TDG-3200 (718) Project 4 and the general specifications for such work on file in the office of the engineer and Director of Public Works, together with the terms and conditions to be stipulated in the general contract forms, now adopted by the City of Joplin, as advertised to be let on September 6, 2013 at the following process to-wit

20th STREET Grade Separation					
Item No.	Item	Quantity	Unit	Unit Price	Extended Price
1	CLEARING & GRUBBING	2.3	ACRE		\$ -
2	REMOVAL OF IMPROVEMENTS	1	LS		\$ -
3	UNCLASSIFIED EXCAVATION	10,210	CUYD		\$ -
4	EMBANKMENT IN PLACE	14,121	CUYD		\$ -
5	COMPACTING EMBANKMENT	8,573	CUYD		\$ -
6	COMPACTING IN CUT	18.6	STA		\$ -
7	SETTLEMENT GAUGE	6	EA		\$ -
8	CULVERT CLEANOUT	2	EA		\$ -
9	CRUSHED STONE BASE (2")	2,147	SQYD		\$ -
10	CRUSHED STONE BASE (6")	5,259	SQYD		\$ -
11	CRUSHED STONE BASE (8")	8,287	SQYD		\$ -
12	CRUSHED STONE BASE (12")	1,236	SQYD		\$ -
13	ASPHALTIC CONCRETE BASE (4")	1,702	SQYD		\$ -
14	ASPHALTIC CONCRETE BASE (8")	6,586	SQYD		\$ -
15	ASPHALTIC CONCRETE SURFACE (2")	15,002	SQYD		\$ -
16	ASPHALT PRIMER	6,392	GAL		\$ -
17	ASPHALT TACK	3,807	GAL		\$ -
18	CONCRETE APPROACH PAVEMENT	330.2	SQYD		\$ -
19	PIPE COLLAR	1	EA		\$ -
20	PEDESTRIAN FENCE (STRUCTURES)	302	LF		\$ -
21	6 IN. CONCRETE MEDIAN STRIP	29.0	SQYD		\$ -
22	ADA SIDEWALK RAMP	259.8	SQYD		\$ -
23	CONCRETE DRIVEWAY PAVEMENT (8")	237.3	SQYD		\$ -
24	CONCRETE SIDEWALK, 4 IN.	849.9	SQYD		\$ -
25	CONCRETE SIDEWALK, 9 IN.	23.9	SQYD		\$ -
26	CONCRETE SIDEWALK (8" REINFORCED)	1,781	SQYD		\$ -
27	CURB AND GUTTER (STD. UPRIGHT)	6,344	LF		\$ -
28	CURB TYPE S	139	LF		\$ -
29	MODULAR BLOCK RETAINING WALL	186	SQFT		\$ -
30	CONCRETE SIDEWALK WALL	55	SQFT		\$ -
31	GRATE AND BEARING PLATE (5 FT X 3 FT)	1	EA		\$ -
32	ROADWAY BARRIER	1,986	LF		\$ -

33	MOBILIZATION	1	LS		\$ -
34	COLDMILLING BITUMINOUS PAVEMENT (3IN.THICK OR LESS)	2,254	SQYD		\$ -
35	GEOGRID	1,723	SQYD		\$ -
36	CONTRACTOR FURNISHED SURVEYING AND STAKING	1	LS		\$ -
37	MECHANICALLY STABILIZED EARTH WALL SYSTEMS (MSE WALL #1)	22,606	SQFT		\$ -
38	SACRIFICIAL GRAFFITI PROTECTION SYSTEM	1	LS		\$ -
39	FORM LINERS FOR MSE WALL SYSTEMS	98	SQYD		\$ -
40	MECHANICALLY STABILIZED EARTH WALL SYSTEMS (MSE WALL #2)	27,848	SQFT		\$ -
41	SACRIFICIAL GRAFFITI PROTECTION SYSTEM	1	LS		\$ -
42	FORM LINERS FOR MSE WALL SYSTEMS	126	SQYD		\$ -
43	SELECT GRANULAR BACKFILL (SPECIAL)	5,650	CUYD		\$ -
44	12" RCP w/BEDDING	1,046	LF		\$ -
45	15" RCP w/BEDDING	1,022	LF		\$ -
46	18" RCP w/BEDDING	171	LF		\$ -
47	24" RCP w/BEDDING	447	LF		\$ -
48	30" RCP w/BEDDING	169	LF		\$ -
49	PRECAST CONCRETE DROP INLET 5 FT X 3 FT	4	FT		\$ -
50	TYPE A CURB INLET (3' X 2')	12	EA		\$ -
51	TYPE A CURB INLET (3' X 3')	3	EA		\$ -
52	TYPE B CURB INLET (2'-6" X 3')	2	EA		\$ -
53	TYPE B CURB INLET (2'-6" X 4')	1	EA		\$ -
54	TYPE B CURB INLET (5' X 3')	2	EA		\$ -
55	TYPE D CURB INLET (5' X 3')	7	EA		\$ -
56	TYPE D CURB INLET (7' X 4')	2	EA		\$ -
57	PRECAST CONCRETE MANHOLE 4' DIA.	4	EA		\$ -
58	PRECAST CONCRETE MANHOLE 5' DIA.	1	EA		\$ -
59	MANHOLE ADJUSTMENT	2	EA		\$ -
60	STORM INLET MODIFICATION	1	EA		\$ -
61	CONNECT TO EXISTING INLET	2	EA		\$ -
62	15 IN. RCP PRECAST CONCRETE FES	1	EA		\$ -
63	SEEDING, FERTILIZING AND MULCHING	2.6	ACRE		\$ -
64	KENTUCKY BLUGRASS SODDING	385	SY		\$ -
65	SEDIMENT REMOVAL	67	CUYD		\$ -
66	TEMPORARY SEEDING AND MULCHING	2.7	ACRE		\$ -
67	LINEAR EROSION CONTROL	1,991	LF		\$ -
68	DITCH CHECK	5	EA		\$ -
69	INLET PROTECTION	42	EA		\$ -
70	BRIDGE APPROACH SLAB (BRIDGE)	374	SQYD		\$ -
71	STRUCTURAL STEEL PILES (12 IN.)	1,104	LF		\$ -
72	PILE POINT REINFORCEMENT	16	EA		\$ -
73	CLASS B CONCRETE (SUBSTRUCTURE)	62.7	CY		\$ -
74	SLAB ON STEEL	918	SQYD		\$ -
75	SAFETY BARRIER CURB	346	LF		\$ -

76	SIDEWALK (BRIDGES)	3,328	SQFT		\$	-
77	FORM LINERS	70	SQYD		\$	-
78	CONDUIT SYSTEM ON STRUCTURE	1	LS		\$	-
79	TEMPORARY COATING-CONCRETE BENTS (WEATHERING STEEL)	1	LS		\$	-
80	FABRICATED STRUCTURAL LOW ALLOW STEEL (PLATE GIRDER) A709 GR. 50W	232,020	LB		\$	-
81	VERTICAL DRAIN AT END BENTS	2	EA		\$	-
82	LAMINATED NEOPRENE BEARING PAD (TAPERED)	16	EA		\$	-
83	CORRUGATED METAL PIPE PILE SPACERS	16	EA		\$	-
84	18" HUGHES JUNIPER (JUNIPERUS HORIZONTALIS)	140	EA		\$	-
85	RIVER ROCK LANDSCAPING	674	SY		\$	-
86	LANDSCAPE EDGING	1,765	LF		\$	-
87	CONSTRUCTION SIGNS	1,040	SQFT		\$	-
88	CHANNELIZER (TRIM LINE)	49	EA		\$	-
89	TYPE III MOVEABLE BARRICADE	97	EA		\$	-
90	FLASHING ARROW PANEL	1	EA		\$	-
91	CHANGEABLE MESSAGE SIGN, CONTRACTOR FURNISHED, CONTRACTOR RETAINED	2	LF		\$	-
92	TYPE 2 PREFORMED MARKING TAPE (GROOVED), 24 IN., WHITE	503	LF		\$	-
93	TYPE 2 PREFORMED MARKING TAPE (GROOVED), LEFT/RIGHT ARROW	9	EA		\$	-
94	PREFORMED REMOVABLE MARKING TAPE 4 IN., WHITE	737	LF		\$	-
95	4 IN. WHITE ACRYLIC WATERBORNE PAVEMENT MARKING PAINT	1,796	LF		\$	-
96	4 IN. YELLOW ACRYLIC WATERBORNE PAVEMENT MARKING PAINT	4,108	LF		\$	-
97	PAVEMENT MARKING REMOVAL	1,347	LF		\$	-
98	CONDUIT, 2 IN. RIGID, IN TRENCH	2,036	LF		\$	-
99	CONDUIT, 3 IN. RIGID, IN TRENCH	33	LF		\$	-
100	CONDUIT, 1.5 IN. RIGID, IN BARRIER	2,350	LF		\$	-
101	CONDUIT, 2 IN. RIGID, IN BARRIER	2,187	LF		\$	-
102	CONDUIT, 4 IN. RIGID, PUSHED	82	LF		\$	-
103	CONDUIT, 2 IN. RIGID, EXTERNAL ON STRUCTURE	123	LF		\$	-
104	TRENCHING TYPE I	2,069	LF		\$	-
105	CABLE, 6 AWG 1 CONDUCTOR	10,180	LF		\$	-
106	WIRE, 6 AWG, BARE NEUTRAL	5,380	LF		\$	-
107	PULL BOX, PREFORMED CLASS 1	5	EA		\$	-
108	PULL BOX, PREFORMED CLASS 2	1	EA		\$	-
109	JUNCTION BOX, 10"x8"x12", ENCASED	10	EA		\$	-
110	LIGHTING POLE, 28.5 FT. MTG. HT, TYPE CH	22	EA		\$	-
111	BRACKET ARM, 51 IN. L, 58 IN. RISE, TYPE ATC	22	EA		\$	-
112	LUMINAIRE, TEAR DROP LED, TYPE III	22	EA		\$	-

113	LUMINAIRE, POST TOP LED, TYPE III	8	EA		\$ -
114	POLE BASE, DUCTILE IRON WITH TENON	8	EA		\$ -
115	LUMINAIRE, WALL MOUNT LED, TYPE II	18	EA		\$ -
116	BASE MOUNTED CONTROL STATION 240 VOLT - 4 CIRCUIT	1	EA		\$ -
117	POWER SUPPLY ASSEMBLY, TYPE 1, 240/120 VOLT SERVICE, LIGHTING ONLY	1	EA		\$ -
118	POST, SIGNAL 8FT	1	EA		\$ -
119	VIDEO DETECTION SYSTEM	1	EA		\$ -
120	CONDUIT, 2 IN., TRENCH	15	LF		\$ -
121	CONDUIT, 3 IN., TRENCH	26	LF		\$ -
122	CONDUIT, 4 IN., TRENCH	103	LF		\$ -
123	CONDUIT, 4 IN., PUSHED	261	LF		\$ -
124	CABLE, 16 AWG 2 CONDUCTOR	729	LF		\$ -
125	CABLE, 16 AWG 5 CONDUCTOR	735	LF		\$ -
126	CABLE 16 AWG 7 CONDUCTOR	796	LF		\$ -
127	PULL BOX, PREFORMED CLASS 2	4	EA		\$ -
128	PULL BOX, PREFORMED CLASS 3	2	EA		\$ -
129	BASE, CONCRETE	0.9	CUYD		\$ -
130	CONCRETE FOOTINGS, EMBEDDED	1.6	CUYD		\$ -
131	U-CHANNEL POST, 3 LB	132	LF		\$ -
132	PIPE POSTS	1,080	LB		\$ -
133	BREAKAWAY ASSEMBLY	9	EA		\$ -
134	TYPE SHR2L-1 SIGN	57	SQFT		\$ -
135	36 IN. OR 900 MM STOP SIGN	4	EA		\$ -
136	TYPE SHR2L-3 SIGN	24	SQFT		\$ -
137	SIGNAL SIGN, TYPE SHR2L-1	15.0	SQFT		\$ -
				Total	\$ -

Note: City reserves the right to add or delete from the contract.

The undersigned agrees to enter in a contract within fifteen (15) days from the notice of award should this proposal be accepted, and enter into bonds with good and sufficient securities to complete this work in 550 calendar days. Should the undersigned fail to complete the work within the allowed calendar days, a penalty of Two Thousand Eight Hundred Twenty Five Dollars (\$2,825) per calendar day thereafter shall be instituted, the amount to be deducted from the contract price. In order to pay all labor employed and material used in connection with this work, and to adjust all claims or liens that may arise in consequence of said work, to the satisfaction of the Director of Public Works, above said bonds shall also indemnify and save harmless the said City from all damages or injuries to any person or persons, either in the employ of the contractor, his agents, servants or employees.

In the event of the failure of the undersigned to enter into such contract within fifteen days of award, then the deposit or certified check of five percent (5%) of the total bid amount as surety is therefore forfeited to the City of Joplin.

Dated this _____ day of _____, 2013.

Complete Address _____

Company _____

By (signature) _____

PREBID SIGN-UP SHEET
20th Street Overpass
 August 28, 2013 at 10:00 a.m.

PLEASE PRINT CLEARLY

COMPANY	YOUR NAME	PHONE	FAX	E MAIL ADDRESS
ESI CONTRACTING	Roland Winters	816-523-5081	816-523-0183	rwinters@stbglobal.net
O'Brien Ready Mix	Tim Gilbert	620-288-1943	620-783-4373	obriengalens@Centurylink.net
Burk Bridge Co	Larry Burk	417-865-1683	417-865-1684	burkbridges@gmail.com
SINE WALL	Matt Austin	636/346-9245	—	AustinM@SINEWALL.com
Bob Buford ADS	Bob Buford	417-880-0917	—	bob.buford@ads-pipe.com
TRI-STATE ENGINEERING	ERIC ERWIN	417-438-9899	417-781-4714	erwin@tristate-engineering.com
PACI Const	Trevor Souders	417-293-4097		tsouders@paciconstructionllc.com
Chad Zickelrose MoDOT	Chad Zickelrose	417-895-7638		chad.zickelrose@modot.mo.gov
Palmer & Parrish	Mike Foley	417-864-6000	864-6004	mikefoley@ppimo.com

PRE-BID CONFERENCE
26th Street Overpass
August 28, 2013

ATTENDANCE:

Companies:

ESI Contracting – Roland Winters
O'Brien Ready Mix – Tim Gilbert
Burk Bridge Co. – Larry Burk
Sine Wall – Matt Austin
ADS – Bob Buford
Tri-State Engineering – Phil Erwin
Pace Construction – Travis Sanders
MoDOT – Chad Zickefoose
Palmerton & Parrish – Mike Foley
Ewing Signal – David Ewing
Emery Sapp & Sons Inc – David Tag
Apac of MO Inc. – Tim O'Connor
Krupp Construction – Jim Hawkins
Joplin Industrial Electric – Ryan Zengel
Snyder Construction Co – Ken Zerkel
D & E Plumbing – Steve Eoff
Doug Parke – Transystems
Erick Parke - Transystems

City staff:

David Hunt
Jack Schaller
Chad Weller
Linda White

Doug Parke, the senior project manager with Transystems opened the meeting with introductions of Transystems staff and city staff. Doug stated that everyone needed to sign in and make sure the name, phone number and e-mail address is readable as that is the way we would distribute the addendum by e-mail.

The purpose of the meeting is for us to provide a forum in which you are free to ask questions and we will provide updates on any outstanding issues and if you have questions during the meeting feel free to ask.

As everyone is aware the job consists of a grade separation on 20th Street between Indiana and New Hampshire. It includes concrete, asphalt, retaining walls, bridges, bridge grading, storm drainage, signals, signing and traffic control. Letting is scheduled for 10:00 a.m. next Friday, September 6 and bids should be delivered to the 4th floor, city hall. Plan is to take the low bidder to council on September 23rd. 550 calendar

days have been established for the project with liquidated damages set at \$2,825 per day. Please look at the contract document there is a bidder's check list please, be sure that you read that and get everything completed before you submit your bids.

As far as right of way updates, we have about half of the properties acquired up to date. Chad stated that we have 11 out of 21 acquired and there are 9 that we don't have. There is a map up here if you would like to take one it is basically a layout of each property that we have negotiated with or is still in the process. It shows what has been acquired and what hasn't by property. It will give you an idea of what you have to work with space wise. The north side is looking pretty good and the south side doesn't look as good, they are larger properties and once we get one it will knock out a long stretch. This is the same as the other projects we are working on, the timeline is so tight we are trying to get them as fast as we can.

What is the condemnation time frame?

We have to publish for at least 30 days, then the city attorney has to get the tracks together, which will probably be about another 3 weeks. So I'm thinking about 8 weeks starting November is what I'm looking at. Peter Edward's is the one that governs the condemnation date but I think November 8. That is if we quit acquiring right of way next week and that is probably what we will do. A lot of time on these once you start the condemnation it speeds up the negation process.

We are anticipating an addendum later this week we will update the JSP with tracts that have been acquired since we advertised because I know there have been some changes.

The Kansas City Southern and right of way agreement I know that is in the works and we are hearing that we are getting pretty close to getting that but have not received a final word on that yet.

That being said on the right of ways the goal is back on the utility companies and the big one is going to be Empire. They are scheduled to be in the first of November and out of the way by the end of November with all their utility relocations.

So if we don't get all of our right a ways by November 8 we are slightly back a week or so. Right I believe they will bring in material and set it out and be ready to go. They are going on the south side right? Right.

We do have some utility relocation and they are all pending on getting the right of way first and utility relocations come second. Brandon has been working on the utilities and the major ones are Empire on the south side they are shifting their east/west line about 30 feet. Missouri American Water has a line that runs down the middle of the road and will be relocating to the north side we think there will be some flexibility on that one. You might be able to work on top of that until they can get it relocated. They should be good to go on the north side east of the tracks. We are all clear. Obviously there are going to be some delays with getting right of ways.

As far as construction sequence you will be able to close 20th Street during construction and provide a detour at 32nd with Main Street and Connecticut being used for the detour as well.

Like I said before we do have an addendum coming out, in the plans that you picked up there is a section that is on traffic signals to be inserted, we have the traffic signal design sheets updated. That's at Indiana so we include that with the addendum along with any updated quantities. There is also a question we received earlier about the bearing capacity noted on the MSC sheets in talking with our geo tech, which is Palmerton & Parrish, we realized that never was incorrect. Actually the game plan now is to remove that number from the plans and work with Palmerton & Parrish to develop a sub grade modification that would accommodate the bearing capacity for the retaining wall. We will be adding some quantities for sub grade modifications. Palmerton & Parrish will review the wall design verses the field design and we will modify the quantities as needed. You should see something on the upcoming addendum. We also have a location that in the SW quadrant of 20th street and Kansas City Southern tracks it impacts the wall where there is a pond out there and years ago they filled it in with questionable materials. Palmerton and Parrish wants to get out there and do some more investigations but they haven't been able to get to it due to the right of way acquisition. They are anticipating adding additional quantities for that. If we could get permission to get on that property so we would do a couple of borings. If you could shoot them some correspondence? I'll keep after them. Our thought pattern right now is we have an idea where the pond was and will establish a quantity for that. Once they get their investigation done we might increase or decrease the quantity for that.

Next thing was on the storm water prevention plan. There was a copy of the storm water prevention plan in the bid documents. We are still in the process of getting the NOI, notice of intent, permit, if that comes in we will include it in the addendum if not we will distribute it later. The contractor can use either the slip provided in the plans or create their own and will be responsible for maintaining the original through the construction.

Brandon do you want to give updates on the utilities? Missouri American is done with what they want to do, they have an 8" water line main that has to be relocated and they are going to stay on the north side of the road. MGE is the same way they have one line that is going to be crossing, I believe it is around Wisconsin, that is where their main crosses and they want go underneath the msc wall. Empire is through with their design they are ready to relocate as soon as they get the right of way. ATT and Cable One are going to try to stay on Empire's poles. As soon as right of way is done they can mobilize on site right away.

We anticipated there being a delay with getting right of way and utility relocations. We tried to figure that in when we figured calendar days. We recommend that everyone establish their schedules with this in mind.

Does anyone have any questions?

Question: On that proposed line going under the msc wall is a location going to be shown on the addendum?

Answer: I can try to get you plans and get them forwarded off to you.

Question: There is an existing crossing?

Answer: Yes they just want to make it deeper.

Question: With the right of ways and utility relocation notice to proceed calendar days are you going to delay that until it is clear?

Answer: I anticipate us going ahead and starting the notice to proceed like has been said. We have factored that in and we factored calendar days starting at the end of November because that is when we thought and added an extra month to the calendar days. That allows you to get in there in November and do some work if you can but the anticipated thought process is that Empire will be out of the way by the end of November. If you can do anything before that we have already factored that in.

Question: Do you have any thoughts about the ground improvements when you are talking about the msc wall do you have any idea what your anticipated wobble bearing preference will be?

Answer: We are still working out the figures with Palmerton & Parrish I know they are working with the wall designer now and I think they have an idea what is going to be needed.

Question: That detailed light pole is there a clarification on what that unit is? I guess it shows a light pole sitting on top of the wall.

Answer: Yes there was a question on that as to whether it is resting on the wall or self supported. There will be a clarification on the addendum about that. Basically it will be a one solid cast in place it is all tied to the barrier and sidewalk.

Chad said he wanted to throw out a reminder that all sub contractors are required to fill out all the same paper work and documents forms that the main contractor requires including the 1273 forms. Subcontractors have to look the same as the main contractor.

Any other questions?

Ok Thank You guys.



Jeremiah W. (Jay) Nixon, Governor

Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

dnr.mo.gov

20th Street Grade Separation
MORA03782, Jasper County
City of Joplin
602 S Main Tree
Joplin, MO 64801

Enclosed please find your Missouri State Operating Permit which authorizes land disturbance activities for MORA03782. This permit has been issued as requested and is based upon application information entered in the Missouri Department of Natural Resources' (Department) ePermitting program. This permit contains several requirements and should be thoroughly read and understood. Please reference General Operating Permit number MORA03782 for future correspondences with the Department with regards to this land disturbance activity.

Acquisition of the permit does not imply that the requirements or ordinances of other local, state or federal permits are replaced or superseded. This permit does not authorize land disturbance activity in jurisdictional waters of the United States as defined by the Army Corps of Engineers (Corps), unless the permittee has obtained the required Clean Water Act Section 404 Permit. Not all land disturbance projects will require a 404 permit; however, if a 404 permit is required, land disturbance activities are not to be conducted in the jurisdictional area of the project until the 404 permit has been obtained. Information for the Missouri Corps offices can be found in the general operating permit's Fact Sheet.

Please contact the applicable Regional Office if you would like to schedule an Environmental Assistance Visit (EAV). Regional Office contact information is contained with the documents issued with the operating permit. During the visit, Department staff will review the requirements of the permit and answer questions pertaining to Land Disturbance activities.

Sincerely,

Water Protection Program

A handwritten signature in cursive script that reads "John Madras".

John Madras
Director

JM

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

General Operating Permit

In compliance with the Missouri Clean Water Law, (chapter 644 R.S. Mo as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MORA03782
Owner: City of Joplin
Address: 602 S Main Tree
Joplin, MO 64801
Continuing Authority: City of Joplin
602 S Main Tree
Joplin, MO 64801
Facility Name: 20th Street Grade Separation
Facility Address: 1200 block of E. 20th Street
JOPLIN, MO 64804
Legal Description: Sec. 14, T 27N, R 33W, Jasper County
UTM Coordinates: 366601.967 / 4103612.918
Receiving Stream: Tributary to Joplin Creek (U)
First Classified Stream - ID#: Turkey Cr. (P) 303(d) 3216.00
USGS# and Sub Watershed#: 11070207 - 0901

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

FACILITY DESCRIPTION All Outfalls SIC # 1629

All Outfalls - Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading and other activities that result in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution to waters of the state).

This permit authorizes only wastewater, including storm water, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System, it does not apply to other regulated areas. This permit may be appealed in accordance with RSMo Section 644.051.6 and 621.250, 10 CSR 20-6.020, and 10 CSR 20-1.020.

Handwritten signature of Sara Parker Pauley in black ink.

08/28/2013
Issue date Sara Parker Pauley, Director
Department of Natural Resources

Handwritten signature of John Madras in black ink.

02/07/2017
Expiration date John Madras
Director, Water Protection Program

A. APPLICABILITY

1. This general permit authorizes the discharge of stormwater and certain non-stormwater discharges from land disturbance sites that disturb one or more acres or disturb less than one acre when part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project. This general permit also authorizes the discharge of stormwater and certain non-stormwater discharges from smaller projects where the Missouri Department of Natural Resources (Department) has exercised its discretion to require a permit [10 CSR 20-6.200 (1)(B)].

A Missouri State Operating Permit that specifically identifies the project must be issued before any site vegetation is removed or the site disturbed.

Any site owner/operator subject to these requirements for stormwater discharges and who disturbs land prior to permit issuance from the Department is in violation of both State and Federal Laws.

The legal owner of the property or the holder of an easement on the property, and operator on which the site is located are responsible for compliance with this permit.

2. This permit authorizes non-stormwater discharges from the following activities provided that these discharges are addressed in the permittee's specific Stormwater Pollution Prevention Plan (SWPPP) required by this general permit:
 - a. De-watering activities if there are no contaminants other than sediment present in the discharge, and the discharge is treated as specified in Requirements, Section C.3.m. of this permit;
 - b. Flushing water hydrants and potable water lines;
 - c. Water only (i.e., without detergents or additives) rinsing of streets and buildings; and
 - d. Site watering to establish vegetation.
3. This general permit does not authorize the placement of fill materials in flood plains, the obstruction of stream flow, directing stormwaters across private property not owned or operated by the permittee, or changing the channel of a defined drainage course. This general permit addresses only the quality of the stormwater runoff and the minimization of off-site migration of sediments and other water contaminants.
4. This general permit does not authorize any discharge to waters of the state of sewage or pollutants including but not limited to:
 - a. Any hazardous material, oil, lubricant, solid waste or other non-naturally occurring substance from the site, including fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
 - b. Soaps or solvents used in vehicle and equipment washing;
 - c. Hazardous substances or petroleum products from an on-site spill or handling and disposal practices,
 - d. Wash and/or rinse waters from concrete mixing equipment including ready mix concrete trucks, unless managed by an appropriate control. Any such pollutants must be adequately treated and addressed in the SWPPP, and cannot be discharged to waters of the state;
 - e. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
 - f. Wastewater generated from air pollution control equipment or the containment of scrubber water in lined ponds;
 - g. Domestic wastewaters, including gray waters; or
 - h. Industrial stormwater runoff.

A. APPLICABILITY (continued)

5. The Department reserves the right to revoke or deny coverage under this general permit to applicants for stormwater discharges from land disturbance activities at sites that have contaminated soils that will be disturbed by the land disturbance activity or where such materials are brought to the site to use as fill or borrow. A site-specific permit may be required to cover such activities.
6. Discharges shall not cause violations of the Water Quality Standards 10 CSR 20-7.0.031(3). If at any time the Department determines that the quality of waters of the state may be better protected by requiring the owner/operator of the permitted site to apply for a site-specific permit, the Department may require any person to obtain a site-specific operating permit [10 CSR 20-6.010(13)(C)].

The Department may require the permittee to apply for and obtain a site-specific or different general permit if:

- a. The permittee is not in compliance with the conditions of this general permit;
- b. The discharge no longer qualifies for this general permit due to changed site conditions and/or regulations; or
- c. Information becomes available that indicates water quality standards have been or may be violated.

The permittee will be notified in writing of the requirement to apply for a site-specific permit or a different general permit. When a site-specific permit or different general permit is issued to the authorized permittee, the applicability of this general permit to the permittee is automatically terminated upon the effective date of the site specific or different general permit.

7. Any owner/operator authorized by a general permit may request to be excluded from the coverage of the general permit and apply for a site-specific permit [10 CSR 20-6.010(13)(D)].
8. This permit does not authorize land disturbance activity in jurisdictional waters of the United States as defined by the Army Corps of Engineers, unless the permittee has obtained the required 404/401 permit. Land disturbance activities may not begin in the affected portions of the site until the required 404/401 permits have been obtained.
9. This permit does not supersede compliance with the Historic Preservation Act or the Endangered Species Act.
10. This permit does not supersede any requirement for obtaining project approval under an established local authority.
11. This permit is not transferable to other owners or operators.

B. EXEMPTIONS FROM PERMIT REQUIREMENTS

1. Facilities that discharge all stormwater runoff directly to a combined sewer system are exempt from stormwater permit requirements.
2. Land disturbance activity as described in [10 CSR 20-6.200(1)(B)] and [10 CSR 20-6.010(1)(B)] where water quality standards are not exceeded.
3. Linear, strip, or ribbon construction (as described in [10 CSR 20-6.200(1)(B)8]) where water quality standards are not exceeded.
4. Sites that disturb less than one acre of total land area as described in [10 CSR20-6.200(1)(B)7], that are not part of a common plan or sale and that do not cause any violations of water quality standards, and are not otherwise designated by the Department as requiring a permit.
5. Agricultural stormwater discharges and irrigation return flows as described in [10CSR 20-6.200(1)(B)6].

C. REQUIREMENTS

These requirements do not supersede nor remove any requirement to comply with county or other local ordinances [10 CSR20-6.010(14)(D)]:

1. This permit is to ensure the design, the installation and the maintenance of effective erosion controls and sediment controls to minimize the discharge of pollutants. At minimum, such controls must be designed, installed and maintained to:
 - a. Control stormwater volume and velocity within the site to minimize soil erosion;
 - b. Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
 - c. Minimize the amount of soil exposed during construction activity;
 - d. Minimize the disturbance of steep slopes;
 - e. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle size expected to be present on the site.;
 - f. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible; and
 - g. Minimize soil compaction and, unless infeasible, preserve topsoil.
2. The primary requirement of this permit is the development and implementation of a SWPPP which incorporates site specific practices to best minimize the soil exposure, soil erosion, and the discharge of pollutants. The permittee shall fully implement the provisions of the SWPPP required under this part as a condition of this general permit throughout the term of the land disturbance project. **The SWPPP must be developed prior to issuance of the permit and must be specific to the land disturbance activities at the site.** A permit must be issued before any disturbance of root zone of the existing vegetation or other land disturbance activities may begin. A copy of the SWPPP must be available on-site when land disturbance operations are in progress, or other operational activities that may affect the maintenance or integrity of the Best Management Practices (BMP) structures and made available made available as specified under Section F. Records of this permit.

C. REQUIREMENTS (continued)

The SWPPP must:

- a. List and describe all outfalls;
- b. Incorporate required practices identified below;
- c. Incorporate erosion control practices specific to site conditions;
- d. Provide for maintenance and adherence to the plan;
- e. Discuss whether or not a 404/401 Permit is required for the project; and
- f. Name the person responsible for inspection, operation and maintenance of BMPs.

The purpose of the SWPPP is to ensure; the design, implementation, management and maintenance of BMPs in order to prevent sediment and other pollutants in stormwater discharges associated with the land disturbance activities; compliance with the Missouri Water Quality Standards; and compliance with the terms and conditions of this general permit.

The permittee shall select, install, use, operate and maintain appropriate BMPs for the permitted site. The following manuals are acceptable resources for the selection of appropriate BMPs. *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*, (Document number EPA 833-R-06-004) published by the United States Environmental Protection Agency (USEPA) in May 2007. This manual as well as other information, including examples of construction SWPPPs, is available at the USEPA internet site at <http://cfpub1.epa.gov/npdes/stormwater/swppp.cfm>; and

The latest version of *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri*, published by the Missouri Department of Natural Resources. This manual is available on the Department's internet site at: <http://www.dnr.mo.gov/env/wpp/wpcp-guide.htm>.

The permittee is not limited to the use of these guidance manuals. Other guidance publications may be used to select appropriate BMPs. However, all BMPs should be described and justified in the SWPPP.

3. SWPPP Requirements: The following information and practices shall be provided for in the SWPPP:
 - a. Nature of the Construction Activity: The SWPPP briefly must describe the nature of the construction activity, including:
 - 1) The function of the project (e.g., low density residential, shopping mall, highway, etc.);
 - 2) The intended sequence and timing of activities that disturb the soils at the site;
 - 3) Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities including off-site borrow and fill areas; and
 - 4) A general map (e.g., United States Geological Survey quadrangle map, a portion of a city or county map, or other map) with enough detail to identify the location of the construction site and waters of the United States within one mile of the site.

C. REQUIREMENTS (continued)

- b. Site Map: The SWPPP must contain a legible site map showing the site boundaries and outfalls and identifying:
- 1) Direction(s) of stormwater flow and approximate slopes anticipated after grading activities;
 - 2) Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
 - 3) Location of major structural and non-structural BMPs identified in the SWPPP;
 - 4) Locations where stabilization practices are expected to occur;
 - 5) Locations of off-site material, waste, borrow or equipment storage areas;
 - 6) Locations of all waters of the United States (including wetlands);
 - 7) Locations where stormwater discharges to a surface water; and
 - 8) Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.
- c. Site Description: In order to identify the site, the SWPPP shall include facility and outfall information. The SWPPP shall have sufficient information to be of practical use to contractors and site construction workers to guide the installation and maintenance of BMPs.
- d. Effluent Limits: The permittee must select control measurements (e.g., BMPs, controls, practices, etc.) to meet effluent limits found in Section E.1. of this permit. All control measures must be properly selected, installed and maintained in accordance with any relevant manufacturer specifications and good engineering practices. The permittee must implement the control measures from commencement of the construction activity until final stabilization is complete unless the exception noted in Section C.3.i. of this permit applies.
- e. Selection of Temporary and Permanent Non-Structural BMPs: The permittee shall select appropriate non-structural BMPs for use at the site and list them in the SWPPP. The SWPPP shall require existing vegetation to be preserved where practical. For surface waters located on or immediately adjacent to the site, the permittee must provide at minimum a 25-foot buffer of undisturbed natural vegetation between the disturbed portions of the site and the surface water unless infeasible or where there is a more stringent local requirement. The time period for disturbed areas to be without vegetative cover is to be minimized to the maximum extent practicable.

Examples of non-structural BMPs which the permittee should consider specifying in the SWPPP include preservation of trees and mature vegetation, protection of existing vegetation for use as buffer strips, mulching, sodding, temporary seeding, final seeding, geotextiles, stabilization of disturbed areas, preserving existing stream channels as overflow areas when channel straightening or shortening is allowed, soil stabilizing emulsions and tackifiers, mulch tackifiers, stabilized site entrances/exits and other appropriate BMPs.

- f. Selection of Temporary and Permanent Structural BMPs: The permittee shall select appropriate structural BMPs for use at the site and list them in the SWPPP. Examples of structural BMPs that the permittee should consider specifying in the SWPPP include diverting flows from undisturbed areas away from disturbed areas, silt (filter fabric and/or straw bale) fences, earthen diversion dikes, drainage swales, sediment traps, rock check dams, subsurface drains (to gather or transport water for surface discharge elsewhere), pipe slope drains (to carry concentrated flow down a slope face), level spreaders (to distribute concentrated flow into sheet flow), storm drain inlet protection and outlet protection, reinforced soil retaining systems, gabions, temporary or permanent sediment basins and other appropriate BMPs.

C. REQUIREMENTS (continued)

- g. Description of BMPs: The SWPPP shall include a description of both structural and non-structural BMPs that will be used at the site.

The SWPPP shall provide the following general information for each BMP which will be used one or more times at the site:

- 1) Physical description of the BMP;
- 2) Site and physical conditions that must be met for effective use of the BMP;
- 3) BMP installation/construction procedures, including typical drawings; and
- 4) Operation and maintenance procedures for the BMP.

The SWPPP shall provide the following information for each specific instance where a BMP is to be installed:

- 1) Whether the BMP is temporary or permanent;
- 2) Where, in relation to other site features, the BMP is to be located;
- 3) When the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project; and
- 4) Site conditions that must be met before removal of the BMP if the BMP is not a permanent BMP.

- h. Disturbed Areas: Slopes for disturbed areas must be defined in the SWPPP. A site map or maps defining the sloped areas for all phases of the project must be included in the SWPPP. Stabilization must be initiated immediately and completed within seven (7) calendar days where soil disturbing activities have temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days the permittee shall construct BMPs to establish interim stabilization. Interim stabilization shall consist of well established and maintained BMPs that are reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area than is normally used during daily operations. These BMPs may include a combination of sediment basins, check dams, sediment fences and mulch. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed and the steepness of the slopes. If the slope of the area is greater than 3:1 (three feet horizontal to one foot vertical) or if the slope is greater than 3% and greater than 150 feet in length, then the permittee shall establish interim stabilization within seven days of ceasing operations on that part of the site. Final stabilization of disturbed areas must be initiated immediately and completed within seven (7) calendar days whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site. Allowances to the seven (7) day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. The use of allowances shall be documented in the SWPPP.
- i. Installation: The permittee shall ensure the BMPs are properly installed at the locations and relative times specified in the SWPPP. Peripheral or border BMPs to control runoff from disturbed areas shall be installed or marked for preservation before general site clearing is started. Note that this requirement does not apply to earth disturbances related to initial site clearing and establishing entry, exit and access of the site, which may require that stormwater controls be installed immediately after the earth disturbance. Stormwater discharges from disturbed areas which leave the site shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps and silt fences prior to leaving the land disturbance site. A drainage course change shall be clearly marked on a site map and described in the SWPPP. The location of all BMPs must be indicated on a site map, included in the SWPPP.

C. REQUIREMENTS (continued)

- j. Sedimentation Basins: The SWPPP shall include a sedimentation basin for each drainage area with ten or more acres disturbed at one time. The sedimentation basin shall be sized to contain a volume of at least 3,600 cubic feet per each disturbed acre draining thereto. Accumulated sediment shall be removed from the basin when basin is 50% full. When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface unless infeasible. Discharges from the basin shall not cause scouring of the banks or bottom of the receiving stream. The SWPPP shall require the basin be maintained until final stabilization of the disturbed area served by the basin.

Where use of a sediment basin is impractical, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment delivery. These similarly effective BMPs shall be selected from appropriate BMP guidance documents authorized by this permit. The BMPs must provide equivalent water quality protection to achieve compliance with this permit. The SWPPP shall require both temporary and permanent sedimentation basins to have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.

- k. Pollution Prevention Measures: The SWPPP shall include BMPs for pollution prevention measures. At minimum such measures must be designed, installed, implemented and maintained to:
- 1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
 - 2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
 - 3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures. Included but not limited to the installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers.
- l. Roadways: Where applicable, upon installation of or connection to roadways, all efforts should be made to prevent the deposition of earth and sediment onto roadways through the use of proper BMPs. Stormwater inlets susceptible to receiving sediment from the permitted land disturbance site shall have curb inlet protection. Where stormwater will flow off the end of where a roadway terminates, a sediment catching BMP such as gravel berm or silt fence shall be provided. Roadways and curb inlets shall be cleaned weekly or following a rainfall that generates a run-off. Where practicable, construction entrance BMP controls shall be used to prevent sediment trackout.
- m. Dewatering: Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods including the anticipated volume of water to be discharged and the anticipated maximum flow discharged from these dewatering activities expressed in gallons per minute. Maximum flow may be stated in the SWPPP as an estimate based on the type and capacity of equipment being used for dewatering. The SWPPP shall call for specific BMPs designed to treat water pumped from trenches and excavations and in no case shall this water be pumped off-site without being treated by the specified BMPs. When discharging from basins and impoundments utilize outlet structures that withdraw water from the surface, unless infeasible.

C. REQUIREMENTS (continued)

4. Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state. Solid and hazardous waste management include providing trash containers and regular site clean up for proper disposal of solid waste such as scrap building material, product/material shipping waste, food containers and cups, and providing containers and proper disposal of waste paints, solvents and cleaning compounds. The provision of portable toilets for proper disposal of sanitary sewage and the storage of construction materials should be kept away from drainage courses and low areas.
5. All fueling facilities present shall at all times adhere to applicable federal and state regulations concerning underground storage, above ground storage and dispensers.
6. Hazardous wastes that are transported, stored, or used for maintenance, cleaning, or repair shall be managed according to the provisions of the Missouri Hazardous Waste Laws and Regulations.
7. All paint, solvents, petroleum products, petroleum waste products and storage containers such as drums, cans, or cartons shall be stored according to BMPs. The materials exposed to precipitation shall be stored in watertight, structurally sound, closed containers. All containers shall be inspected for leaks or spillage during the once per week inspection of BMPs.
8. Amending/Updating the SWPPP: The permittee shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. The permittee shall amend the SWPPP at a minimum whenever the:
 - a. Design, operation, or maintenance of BMPs is changed;
 - b. Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
 - c. Permittee's inspections indicate deficiencies in the SWPPP or any BMP;
 - d. Department notifies the permittee in writing of deficiencies in the SWPPP;
 - e. SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or excessive sediment deposits in streams or lakes);
 - f. Settleable Solids from a stormwater outfall exceed 2.5 ml/L; and
 - g. Department determines violations of water quality standards may occur or have occurred.
9. An individual shall be designated by the permittee as responsible for environmental matters. The individual responsible for environmental matters shall have a thorough and demonstrable knowledge of the site's SWPPP and sediment and erosion control practices in general. The individual responsible for environmental matters or a designated inspector knowledgeable in erosion, sediment and stormwater control principles shall inspect all structures that function to prevent pollution of waters of the state. These inspections shall be conducted in accordance with C.10 of these requirements.

C. REQUIREMENTS (continued)

10. Site Inspections Reports: The permittee (or a representative of the permittee) shall conduct regularly scheduled inspections at least once per seven calendar days. These inspections shall be conducted by a qualified person, one who is responsible for environmental matters at the site, or a person trained by and directly supervised by the person responsible for environmental matters at the site. For disturbed areas that have not been finally stabilized, all installed BMPs and other pollution control measures shall be inspected for proper installation, operation and maintenance. All stormwater outfalls shall be inspected for evidence of erosion or sediment deposition. When practicable the receiving stream shall also be inspected for 50 feet downstream of the outfall. Any structural or maintenance problems shall be noted in an inspection report and corrected within seven calendar days of the inspection. If a rainfall causes stormwater runoff to occur on-site, the BMPs must be inspected within a reasonable time period after the rainfall event has ceased. These inspections must occur within 48 hours after the rain event has ceased during a normal work day and within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.

The SWPPP must explain how the person responsible for erosion control will be notified when stormwater runoff occurs. If weather conditions prevent correction of BMPs within 7 calendar days, the reasons for the delay must be documented (including pictures) and there must be a narrative explaining why the work cannot be accomplished within the 7 day time period. The documentation must be filed with the regular inspection reports. The permittee shall correct the problem as soon as weather conditions allow. Areas on-site that have been finally stabilized must be inspected at least once per month.

A log of each inspection and copy of the inspection report shall be kept on-site. The inspection report shall be signed by the permittee or by the person performing the inspection if duly authorized to do so. The inspection report is to include the following minimum information:

- a. Inspector's name;
 - b. Date of inspection;
 - c. Observations relative to the effectiveness of the BMPs;
 - d. Actions taken or necessary to correct the observed problem; and
 - e. Listing of areas where land disturbance operations have permanently or temporarily stopped.
11. Proper Operation and Maintenance: The permittee shall at all times maintain all pollution control measures and systems in good order to achieve compliance with the terms of this general permit.
12. Notification to All Contractors: The permittee shall be responsible for notifying each contractor or entity (including utility crews and city employees or their agents) who will perform work at the site of the existence of the SWPPP and what action or precautions shall be taken while on-site to minimize the potential for erosion and the potential for damaging any BMP. The permittee is responsible for any damage a subcontractor may do to established BMPs and any subsequent water quality violation resulting from the damage.
13. Public Notification: The permittee shall post a copy of the public notification sign described by the Department at the main entrance to the site. The public notification sign must be visible from the public road that provides access to the site's main entrance. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP. The public notification sign must remain posted at the site until the permit has been terminated.

D. OTHER DISCHARGES

1. Hazardous Substance and Oil Spill Reporting: Refer to Section B, #14 of Part I of the Standard Conditions that accompany this permit.
2. Removed substances: Refer to Section B, #6 of Part I of the Standard Conditions that accompany this permit.
3. Change in discharge: In the event soil contamination or hazardous substances are discovered at the site during land disturbance activities, the permittee shall notify the Department's regional office by telephone as soon as practicable but no later than 24 hours after discovery. The permittee must also notify the Department's regional office in writing no later than 14 calendar days after discovery.

E. SAMPLING REQUIREMENTS AND EFFLUENT LIMITATIONS

1. The effluent limitation for Settleable Solids from a stormwater outfall discharging shall not exceed 2.5 ml/L per Standard Method 2540 F, except immediately following the local 2-year, 24-hour storm event. The Settleable Solids limit is not enforceable during or greater than the local 2-year, 24-hour storm event.
2. The Department may require sampling and reporting as a result of illegal discharges, compliance issues, complaint investigations, or other such evidence of contamination from activities at the site. If such an action is needed, the Department will specify in writing any sampling requirements, including such information as location, extent and parameters.

F. RECORDS

1. The permittee shall retain copies of this general permit, the SWPPP and all amendments for the site named in the State Operating Permit, results of any monitoring and analysis and all site inspection records required by this general permit. The records shall be accessible during normal business hours. The records shall be retained for a period of at least three years from the date of the Letter of Termination.
2. The permittee shall provide a copy of the SWPPP to the Department, USEPA, or any local agency or government representative if they request a copy in the performance of their official duties.
3. The permittee shall provide a copy of the SWPPP to those who are responsible for installation, operation, or maintenance of any BMP. The permittee, their representative, and/or the contractor(s) responsible for installation, operation and maintenance of the BMPs shall have a current copy of the SWPPP with them when on the project site.

G. LAND PURCHASE AND CHANGE OF OWNERSHIP

1. Federal and Missouri stormwater regulations [10 CSR 20-6.200] require a stormwater permit and erosion control measures for all land disturbances of one or more acres. These regulations also require a permit for less than one acre lots if the lot is part of a common plan of development or sale where that plan is at least one acre in size. If the permittee sells less than one acre of the permitted site to an entity for, commercial, industrial, or residential use, (unless sold to an individual for the purpose of building his/her own private residence and in accordance with G.3 of this section) this land remains a part of the common sale and regulated by this permit. Therefore, the permittee is still responsible for erosion control on the sold property until termination of the permit.
2. If the permittee sells one or more acres of the permitted site to an entity, the new owner of the property must obtain a land disturbance permit for the purchased property. The original permittee must amend the SWPPP to show that the property (one acre or more) has been sold and therefore no longer under the original permit jurisdiction.
3. If the permittee has stabilized the less than one acre lot which is part of a larger common plan of development and the lot is sold to an individual for purposes of building his/her own private residence, the permittee is no longer responsible for erosion control on the lot.
4. Property of any size which is part of a larger common plan of development where the property has been stabilized and the original permit terminated will require application of a new land disturbance permit for any future land disturbance activity.
5. If the entire tract is sold to a single entity, then this permit shall be terminated when the new owner obtains a new land disturbance permit for the site.

H. TERMINATION

This permit may be terminated when the project is stabilized. The project is considered to be stabilized when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation cover shall be at least 70% plant density over 100% of the site. In order to terminate the permit, the permittee shall notify the Department.

The Cover Page (Certificate Page) of the Master General Permit for Land Disturbance specifies the "effective date" and the "expiration date" of the Master General Permit. The "issued date" along with the "expiration date" will appear on the State Operating Permit issued to the applicant. This permit does not continue administratively beyond the expiration date.

If the project or development completion date will be after the expiration date of this general permit, then the permittee must reapply to the Department for a new permit. The applicant must file a request to the Department for a new permit 180 days prior to the expiration of this permit.

If the permittee has not terminated the permit and the permit expires, and the permittee has not applied for a new permit the permittee will be considered "operating without a permit" if the site does not meet the requirements for termination.

I. MODIFICATION, REVOCATION, AND REOPENING

1. The U.S. Environmental Protection Agency (EPA) has proposed stormwater requirements that may direct the State to reopen this permit. The EPA is proposing to change its construction general permit (CGP) with more prescriptive requirements and design standards for buffers to prevent stormwater runoff, increased monitoring requirements and more frequent inspections. While the EPA permit is only effective in areas where EPA has permitting authority these requirements are likely to act as a template, setting a baseline for the EPA approval of state plans for permitting sites.
2. If at any time the Department determines that the quality of waters of the state may be better protected by reopening this permit, or revoking this permit and requiring the owner/operator of the permitted site to apply for a site-specific permit, the Department may revoke a general permit and require any person to obtain such an operating permit as authorized by 10 CSR 20-6.010(13) and 10 CSR 20-6.200(1)(B).
3. If this permit is reopened, modified or revoked pursuant to this Section, the permittee retains all rights under Chapter 536 and 644 Revised Statutes of Missouri upon the Department's reissuance of the permit as well as all other forms of administrative, judicial, and equitable relief available under law.

J. DUTY TO COMPLY

The permittee must comply with all conditions of this general permit. Any noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
Revised
October 1, 1980

PART I - GENERAL CONDITIONS
SECTION A - MONITORING AND REPORTING

1. **Representative Sampling**
 - a. Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
 - b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office. The Regional Office address is indicated in the cover letter transmitting the permit.
2. **Schedule of Compliance**

No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting the permit.
3. **Definitions**

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.
4. **Test Procedures**

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.
5. **Recording of Results**
 - a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
 - (i) the date, exact place, and time of sampling or measurements;
 - (ii) the individual(s) who performed the sampling or measurements;
 - (iii) the date(s) analyses were performed;
 - (iv) the individual(s) who performed the analyses;
 - (v) the analytical techniques or methods used; and
 - (vi) the results of such analyses.
 - b. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or both.
 - c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

SECTION B - MANAGEMENT REQUIREMENTS

1. **Change in Discharge**
 - a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
 - b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such change, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.
2. **Noncompliance Notification**
 - a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
 - (i) a description of the discharge and cause of noncompliance, and
 - (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.
 - b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
3. **Facilities Operation**

Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.
4. **Adverse Impact**

The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. **Bypassing**
- Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
 - where unavoidable to prevent loss of life, personal injury, or severe property damages; and
 - where unavoidable excessive storm damage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
 - where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.
 - The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.
6. **Removed Substances**
Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the permittee.
7. **Power Failures**
In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:
- in accordance with the "Schedule of Compliance," provide an alternative power source sufficient to operate the wastewater control facilities; or
 - if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.
8. **Right of Entry**
For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department shall be allowed by the permittee, upon presentation of credentials and at reasonable times:
- to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
 - to have access to, or copy, any records required to be kept under terms and conditions of the permit;
 - to inspect any monitoring equipment or method required in the permit;
 - to inspect any collection, treatment, or discharge facility covered under the permit; and
 - to sample any wastewater at any point in the collection system or treatment process.
9. **Permits Transferable**
- Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
 - The Department, within thirty (30) days of receipt of the application, shall notify the new permittee of its intent to revoke and reissue or transfer the permit.
10. **Availability of Reports**
Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of the Law.
11. **Permit Modification**
- Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - violation of any terms or conditions of this permit or the Law;
 - having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
 - a change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
 - any reason set forth in the Law and Regulations.
 - The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.
12. **Permit Modification - Less Stringent Requirements**
If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.
13. **Civil and Criminal Liability**
Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.
14. **Oil and Hazardous Substance Liability**
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.
15. **State Laws**
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.
16. **Property Rights**
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, no does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.
17. **Duty to Re-apply**
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.
18. **Toxic Pollutants**
If a toxic effluent standard, prohibition, or schedule of compliance is established under Section 307(m) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.
19. **Signatory Requirement**
All reports, or information submitted to the Director shall be signed (see 40 CFR 122.6).
20. **Rights Not Affected**
Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.
21. **Severability**
The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

State of Missouri
Missouri Department of Natural Resources

FACT SHEET

MORA00000 LAND DISTURBANCE GENERAL PERMIT
2012 Reissue

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major , Minor , Industrial Facility ; Variance ; Master General Permit ; General Permit Covered Facility ; and/or permit with widespread public interest .

PART I. NPDES Stormwater General Permit

The vast majority of discharges associated with construction activity are covered under NPDES general permits. General permits cover a group of similar dischargers under one permit. General permits simplify the process for dischargers to obtain authorization to discharge, provide permit requirements for any discharger that applies for coverage, and reduce the administrative workload for NPDES permitting authorities.

This General Permit is for regulating stormwater discharge at land disturbance construction sites in Missouri. This program requires the owner or operator of a construction site disturbing land of one acre or greater, or less than one acre but part of a larger common plan of development, to obtain this permit prior to conducting any land disturbance activity.

PART II. The Need for Stormwater Regulations at Construction Sites

Stormwater runoff is a major source of urban water pollution endangering humans by polluting the water resources used for drinking, household purposes, recreation and fishing. Stormwater discharges often contain pollutants in amounts that could reduce water quality. The primary pollutants of concern from construction activities are silt and sediment, but other pollutants such as oils and grease, vehicle fluids, and debris are present as well.

Stormwater runoff from construction activities can have a significant impact on water quality. As stormwater flows over a construction site, it can pick up pollutants like sediment, debris, and chemicals and transport these to a nearby storm sewer system or directly to a river, lake, or coastal water. Polluted stormwater runoff can harm or kill fish and other wildlife. Sedimentation can destroy aquatic habitat, and high volumes of runoff can cause stream bank erosion. Debris can clog waterways and potentially reach the ocean where it can kill marine wildlife and impact habitat.

Construction activities increase pollutant loads in runoff. The volume and rate of runoff are typically increased, providing a larger capacity to transport pollutants to rivers and lakes. In addition, the removal of vegetation leaves bare soil which is much more vulnerable to erosion, resulting in sediment moving into receiving waters.

Additional stormwater information and requirements including application for a land disturbance permit can be found at <http://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm>.

PART III. Key Components of this Permit

The key components of this permit are effluent limitations that require the permittee to minimize discharge of pollutants in stormwater by using control measures that reflect best engineering practices based on federal and state government best professional judgment. Dischargers must minimize their discharge of pollutants in stormwater using appropriate erosion and sediment controls and control measures for other pollutants such as litter, construction debris, and construction chemicals that could be exposed to stormwater and other wastewater. This general permit requires dischargers to develop a stormwater pollution prevention plan (SWPPP) to document the steps they will take to comply with the terms, conditions and effluent limitations of the permit. Note that the SWPPP is not an effluent limitation, nor does it include effluent limitations. Information including examples of a SWPPP can be found at the following <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm#model>. These examples should be used for educational or training purposes only. Construction site SWPPPs must be developed following the requirements of Missouri's land disturbance permit and describe the specific conditions of the site and plans for development.

PART IV. Additional Information for the Purpose of Permit Clarity

Applicability

- **“Industrial stormwater run-off”** are activities that take place at industrial facilities, such as material handling and storage, that are often exposed to the weather. As runoff from rain or snowmelt comes into contact with these activities, it can pick up pollutants and transport them to a nearby storm sewer system or directly to a river, lake, or coastal water. To minimize the impact of stormwater discharges from industrial facilities, the NPDES program includes an industrial stormwater permitting component that covers 10 categories of industrial activity that require authorization under an NPDES industrial stormwater permit for stormwater discharges. More information on industrial permit requirements can be found at <http://dnr.mo.gov/env/wpp/stormwater/sw-industrial-permits.htm>.
- A **“larger common plan of development or sale”** is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future, this would be considered a larger common plan of development or sale. If the land is parceled off or sold, and construction occurs on plots that are less than one acre by separate, independent builders, this activity still would be subject to stormwater permitting requirements if the smaller plots were included on the original site plan. Other than the less than one acre property sold to the individual for construction of their personal residence, property of any size which is part of a larger common plan of development where the property has been stabilized and the original permit terminated will require application of a new land disturbance permit for any future land disturbance activity. The larger common plan of development or sale also applies to other types of land development such as industrial parks or well fields. A permit is required if one or more acres of land will be disturbed, regardless of the size of any of the individually-owned or developed sites.
- Documentation of Permit Eligibility Related to **Endangered Species**: The SWPPP must include documentation supporting a determination of permit eligibility with regard to Endangered Species.

For more information please visit the following links:

For information on understand what critical habitat is, please go to the following link, www.fs.fed.us/r9/wildlife/tes/docs/esa_references/critical_habitat.pdf.

For information on listed species by State & County, please go to the following link, <http://cfpub.epa.gov/npdes/stormwater/esa.cfm>.

The Missouri Department of Conservation's internet site for the Natural Heritage Review may be very helpful and can be found at the following link, <http://mdcgis.mdc.mo.gov/heritage/newheritage/heritage.htm>. Also helpful are the local offices of the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), these centers often maintain lists of federally listed endangered or threatened species on their internet sites.

If there are listed species in the county or township, check to see if critical habitat has been designated and if that area overlaps or is near the project area. Critical habitat designations and associated requirements may also be found at 50 CFR Parts 17 and 226. For additional information, use the mapview tool at <http://criticalhabitat.fws.gov/crithab/> to find data specific to your state and county.

- A Clean Water Act **Section 404 Department of the Army Permit** and the Department's Clean Water Act Section 401 Water Quality Certification (certification) are needed when placing material or fill into jurisdictional waters of the United States. Any impacts to jurisdictional streams or wetlands would require an application to be sent to the appropriate US Army Corps of Engineers District Regulatory Branch. A map of the district offices and contact information can be located online at: <http://www.dnr.mo.gov/env/wpp/401/corps-map3.gif>. Not all land disturbance projects will require a 404 permit; however, if a 404 permit is required, land disturbance activities are not to be conducted in the jurisdictional area of the project until the 404 permit has been obtained. A discussion on the need for a 404/401 permit as a requirement of this permit and is to be included in the SWPPP.

Exemptions from Permit Requirements

- The USEPA defines **linear projects** to include the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area. Missouri regulation 10 CSR 20-6.200 (1)(B) 8 exempts linear project construction from stormwater permit regulations which meet one of the following: A. Grading of existing dirt or gravel roads which does not increase the runoff coefficient and the addition of an impermeable surface over an existing dirt or gravel road; B. Cleaning or routine maintenance of roadside ditches, sewers, waterlines, pipelines, utility lines or similar facilities; C. Trenches two (2) feet in width or less; or D. Emergency repair or replacement of existing facilities as long as best management practices are employed during the emergency repair.

Permit Requirements

- The permittee is required to conduct inspections of the site. The person(s) inspecting the site may be a staff person or a hired third party to conduct such inspections. The permittee is responsible for ensuring that the person who conducts inspections is a “qualified person or personnel.” A “**qualified person**” is a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected to control the quality of stormwater discharges from the construction activity.
- A sample **inspection report** has been developed as a helpful tool to aid in completing site inspections. This sample inspection report was created consistent with USEPA’s Developing Your Stormwater Pollution Prevention Plan and can be found at http://www.epa.gov/npdes/pubs/sw_swppp_inspection_form.doc. Both the guide and the sample inspection report (formatted in Microsoft Word) can be found at <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm>.
- For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) **sediment basin** that provides storage for a calculated volume of runoff from the drainage area from a 2-year, 24-hour storm, or equivalent control measures, must be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, must be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location, it is not necessary to include flows from offsite areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. In determining whether installing a sediment basin is attainable, the operator may consider factors such as site soils, slope, available area on-site, etc. In any event, the operator must consider public safety, especially as it relates to children, as a design factor for the sediment basin, and alternative sediment controls must be used where site limitations would preclude a safe design.
- Public Notification: A public notification sign has been added to the permit. If a different sign is to be used it should be one of the same size sign and lettering and containing the same information as that of the one supplied with the permit. The required information includes a statement for those with questions or concerns, the permit number and the Department’s toll free phone number. The permittee shall post a copy of the public notification sign described by the Department at the main entrance to the site. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP. The public notification sign must remain posted at the site until the permit has been terminated.

Other Discharges

- Machinery should be kept out of the waterway as much as possible. Fuel, oil and other petroleum products, equipment and any solid waste should not be stored below the ordinary high water mark at any time or in the adjacent floodway beyond normal working hours. All precautions are to be taken to avoid the release of wastes or fuel as a result of this operation. Petroleum products spilled should be immediately cleaned up and disposed of properly. Any such **spills of petroleum or other chemicals** are to be reported as soon as possible to the Department's 24-hour Environmental Emergency Response number at (573) 634-2436.

Sampling Requirements and Other Effluent Limitations

- 40 CFR 450.21 Subpart B - Construction and Development (C&D) Effluent Guidelines are **non-numeric effluent limits** and are structured to require construction operators to first prevent the discharge of sediment and other pollutants through the use of effective planning and erosion control measures; and second, to control discharges that do occur through the use of effective sediment control measures. Permittees are also required to implement a range of pollution prevention measures to limit or prevent discharges of pollutants including those from dry weather discharges. The C&D rule's non-numeric effluent limits are available at the following internet site: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol29/xml/CFR-2010-title40-vol29-sec450-21.xml>. The associated fact sheet can be found at: http://www.epa.gov/npdespub/pubs/cgp_proposedfs.pdf.
- The USEPA has proposed numeric **effluent limitation guidelines** (ELGs) to control the discharge of pollutants from construction sites of a certain size. The Department may modify this permit upon finalization of the USEPA effluent limitation guidelines. The proposed Effluent limitation guidelines can be view at the following website <http://water.epa.gov/scitech/wastetech/guide/construction/>.

Land Purchase and Change of Ownership

- A person having **operational control over only a portion of a larger project** (e.g., one of four homebuilders in a subdivision), is responsible for compliance with all applicable effluent limits, terms, and conditions of the permit as it relates to the activities on that portion of the construction site, including protection of endangered species, critical habitat, and historic properties, and implementation of control measures described in the SWPPP. This person must ensure either directly or through coordination with other permittees, that these activities do not render another party's pollutant discharge controls ineffective. This person must either implement their own portion of a common SWPPP or develop and implement their own SWPPP. For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in a comprehensive SWPPP is encouraged. Individual operators at a site may, but are not required to, develop separate SWPPPs that cover only their portion of the project provided referenced is made to other operators at the site. In instances where there is more than one SWPPP for a site, cooperation between the permittees is encouraged to ensure stormwater discharge control measures are consistent with one another (e.g., provisions to protect listed species and critical habitat).
- The Department does not allow the transfer of a land disturbance permit from one owner to another; however, to facilitate the change in the ownership status of a property the Department developed the "Application for Change of Ownership" form. This form will allow the new owner to receive a new permit and number. The form may also be used to terminate the original permit if all the property included in the original permit is no longer the responsibility of the original owner. The "Application for Change of Ownership" (form MO780-2051) can be found online at <http://www.dnr.mo.gov/forms/#StormWater>.

Termination

- To begin the process of terminating this permit, the permittee should submit Form H – "Request for Termination" (MO780-1409) to the Department. The form can be found at the following web location: <http://www.dnr.mo.gov/forms/#StormWater>.

PART V. Addendums to Fact Sheet

Addendum #1

Individual Lot Certification

This form is not a requirement of the permit, but may be used by the permittee when selling individual lots that are part of the property that has been authorized by a Missouri Water Pollution Control General Permit under the NPDES for stormwater discharged associated with construction activity. This is a certification between the purchaser and the seller to cooperatively implement the SWPPP and the conditions of the NPDES permit and does not constitute a transfer of the permit. The permittee shall maintain this form on-site, or in a readily available location. The permittee shall provide individual lot certification forms or a copy of the contract for land sale having the equivalent wording to the Missouri Department of Natural Resources.

Addendum #2

Response to Comments

The public comment period for this permit expired on October 30, 2011. Addendum #2 contains the Missouri Department of Natural Resources' response to comments received during the public comment period.

ADDENDUM #1
INDIVIDUAL LOT CERTIFICATION

For Storm Water Discharges Associated with Construction Activity Authorized by a Missouri Water Pollution Control General Permit under the National Pollutant Discharge Elimination System

TO BE COMPLETED BY THE NEW LOT OWNER

I certify, under penalty of law, that I have received a copy of the general NPDES permit referenced below, which authorized the original lot owner or developer to discharge storm water runoff from construction activities, and the Storm Water Pollution Prevention Plan (SWPPP) prepared by the original lot owner or developer. I have reviewed the terms and conditions of the general permit and the SWPPP. I accept responsibility for erosion and sediment control during construction of the home or building for each of the lot(s) listed below. In the event the Missouri Department of Natural Resources notifies the undersigned of water quality violations due to conditions at any lot listed below and I am unable or unwilling to take action within 30 days to further reduce erosion or control sediment, then I agree to allow the original lot owner or developer to have reasonable access to the site to implement erosion and sediment control measures. I understand this certification is an agreement between the purchaser and seller to cooperatively implement the SWPPP and the conditions of the general NPDES permit.

Facility Name: _____
(as listed on permit)

Permit Number: MOR _____

Lot Number(s): _____

New Owner's Signature: _____

Name (typed or printed): _____

Phone Number: _____

Complete Only if New Owner is a Corporation and not an Individual:

Company Name: _____

Company Address: _____

Company Phone #: _____

TO BE COMPLETED BY THE PERMIT HOLDER

As permittee for the overall tract wherein the above listed lot(s) are located, I certify that I have provided the above named lot purchaser with a copy of the general NPDES permit and the Storm Water Pollution Prevention Plan (SWPPP) for the project, and I have informed the lot purchaser of their responsibility to minimize erosion and control sedimentation. I understand this certification does not constitute a transfer of the permit and understand this certification is an agreement between the purchaser and seller to cooperatively implement the SWPPP and the conditions of the general NPDES permit.

Signature: _____

Name (typed or printed): _____

Phone Number: _____

The permittee shall maintain this form on-site, or in a readily available location. The permittee shall provide individual lot certifications forms or a copy of the contract for land sale having the equivalent wording to the Missouri Department of Natural Resources upon request.

ADDENDUM #2

MORA00000 Land Disturbance Permit Response to Public Notice Comments

(The Missouri Department of Natural Resources' public notice comment period for this permit expired on October 30, 2011.)

GENERAL COMMENT RESPONSES

LAND DISTURBANCE PERMIT MOR100

The Department received certain comments specifically related to the MOR100 permit (the area-wide permit for state, federal, local government, etc.). These comments may be considered in the development of that permit. The MOR100 permit expires March 2012. There has been no change to the permit as a result of these comments.

FEDERAL REGULATION 40 CFR 450.21

As the NPDES authorized permitting authority, the Department is required to incorporate into the permit the federal regulation 40 CRF 450.21. These are non-numeric effluent limitations reflecting the best practicable technology currently available (BPT). Some limitations come with the words "unless infeasible." The Department received several questions on who determines what is or isn't feasible. The owner or operator is to make the determination for a specific project site if a requirement is infeasible and document in the SWPP as to why it is infeasible. There has been no change to the permit as a result of this comment.

EPERMITTING and FEES

The Department received a few comments regarding electronic permitting (epermitting) and permit fees. These comments have been relayed to the respective workgroups. The first phase of epermitting is expected to be completed mid-year 2012 and will include the issuance of new land disturbance permits. At this time, all renewals will be processed without epermitting. More information regarding electronic permitting will be placed on the Department's webpage in the very near future. There has been no change to the permit as a result of these comments.

TYPOS/RENUMBERING/DEFINITIONS

The Department received comments regarding typos, renumbering and similar items in the proposed permit. These entries have been corrected in the final permit.

The Department received comments suggesting definition and clarification to several areas of the proposed permit. All suggestions were considered and many have been added to the permit Fact Sheet.

SPECIFIC COMMENT RESPONSES

SECTION A. APPLICABILITY

OWNER/OPERATOR

Section A.1. - The Department received comments regarding the owner/operator statement asking for clarification of primary responsibility for compliance with the permit and to expand the responsibility to include the holder of an easement on the property as an alternative to the property owner. If there are enforcement actions the Department has the authority to involve all parties as necessary and to the extent possible. The Department has revised the applicability language to include easement in lieu of property owners where appropriate.

The Department received a comment requesting there be a differentiating permit between land development and vertical house construction. With exception to lots that are part of a larger common plan of development or sale, this permit is required for land disturbances for any reason based on the size (the acreage) of the disturbance. There has been no change to the permit as a result of this comment.

The Department received comments requesting the inclusion of other areas (borrow pits) which are outside the permitted area as well as an allowance for a specific activity (portable concrete and asphalt plants) to be listed in the permit. The Department believes that the permitted areas should be sufficiently stated in the application and the SWPPP to include all areas where land disturbance activities are planned to take place. There has been no change to the permit as a result of these comments.

DISCHARGES

Section A.2. - The Department received a comment asking to identify non-stormwater discharges. For the purposes of this rule, non-stormwater discharges are identified in this section of the permit. There has been no change to the permit as a result of this comment.

Section A.2. - The Department received comments requesting we add “flushing fire hydrants and potable water lines” back to the list of authorized non-stormwater discharges. Current regulation (10CSR 20.6.010 (1) (B)7) exempts these discharges from all general permitting. However, the Department has added these items back to the permit.

Section A.4. - The Department has clarified, in the permit Fact Sheet, what is meant by “industrial stormwater runoff”.

OTHER FEDERAL REGULATION

Section A.8. - A Clean Water Act Section 404 Department of the Army Permit and the Department's Clean Water Act Section 401 Water Quality Certification (certification) are needed when placing material or fill into jurisdictional waters of the United States. Any impacts to jurisdictional streams or wetlands would require an application to be sent to the appropriate US Army Corps of Engineers District Regulatory Branch. Contact information can be found at <http://www.dnr.mo.gov/env/wpp/401/corps-map3.gif>. Not all land disturbance projects will require a 404 permit; however, if a 404 permit is required then land disturbance activities are not to be conducted in the jurisdictional area of the project until the 404 permit has been obtained. Language in the permit has been reworded and additional information added to the permit Fact Sheet to help better clarify this concern.

Section A.9. - Compliance with the Historic Preservation Act and the Endangered Species Act is not a requirement to obtain a land disturbance permit. However, NPDES permittees must be in compliance with these federal regulations. The Department has added a statement to the permit Fact Sheet, that this permit does not supersede compliance with other federal requirements.

Section A.10. – The Department added language to the permit that the permit does not superseded any local authority requirement to obtain approval for a land disturbance project.

SECTION B. EXEMPTIONS FROM PERMIT REQUIREMENTS

Section B.2. – The Department received a comment requesting that we list the general permit exemptions outlined in the cited regulations. Missouri State Regulations 10CSR 20-6.200 (1) (B) and 10 CSR 20.6.010 (1) (B) outline exemptions from NPDES stormwater permits and all NPDES general permits, respectively. There has been no change to the permit as a result of this comment.

Section B.3. – The Department received comments requesting we include the words “maintenance operations” in this sentence. The permit language has been updated with this inclusion. A discussion on linear, strip, and ribbon construction and maintenance exemptions can be found in the permit Fact Sheet.

Section B.5. – The Department received a comment recommending the inclusion of CAFOs in the Agriculture Exemption. The Department removed the second sentence from the draft permit so that this section continues to read as it did in the previous permit.

SECTION C. REQUIREMENTS

Section C.1. a-g. – This section of the permit outlines verbatim the federal requirements of 40 CFR 450.21 effluent limitations reflecting the best practicable technology currently available (BPT). These are non-numeric effluent limits which the NPDES permitting authority must include in the permit. The Department received several comments regarding this section of the permit; it was recommended that we remove this section of the permit, it was recommended that we delete some of the wording, and there were comments which questioned the practicality of some items. When the Department does not have design guidelines for federal requirements, it is left to the discretion of the stormwater professional as to the proper design protocol. There were no changes to the permit as a result of these comments.

Section C.2.e. – The Department received comments regarding the need to comply with 404/401 permitting versus the requirement to comply in order to obtain a stormwater permit and identifying this in the SWPPP. The Department has added language to the permit Fact Sheet which describes the SWPPP requirement regarding 404/401 permitting is only to verify that the need for a 404/401 permit was addressed. For additional discussion on the 404/401 requirement, please refer to the Department's response to Section A.8. of this document.

SELECTION OF TEMPORARY AND PERMANENT NON-STRUCTURAL BMPS

Section C.3.e. – The Department received several comments regarding this section of the permit. The requirement of a buffer is part of federal regulation 40 CFR 450.21. This is the federal requirement which covers the non-numeric effluent limits which the permitting authority must include in the permit.

The regulation states, "The permittee is to provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.." The permit requires a 25-foot buffer at minimum. The Department has added language to the permit which will allow for a more stringent local government buffer requirement.

For additional related discussion please refer to the earlier section of this document titled "General Comment Responses"

DISTURBED AREAS

Section C.3.h. - The Department received several comments regarding this section of the permit. Stabilization is addressed in federal regulation 40 CFR 450.21. This is the federal requirement which covers the non-numeric effluent limits which the permitting authority must include in the permit. The regulation states - "Stabilization of disturbed areas must, at minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site

and will not resume for a period exceeding 14 calendar days. Stabilization must be completed within a period of time determined by the permitting authority.” The Department has included the exact federal language into the permit and has designated a period of 7 days to complete stabilization activities. Temporary (interim) stabilization clarification: Stabilization is to begin as soon as the operator knows an area will need interim stabilization. The Department has also included, in the permit, allowances for weather and equipment malfunctions. For additional related discussion please refer to the earlier section of this document titled “General Comment Responses”

BMP INSTALLATION

Section C.3.i. – The Department received one comment regarding the installation of BMPs and another comment recommending the words “not to exceed 24 hours” be added after the word “immediately”. The permit will continue to allow for certain BMP installations to occur after initial site clearing to establish entry, exit and access and to require that stormwater controls be installed immediately after the earth disturbance. There were no changes to the permit as a result of this comment.

SEDIMENT BASINS

Section C.3.j. – The Department received two comments regarding the removal of sediments from sediment basins. The Department additionally received suggested wording when the use of sediment basin is impracticable. The Department has made changes to the permit to address these comments. The Department also received a comment regarding the feasibility of the use of outlet structures that withdraw water from the surface. Withdrawing water from the surface is a requirement of federal regulation 40 CFR 450.21. This is the federal requirement which covers the non-numeric effluent limits which the permitting authority must include in the permit. For additional related discussion please refer to the earlier section of this document titled “General Comment Responses”.

ROADWAYS

Section C.3.m. – The Department received several similar comments on this section of the permit and has responded with rewording the second sentence of this paragraph. The new sentence reads, “Stormwater inlets susceptible to receiving sediment from the permitted land disturbance site shall have curb inlet protection.” In addition, the Department has reworded the last sentence of this paragraph. The new sentence reads; “Where practicable, construction entrance BMP controls shall be used to prevent sediment track-out”.

Section C.6. - This section has to do with the individual designated by the permittee as responsible for environmental matters. This section has been moved so that it precedes Section C.9. Site Inspection Reports.

AMENDING AND UPDATING THE SWPPP

Section C.8.e. - The proposed permit states, "SWPPP is determined to be ineffective in preventing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or excessive sediment deposits in streams or lakes). The Department received two comments recommending a change to this sentence. The Department has replaced the word "preventing" with the word "minimizing" in the final permit.

Section C.8.g. - The Department changed this line to read "Exceedances of effluent limitations for new source performance standards for construction activities in accordance with 40 CFR Part 450.21." This is the federal requirement which covers the non-numeric effluent limits which the permitting authority must include in the permit. For additional related discussion please refer to the earlier section of this document titled "General Comment Responses".

INSPECTION REPORTS

Section C.9. - The Department received several comments regarding site inspection reports. The Department has made changes to this section of the permit to address most of the comments received. The Department added the words "When practicable" to the middle sentence of the first paragraph so that it reads, "When practicable the receiving stream shall also be inspected for 50 feet downstream of the outfall." The Department has made changes to the last sentence of the first paragraph so that it now reads, "If rainfall causes stormwater runoff to occur on-site, the BMPs must be inspected within a reasonable time period after the rainfall event has ceased. Inspections must occur within 48 hours during normal work days, plus an additional 24 hours for each non-workday for weekends and holidays."

PUBLIC NOTIFICATION

Section C.12. - The Public Notification sign is included with the issued permit. The Department has added language to the permit Fact Sheet to describe what is acceptable should a different sign be posted. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP.

SECTION E. SAMPLING REQUIREMENTS AND EFFLUENT LIMITATIONS

Section E.2. - The Department received several comments regarding the proposed effluent limitations. Commenters have requested that the settleable solid limit remain at 2.5 ml/L just as it was in the previous standard land disturbance permit. The permit has been revised to a settleable solid (SS) limit of 2.5 ml/L per Standard Methods 2540 F and includes a local 2-year 24-hour storm event. Runoff and peak discharge information can be found online at ftp://ftp-fc.sc.egov.usda.gov/MO/eng/EFH/EFH_MO_Sup_Chap_02-1.pdf.

SECTION G. LAND PURCHASE AND CHANGE OF OWNERSHIP

The Department received four comments related to this section of the permit. In addition to recommendations received from commenters, the Department has also looked at how other states address this area of their permit. To better clarify the Department's intent with regard to property belonging to "a larger common plan of development or sale" a new statement has been added to the permit. This statement as well as language in the permit Fact Sheet clarifies that any property which was once permitted as "a larger common plan of development or sale" will require and an application for a new permit for any future land disturbance on that property.

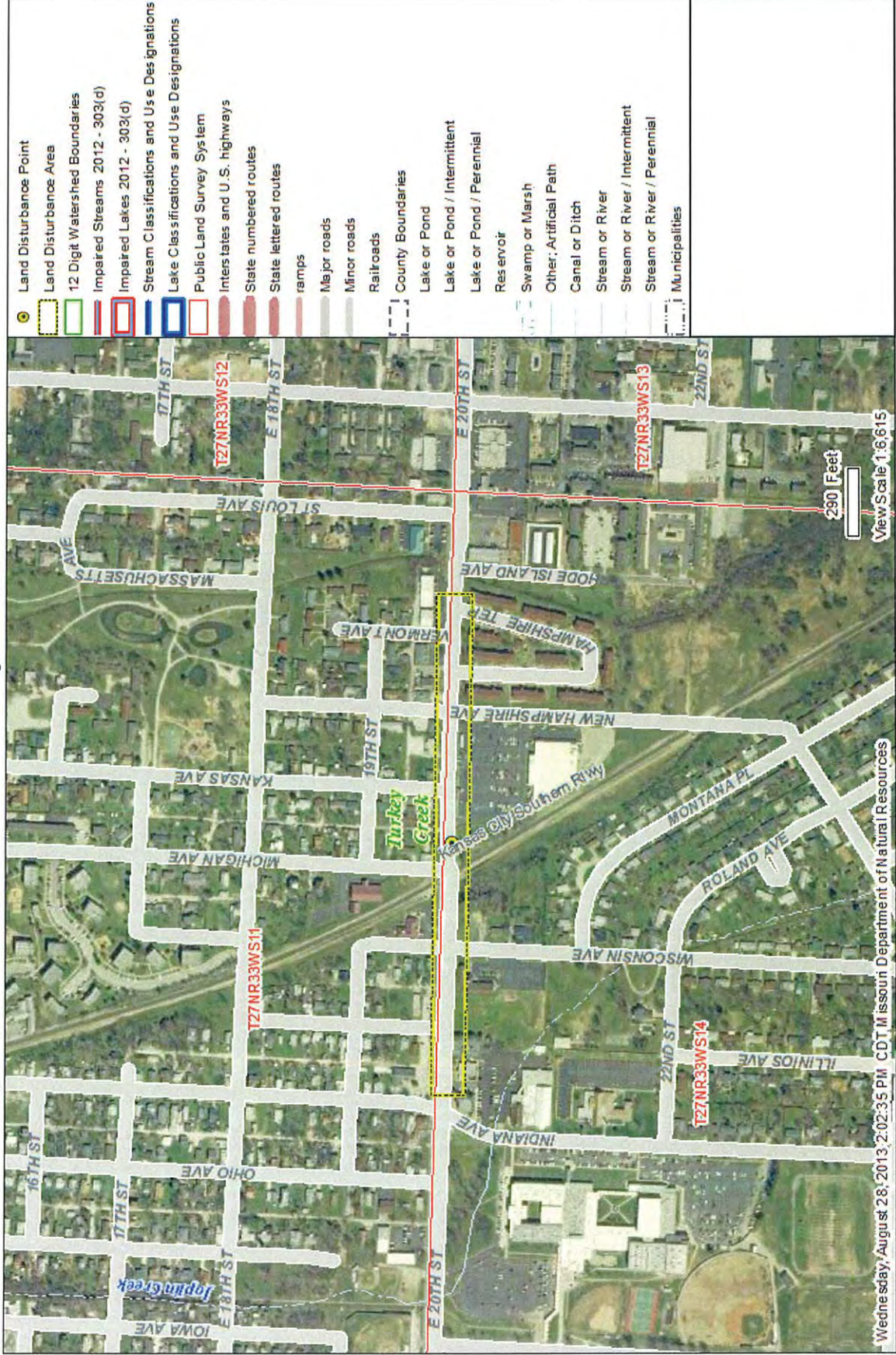
The Department received a request that there be a differentiating permit between land development and vertical house construction. The Department would need more discussion and justification to fully explore and respond to this request. There has been no change to the permit as a result of this comment.

SECTION H. TERMINATION

The Department received a few comments regarding permit transfer and permit coverage continuance. The Department does not allow the transfer of a land disturbance permit from one owner to another; however, to facilitate the change in the ownership status of a property the Department developed the "Change of Ownership" form. This is an application that will allow the new owner to receive a new permit and number. The form may also be used to terminate the original permit if all the property included in the original permit is no longer the responsibility of the original owner. The "Change of Ownership" application form can be found online at <http://dnr.mo.gov/forms/index.html#WaterPollution>. This web location has been added to the permit Fact Sheet.

The Department received a comment regarding the administrative continuance of an issued permit. This permit does not continue administratively. The permit is not valid after the expiration date. A new permit would need to be issued for the site where work has not been completed and the property has not been stabilized in accordance with the termination requirements. Language has been added to the permit in order to better clarify this issue.

MoDNR Geographic Information System Editor



Missouri Department of Natural Resources

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Missouri
Department of
Natural Resources

STORMWATER DISCHARGES
FROM THIS LAND DISTURBANCE
SITE ARE AUTHORIZED BY THE
MISSOURI STATE OPERATING
PERMIT NUMBER:

ANYONE WITH QUESTIONS OR
CONCERNS ABOUT
STORMWATER DISCHARGES
FROM THIS SITE, PLEASE
CONTACT THE MISSOURI
DEPARTMENT OF NATURAL
RESOURCES AT

1-800-361-4827



MISSOURI DEPARTMENT OF NATURAL RESOURCES

REGIONAL AND SATELLITE OFFICES

Kansas City Area

- **Kansas City Regional Office**
500 NE Colbern Rd.
Lee's Summit, MO 64086-4710
816-251-0700
FAX: 816-622-7044
- **Northwest Missouri Satellite Office**
Northwest Missouri State University
Environmental Services Building,
800 University Dr.
Maryville, MO 64468-6015
660-562-1876 or 660-562-1877
FAX: 660-562-1878
- **Truman Lake Satellite Office**
Harry S Truman State Park
28761 State Park Road West
Warsaw, MO 65355
660-438-3039
FAX: 660-438-5271

Southwest Area

- **Southwest Regional Office**
2040 W. Woodland
Springfield, MO 65807-5912
417-891-4300
FAX: 417-891-4399
- **Lake of the Ozarks Satellite Office**
Lake of the Ozarks Satellite Office
5570 Osage Beach Parkway
Osage Beach, MO 65065
573-348-2442
FAX: 573-348-2568
- **Newton County Satellite Office**
Crowder College
601 Laclede, Smith Hall, Room 201
Neosho, MO 64850
417-455-5180 or 417-455-5158
FAX: 417-455-5157

Northeast Area

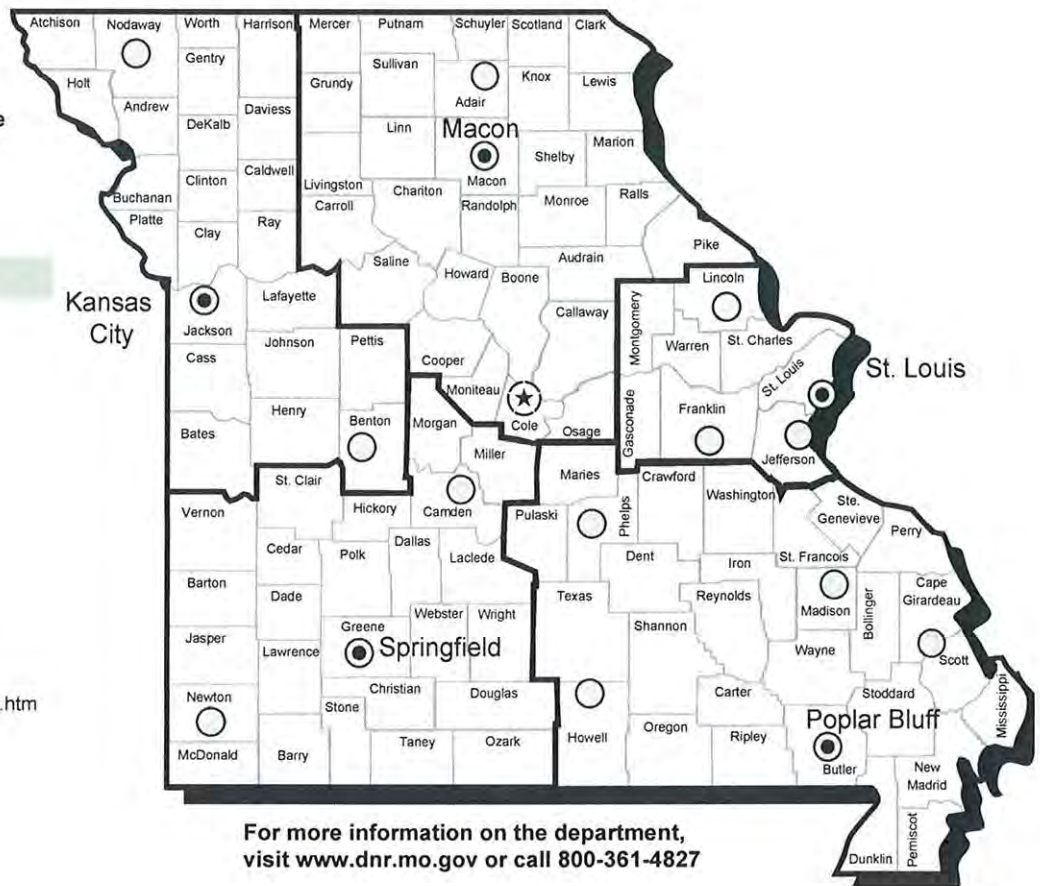
- **Northeast Regional Office**
1709 Prospect Drive
Macon, MO 63552-2602
660-385-8000
FAX: 660-385-8090
- **Kirkville Satellite Office**
Truman State University
Magruder Hall, Room 3068
100 E. Normal St.
Kirkville, MO 63501
660-785-4610
- ★ **Department Central Offices**
P.O. Box 176
Jefferson City, MO 65102-0176
573-751-3443
www.dnr.mo.gov/shared/map-jeffcity.htm

St. Louis Area

- **St. Louis Regional Office**
7545 S. Lindbergh, Ste 210
St. Louis, MO 63125
314-416-2960
FAX: 314-416-2970
- **Franklin County Satellite Office**
Meramec State Park
Hwy. 185 S./115 Meramec Park Drive
Sullivan, MO 63080
573-860-4308
FAX: 573-468-5051
- **Jefferson County Satellite Office**
Eastern District Parks Office
2901 Hwy. 61
Festus, MO 63028
636-931-5200
FAX: 636-931-5204
- **Lincoln County Satellite Office**
Cuivre River State Park
678 State Rt. 147
Troy, MO 63379
636-528-4779
FAX: 636-528-8362

Southeast Area

- **Southeast Regional Office**
2155 North Westwood Blvd.
Poplar Bluff, MO 63901
573-840-9750
FAX: 573-840-9754
- **Cape Girardeau County Satellite Office**
2007 Southern Expressway
Cape Girardeau, MO 63701
573-651-3008 (phone and FAX)
- **Howell County Satellite Office**
700 W. Main St.
Willow Springs, MO 65793
417-469-0025 (phone and FAX)
- **Madison County Satellite Office**
120 W. Main St.
Fredericktown, MO 63645
573-783-2385
FAX: 573-783-6294
- **Rolla Satellite Office**
111 Fairgrounds Rd.
Rolla, MO 65402
573-368-3625
FAX: 573-368-3912



For more information on the department,
visit www.dnr.mo.gov or call 800-361-4827

20th Street Grade Separation
MORA03782

ePermitting Certification and Signature Document

Missouri State Operating General Permit number MORA03782 was issued on 08/28/2013 based on information entered into the Missouri Department of Natural Resources' electronic Permitting (ePermitting) system. Missouri Regulation 10 CSR 20-6.010(2)(B) requires that all applications for construction and operating permits be signed. Please print, review, sign, and mail this document to the Missouri Department of Natural Resources (Department) within 30 days of the Issue Date (08/28/2013).

If the Department does not receive this document with signature within 30 days, this general operating permit may be considered not valid and subsequently revoked.

20th Street Grade Separation, Jasper County
1200 block of E. 20th Street
JOPLIN, MO 64804
Total Permitted Area: 6.35 Acres
Total Number of Permitted Features: 1

The below Certifications were electronically certified in the ePermitting system by:

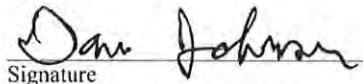
Name: Eric Knight
Title: Eingeineer-in-Training
Date: 08/28/2013

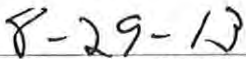
Is any part of the area that is being disturbed in a jurisdictional water of the United States? If yes, you must also receive a Clean Water Act, Section 404 Permit for this site from the United States Army Corp of Engineers.
No

I understand there may be an established Local Authority Erosion Control Plan in the city or the unincorporated area of the county where land disturbance activities covered under this general permit will occur. (Note - you may want to contact your local authority to determine if there are any requirements).
Agreed

A Storm Water Pollution Prevention Plan (SWPPP) must be developed for this site. This plan must be developed in accordance with requirements and guidelines specified within the general permit for storm water discharges from land disturbance activities. The application, as completed in ePermitting is considered incomplete if the SWPPP has not been developed.
Agreed

I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and being granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, and terms of this permit, subject to any legitimate appeal available to an applicant under the Missouri Clean Water Commission.
Agreed


Signature


Date

The above must be signed by the Owner, Continuing Authority, or Main Facility Contact. Please send this document with original signature to the Water Protection Program, PO Box 176, Jefferson City, MO 65102. If you do not agree with the above Certifications, please contact the Department by phone at (573) 751-1300.