July 27, 2022

CITY OF JOPLIN
7th and Canterbury Lane
Stormwater Improvements

Addendum No. 1

Contract Bidders:

Enclosed is Addendum No. 1 for the above referenced project. Please execute, attach, and submit this Addendum No. 1 with your bid.

In addition, please sign and email a copy of this cover letter to Aaron Boll, Olsson, aboll@olsson.com as acknowledgement of receipt of this addendum notice.

OLSSON

Aaron Boll, P.E.
Project Engineer



Digitally signed by Aaron Boll
DN: C=US, E=aboll@olsson.com, O=Olsson, OU=4308, CN=Aaron Boll
Date: 2022.07.27 16:35:08-05'00'

_____
Company Name

_____
Signature

_____
Printed Name

City of Joplin
7th and Canterbury Lane Stormwater Improvements

Addendum No. 1

Clarification Items:

Item #1: Meeting Agenda and Minutes from Pre-Bid Meeting are attached.

Item #2: Question and Answers from Pre-Bid Meeting and emails are attached.

Item #3: Pre-Bid sign in sheet is attached.

NOTE: Items #1, #2, and #3 under clarification items are for informational purposes only and shall not be considered as addendum items. Only those items listed below shall be considered addendum items related to the contract.

Proposal:

Item #1: The attached Proposal form shall replace the Proposal form in the original contract documents.

The attached PROPOSAL shall be utilized for bidding.

Item #2: Bid item Transportation and Disposal of Contaminated Material has been removed.

Item #3: Bid item Traffic Control has been removed.

Item # 4: Bid item Traffic Control Total Signage has been added.

Item # 5: Bid item Traffic Control Channelizer has been added.

Item # 6: Bid item Traffic Control Type 3 Barricades has been added.

Item # 7: Bid item Traffic Control Coordination has been added.

Special Provisions:

Item #1:	Modified JSP-0400-02 Utility Coordination to remove waterline from scope.
Item #2:	Modified JSP-0400-06 Wingwalls and Apron by removing the option to precast wingwalls and apron. Cast In place will be required for installation. Also, added headwall as an included item in the installation of wingwalls and apron.
Item #3:	Removed JSP-0400-07 Concrete Flume.
Item #4:	Removed JSP-0400-09 Traffic Control.
Item #5:	Added JSP-9000-01 Traffic Control Total Signage.
Item #6:	Added JSP-9000-02 Traffic Control Channelizers.
Item #7:	Added JSP-9000-03 Traffic Control Type 3 Barricades.
Item #8:	Added JSP-9000-01 Traffic Control Coordination.
Item #9:	Modified JSP-1200-01 Unclassified Excavation by adding payment exclusions.
Item #10:	Removed JSP-1800-01 Transportation and Disposal of Contaminated Material.
Item #11:	Modified JSP-2303-01 Joplin Standard ¼ Ton Rock Blanket by adding the option to substitute MoDOT Type 4 Rock Ditch Liner in lieu of Joplin Standard ¼ Ton Rock Blanket.
Item #12:	Modified JSP-4200-01 Twin 7’ X 5’ RCB by replacing double with twin. Also, added sentence to clarify measurement will be for twin 7’ X 5’ RCB not individual 7’ X 5’ cells. Also, scope is modified to require cast-in place of 5’ of the twin 7’ X 5’ RCB adjacent to the southwest and northeast wingwalls and apron.
Item #13:	City of Joplin SWPPP added.

Plan Sheet:

Item #1:	Updated sheet #2 General Notes with new base bid quantities.
Item #2:	Add waterline and note to sheet #7 Storm Sewer Plan and Profile Stormline 120 & 200.
Item #3:	Modified curb and gutter note for sheet #10 Plan and Profile Concrete Channel and North Drainage Ditch.
Item #4	Added a detail for compost filter sock and silt fence to sheet #14 Details.
Item #5	Traffic control quantities added to sheet #17 Traffic Control Sequence Plan.
Item #6	Note modified on sheet #18 Detour Plan (Phase 1).
Item #7	Note modified on sheet #19 Phase 2A Traffic Control.
Item #8	Note modified on sheet #20 Phase 2B Traffic Control.

The undersigned hereby acknowledges receipt of this addendum, which by this reference is hereby incorporated in and becomes a part of the Contract Documents for the above referenced project.

_____
Company Name

_____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
City/State/Zip

_____
Telephone Number

END OF ADDENDUM #1

MEETING AGENDA

PRE-BID MEETING

	Email
	Regular Mail
	Hand Delivery
	Other:

NAME OF PROJECT:	7th and Canterbury Stormwater Improvements Jasper County, Missouri
PROJECT LOCATION:	Joplin, Missouri
MEETING LOCATION:	Joplin City Hall, 4th Floor
DATE & TIME:	July 19, 2022 at 10 AM
PROJECT #:	K17-06420

1. **Introduction of project team representatives**
   - City of Joplin
     - Steven Martinez, Project Manager
   - Olsson
     - Aaron Boll, P.E. Engineer of Record
     - Clayton Cristy, P.E. Local Contact
     - ~~Nick Calton, Inspection Manager~~

2. **Sign In**
   - Request sign in of all meeting guests
   - Sign in required for any general contractor bidding on project (mandatory pre-bid)

3. **General Overview of the Project**
   - Storm sewer improvements along East 4th Street south of Canterbury Lane to Target Loading dock to creek.
   - Replacement of culvert under Northpark Lane just south of East 3rd Street.
   - Replacing existing drainage ditch southwest of East 3rd Street and Northpark Lane with a concrete lined channel and segmental block retaining wall.
   - ~~Olsson will perform part-time construction inspections.~~

4. **Utilities**
   - Unmarked waterline along 4th Street. Will issue addendum.
   - Liberty to exposed underground electric, remove and replace guy wires, and brace poles along storm sewer from 4th Street to Creek.
   - Spire to pothole gas line along Northpark Lane and relocate line if necessary.
   - Southern Star Gas Line. (Encroachment Agreement)
   - Contract responsible to place 811 ticket and coordinate field location of existing utilities prior to grading activities.

5. **Bonding & Insurance**
   - Must submit the following at Bid Opening:
     - Signed Proposal
     - Bond acknowledgement

- Addendum (if necessary)

6. **Key Dates**
   - Bid Opening
     - Date: August 2nd, 10:00 AM, at Joplin City Hall, 4th Floor Conference Room
   - Final Completion from Notice to Proceed
     - Overall Project: 80 calendar days
     - Northpark Lane Crossing: 20 Calendar Days
   - Liquidated Damages
     - Overall Project: $700.00 per calendar day.
     - Northpark Lane Crossing: $2,000 per calendar day.

7. **Addendums**
   - Must be submitted 7 days prior to opening of bid.
   - Only information received in written form shall be used for bidding requirements.
   - May be issued to clarify questions / comments from this meeting.
   - Q/A with contractors and waterline information will be issued as an addendum.
   - Meeting Minutes.

8. **Site Availability**
   - The site is available for access.

9. **SWPPP**
   - Erosion Control and Site Cleanup covers expense to execute and maintain City of Joplin SWPPP.
   - SWPPP will be added to specs in an addendum.

10. **Miscellaneous**
    - Contaminated material amount is unknown. The amount in bid schedule used to compare bids only.
    - No additional design needed for segmental retaining wall if World Block is used.
    - City of Joplin only funds.

QUESTIONS & ANSWERS

PRE-BID

MEETING MINUTES

Project Name:	7th and Canterbury	
Project Location:	Joplin, MO	
Meeting Location:	Joplin City Hall, 4th Floor Conference Room	
Date and Time:	7/19/22 10:00am	
Project #:	K17-0642	
Attendees:	Steven Martinez (COJ) Tim Johnson (COJ)	Clayton Cristy (Olsson) Aaron Boll (Olsson)

The purpose of this meeting was to meet with contractors who are interested in submitting a bid for the 7th and Canterbury Stormwater Improvement project. The meeting was mandatory.

-Meeting opened with introductions of the project representatives at Olsson and the City of Joplin along with all contractors present.

-Then the meeting went through all of the items on the meeting agenda including project overview, utilities, bonding & insurance, key dates, addendums, site availability, SWPPP, and miscellaneous items.

-Corrections and additions to the agenda include the City of Joplin will do inspections instead of Olsson. Also, there will be no permits required for this project.

-Steven said the City of Joplin will provide material testing and the contractor will provide staking per City of Joplin specifications.

-Tim asked about specifications regarding trenching to verify that trenching activities are subsidiary to storm sewer installation. Olsson will investigate to verify and issue an addendum.

-The City of Joplin discussed whether contaminated material testing will be needed for the project. The City of Joplin will make this decision and contact Olsson to issue an addendum.

-Olsson will check to see if specifications mention haul off of spoils are subsidiary to construction work.

-Contractor asked guidance on Joplin Standard ¼ ton rock blanket. Olsson will locate a specification.

-Contractor asked if the center wingwall will be required for the twin box culvert. Contractor also asked what standard the apron wall would need to follow if wingwalls and headwall are precast.

-Contractor also ask for a breakout of items needed for the traffic control. Olsson will provide an update to the proposal with bid items for the traffic control instead of traffic control being a lump sum.

-Adjusting the start of the project to January was discussed to limit impacts to commercial stores during the holidays. The City of Joplin will decide when the notice to proceed will be issued.

-Also, clarification for the definition of working days is needed.

PRE-BID

MEETING Q&A

Project Name:	7th and Canterbury	
Project Location:	Joplin, MO	
Meeting Location:	Joplin City Hall, 4th Floor Conference Room	
Date and Time:	7/19/22 10:00am	
Project #:	K17-0642	
Attendees:	Steven Martinez (COJ) Tim Johnson (COJ)	Clayton Cristy (Olsson) Aaron Boll (Olsson)

-Tim asked about specifications regarding trenching to verify that trenching activities are subsidiary to storm sewer installation. Olsson will investigate to verify and issue an addendum.

Updated JSP-1200-01 Unclassified Excavation to clarify that trenching for storm sewer installation is subsidiary to storm sewer installation.

-The City of Joplin discussed whether contaminated material testing will be needed for the project. The City of Joplin will make this decision and contact Olsson to issue an addendum.

The City of Joplin said there will be no contaminated material testing. Bid item and JSP-1800-01 Transportation and Disposal of Contaminated Material has been removed.

-Olsson will check to see if specifications mention haul off of spoils are subsidiary to construction work.

Modified JSP-1200-01 Unclassified Excavation to exclude transportation of spoils from a payment item.

-Contractor asked guidance on Joplin Standard ¼ ton rock blanket. Olsson will locate a specification.

City of Joplin Specification Manual Section 2303 gives guidance for Joplin Standard ¼ Ton Rock Blanket. Also, note added to JSP-2303-01 to allow MoDOT Type 4 Rock Blanket to substitute Joplin Standard ¼ Ton Rock Blanket.

-Contractor asked if the center wingwall will be required for the twin box culvert. Contractor also asked what standard the apron wall would need to follow if wingwalls and headwall are precast.

The center wingwalls will be required per MoDOT specifications and details. Also, wingwalls, apron, headwall, and 5' of adjacent twin 7' X 5' RBC will be cast-in place. Precast will not be allowed.

-Contractor also ask for a breakout of items needed for the traffic control. Olsson will provide an update to the proposal with bid items for the traffic control instead of traffic control being a lump sum.

Traffic control bid items have been modified. See job specific provisions and proposal.

-Adjusting the start of the project to January was discussed to limit impacts to commercial stores during the holidays. The City of Joplin will decide when the notice to proceed will be issued.

Construction start date will be moved to January 9, 2023.

-Also, clarification for the definition of working days is needed.

Calendar Day as noted in the Proposal is defined as any day shown on the calendar beginning and ending at midnight.

Aaron Boll

From: Aaron Boll
Sent: Wednesday, July 13, 2022 8:15 AM
To: Dirk Hudson
Cc: Jay Pearson
Subject: RE: 7th and Canterbury Lane Stormwater Improvements Project, Joplin - Polypropylene Pipe Allowance

Dirk,
Yes, it will be allowed.

Aaron

From: Dirk Hudson <Dirk.Hudson@adspipe.com>
Sent: Tuesday, July 12, 2022 9:42 PM
To: Aaron Boll <aboll@olsson.com>
Cc: Jay Pearson <Jay.Pearson@adspipe.com>
Subject: 7th and Canterbury Lane Stormwater Improvements Project, Joplin - Polypropylene Pipe Allowance

Aaron,

We mistakenly stopped by the Olsson Springfield Office last week to meet with you in person (I will try to swing by the Fayetteville location in the coming months)! I do look forward to seeing you on July 19th at the City of Joplin's Pre-Bid Meeting.

ADS wanted to reach out to you on the 7th and Canterbury Lane Stormwater Improvements Project and request allowance to bid polypropylene pipe (HP Storm) as an option in lieu of RCP.

With the full ROW approval of polypropylene pipe in Joplin Spec Section 4200 and MoDOT Section 724, some local contractors have already reached out to ADS for pricing but before we sent out a material quote, I wanted to request permission from the Engineer of Record that it would be acceptable.

The project specifications do have the most recent Section 4200 Storm Sewers specification included which has Polypropylene Pipe stated in Paragraph 2.5.

Attached is the product brochure for the ADS material option. Would you allow polypropylene pipe to be an approved equal product on this project via the specification section included in the project documents? The City of Joplin should be abundantly familiar and comfortable with this pipe product usage.

Thank you for your time and consideration.

Dirk Hudson, P.E.
Engineered Products Manager
dirk.hudson@ads-pipe.com
(816) 602-4201

Advanced Drainage Systems, Inc.
adspipe.com

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JEFF ASBELL EXCAVATING & TRUCKING, INC.
9400 STATE HIGHWAY 171
CARL JUNCTION, MO 64834
TELEPHONE: 417-649-1269
FAX: 417-649-1900

JEFF ASBELL
EXCAVATING & TRUCKING

City of Joplin Stormwater Improvements for

7th Street & Canterbury Lane Questions

7/11/22

1. What is the anticipated Start date?
2. Are any utilities in the way?
3. Who pays for Testing & Staking?
4. On page 74 section 1.1 in The Scope says the utilities Companies will relocate and adjust their own facilities at no cost to the Contractor, except for S/S and Storm sewer, and water lines. Would the Contractor have to pay for the Water line relocate?
5. Will the Concrete Pavement repair would have to be Black as per Section 1700.3.12 pavement repair in the City of Joplin 2022 Standard Specifications?
6. Can the Wing walls of the 7' x 5' RCB be precast?
7. Has the City of Joplin preformed any Testing for Contaminated soil on this project?
8. In some past City of Joplin projects, it has been up to the Contractor to have the wall designed. Example the sidewalk and wall on St. Johns Blvd. Will the design Olsson included in the plans be good enough?
9. On the plan sheet #2 in the general Note #4 Contractor shall obtain All permits and pay All Fee's. What permits and fee's do you think the Contractor will need?
10. If Contaminated Material is found on site, can you tell me what EPA Repository we would need to take it, the Malang Road Repository, or the 17th Street Repository in Webb City?

Thanks

Rusty Snyder
Estimator
Jeff Asbell Excavating & Trucking
9400 State Hwy. 171
Carl Junction Mo. 64834
Cell 1/417/437/1195
E-Mail rsnyder@jeffasbell.com

7th and Canterbury Lane Response

(Updates to initial response is in red)

1) Bid opening is August 2nd. The City of Joplin anticipates start date would likely be 2 months after bid opening at the earliest. **(Start date is now 01/09/2023**)
2) All known potential utilities in the way are noted on the plans except for a potential waterline in conflict at I-122/A. This came from a last-minute comment from MOAM. We are waiting on MOAM to mark their lines next week and then we will survey the locations. We will then issue an addendum when we have more information hopefully next week. **(Updated waterline is in Sheet #7)** As note #2 says on the General Notes sheet, all utilities might not be marked on the plans and the contractor will be responsible to call 811 before digging. If there is a gas conflict, Spire will relocate the line. Still verifying timeline with Spire. Liberty will do work needed to its infrastructure as noted in the plans.
3) See City of Joplin Specifications 0400.39 for guidance.
4) We are deciding if there will need to be a water line relocation. Once known, we will issue an addendum if needed. **(See JSP-040-02 Utility Coordination)**
5) Both 4th Street and Northpark Lane have not been recently milled and overlaid so black dye in the concrete will not be necessary.
6) Per JSP-0400-06, yes precasting of the wingwalls will be allowed pending ENGINEER approval. **(Precasting of wingwalls will no longer be allowed)**
7) The City of Joplin hasn't performed any contaminated soil test.
8) As Sheet 14 says, "CONTRACTOR MUST SUBMIT SHOP DRAWINGS OF BLOCK WALL LAYOUT AND DESIGN SEALED BY PROFESSIONAL ENGINEER" if contractor doesn't use World Block segmental retaining wall.
9) The following are anticipated permit and fees but may not be exhaustive:
    a. DNR Land Disturbance Permit
    b. Excavation Permit Fee
    c. Stormwater Permit Fee
    d. Engineering plan review fee
    e. Contractor licensed in Joplin

    (City of Joplin said no permits will be required)
10) The City of Joplin anticipates using a lot it owns off of Perkins Street for disposal of contaminated materials. Although use of this site is likely, it is not guaranteed. Attached is an aerial of the site. **(No longer applicable)**

Aaron Boll

From: Aaron Boll
Sent: Wednesday, July 27, 2022 3:46 PM
To: Rusty Snyder
Subject: RE: 7th & Canterbury Lane Storm Water questions

I added a detail to show the minimum is 8". You can either silt sock or silt fence. The City detail has been added.

From: Rusty Snyder <rsnyder@jeffasbell.com>
Sent: Tuesday, July 26, 2022 11:42 AM
To: Aaron Boll <aboll@olsson.com>
Subject: 7th & Canterbury Lane Storm Water questions

Aaron

On sheet 4 shows Sediment Control Barrier. Can we use 6" silt sock? If not, can you tell me what type/ Silt fence, or silt sock and size you want?

Thanks

Rusty Snyder
Estimator
Jeff Asbell Excavating & Trucking
9400 State Hwy. 171
Carl Junction Mo. 64834
Cell 1/417/437/1195
E-Mail rsnyder@jeffasbell.com

7th and Canterbury Mandatory Pre-Bid Meeting (7/19/2022)

	Company Name	Contact Name	Phone Number
1)	Asbell Exc.	Rusty Snyder	417-437-1151
2)	D3E	Mark Snowberger	417-725-5300
3)	B3	Dan Yates	417-437-0206
4)	Dirks	Eric McPeak	660-464-1320
5)	Superior Traffic Safety DBE	Jo Davis	479-531-7776
6)	SWMTM	Sid Davis	417 4370285
7)	Scarlock	Andy Tunnell	479-957-6560
8)	NDS	Jay Pearson	417-808-0151
9)	NDS	Dirk Hulsey	816-602-4201

7th and Canterbury Mandatory Pre-Bid Meeting (7/19/2022)

	Company Name	Contact Name	Phone Number
10)	Asbell	Riley O'Brien	417-952-0976
11)	Goins Exc.	Jon Thomason	417.629.4040
12)			
13)			
14)			
15)			
16)			
17)			
18)			

PROPOSAL

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

Project:

7th & Canterbury Lane
Stormwater Improvements
Jasper County, Missouri

in the City of Joplin, Missouri, according to the Drawings, Contract Documents and general specifications for such work on file in the office of the City 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 *August 2, 2022*, at the following prices to-wit:

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL
1	MOBILIZATION AND BONDS	LS	1		
2	EROSION CONTROL	LS	1		
3	CLEARING, GRUBBING, & DEMOLITION	LS	1		
4	UNCLASSIFIED EXCAVATION	CY	250		
5	ONSITE-FILL	CY	250		
6	IMPORTED FILL	CY	230		
~~7~~	~~TRANSPORTATION AND DISPOSAL OF CONTAMINATED MATERIAL~~	~~CY~~	~~100~~		
7	CONCRETE PAVEMENT REPAIR	SY	584		
8	SEGMENTAL BLOCK RETAINING WALL	SFF	633		
9	15” RCP	LF	214		
10	18” RCP	LF	100		
11	24” RCP	LF	308		
12	TWIN 7’ X 5’ RCB	LF	97		
13	WINGWALLS AND APRON	EA	2		
14	TYPE D CURB INLET (7’ X 3’)	EA	7		
15	JUNCTION BOX (4’ X 4’)	EA	1		
16	24” FLARED END SECTION WITH TOEWALL	EA	1		
17	JOPLIN STANDARD ¼ TON ROCK BLANKET	SY	130		
18	CONCRETE LINED CHANNEL	SY	97		

19	CONCRETE CURB AND GUTTER	LF	372		
20	SEEDING	AC	1.14		
~~21~~	~~TRAFFIC CONTROL~~	~~LS~~	~~1~~		
21	TRAFFIC CONTROL TOTAL SIGNAGE	SF	315		
22	TRAFFIC CONTROL CHANNELIZERS	EA	15		
23	TRAFFIC CONTROL TYPE 3 BARRICADES	EA	6		
24	TRAFFIC CONTROL COORDINATION	LS	1		
25	SANITARY SEWER ENCASEMENT	LF	106		
TOTAL ESTIMATED BASE BID				$	

$ _____
(Write Out in Words)

The undersigned agrees to enter into a contract within fifteen (15) days from notice of award should this proposal be accepted, and enter into bonds with good and sufficient securities, and to fully complete the work within the time allowances listed below:

Time Allowance:
Overall Project: **80 Calendar Days** allowed

Northpark Lane. Crossing: **20 Calendar Days** allowed

Calendar day count for the crossing of Northpark Lane will commence upon any lane drops of Northpark Lane to through traffic and calendar days will cease when Northpark Lane is re-opened to traffic. Northpark Lane may be closed for a period of 20 days with work hours limited to 6:00 AM and 10:00 PM.

Time allowances listed above are not cumulative. The Northpark Lane Crossing must be completed within the overall time allowance of the project, and those time requirements do not affect the overall project completion date listed above.

Liquidated Damages:
Should the undersigned fail to complete the work within the time frames listed above, the following penalties shall be instituted; the amount shall be deducted from the contract price. Failure to comply with more than one of the time allowances above will result in **cumulative liquidated damages.**

Overall Project: **$700 per Calendar Day**
Northpark Lane Crossing: **$2,000 per Calendar Day**

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 ten (10) days of the award, then the deposit or certified check of five percent (5%) of the Total Contract Bid Amount as surety is therefore forfeited to the City of Joplin.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the Contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from the any obligation in respect to his BID.

The low BIDDER shall supply the names and addresses of the major material SUPPLIERS AND SUBCONTRACTORS when requested to do so by the OWNER.

Dated _____day of _____, 2022.

Company _____

Address _____

Signature _____

(Print Name) _____

JOB SPECIAL PROVISION JSP-0400-02
UTILITY COORDINATION

1.0 UTILITY COORDINATION

1.1 SCOPE

It shall be the duty of the Contractor to notify the serving utility companies of pending construction operations and the schedule of same, prior to any work being done on this project. The utility companies will relocate and adjust their own facilities at no cost to the Contractor, except for sanitary and storm sewers ~~and waterlines~~. The Contractor shall be responsible for the adjustment and protection of all sanitary and storm sewer facilities. Some minor grading and backfill work may be required of the Contractor at locations of utility adjustments. This work shall be considered subsidiary to other items of work.

The Contractor shall be responsible for holding periodic utility meetings with the City, the Engineer, and utility companies during the relocation of utility lines. The frequency of meetings will initially be bi-weekly (or more frequently if necessary) and then, as relocation work begins to diminish, will be held more infrequently. The Contractor shall keep minutes of the meetings and send copies to all those in attendance.

1.2 MEASUREMENT AND PAYMENT

This work shall be considered subsidiary to other items of work. No additional payment will be allowed for delays caused by utility delays. Additional time will be considered for delays caused by utility conflicts that exceed the schedules listed in this special provision.

JOB SPECIAL PROVISION JSP-0400-06
WINGWALLS AND APRON

1.0 SCOPE

Wingwalls and apron shall include all measures necessary for installation of wingwalls and apron including headwall for the Double 7' x 5' RCB.

Wingwalls and apron shall be cast in place per MoDOT Concrete Double Box Culvert standard detail 703.41H. ~~Precast box culverts will be allowed pending ENGINEER approval.~~

2.0 MEASUREMENT

Each end of the double 7' X 5' RCB will be counted as one wingwall and apron unit.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct "Wingwalls and apron" will be paid for at the contract unit price per each. No separate payment will be made for excavation, drilling, dowels, tie bars, Portland cement concrete, steel welded wire reinforcement, subgrade compaction, aggregate base material, headwall, and all incidental items as these items shall be subsidiary to "Wingwalls and apron".

~~JOB SPECIAL PROVISION JSP-0400-07~~
~~CONCRETE FLUME~~

~~1.0 MEASUREMENT~~

~~Measurement is a planned quantity and will not be measured in the field. No separate measurement will be made for sawing, drilling, dowels, tie bars, Portland cement concrete, subgrade compaction, or aggregate base as these items shall be subsidiary to concrete flume.~~

~~2.0 PAYMENT~~

~~The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct "concrete flume" will be paid for at the contract unit price square yard.~~

~~JOB SPECIAL PROVISION JSP-5100-01~~
~~Traffic Control~~

~~1.0 MEASUREMENT~~

~~Measurement will be per lump sum.~~

~~2.0 PAYMENT~~

~~The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct "Traffic Control" will be paid for at the contract unit price lump sum.~~

JOB SPECIAL PROVISION JSP-5100-01
Traffic Control Total Signage

1.0 Scope

Traffic Control Total Signage shall include all measures necessary for installation of traffic control signage.

2.0 MEASUREMENT

Measurement will be per square foot of signage.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct “Traffic Control Total Signage” will be paid for at the contract unit price square foot.

JOB SPECIAL PROVISION JSP-5100-02
Traffic Control Channelizers

1.0 Scope

Traffic Control Channelizers shall include all measures necessary for installation of channelizers.

2.0 MEASUREMENT

Measurement will be per each channelizer.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct “Traffic Control Channelizers” will be paid for at the contract unit price each.

JOB SPECIAL PROVISION JSP-5100-03
Traffic Control Type 3 Barricades

1.0 Scope

Traffic Control Type 3 Barricades shall include all measures necessary for installation of type 3 barricades.

2.0 MEASUREMENT

Measurement will be per each type 3 barricade.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct “Traffic Control Type 3 Barricades” will be paid for at the contract unit price each.

JOB SPECIAL PROVISION JSP-5100-04
Traffic Control Coordination

1.0 Scope

Traffic Control Coordination shall include all measures necessary for installation and execution of the traffic control plans outside of the scope of total signage, channelizers, and type 3 barricades.

2.0 MEASUREMENT

Measurement will be per lump sum for Traffic Control Coordination.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to execute and implement “Traffic Control Coordination” will be paid for at the contract unit price lump sum.

JOB SPECIAL PROVISION JSP-1200-01
UNCLASSIFIED EXCAVATION

1.0 SCOPE

Unclassified excavation shall be in accordance with Section 1200 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

All suitable material can be used on site for compaction.

Base bid quantity for Unclassified Excavation was determined comparing proposed grade to existing surveyed grade.

2.0 MEASUREMENT

Measurement will be made to the nearest cubic yard. ~~No measurement will be made for excavation required to construct the segmental block retaining wall, drainage structures, or street reconstruction.~~

3.0 PAYMENT

Payment for “Unclassified Excavation” shall be at the contract cubic yard sum price and shall include the cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to complete unclassified excavation. No additional payment will be made for excavation required to construct the segmental block retaining wall, drainage structures, concrete lined channel, sanitary sewer encasement, concrete curb and gutter, rock blanket, transportation of spoils from excavation, or street reconstruction.

JOB SPECIAL PROVISION JSP-1800-01
Transportation and Disposal of Contaminated Material

1.0 SCOPE

Transportation and Disposal of Contaminated Material shall be in accordance with Section 1800 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

Lead Remediation: Any excavation done on a City of Joplin project is subject to Lead and Cadmium testing. No soil is to be hauled off site without first being tested by the City of Joplin. Soil testing for Lead and Cadmium is offered by the City of Joplin without any additional cost to the Contractor. All contaminated excavated material shall be transported directly a site approved by the City Engineer.

2.0 MEASUREMENT

Transportation and disposal of all contaminated soil shall be measured per cubic yard of deposited material.

3.0 PAYMENT

Payment shall be at the unit price stated in the Bid Schedule and shall constitute payment for all earthwork, loading and unloading, hauling, disposal, water, tools, equipment, labor, and incidentals necessary to complete this section. Since the quantity of contaminated soil is unknown, the Bid Schedule includes a unit price and quantity for the purpose of comparing bids. The unit price set forth in the Bid Schedule for the transportation and disposal of contaminated material shall not be adjusted based on the actual quantity. The final quantity and contract price shall be adjusted based upon the actual volume of contaminated material disposed. Measurement and payment will only be made if the material is found to be contaminated. If the material is not contaminated it shall be considered unclassified excavation and shall be disposed of by the contractor at the contractor's expense.

JOB SPECIAL PROVISION JSP-2303-01
Joplin Standard ¼ Ton Rock Blanket

1.0 SCOPE

Joplin standard ¼ ton rock blanket shall be in accordance with Section 2303 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

MoDOT Type 4 Rock Ditch Liner can be used as a substitute to Joplin Standard ¼ Ton Rock Blanket.

2.0 MEASUREMENT

Measurement will be to the nearest square yard of the surface.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct “Joplin Standard ¼ Ton Rock Blanket” will be paid for at the contract unit price square yard.

JOB SPECIAL PROVISION JSP-4200-01
~~DOUBLE~~ Twin 7' X 5' RCB

1.0 SCOPE

~~Double~~ Twin 7' x 5' RCB shall be in accordance with Section 4200 of current City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

~~Double~~ Twin 7' x 5' RCB shall be cast in place per MoDOT Concrete ~~Double~~ Twin Box Culvert standard detail 703.41H. Precast box culverts will be allowed pending ENGINEER approval except for the 5' of twin 7' x 5' RCB adjacent to the southwest and northeast wingwalls and apron.

2.0 MEASUREMENT

Measurement will be made to determine the number of linear feet of twin 7' x 5' box culvert placed and accepted, for the purpose of making payments. There will be no measurement of individual 7' x 5' box culvert.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct "~~Double~~ Twin 7' x 5' RCB" will be paid for at the contract unit price per linear foot. No separate payment will be made for excavation, drilling, dowels, tie bars, Portland cement concrete, steel welded wire reinforcement, subgrade compaction, storm sewer connections, aggregate base material, and all incidental items as these items shall be subsidiary to "~~Double~~ Twin 7' x 5' RCB".

LAND DISTURBANCE
STORM WATER POLLUTION
PREVENTION PLAN
(SWPPP)
FOR CONSTRUCTION OF:

Prepared for

CITY OF JOPLIN, MISSOURI

Original SWPPP Template Prepared
July 2009

Original SWPPP Template Prepared by

ALLGEIER, MARTIN and ASSOCIATES, INC.
Consulting Engineers
Joplin, Missouri

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
FOR
LAND DISTURBANCE CONSTRUCTION OF:

_____

FOR THE
CITY OF JOPLIN
JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

I. SITE DESCRIPTION

Project Location – The project location governed by this SWPPP is: North of 7th St to Canterbury Ln. along 4th St and east to the adjacent creek. Culvert along Northpark Ln south of 3rd St and drainage channel to the west.

Located in the City of Joplin, Missouri. The number and location of outfalls are: Outfall #1: East of 4th Street, Outfall #2: Northpark Ln culvert, Outfall #3: Drainage ditch to culvert west of Northpark Ln

The receiving stream/streams are: Unnamed tribuary to Turkey Creek

Project Owner – CITY OF JOPLIN
602 S Main Street
Joplin, Missouri, 64801

Site Area = The total project area is comprised of approximately 1.36 acres.

Proposed disturbed area = Approximately 1.26 acres.

Site Runoff Coefficients, C
Prior to Proposed Construction & Improvements = 0.55
Estimated Weighted Average After Improvements = 0.55

The site earthwork construction activities for the 7th and Canterbury Stormwater Improvements project will consist of: Removal and replacement of pavement and curb & gutter, excavation to install storm sewer. Installation to install concrete channel along with segmental block retaining walls and general grading.

Final grading and the preparation of the seedbed for vegetative restoration will follow these activities.

Prior to, and/or in conjunction with, the establishment of the construction site entrance and access roads will be the placement of the filter fabric silt fencing and/or straw bale barriers (as required) down gradient of those areas of vegetation and root zone disturbance activities. In addition, any areas of the site that pose a potential for off-site migration of sediment shall be protected with whatever means necessary to prevent sediment from leaving the site, as site-specific conditions may require. Inspection and maintenance of the filter fabric silt fences, any straw bale barriers and /or straw wattles, vegetated buffer areas, and any other Best Management Practices (BMPs) shall continue throughout the term of the project until a permanent vegetative cover is re-established (as defined) and the Notice of Termination (NOT) of the permit is received from the Missouri Department of Natural Resources (MDNR). Care shall be exercised to limit the disturbance of current vegetated areas to the smallest amount possible for the planned development of the site.

II. SEQUENCE OF CONSTRUCTION ACTIVITIES

The area of the proposed project will be excavated, graded, and constructed, per the plans and specifications. Prior to the initial soil disturbance activities, the installation of the temporary BMPs including installation of the filter fabric silt fencing, and any straw bale barriers (as may be required), will be installed at the location shown on the SWPPP drawing prior to major soil disturbance activities for storm water runoff sediment control, and to retain sediment on the site and out of the drainage structures and streams. Additional Temporary BMPs shall be installed, including, but not limited to, additional silt fencing, straw bale barriers and/or straw wattles, or possible check dams as site-specific conditions may require.

The proposed general sequence of construction activities for the project is as follows:

1. Establish the construction entrance/exit drive at the site with the location(s) to be determined by the contractor. Stabilize and maintain the construction entrance/exit drive with a minimum 50 ft long, minimum 6" thick layer of 3" to 5" clean, washed and graded, crushed rock, placed over a geotextile filter material, for control of vehicle tracking of sediments off-site and on to the public roadways as shown on the SWPPP drawing.

2. Removal of any trees as needed for the earthwork construction activities. Soil disturbances shall be minimized during this process.

3. Placement of filter fabric silt fencing, and/or straw bale barriers/straw wattles, as required, at the locations shown on the SWPPP drawing, and any other additional areas where site conditions may require to prevent erosion and sediment losses with storm water runoff from the site during the earthwork activities. Installation of these items shall be accomplished prior to, and during the turf and soil disruptions caused by the excavation, filling, grading and construction activities.

4. Clear and grub all areas as required for the earthwork construction of the site in preparation for the project, as shown on the construction drawings. Existing vegetation will be preserved wherever practical. Filter fabric silt fencing shall be installed at the locations shown on the SWPPP drawing prior to the initiation of earthwork construction of the site.

5. Project Construction.

6. Following seedbed preparation of disturbed areas, apply seed, fertilize, mulch, etc. in areas where final construction has been completed, and maintain until permanent vegetation is re-established per this SWPPP, and in compliance with the conditions of the Storm Water Discharge General Permit issued by the MDNR.

7. Temporary seeding and mulching of disturbed areas shall be performed, as necessary, to prevent erosion and sediment loss during the construction activities prior to permanent seeding of the disturbed areas.

All additional construction activities to be completed during this project are as follows:

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Best Management Practices (BMPs) including establishment of the rock stabilized construction equipment entrance/exit, placement of filter fabric silt fence, any straw bale silt barriers, temporary seeding and any other measures to prevent erosion of the soils and sediment movement off-site shall be implemented prior to the land disturbance activities. Inspection, maintenance, repair, and upkeep of all BMPs throughout the construction project to achieve compliance with the conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit issued by the MDNR, and this SWPPP is, and will be, considered a major concern and part of the project. All conditions of the NPDES permit and this SWPPP shall be strictly adhered to throughout the project, as required.

III. POLLUTION CONTROL – BEST MANAGEMENT PRACTICES (BMPs)

1. Erosion and Sediment Abatement Control

A. Soil Stabilization Practices

1) Temporary Practices: Topsoil stockpiles and areas of the site where daily construction activities will temporarily cease for longer than 21 days will be stabilized using silt fencing, or covered to prevent erosion within 14 days. The contractor shall cause the location of topsoil stockpile to be noted and indicated on the SWPPP drawing.

2) Permanent Restoration: Disturbed portions of the site area affected by the construction shall be seeded for permanent vegetative restoration of turf per the contract plans and specifications or this SWPPP. All areas disturbed during construction shall be fertilized, seeded, and mulched.

Seeding/Fertilizer/Mulch – Light disking or other similar means shall properly prepare seedbeds. Disturbed portions of the site area affected by the improvements shall be seeded for vegetative restoration of turf per the specifications, or as follows. All areas disturbed during construction shall be fertilized, seeded, and mulched. Seed shall be as called for in the specifications, or a mixture of eighty percent (80%) K31 Fescue, fifteen percent (15%) Korean Lespedeza, and five percent (5%) wheat by weight applied at the rate of 130 pounds of seed mix per acre. Seed shall be applied by drilling or by broadcast application. Broadcast applications shall be lightly disked and rolled immediately following application of the seed. In either method, the seed shall be planted to the proper depth. Fertilizer shall be as called for in the specifications, or a commercial fertilizer, having an analysis of 12-12-12 (12 percent nitrogen, 12 percent phosphorous, and 12 percent potassium). Fertilizer shall be applied evenly and incorporated into the soil at the rate as called for in the specifications, or 20 pounds per 1,000 square feet, or per the manufactures instructions. The vegetative mulch shall be the cereal straw from oats, rye, wheat, or barley. The straw shall be free of prohibited weed seeds, as applicable under state seed law, and shall be relatively free of other noxious and undesirable seeds. The straw shall be clean and bright, relatively free of foreign material and applied at the rate of 2-1/2 tons per acre, or as called for in the specifications. The operation of seeding and mulch cover placement shall be accomplished not later than 14 days from the date final construction activities cease.

Erosion Control Mat – Biodegradable erosion control mats shall be installed (as needed) along steeper slopes, bottom of ditches, and elsewhere if shown on the SWPPP drawing and/or as needed, or as directed by the Resident Project Representative in accordance with the manufacturer's instructions. The mats shall be constructed with straw or recycled cellulose products and strengthened with a netting of polypropylene or natural fibers. Mats shall have a recommended life of at least ten months. Contractor shall apply fresh seed at above stated fescue seed mix rate prior to placement of the erosion control mats.

Slopes and seedbed areas shall be properly prepared, fertilized and seeded prior to installation of the mats. Mats shall be anchored with hardwood or biodegradable pins in accordance with the manufacturer's recommendations. (* Staple Pattern B minimum) Metal pins are not acceptable and shall not be used.

Erosion control mats shall be S150BN manufactured by North American Green or an approved equal.

B. Structural Element Practices

1) Filter Fabric Silt Fence: Temporary filter fabric silt fencing shall be installed along and downgradient of the disturbed areas as shown on the SWPPP drawing and in additional areas as needed, prior to and in conjunction with the construction of the improvements. The placement of the silt fencing shall be effective in the prevention of major sediment movement from the site. All filter fabric silt fencing shall be maintained throughout the construction and until final vegetation is restored, and Notice of Termination of the permit is received.

2) Straw Bale Barrier: Temporary straw bale barriers shall be strategically placed at the site as shown on the SWPPP drawing and at additional locations as necessary according to site specific terrain requirements, as a control measure to contain and prevent major sediment runoff from the project site as needed.

3) The construction entrance/exit drive shall be rock stabilized with a minimum 6" thick, 3" to 5" crushed rock over a geotextile filter material to prevent construction vehicles from transporting, tracking and/or dropping mud and/or sediment onto the public road as needed. Any and all other established entrance/exit roads on/site shall be kept clear and clean of any and all sediment to prevent tracking to public roads. This may require daily sweeping.

A descriptive reference for the proper installation of the filter fabric silt fences, straw bale barriers, and the construction entrance/exit is provided in the Appendices and on the drawing of this SWPPP.

2. Waste Disposal

A. Construction Waste/Trash/Solid Waste – Any and all waste materials (except hazardous waste–see paragraph III.2.B. below) generated during the project will be collected as needed and removed from the site daily or placed and stored in a metal dumpster rented from a solid waste management company licensed to operate in the City of Joplin or owned by the contractor or the owner. The dumpster(s) shall meet all local and State solid waste management regulations. The contractor shall cause the location of solid waste containers placed on the site to be noted and indicated on the SWPPP drawing. All trash and construction debris from the site will be deposited in the dumpster(s) as appropriate. The dumpster(s) will be emptied approximately once per week, or more often if necessary. No construction waste materials will be buried on site. All brush, trees and refuse shall be removed or disposed of by burning (if permitted). Open burning of tree trunks, tree limbs, and vegetation from land clearing operations is allowed only in the outstate area of Missouri if the burning takes place outside the city limits of any incorporated area or municipality. Materials such as tires or waste oil may not be used to start the fires or be burned in the fires. Missouri State Regulations prohibit open burning of any waste generated by a business, trade, industry, or any demolition operation including, but not limited to paper, cardboard boxes, pallets, tires, rubber products, hazardous materials, styrofoam, plastics, petroleum products, treated wood and any asbestos-containing material. Any burning operations shall be in strict compliance with the requirements of all applicable statutes and regulations. Prior to conducting any open burning, the contractor shall contact the appropriate city or county of jurisdiction for any local restrictions or permit requirements. Burning operations shall not constitute a nuisance to persons living nearby, shall be kept away from all property lines and at least 200 yards from the nearest inhabited dwelling, as well as transmission and distribution lines and shall be carefully controlled to prevent any damage to adjacent properties and facilities. Burn pit refuse shall be cleaned out and disposed of off-site. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted on site, as necessary. The contractor shall cause any and all burning locations to be shown on the SWPPP drawing.

B. Hazardous Waste – Any and all hazardous waste materials will be disposed of in the manner specified by local, state and/or federal regulations, or per instructions by the manufacturer. Site personnel will be instructed in these practices, and the individual who manages day-to-day site operations will be responsible for seeing that these practices are followed.

C. Sanitary Waste – The General Contractor is responsible for providing sanitary facilities on the site, as needed, should use of any permanent facilities not be available. The contractor shall cause the location of portable toilet facilities placed on the site to be noted and indicated on the SWPPP drawing. All sanitary waste will be collected from the portable units (if provided) a minimum of one time per week (or as needed) by a licensed sanitary waste management contractor, or as required by local regulation and disposed of only in locations having a State permit.

3. Offsite Vehicle Tracking

A stabilized construction site entrance/exit will be established and maintained to help reduce tracking of any sediment off-site and onto the adjacent and adjoining roadways. Care shall be taken to ensure that adequate rock aggregate is in place at all times at the entrance to minimize offsite tracking as discussed above in Section III.1.B.3 of this SWPPP.

IV. MAINTENANCE/INSPECTION PROCEDURES

1. Inspection Schedule

A. All control measures **SHALL** be inspected at least once a week, or as required by the issued storm water discharge permit, prior to a known major storm event, and within a reasonable time, not to exceed 24 hours, following any storm event of 0.5 inches or greater. The contractor is responsible for completing all inspection and maintenance forms, and providing same to the owner.

2. Maintenance of Sediment Control Measures

A. All storm water runoff sediment control measures will be maintained in good working order. Maintenance and repair (if necessary) shall be initiated within 24 hours of being reported.

B. Sediment built up shall be removed from the filter fabric silt fence barriers when it has reached one-third the height of the barrier or sooner.

C. All filter fabric silt fences will be inspected for depth of sediment and for fabric tears and to ensure the fabric is securely attached to the fence posts, and that the fence posts are firmly in the ground.

D. Any and all earthen berms and sedimentation basin dams shall be inspected for damage and erosion and repaired if necessary.

E. Any and all vegetation/rock check dams shall be replenished or replaced when the void space has become filled with silt and sediment to the point it is no longer functional.

F. Straw bales shall be inspected for damage and anchor integrity and replaced and/or re-anchored, if necessary. Sediment built up shall be removed from the straw bale barriers when it has reached one-third the height of the barrier or sooner, as required.

G. All temporary seeding shall be inspected for bare spots, washouts, and healthy growth. Re-seeding will be accomplished as necessary.

H. A maintenance inspection report shall be completed during each inspection. A copy of the inspection and report forms to be completed by the inspector is included in the Appendix.

I. The contractor will be responsible for inspections, completion of the inspection and maintenance reports, and all maintenance and repair activities. The contractor shall provide the owner with copies of all required reports in a timely manner.

J. The contractor shall name an individual as the Environmental Manager for the site for inspection and maintenance responsibilities. The individual shall be trained and knowledgeable in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls (BMPs) used on the site in good working order. The contractor shall cause the name of the Environmental Manager to be to be noted and indicated in the space provided on the SWPPP drawing.

3. Non-Storm Water Discharges

A. It is expected the following non-storm water discharges may occur from the site.

1) Wash waters from construction equipment and finished pavement (where no spills or leaks of toxic or hazardous materials have occurred.)
2) Water sprinkling for dust control.

V. SPILL PREVENTION - SITE MANAGEMENT BMPs/MMPs

The following are the material management practices (MMPs) that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

1. Good Housekeeping Practices

A. The contractor shall make a concerted effort to store only enough of each product on site required to do the job. The contractor shall cause the location of storage areas on the site to be noted and indicated on the SWPPP drawing.

B. Any and all materials stored on site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a cover or other enclosure for protection from precipitation and located away from drainage courses and low areas.

C. Any and all materials and products will be stored and maintained in their original containers with the original manufacturer's label.

D. Substances will not be mixed with one another unless recommended by the manufacturer.

E. Whenever possible, all of a product will be used up before disposing of the container.

F. Manufacturers' recommendations for proper use and disposal will be followed at all times for all materials and products.

G. The contractors' site superintendent, or his designated appointee, will visually inspect the job site daily to ensure proper use and/or disposal of all materials on site.

2. Hazardous Products - Storage, Handling, Use, & Disposal Practices

The contractor shall cause the location of any and all hazardous materials/hazardous products placed on the site to be noted and indicated on the SWPPP drawing. These practices are used to reduce the risks associated with hazardous materials:

A. Any and all products will be kept in original containers unless they are not re-sealable. Otherwise they should be transferred to re-sealable containers for storage and properly marked, indicating the contents.

B. Original labels and material safety data sheets (MSDSs) will be retained on site, as they contain important product information.

C. If surplus product must be disposed of, manufacturers' and local, state and/or federal recommended methods for proper disposal will be followed.

D. Fuels, oils, lubricants, solvents, or other hazardous materials shall NOT be disposed of on the site. All hazardous material must be properly stored, used and disposed in accordance with State and Federal laws and regulations. Drip pans will be provided for any valves on storage containers, as appropriate. For further guidance, contact MDNR at 1-800-361-4827.

3. Product Specific Practices

The following product specific practices will be followed on site:

A. Petroleum Products - All on-site vehicles and equipment will be monitored for leaks, and will receive regular preventive maintenance to reduce the chance of leakage. Any and all petroleum products on site will be stored in tightly sealed containers that are clearly labeled and provided with drip pans, if appropriate. Any asphalt substances used on site will be applied according to the manufacturer's recommendations. Any fuel storage tanks located on-site shall be provided with adequate secondary containment. Drip pans will be provided for all valves. If greater than 1320 gallons of oil is stored on the site, the contractor is responsible for providing and maintaining a SPCC (Spill Prevention, Control, and Countermeasures) plan on site. The contractor shall cause the location of any petroleum product storage areas on the site to be noted and indicated on the SWPPP drawing.

B. Fertilizers - Fertilizers will be applied only in the minimum amounts previously stated. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Storage of fertilized will be inside or under cover. The contents of any partially used bags of fertilizer will be transferred to a properly labeled, sealable plastic bin or container to avoid spills. The contractor shall cause the location of any fertilizer product storage area on the site to be noted and indicated on the SWPPP drawing.

C. Paints/Solvents/Cleaning Compounds, Etc. - All containers will be tightly sealed and stored when not required for use. Drip pans will be provided, if appropriate. Excess materials will NOT be disposed or dumped on site, but will be properly disposed of according to manufacturer's instructions and/or Federal, State, and local regulations. The contractor shall cause the location of any paints/solvents/cleaning compounds, etc. storage areas on the site to be noted and indicated on the SWPPP drawing.

D. Concrete Trucks - Concrete trucks shall be allowed to wash out only in locations where the discharge will remain on-site, and in a manner that prevents contact with storm water runoff. It is not permissible to discharge concrete truck washout directly to streams or storm drains.

E. Mud/Sediment Offsite Tracking - Only the designated entrance(s) shall be used for contractor access to, and exit from, the site. The General Contractor will be responsible for keeping all mud and off-site tracking cleaned from the adjoining public road, on a daily basis if needed.

4. Spill Control Practices

The contractor is responsible for providing and maintaining a SPCC (Spill Prevention Control and Countermeasures) plan on site, as required by the regulations at 40 CFR 112. In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

A. Manufacturer's recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Refer to manufacturer's MSDSs.

B. Materials and equipment necessary for spill cleanup will be kept in a designated material storage area on site. The contractor shall cause the location of the spill clean up materials and equipment to be noted and indicated on the SWPPP drawing. Spill cleanup equipment and materials will include, but not be limited to, shovels, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and/or metal trash containers specifically for this purpose, as applicable.

C. All spills will be cleaned up immediately after discovery and properly containerized for proper disposal. Burial on site is not acceptable and shall not be allowed.

D. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

E. Reportable quantities for spills of toxic or hazardous material will be promptly reported to the appropriate Federal, State and local government agencies, as required, including the McDonald County Local Emergency Planning Committee (LEPC) and others listed on the enclosed "Spill/Release Information and Reporting Form". Reportable quantities for oil and hazardous substances are found at 40 CFR 110, 117, and 302, and as stated in the Appendix of this plan. When permits are applicable, the permittee or his/her authorized representative is required to notify the MDNR Environmental Emergency Response in accordance with 40 CFR 117 and 40 CFR 302 as soon as they have knowledge of the discharge of any hazardous substance or petroleum product in excess of the reportable quantity. The MDNR emergency spills hot line is 1-573-634-2436. Copies of any and all reporting forms shall be provided to the owner of the project as soon as is practical.

F. The spill prevention, control and countermeasures plan and/or practices will be adjusted to include measures to prevent a spill event of this type from recurring, and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures taken will also be included.

G. The Environmental Manager will also be the spill prevention and cleanup coordinator unless the contractor arranges otherwise. He will designate other site personnel who will receive spill prevention and cleanup training, as required. The names of responsible spill personnel will be posted in the material storage area and in the office trailer on site, if one so exists.

VI. AIR EMISSIONS

1. Burning: Any burning on the site may require a permit from the MDNR. For guidance, contact the MDNR Southwest Regional Office in Springfield at (417) 891-4300 or the MDNR Air Pollution Control Program, Jefferson City at (573) 751-4817. County and/or city ordinances may also apply. It is the responsibility of the contractor to contact these governing bodies for guidance. Refer to Section III.2.A of this SWPPP for additional information relative to open burning at the site. An MDNR fact sheet relative to open burning is included in the Appendix.

2. Dust Control: The contractor is required by State law to control fugitive dust blown from the site. Dust can be minimized by stabilizing areas with mulch as soon as possible. Watering should be provided in unstabilized areas as needed for dust control. Contact MDNR for guidance, as needed, at the numbers listed above.

VII. AMENDING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

The permittee, CITY OF JOPLIN, and the Contractor shall amend and update the SWPPP, as appropriate, during the term of the land disturbance activities. The permittee/contractor shall amend the SWPPP, at a minimum, whenever the:

1. Design, operation, or maintenance of Best Management Practice (BMP) structures and/or controls is changed or is deemed inadequate in controlling sediment;

2. Design of the construction project is changed that could significantly affect the quality of the storm water discharges;

3. Inspections indicate deficiencies in the SWPPP or any BMP used at the site;

4. MDNR notifies the permittee of deficiencies in the SWPPP;

5. The SWPPP is determined to be ineffective in significantly minimizing or controlling erosion and off-site sedimentation (e.g., there is visual evidence, such as excessive site erosion or excessive sediment deposits in receiving streams);

6. Non-Filterable Residues (NFR) from a storm water outfall exceeds 45 mg/l;

7. Total Settleable Solids from a storm water outfall exceed 2.5 ml/L/hr, unless the disturbed area is defined under, "Applicability to Valuable Resource Water". Settleable Solids from a storm water outfall in areas near Valuable Resource Water shall not exceed 0.5 ml/L/hr, as indicated in the permit issued by MDNR and/or;

8. MDNR determines violations of Water Quality Standards may occur or have occurred.

Based on the results of an inspection, the SWPPP must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Implementation of these additional or modified BMPs must be accomplished as soon as possible.

VIII. RETENTION OF RECORDS

The permittee, CITY OF JOPLIN, shall retain copies of the SWPPP and all reports required by this permit, and records of all data used to comply with this permit, for a period of at least three years from the date that the site is finally stabilized and the Notice of Termination is received from the MDNR. This period may be extended by request of the Director of MDNR at any time.

The permittee shall retain a copy of the SWPPP from the date of project initiation to the date of final stabilization, as required by the permit (including a copy of the permit), at the construction site (or other local location), and made available upon request by the MDNR Director, or his representative; or other state or local agency approving or inspecting sediment and erosion control plans, grading plans, or storm water management plans to ensure implementation of the SWPPP, or the operator of a municipal separate storm sewer system, if any, receiving discharges from the site; and representatives of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service. The Permittee, or Contractor(s) with day-to-day operational control over SWPPP implementation shall have a copy of the SWPPP on-site or locally available at all times. A copy of the SWPPP, in its entirety, must be made available to the MDNR staff for review and copying at the time of an on-site inspection. All SWPPPs must be signed and certified, as required.

If an on-site location is unavailable to store the SWPPP when no personnel are present, a sign or other notice of the plan's location must be conspicuously posted near the main entrance of the construction site. If not feasible, the notice can be posted in a local public building, or public library. The sign or other notice must contain the following information:

1) A copy of the completed Application, as submitted to the MDNR Water Pollution Control Program; and

2) If the location of the SWPPP or the name and telephone number of the contact person for scheduling SWPPP viewing times has changed, the current location of the SWPPP and the name and telephone number of the person for scheduling viewing times must be stated.

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CERTIFICATION

OWNER'S CERTIFICATION

I certify that, being an authorized representative of CITY OF JOPLIN, owner of the site, the information contained herein is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting (if required) false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____

Title: _____

Signature: _____

Date: _____

For: CITY OF JOPLIN
602 S Main Street
Joplin, Missouri, 64801
(417) 624-0820

CONTRACTOR'S CERTIFICATION

I certify under penalty of law, that I, being an authorized representative of the Contractor for the permittee, understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit issued by the Missouri Department of Natural Resources (MDNR) and this Storm Water Pollution Prevention Plan (SWPPP) and shall comply with all conditions of the SWPPP, and the Permit for authorized Storm Water Discharges Associated with Construction or Land Disturbance Activities as issued by the MDNR Water Pollution Control Program, and that any non-compliance with the general permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6.200. Non-compliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

_____
Printed or Typed Name and Title

_____
Contractor's Representative Signature

_____
Date

For: _____
Contractor Name (Print)

_____
Contractor Address

_____
City/State

_____
Contractor Telephone Number

APPENDICES

A. BMP Examples

Construction Site Entrance/Exit Information

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Straw Bale Barrier Example

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F. Major Grading Activities Report

G. Spill/Release Information and Reporting Form

H. Subcontractor Certification List and Subcontractor Certification Form

I. MDNR Technical Bulletin – Response to Small Fuel Spills

J. MDNR Fact Sheet – Open Burning Under Missouri Regulations

K. Notice of Intent (NOI)

L. Notice of Termination (NOT) Form H

M. City Wide National Pollutant Discharge Elimination System Storm Water Discharge General Permit

N. Drawings (Insert a copy into the back cover of this document)

APPENDIX A

BMP EXAMPLES

CONSTRUCTION SITE ENTRANCE/EXIT INFORMATION

FILTER FABRIC SILT FENCE EXAMPLE

STRAW BALE BARRIER EXAMPLE

STORM DRAIN INLET STRUCTURE PROTECTION EXAMPLE

STORM WATER OUTLET STRUCTURE PROTECTION EXAMPLE

4.3 MINIMIZING OFFSITE VEHICLE TRACKING OF SEDIMENTS

Day-to-day site practices can have a major impact on storm water contamination because of their potential for generating sediments. A common problem area is offsite vehicle tracking. Two practices are commonly used for minimizing offsite vehicle tracking of sediments: stabilized construction entrances and construction access road stabilization.

Q. What measures have you taken to prevent offsite vehicle tracking?

Controlling offsite tracking of sediments may require attention at most times when there is vehicle traffic at the construction site. The measures listed here are effective if used properly.

- A stabilized construction entrance and construction road are very effective methods for reducing offsite tracking of mud, dirt, and rocks
- Paved streets adjacent to the site should be swept to remove any excess mud, dirt, or rock tracked from the site
- Deliveries or other traffic should be scheduled at a time when you will have personnel available to provide cleanup if it is required.

4.3.1 Construction Road Stabilization

What Is It

A stabilized construction road is a road built to provide a means for construction vehicles to move around the site without causing significant erosion. A stabilized construction road is designed to be well drained so that water does not puddle or flood the road during wet weather. It typically will have a swale along one or both sides of the road to collect and carry away runoff. Stabilized construction roads should be have a layer of crushed stone or gravel which will cover and protect the soil below from erosion.

When and Where to Use It

A stabilized construction road should be installed in a disturbed area where there will be a high volume of construction traffic expected. A construction road should be stabilized at the beginning of construction and maintained throughout construction. Construction parking areas should be stabilized as well as the roads. A stabilized construction road should not be located in a cut or fill area until after grading has been performed.

What to Consider

Stabilized construction roads should be built to conform to the site grades; this will require a minimum amount of cut and fill. They should also be designed so that the side slopes and road grades are not excessively steep. Construction roads should not be constructed in areas which are wet, or on highly erodible soils.

Advantages of Construction Road Stabilization
• Reduces the amount of erosion, dust, and tracking of soil off of the site • Provides an effective way for vehicles to move around the construction site, even during wet weather
Disadvantages of Construction Road Stabilization
• Can be expensive • May require maintenance to replace gravel or repair ruts

4.3.2 Stabilized Construction Entrance

What Is It

A stabilized construction entrance is a portion of the construction road which is constructed with filter fabric and large stone. The primary purpose of a stabilized construction entrance is to reduce the amount of soil tracked off of the construction site by vehicles leaving the site. The rough surface of the stone will shake and pull the soil off of the vehicles tires as it drives over the entrance. The stone will also reduce erosion and rutting on the portion of the road where it is installed by protecting the soil below. The filter fabric separates the stone from the soil below, preventing the large stone from being ground into the soil. The fabric also reduces the amount of rutting caused by the vehicle tires by spreading the weight of the vehicles over a larger soil area than just the tire width.

When and Where to Use It

A stabilized construction entrance should be installed at every point where traffic leaves or enters a disturbed area before construction begins on the site. Typically, stabilized construction entrances are installed at the locations where the construction traffic enters or leaves an existing paved road; however, a stabilized construction entrance should not be installed over an existing pavement (except for a slight overlap as shown in Figure 4.1). Where the construction will require a permanent access road or driveway, it is recommended that a stabilized construction entrance be installed in this location prior to the permanent pavement.

What to Consider

Stabilized construction entrances should be wide enough and long enough so that the largest construction vehicle will fit in the entrance with room to spare. If a large amount of traffic is expected at an entrance, then the stabilized construction entrance should be wide enough to fit two vehicles across with room to spare.

If the stabilized construction entrance has to cross a swale or stream, then a stream crossing should be provided (see page 3-42).

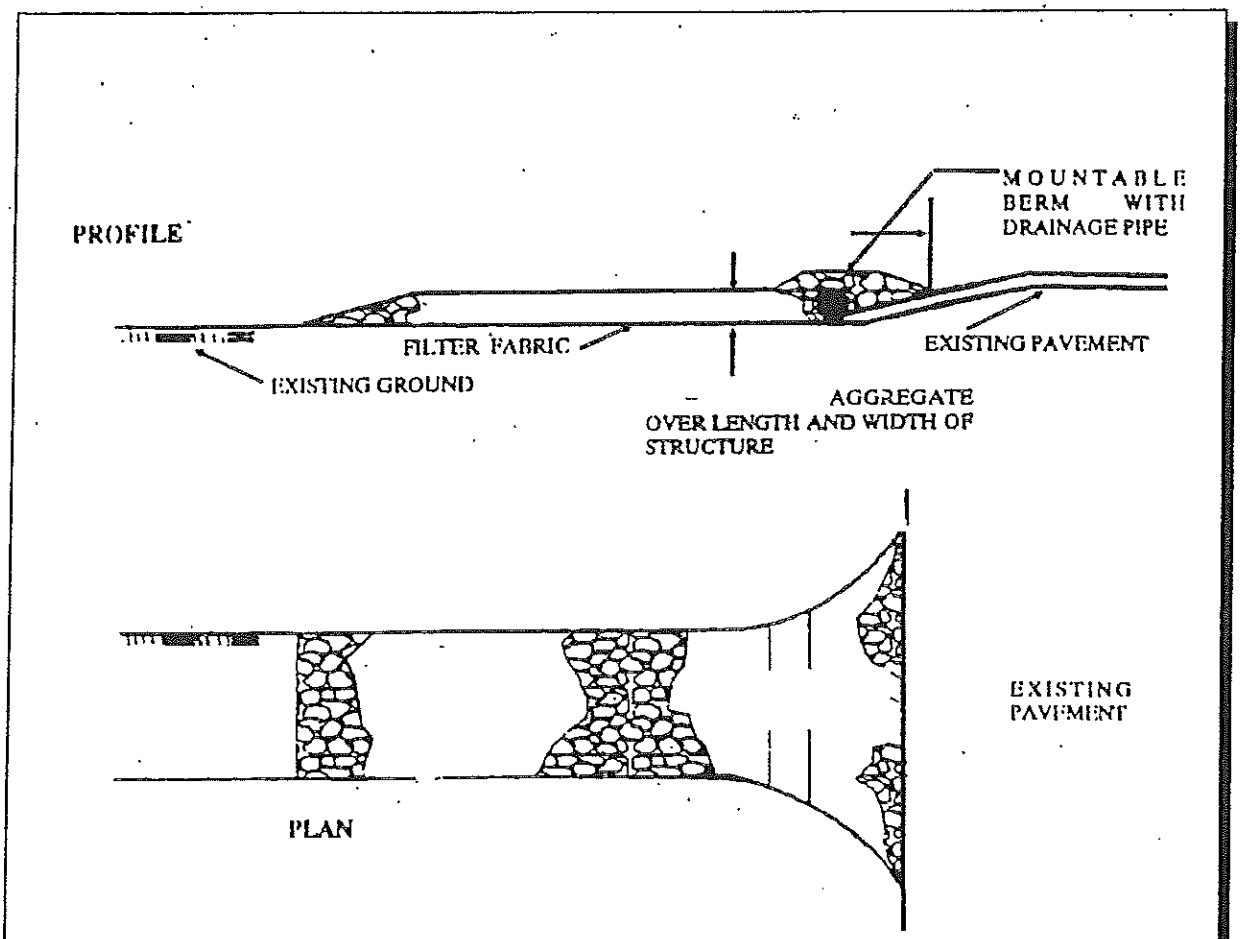


FIGURE 4.1 STABILIZED CONSTRUCTION ENTRANCE
(Modified from Maryland Department of the Environment, 1991)

Stone used for the construction entrance should be large enough so that it is does not get picked up and tracked off of the site by the vehicle traffic. Sharp edged stone should not be used to avoid puncturing tires.

If vehicles will be turning onto the paved road or drive from the stabilized construction entrance, then an apron should be provided as shown above so that vehicles do not go off of the stabilized construction entrance before they leave the site.

The temporary construction entrance may be provided with a vehicle wash rack which drains to a temporary sediment trap or other sediment removing measure. This will allow vehicle tires to be washed prior to leaving the site and ensure that wash water sediments are removed and can be properly disposed of.

Advantages of a Stabilized Construction Entrance
• Is an effective means for reducing the amount of soil tracked off of a construction site • Can improve the appearance of the construction site from the public's point of view
Disadvantages of a Stabilized Construction Entrance
• Only works if it is installed at every location where traffic leaves and enters the site • Cannot always remove all of the soil tracked off of the disturbed areas by vehicles; when soil is tracked onto a road, it should be cleaned up immediately • Stone may have to be added to keep it effective

STABILIZED CONSTRUCTION ENTRANCE

September 1992

Design Criteria

- A Stabilized Construction Entrance (SCE) is appropriate in the following locations:
  - Wherever vehicles are leaving a construction site and enter onto a public road
  - At any unpaved entrance/exit location where there is risk of transporting mud or sediment onto paved roads.
- The width should be at least 10 feet to 12 feet or the as wide as the entire width of the access. At sites where traffic volume is high the entrance should be wide enough for two vehicles to pass safely.
- The length should be between 50 to 75 feet in length.
- Flare the entrance where it meets the existing road to provide a turning radius.
- Runoff from a stabilized construction entrance should drain to a sediment trap or sediment basin.
- Pipe placed under the entrance to handle runoff should be protected with a mountable berm.
- Dust control should be provided in accordance with Section 3.2.1.

Materials

- Crushed stone 2-inches-4-inches in diameter
- Geotextile (filter fabric) with the properties listed in Table 3 below.

TABLE 3. GEOTEXTILE REQUIREMENTS

Physical Property	Requirements
Grab Tensile Strength	220 lbs. (ASTM D1682)
Elongation Failure	60 % (ASTM D1682)
Mullen Burst Strength	430 lbs. (ASTM D3768)
Puncture Strength	125 lbs. (ASTM D751) (modified)
Equivalent Opening	Size 40-80 (US std Sieve) (CW-02215)

Construction Specifications

- Clear all vegetation, roots and all other obstructions in preparation for grading.
- Prior to placing geotextile (filter fabric) make sure that the entrance is properly graded and compacted.

- To reduce maintenance and loss of aggregate place geotextile fabric (filter cloth) over the existing ground before placing the stone for the entrance.
- Stone should be placed to a depth of 6-inches or greater for the entire width and length of the SCE.

Maintenance

- Inspect the measure on a regular basis and after there has been a high volume of traffic or storm event.
- Apply additional stone periodically and when repair is required.
- Immediately remove sediments or any other materials tracked onto the public roadway.
- Ensure that associated sediment control measures are in good working condition.

Cost

- Stabilized construction entrances cost ranges from $1,500 to $5,000 to install.

Sources

- Commonwealth of Virginia - County of Fairfax, 1987. 1987 Check List For Erosion And Sediment Control - Fairfax County, Virginia.
- State of North Carolina, 1988. Erosion and Sediment Control Planning and Design Manual. North Carolina Sedimentation Control Commission, Department of Natural Resources and Community Development.
- Maryland Department of the Environment, 1991. 1991 Maryland Standards And Specifications For Soil Erosion And Sediment Control - Draft.
- Storm Water Management Manual for the Puget Sound Basin. State of Washington, Department of Ecology, 1991.
- Cost Data:
  - Draft Sediment and Erosion Control, An Inventory of Current Practices, April 20, 1990. Prepared by Kamber Engineering for the U.S. Environmental Protection Agency, Office of Water Enforcement and Permits, Washington, D.C. 20460.

Filter Fence

What Is It

A silt fence, also called a "filter fence," is a temporary measure for sedimentation control. It usually consists of posts with filter fabric stretched across the posts and sometimes with a wire support fence. The lower edge of the fence is vertically trenched and covered by backfill. A silt fence is used in small drainage areas to detain sediment. These fences are most effective where there is overland flow (runoff that flows over the surface of the ground as a thin, even layer) or in minor swales or drainageways. They prevent sediment from entering receiving waters. Silt fences are also used to catch wind blown sand and to create an anchor for sand dune creation. Aside from the traditional wooden post and filter fabric method, there are several variations of silt fence installation including silt fence which can be purchased with pockets presewn to accept use of steel fence posts.

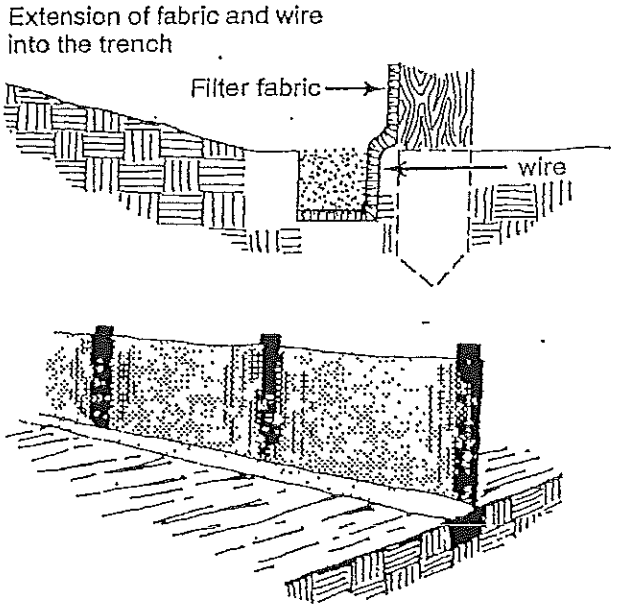


FIGURE 4.20 FILTER FENCE DETAILS
(Modified from State of North Carolina, 1988; and State of Wisconsin, 1988)

When and Where to Use It

A silt fence should be installed prior to major soil disturbance in the drainage area. Such a structure is only appropriate for drainage areas of 1 acre or less with velocities of 0.5 cfs or less (Washington State, 1992). The fence should be placed across the bottom of a slope or minor drainageway along a line of uniform elevation (perpendicular to the direction of flow). It can be used at the outer boundary of the work area. However, the fence does not have to surround the

work area completely. In addition, a silt fence is effective where sheet and rill erosion may be a problem. Silt fences should not be constructed in streams or swales.

What to Consider

A silt fence is not appropriate for a large area or where the flow rate is greater than 0.5 cfs. This type of fence can be more effective than a straw bale barrier if properly installed and maintained. It may be used in combination with other erosion and sediment practices.

The effective life span for a silt fence is approximately 6 months. During this period, the fence requires frequent inspection and prompt maintenance to maintain its effectiveness. Inspect the fence after each rainfall. Check for areas where runoff eroded a channel beneath the fence, or where the fence was caused to sag or collapse by runoff flowing over the top. Remove and properly dispose of sediment when it is one-third to one-half the height of the fence or after each storm.

Advantages of a Filter Fence
• Removes sediments and prevents downstream damage from sediment deposits
• Reduces the speed of runoff flow
• Minimal clearing and grubbing required for installation
• Inexpensive
Disadvantages of a Filter Fence
• May result in failure from improper choice of pore size in the filter fabric or improper installation
• Should not be used in streams
• Is only appropriate for small drainage areas with overland flow
• Frequent inspection and maintenance is necessary to ensure effectiveness

SILT FENCE

September 1992

Design Criteria

- Silt fences are appropriate at the following general locations:
  - Immediately upstream of the point(s) of runoff discharge from a site before flow becomes concentrated (maximum design flow rate should not exceed 0.5 cubic feet per second).
  - Below disturbed areas where runoff may occur in the form of overland flow.
- Ponding should not be allowed behind silt fences since they will collapse under high pressure; the design should provide sufficient outlets to prevent overtopping.
- The drainage area should not exceed 0.25 acre per 100 feet of fence length.
- For slopes between 50:1 and 5:1, the maximum allowable upstream flow path length to the fence is 100 feet; for slopes of 2:1 and steeper, the maximum is 20 feet.
- The maximum upslope grade perpendicular to the fence line should not exceed 1:1.
- Synthetic silt fences should be designed for 6 months of service; burlap is only acceptable for periods of up to 60 days.

Materials

- Synthetic filter fabric should be a pervious sheet of polypropylene, nylon, polyester, or polyethylene yarn conforming to the requirements in Table 1 below.

TABLE 1. SYNTHETIC FILTER FABRIC REQUIREMENTS

Physical Property	Requirements
Filtering Efficiency	75% - 85% (minimum)
Tensile Strength at 20% (maximum) Elongation	Standard Strength - 30 lb/linear inch (minimum)
	Extra Strength - 50 lb/linear inch (minimum)
Slurry Flow Rate	0.3 gal/ft²/min (minimum)

- Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120°F.
- Burlap of 10 ounces per square yard of fabric can also be used.
- The filter fabric should be purchased in a continuous roll to avoid joints.
- While not required, wire fencing may be used as a backing to reinforce standard strength filter fabric. The wire fence (14 gauge minimum) should be at 22-48 inches wide and should have a maximum mesh spacing of 6 inches.
- Posts should be 2-4 feet long and should be composed of either 2" x 2-4" pine (or equivalent) or 1.00 to 1.33 lb/linear ft steel. Steel posts should have projections for fastening wire and fabric to them.

Construction Specifications

- The maximum height of the filter fence should range between 18 and 36 inches above the ground surface (depending on the amount of upslope ponding expected).

- Posts should be spaced 8 to 10 feet apart when a wire mesh support fence is used and no more than 6 feet apart when extra strength filter fabric (without a wire fence) is used. The posts should extend 12 to 30 inches into the ground.
- A trench should be excavated 4 to 8 inches wide and 4 to 12 inches deep along the upslope side of the line of posts.
- If standard strength filter fabric is to be used, the optional wire mesh support fence may be fastened to the upslope side of the posts using 1 inch heavy duty wire staples, tie wires, or hog rings. Extend the wire mesh support to the bottom of the trench. The filter fabric should then be stapled or wired to the fence, and 8 to 20 inches of the fabric should extend into the trench (Figure 1).
- Extra strength filter fabric does not require a wire mesh support fence. Staple or wire the filter fabric directly to the posts and extend 8 to 20 inches of the fabric into the trench (Figure 1).
- Where joints in the fabric are required, the filter cloth should be spliced together only at a support post, with a minimum 6-inch overlap, and securely sealed.
- Do not attach filter fabric to trees.
- Backfill the trench with compacted soil or 0.75 inch minimum diameter gravel placed over the filter fabric.

Maintenance

- Inspect filter fences daily during periods of prolonged rainfall, immediately after each rainfall event, and weekly during periods of no rainfall. Make any required repairs immediately.
- Sediment must be removed when it reaches one-third to one-half the height of the filter fence. Take care to avoid damaging the fence during cleanout.
- Filter fences should not be removed until the upslope area has been permanently stabilized. Any sediment deposits remaining in place after the filter fence has been removed should be dressed to conform with the existing grade, prepared, and seeded.

Cost

- Silt fence installation costs approximately $6.00 per linear foot.

Sources

- Commonwealth of Virginia - County of Fairfax, 1987. 1987 Check List For Erosion And Sediment Control - Fairfax County, Virginia.
- State of North Carolina, 1988. Erosion and Sediment Control Planning and Design Manual. North Carolina Sedimentation Control Commission, Department of Natural Resources and Community Development.
- Maryland Department of the Environment, 1991. 1991 Maryland Standards And Specifications For Soil Erosion And Sediment Control - Draft.

Straw Bale Barrier

What Is It

Straw bales can be used as a temporary sediment barrier. They are placed end to end in a shallow excavated trench (with no gaps in between) and staked into place. If properly installed, they can detain sediment and reduce flow velocity from small drainage areas. A straw bale barrier prevents sediment from leaving the site by trapping the sediment in the barrier while allowing the runoff to pass through. It can also be used to decrease the velocity of sheetflow or channel flows of low-to-moderate levels.

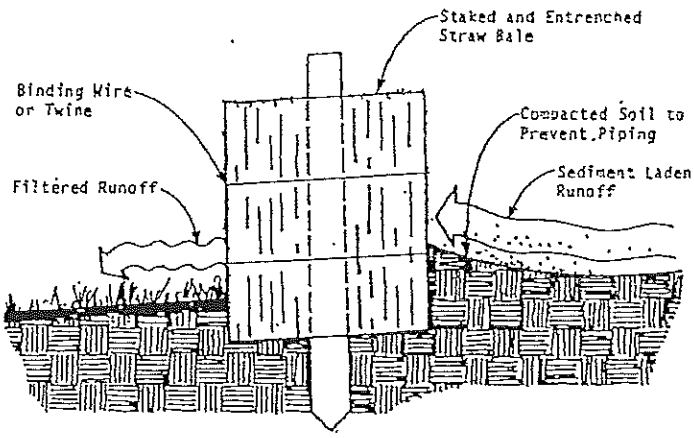


FIGURE 4.21 CROSS SECTION OF A PROPERLY INSTALLED STRAW BALE BARRIER
(Modified from State of Wisconsin, 1988)

When and Where to Use It

A straw bale barrier should be installed prior to major soil disturbance in the drainage area. This type of barrier is placed perpendicular to the flow, across the bottom of a slope or minor drainageway where there is sheetflow. It can be used at the perimeter of the work area, although is does not have to surround it completely. It can also be very effective when used in combination with other erosion and sediment control practices. A straw bale barrier may be used where the length of slope behind the barrier is less than 100 feet and where the slope is less than 2:1.

What to Consider

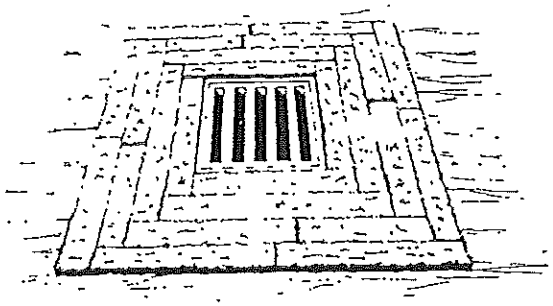
The success of a straw bale barrier depends on proper installation. The bales must be firmly staked into the entrenchment and the entrenchment must be properly backfilled. To function effectively, the bales must be placed end to end and there can be no gaps between the bales.

Straw bale barriers are useful for approximately 3 months. They must be inspected and repaired immediately after each rainfall or daily if there is prolonged rainfall. Damaged straw bales require

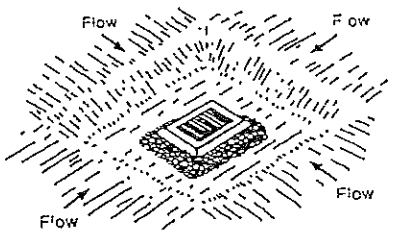
Storm Drain Inlet Protection

What Is It

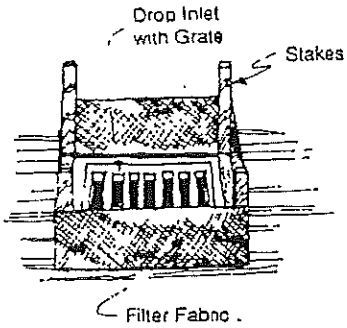
Storm drain inlet protection is a filtering measure placed around any inlet or drain to trap sediment. This mechanism prevents the sediment from entering inlet structures. Additionally, it serves to prevent the silting-in of inlets, storm drainage systems, or receiving channels. Inlet protection may be composed of gravel and stone with a wire mesh filter, block and gravel, filter fabric, or sod.



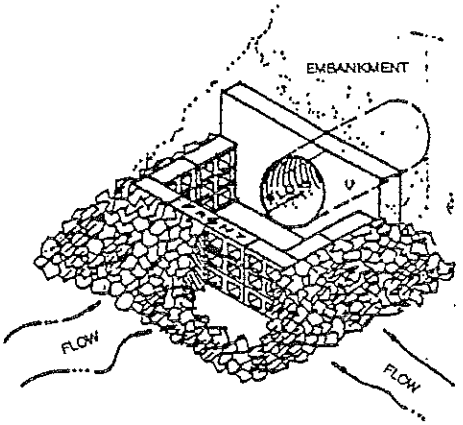
Sod Inlet Protection



Excavated Gravel Inlet Protection



Filter Fabric Inlet Protection



Block and Gravel Inlet Protection

FIGURE 4.24 EXAMPLES OF STORM DRAIN INLET PROTECTION
(Modified from State of North Carolina, 1988; Washington State, 1992; and County of Fairfax, 1987)

When and Where to Use It

This type of protection is appropriate for small drainage areas where storm drain inlets will be ready for use before final stabilization. Storm drain inlet protection is also used where a permanent storm drain structure is being constructed onsite. Straw bales are not recommended for this purpose. Filter fabric is used for inlet protection when storm water flows are relatively small with low velocities. This practice cannot be used where inlets are paved because the filter fabric should be staked. Block and gravel filters can be used where velocities are higher. Gravel and mesh filters

can be used where flows are higher and subject to disturbance by site traffic. Sod inlet filters are generally used where sediments in the storm water runoff are low.

What to Consider

Storm drain inlet protection is not meant for use in drainage areas exceeding 1 acre or for large concentrated storm water flows. Installation of this measure should take place before any soil disturbance in the drainage area. The type of material used will depend on site conditions and the size of the drainage area. Inlet protection should be used in combination with other measures, such as small impoundments or sediment traps, to provide more effective sediment removal. Inlet protection structures should be inspected regularly, especially after a rainstorm. Repairs and silt removal should be performed as necessary. Storm drain inlet protection structures should be removed only after the disturbed areas are completely stabilized.

Advantages of Storm Drain Inlet Protection
• Prevents clogging of existing storm drainage systems and the siltation of receiving waters • Reduces the amount of sediment leaving the site
Disadvantages of Storm Drain Inlet Protection
• May be difficult to remove collected sediment • May cause erosion elsewhere if clogging occurs • Is practical only for low sediment, low volume flows

FILTER FABRIC INLET PROTECTION

September 1992

Design Criteria

- Inlet protection is appropriate in the following locations:
  - In small drainage areas (less than 1 acre) where the storm drain inlet is functional before the drainage area has been permanently stabilized.
  - Where there is danger of sediment silting in an inlet which is in place prior to permanent stabilization.
- Filter fabric inlet protection is appropriate for most types of inlets where the drainage area is one acre or less.
- The drainage area should be fairly flat with slopes of 5% or less and the area immediately surrounding the inlet should not exceed a slope of 1%.
- Overland flow to the inlet should be no greater than 0.5 cfs.
- This type of inlet protection is not appropriate for use in paved areas because the filter fabric requires staking.
- To avoid failure caused by pressure against the fabric when overtopping occurs, it is recommended that the height of the filter fabric be limited to 1.5 feet above the crest of the drop inlet.
- It is recommended that a sediment trapping sump of 1 to 2 feet in depth with side slopes of 2:1 be provided.

Materials

- Filter fabric (see the fabric specifications for silt fence).
- Wooden stakes 2" x 2" or 2"x 4" with a minimum length of 3 feet.
- Heavy-duty wire staples at least ½ inch in length.
- Washed gravel ¾ inches in diameter.

Construction Specifications

- Place a stake at each corner of the inlet and around the edges at no more than 3 feet apart. Stakes should be driven into the ground 18 inches or at a minimum 8 inches.
- For stability a framework of wood strips should be installed around the stakes at the crest of the overflow area 1.5 feet above the crest of the drop inlet.
- Excavate a trench of 8 inches to 12 inches in depth around the outside perimeter of the stakes. If a sediment trapping sump is being provided then the excavation may be as deep as 2 feet.
- Staple the filter fabric to the wooden stakes with heavy-duty staples, overlapping the joints to the next stake. Ensure that between 12 inches to 32 inches of filter fabric extends at the bottom so it can be formed into the trench.
- Place the bottom of the fabric in the trench and backfill the trench all the way around using washed gravel to a minimum depth of 4 inches.

Maintenance

- Inspect regularly and after every storm. Make any repairs necessary to ensure the measure is in good working order.
- Sediment should be removed and the trap restored to its original dimensions when sediment has accumulated to ½ the design depth of the trap.
- If the filter fabric becomes clogged it should be replaced immediately.
- Make sure that the stakes are firmly in the ground and that the filter fabric continues to be securely anchored.
- All sediments removed should be properly disposed.
- Inlet protection should remain in place and operational until the drainage area is completely stabilized or up to 30 days after the permanent site stabilization is achieved.

Cost

- The cost of storm drain inlet protection varies dependent upon the size and type of inlet to be protected but generally is about $300.00 per inlet.

Sources

- Commonwealth of Virginia - County of Fairfax, 1987. 1987 Check List For Erosion And Sediment Control - Fairfax County, Virginia.
- State of North Carolina, 1988. Erosion and Sediment Control Planning and Design Manual. North Carolina Sedimentation Control Commission, Department of Natural Resources and Community Development.
- Maryland Department of the Environment, 1991. 1991 Maryland Standards And Specifications For Soil Erosion And Sediment Control - Draft.
- Storm Water Management Manual for the Puget Sound Basin. State of Washington, Department of Ecology, 1991.
- Cost Data:
  - Draft Sediment and Erosion Control, An Inventory of Current Practices, April 20, 1990. Prepared by Kamber Engineering for the U.S. Environmental Protection Agency, Office of Water Enforcement and Permits, Washington, D.C. 20460.

Outlet Protection

What Is It

Outlet protection reduces the speed of concentrated storm water flows and therefore it reduces erosion or scouring at storm water outlets and paved channel sections. In addition, outlet protection lowers the potential for downstream erosion. This type of protection can be achieved through a variety of techniques, including stone or riprap, concrete aprons, paved sections and settling basins installed below the storm drain outlet.

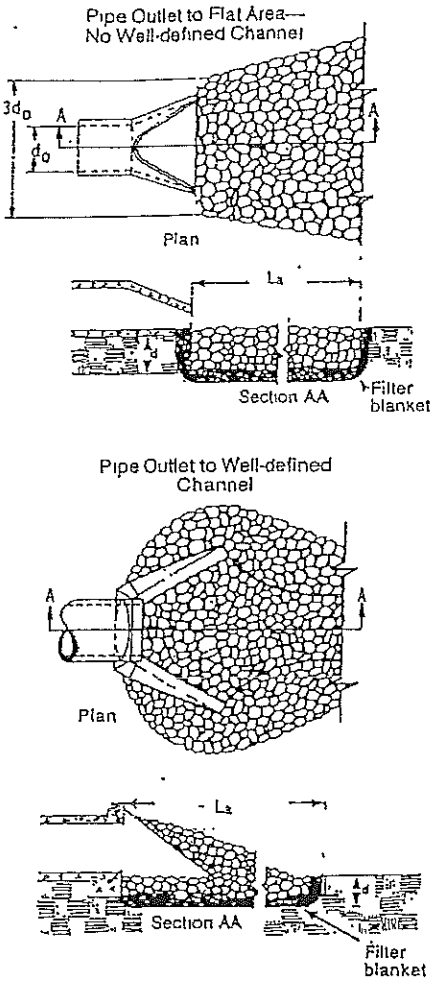


FIGURE 4.27 TYPICAL DETAILS FOR ROCK OUTLET PROTECTION
(Modified from State of North Carolina, 1988)

When and Where to Use It

Outlet protection should be installed at all pipe, interceptor dike, swale, or channel section outlets where the velocity of flow may cause erosion at the pipe outlet and in the receiving channel. Outlet protection should also be used at outlets where the velocity of flow at the design capacity may result in plunge pools (small permanent pools located at the inlet to or the outfall from BMPs). Outlet protection should be installed early during construction activities, but may be added at any time, as necessary.

What to Consider

The exit velocity of the runoff as it leaves the outlet protection structure should be reduced to levels that minimize erosion. Outlet protection should be inspected on a regular schedule to look for erosion and scouring. Repairs should be made promptly.

Advantages of Outlet Protection
• Provides, with riprap-line apron (the most common outlet protection), a relatively low cost method that can be installed easily on most sites • Removes sediment in addition to reducing flow speed • Can be used at most outlets where the flow speed is high • Is an inexpensive but effective measure • Requires less maintenance than many other measures
Disadvantages of Outlet Protection
• May be unsightly • May cause problems in removing sediment (without removing and replacing the outlet protection structure itself) • May require frequent maintenance for rock outlets with high velocity flows

APPENDIX B

INSPECTION AND MAINTENANCE REPORT FORM
and
INSPECTION LOG SHEET

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY

JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
INSPECTION AND MAINTENANCE REPORT FORM
TO BE COMPLETED AT LEAST ONCE PER WEEK, PRIOR TO A KNOWN MAJOR STORM EVENT, AND WITHIN 24 HOURS OF A 0.5 INCH OR MORE RAINFALL EVENT

INSPECTOR: _____ DATE: _____
DAYS SINCE LAST RAINFALL: _____ AMOUNT OF THIS RAINFALL _____ INCHES

Storm Water Control (If applicable)	Condition	Repair Req'd		Comments (Attach additional Sheets if Necessary)	Date Repaired	Initials
		Yes	No			
Site Entrance/Exit(s)				See Below		
Filter Fabric Fences						
Straw Bales						
Seeded Areas						
Top Soil Stockpile(s)						
Material Storage Areas						
Portable Toilet(s)						
Waste Container(s)						
Fuel Storage						
Outfall #001						
Outfall #002						
Outfall #003						
Others-List on P. 4						

STABILIZED CONSTRUCTION SITE ENTRANCE

Does Sediment Get Tracked on to Road?	Is the Rock Clean or is it Filled with Sediment?	Does All Traffic Use the Stabilized Entrance to Enter and Leave the Site?	Is the Culvert (if installed) Beneath the Entrance Working?

Describe Maintenance Required to the Stabilized Construction Entrance: _____

_____

_____

_____

_____

_____

Continued on Reverse Side

SEDIMENT BASIN (S)

Depth of Sediment Basin	Condition of Basin Side Slopes	Any Evidence of Overtopping of the Embankment	Condition of Outfall from Sediment Basins
N/A			

Describe Maintenance Required for the Sediment Basins: _____

_____

☐ If this box is checked, I hereby certify that this inspection did not identify any incidents of non-compliance and that the facility is in compliance with the permit and the SWPPP.

CERTIFICATION:

Qualified personnel must conduct all inspections. "Qualified Personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity. I certify under penalty of law that I am qualified to properly gather and evaluate the information submitted and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

Printed Name: _____ Contractor: _____

Address: _____ City/State: _____

All Maintenance Items Required and Described above are:

To be performed by: _____ On or Before: _____

Signature: _____ Date: _____

Date Repaired: _____ By: _____

List of Items Repaired: _____

_____

Signature: _____ Contractor: _____

Printed Name: _____ Date: _____

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
INSPECTION AND MAINTENANCE REPORT FORM

CERTIFICATION:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage this SWPPP system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

Printed Name: _____ Phone: _____

Contractor: _____ Address: _____

City/State: _____

Report Submitted to and Received by Owner (Permittee), CITY OF JOPLIN, Joplin, Missouri.

Date: _____

Submitted by: _____
Printed Name – For the Contractor

Signature: _____

Contractor: _____

Date: _____

Received by: _____
Printed Name – CITY OF JOPLIN

Signature: _____

NOTE: All inspection and maintenance report forms shall be retained by the owner for at least three years from the date the site is finally and permanently stabilized, and permit coverage expires or is terminated. This period may be extended by the request of MDNR at any time.

# of additional sheets attached = _____

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
INSPECTION LOG SHEET

REGULARLY SCHEDULED INSPECTIONS SHALL BE AT A MINIMUM OF ONCE PER WEEK,
PRIOR TO A KNOWN MAJOR STORM EVENT, AND
WITHIN 24 HOURS OF A 0.5 INCHES OR MORE RAINFALL EVENT

DATE OF INSPECTION	ANY BMPs NEED MAINTENANCE? YES/NO	INSPECTORS NAME

Note: To be completed along with each INSPECTION AND MAINTENANCE REPORT

APPENDIX C

WEATHER INFORMATION FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

CONSTRUCTION SITE WEATHER INFORMATION DATA

DATE	PRECIPITATION START TIME	PRECIPITATION END TIME	AMOUNT (INCHES)	DISCHARGE AT OUTFALLS? YES (#) / NO	INITIALS

Date: _____ Date: _____

Submitted by: _____ Received by: _____
Printed Name – Contractor Representative Printed Name – CITY OF JOPLIN Representative

Signature: _____ Signature: _____

APPENDIX D

CHANGES REQUIRED TO THE SWPPP

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY

JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CHANGES REQUIRED TO THE SWPPP

CHANGES REQUIRED: _____

_____

_____

_____

_____

REASONS FOR CHANGES: _____

_____

_____

_____

_____

Date Changes Made to SWPPP: _____

Date Changes Implemented at the Site: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Number of Additional Pages Attached: _____

Printed Name: _____ Company: _____

Signature: _____ Date: _____

Date Received by CITY OF JOPLIN: _____

Received by: _____ Signature: _____

Printed Name – CITY OF JOPLIN Representative

APPENDIX E

LIST OF STABILIZED AREAS

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

LIST OF STABILIZED AREAS

DESCRIPTION OF AREA WHERE FINAL STABILIZATION HAS BEEN ACHIEVED	DATE STABILIZED /INITIALS

INITIALS _____ NAME _____
INITIALS _____ NAME _____

APPENDIX F

MAJOR GRADING ACTIVITIES REPORT FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

MAJOR GRADING ACTIVITIES REPORT

GRADING START DATE	**GRADING END DATE**	**LOCATION ¼, ¼, SECTION, TWP, RGE or AREA DESCRIPTION**	**STABILIZATION MEASURES INITIATED YES/DATE ---------NO**

Date: _____ Date: _____

Submitted by: _____ Received by: _____
Printed Name – Contractor Printed Name – CITY OF JOPLIN Representative

Signature: _____ Signature: _____

APPENDIX G

SPILL/RELEASE INFORMATION AND REPORTING FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY

JOPLIN, MISSOURI

SPILL/RELEASE INFORMATION AND REPORTING FORM

1. Basic description of the spill/release, including causes, if known:

_____

_____

_____

_____

_____

_____

(If additional space is required, attach additional sheets.)

2. Chemical Name of Material Spilled: _____
3. Listed CERCLA Hazardous Substance? Yes ___ No ___
4. Listed EPCRA Extremely Hazardous Substance? Yes ___ No ___
5. Oil? Yes ___ No ___
6. Quantity Spilled (exclude water): _____
7. Date and Time of Spill: _____
8. Duration of Spill: _____
9. Spill Went to: Water: _____ Land: _____ Air: _____
10. Any known or anticipated acute or chronic health risks associated with the spill and, where appropriate, advice regarding medical attention necessary for exposed individuals.

_____

_____

_____

_____

11. Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan).

_____

_____

_____

_____

1. Spill Reported By: _____

   Date: _____

   Spill Reported to: _____

_____

_____

SEE REVERSE SIDE OF FORM FOR REPORTING REQUIREMENTS

REPORTABLE QUANTITIES FOR OIL
AND HAZARDOUS SUBSTANCES ARE FOUND AT
40 CFR Part 110, 40 CFR Part 117, & 40 CFR Part 302

In accordance with the Missouri Department of Natural Resources (MDNR), Division of Environmental Quality, a Release and a Reportable Release of Petroleum Products are defined as follows:

Release: Any loss of petroleum product to the environment is considered a release. This definition includes, but is not limited to, any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a storage tank into ground water, surface water, surface or subsurface soils.

Reportable Release: A petroleum product release greater than fifty (50) gallons, or spills and/or overfills of petroleum product from an underground storage tank that result in a release to the environment that exceeds twenty-five (25) gallons, or any release that causes a sheen on nearby surface water; and a spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 is a reportable release and must be reported to the MDNR within twenty-four (24) hours. Soil contamination levels of TPH =/>50 parts per million (ppm), BTEX =/>1.0 ppm, benzene =/>0.5 ppm, or MTBE =/>60 ppm is also considered to be evidence of a reportable "release" of petroleum products.

Formal reporting of a Reportable Release shall be as follows:

MDNR – Environmental Emergency Response Unit – (573) 634-2436 (Follow MDNR instructions)
National Response Center – 1-800-424-8802
MDNR – Southwest Regional Office – (417) 891-4300
MDNR – Jefferson City – (573) 751-3176
CITY OF JOPLIN – David Hertzberg, P.E., Public Works Director – 417-624-0820
McDonald County Local Emergency Planning Committee, Pineville, MO – 417-223-4319
White Rock Fire Protection District – Emergency 911 – Non-Emergency 417-223-4318

All spills reported by telephone shall be reported in writing within 24 hours by the responsible party, and submitted to the MDNR Environmental Emergency Response Unit, or as directed by the Agency, with copies submitted to Mr. David Hertzberg, P.E., Public Works Director, CITY OF JOPLIN.

Circumstances (causes) leading to the release:

_____

_____

_____

Steps taken to prevent recurrence of the release:

_____

_____

_____

Date SWPPP modified to reflect the release and prevent similar future release: _____

Printed Name: _____

Signature/Title: _____

Organization: _____

APPENDIX H

SUBCONTRACTOR CERTIFICATION LIST
and
SUBCONTRACTOR CERTIFICATION FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

SUBCONTRACTORS CERTIFICATION LIST

SUBCONTRACTOR	ADDRESS	DATE SIGNED

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

SUBCONTRACTORS CERTIFICATION

SUBCONTRACTORS CERTIFICATION

I certify under penalty of law, that I, being an authorized representative of the Subcontractor for the permittee, understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit issued by the Missouri Department of Natural Resources (MDNR) and this Storm Water Pollution Prevention Plan (SWPPP) and shall comply with all conditions of the SWPPP, and the Permit for authorized Storm Water Discharges Associated with Construction or Land Disturbance Activities as issued by the MDNR Water Pollution Control Program, and that any non-compliance with the general permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6.200. Non-compliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

_____
Printed or Typed Name and Title

_____
Subcontractor's Representative Signature

_____
Date

For: _____
Subcontractor Name (Print)

_____
Subcontractor Address

_____
City/State

_____
Subcontractor Telephone Number

APPENDIX I

MDNR TECHNICAL BULLETIN

RESPONSE TO SMALL FUEL SPILLS

MISSOURI DEPARTMENT OF NATURAL RESOURCES

Missouri
Department of Natural Resources
Department of Public Safety

Response to Small Fuel Spills

DNR Environmental Services Program/DPS Division of Fire Safety fact sheet 3/2009

Local fire departments often respond to releases of small amounts of petroleum products. This technical bulletin is intended to provide fire departments with information regarding responses to these types of releases.

Missouri state law requires the responsible party (spiller) to report petroleum product releases greater than 50 gallons to the Missouri Department of Natural Resources (DNR) at (573) 634-2436 at the earliest practical moment upon discovery. If the release is from an underground storage tank (UST) or piping, the reportable quantity is 25 gallons or more. Above ground storage tanks (AST) that have released 50 gallons or greater are also required to report. Further, federal law requires the responsible party to report any release of oil if the oil reaches or threatens any waterway. The definition of waterway includes sewers, groundwater, wetlands, lakes, creeks, streams, rivers and areas that may not have running water in them at the time, such as road ditches that drain into other waterways.

In the past, small fuel spills were routinely addressed by "flushing" with either foam or water. Unfortunately, this manner of response often resulted in the fuel reaching a waterway, potentially causing a greater problem than the initial spill itself. While many fire departments realize that flushing may cause more problems than it solves, information regarding alternative cleanup methods may not be readily available. The following information is provided by the Missouri Department of Public Safety (DPS) and DNR as possible alternative response actions to small fuel spills.

NOTE: It is understood that public safety must be the first consideration in a response and that the following actions may not be the most appropriate in certain situations.

1. If possible, the spill of fuel should be contained and the release stopped. Apply sand, gravel, soil, straw, sawdust, ground corn cobs, or commercial absorbents such as kitty litter or oil dry to absorb/contain petroleum residues rather than wash them away with water. Attempt to identify and take measures to protect any stormwater drains with absorbents. Absorbent materials used to clean up fuel spills may be disposed at a sanitary landfill with prior approval of the landfill operator.

2. If fire hazard reduction measures are necessary, use foam as appropriate. Do not over apply. Use as little water on the spill as necessary.

3. Pump, recover, and containerize as much free product as possible. In many cases, recovered product can be routed back to refineries for recycling, or used for other purposes such as fire department training exercises. Another method of disposal is use in fuel blending operations; however, this is not a viable alternative if the fuel has been contaminated with large amounts of water. If the spilled fuel contains too much water to lend itself as a usable resource, it may have to be tested and disposed as a regulated hazardous waste.

4. If flushing with water is the chosen option to mitigate hazards, runoff should be containerized and/or routed to a sanitary sewer **with the knowledge and approval of the wastewater treatment plant operator**.

5 .Treatment chemicals and agents should not be used except under special circumstances and with prior authorization obtained from the U.S. Environmental Protection Agency. A list of treatment chemicals and chemical countermeasures can be found at: http://www.epa.gov/emergencies/docs/oil/ncp/schedule.pdf.
If a fire department has questions as to the proper application of such agents, DNR may be contacted 24 hours a day at 573-634-2436 for technical assistance. As stated in Item 3, water contaminated with petroleum may be required by law to be tested and disposed as a hazardous waste.

According to Missouri Hazardous Waste Management Laws and Regulations, the responsibility for proper disposal of a hazardous waste is that of the owner of that waste (who could be the spiller, the owner of the shipment, or the owner of a facility where the spill occurred). Fire departments should exercise CAUTION; if the material is flushed to a waterway during a response, it could potentially cause water quality issues that would prolong the remediation of the spill.

Not all fire departments have financial resources to maintain stocks of absorbent materials, containers, and other related response equipment. Access to vacuum trucks, heavy equipment, and other necessary services may, likewise, be difficult for some jurisdictions to obtain. It is recommended that a fire department's contingency planning include identification of supply and service sources in order to be prepared for these types of releases.

Every response method has its own inherent advantages and disadvantages. Specific response methods must be evaluated and initiated on a case-by-case basis.

Questions about this guidance may be directed to DNR's Environmental Emergency Response Section at 573-526-3349 (non-emergency), or 573-634-2436 (emergency), or to DPS's Division of Fire Safety at 573-51-2930 (non-emergency).

On the Web:

www.dnr.mo.gov -- http://www.dnr.mo.gov/pubs/pub212.pdf, or
www.dfs.dps.mo.gov

PUB000212

APPENDIX J

MDNR FACT SHEET

OPEN BURNING UNDER MISSOURI REGULATIONS

Missouri Department of Natural Resources

Facts on Open Burning Under Missouri Regulations

Air Pollution Control Program fact sheet 1/2008

Open burning is the burning of any materials in which air contaminants are emitted directly into the air without first passing through a stack or chimney. This fact sheet summarizes allowable and prohibited open burning under Missouri regulations. It does not include open burning restrictions that city or county governments may impose in addition to Missouri's state regulations. Prior to conducting any open burning, businesses and citizens should contact the city or county of jurisdiction for any local restrictions.

The open burning of certain trade wastes and tires is prohibited because the toxic emissions that can be released are harmful to human health. Smoke from fires also typically produces large amounts of small particulate matter that can be inhaled, causing respiratory problems. The burning of common household trash, including paper products and food wastes, can also have severe consequences. Studies have indicated the open burning of an individual household's trash could release pollutants in higher levels than the burning of the trash of thousands of homes by a municipal waste incinerator because the lower combustion temperatures prevent complete incineration. These pollutants can include dioxins, volatile organic compounds, acetaldehyde, formaldehyde, hydrogen chloride and naphthalene. Open burning exposes individuals to toxic emissions that may irritate the eyes, skin and upper respiratory tract. The central nervous system can also be affected causing headaches, dizziness and fatigue.

Because of these potential dangers, the Missouri Department of Natural Resources strongly discourages open burning of any material prior to investigating alternatives. Some rural areas can participate in a "green box" service, which provides a trash collection point near a centrally located county road for local residents to use. Green boxes are usually picked up or emptied once a week. Other options include waste disposal services, waste diversion, recycling and composting. Contact your local Solid Waste Management District for assistance in implementing these safer alternatives to open burning.

Prohibited Open Burning Under State Regulation

Any waste generated by a business, trade, industry, salvage or demolition operation cannot be burned without a permit issued by the Department of Natural Resources or its delegated local agency. Permits will only be considered for untreated wood wastes. Wastes that may not be burned include but are not limited to tires, rubber products, hazardous materials, styrofoam, plastics, petroleum based products, demolition waste, treated wood and any asbestos-containing material.

Allowable Open Burning Under State Regulations

Note: Local governments may have stricter laws and policies

Open Burning of Household Refuse

General Provisions: Missouri allows open burning of household refuse from four dwelling units or less provided it originates and is burned on the same premises. This exemption does not apply to mobile home parks or apartment complexes. Residential waste is solid waste produced by routine household activities, such as paper waste and garbage from daily activities. This does not include home remodeling wastes, wastes from home businesses, durable goods such as old appliances, carpets or furniture, tires or other nonroutine household waste. Materials such as tires or used oil may not be used to start the fires or be burned in the fires.

Kansas City and St. Joseph metropolitan areas: Open burning is allowed provided it occurs within an area zoned for agricultural purposes and outside the portion of the metropolitan areas surrounding the corporate limits of Kansas City and St. Joseph and their bordering municipalities.

Outstate area: No special day, time or location restrictions.

Springfield-Greene County area: Open burning is allowed provided that burning takes place outside the corporate limits of Springfield and only within areas zoned A-1, Agricultural District.

St. Louis metropolitan area: Open burning of household refuse is prohibited in the St. Louis metropolitan area.

Open Burning of Yard Wastes

General Provisions: Missouri allows open burning of yard wastes from sites provided it originates and is burned on the same premises. Materials such as tires or used oil may not be used to start the fires or be burned in the fires. Yard waste includes trees, tree leaves, brush or other vegetation.

Kansas City metropolitan area: Open burning of trees, tree leaves, brush or any other type of vegetation requires an open burning permit.

St. Joseph metropolitan area: Open burning of residential yard wastes is allowed only during a three week period in spring and during a three-week period in fall between 10 a.m. and 3:30 p.m. The two, three-week periods are to be determined by the city along with state agencies and the state fire marshal.

Outstate area: No special day, time or location restrictions.

Springfield-Greene County area: Open burning of trees, brush or any other type of vegetation requires an open burning permit. The open burning of leaves is prohibited.

St. Louis metropolitan area: Open burning of trees, tree leaves or brush is allowed only in areas outside of incorporated municipalities from Sept. 16 to April 14 of each calendar year. These brush piles are limited to a base of 16 square feet and the burning is allowed from 10 a.m. through 4 p.m.

Open Burning for Fire Training Purposes

Missouri allows fires set for the purpose of training fire fighters provided they are conducted in accordance with National Fire Protection Association Standards 600 and 1403. Timely notification should be provided to the appropriate regional office or delegated local agency. All fire training exercises involving donated or acquired structures must be conducted in compliance with 40 CFR part 61 subpart M, *National Emission Standard for Hazardous Air Pollutants-Asbestos*. The use of donated or acquired structures for training is discussed in Publication 2029. All petroleum based products and asbestos containing materials must be removed from donated or acquired structures prior to any burning.

Open Burning in Agricultural, Natural Resource or Land Management Operations

Missouri allows agricultural burning throughout the state. However, several exceptions apply. Materials such as tires or used oil may not be used to start the fires or be burned in the fires. Any burning that creates a health hazard, nuisance or produces smoke that impairs visibility for those operating motor vehicles or airplanes is prohibited. Contact the St. Louis Regional Office before burning in the St. Louis metropolitan area from April 15 to Sept. 15. Botanical nursery operations (greenhouses) are not considered agricultural operations.

Open Burning in Land Clearing Operations

Open burning of tree trunks, tree limbs and vegetation from land clearing operations is allowed without an ACD or permit in the outstate area if the burning takes place outside the city limits of any incorporated area or municipality and at least 200 yards from the nearest inhabited dwelling. Materials such as tires or used oil may not be used to start the fires or be burned in the fires. Permits containing special conditions may be issued by regional offices or local agencies for sites unable to comply with the requirements above. See the Required Open Burning Permits section below for exceptions in the Springfield-Greene County area, and Kansas City and St. Louis Metropolitan areas.

Open Burning at Wood Processing Facilities

Open burning of untreated wood waste from wood processing facilities is allowed if production is less than 8,000 board-feet per day and the facility was in existence as of March 25, 1976, but has not relocated to a new site. The burning also must be done at least 200 yards from the nearest occupied structure.

Open burning of untreated wood waste from wood processing facilities is allowed if production is less than 8,000 board-feet per day and the facility has relocated or from new wood processing facilities not in existence as of Sept. 18, 1970, and the facility and the burning are at least one mile outside city limits. The burning also must be done at least 200 yards from the nearest occupied structure.

Open Burning for Recreational Purposes

Campfires and other fires used solely for recreational purposes, ceremonial occasions or for outdoor noncommercial preparation of food are allowed in Missouri. Fires shall include only vegetative woody materials or untreated wood products.

Required Open Burning Permits

The open burning of certain trade wastes, primarily untreated wood wastes such as pallets or crates, throughout the state, and vegetation from land clearing operations in the Springfield-Greene County area and the Kansas City and St. Louis Metropolitan areas, may be permitted only when it can be shown that open burning is the only feasible method of disposal and that disposal is in the public interest. In the St. Louis nonattainment area, permits will not be issued

unless it can be shown that emissions from open burning would be less than any other waste management or disposal method. The open burning permit requires the facility, in most cases, to use an air curtain destructor.

Commercial and municipal utility tree trimming operations must submit a request to the appropriate regional office for an annually renewable open burning permit. The request must describe the general size, condition and age of the tree trunks and tree limbs to be open burned. Air curtain destructors are generally required at dedicated sites where burning occurs.

Commercial and municipal utility tree trimming operations must submit an application for an open burning permit to the appropriate regional office or local agency.

The information provided in this fact sheet should not be construed to permit open burning that causes or constitutes a public health hazard, nuisance or a hazard to vehicular or air traffic or violates any other rule or statute.

Definitions

St. Louis metropolitan area: The geographical area comprising St. Louis, St. Charles, Jefferson and Franklin Counties and the city of St. Louis. These counties are also currently a nonattainment area for ground-level ozone.

Springfield-Greene County area: The geographical area contained within Greene County.

Kansas City metropolitan area: The geographical area comprising Jackson, Cass, Clay, Platte, Ray and Buchanan counties.

Outstate area: The geographical area comprising those counties not contained in the St. Louis metropolitan area, the Springfield-Greene County area or the Kansas City metropolitan area.

Air Curtain Destructor: An air pollution control device designed to increase burning efficienc, reducing air contaminant emissions during open burning.

Open Burning Permit: A permit that must be applied for and then granted in order to open burn or open burn with restrictions. Permit applications must be sent to the Regional Office or local agency that has jurisdiction over your area. Applications are available at www.dnr.mo.gov/forms or any regional or local agency office.

Untreated Wood: Lumber and other wooden materials that have not been chemically treated for resistance to moisture, fire, fungi, insects and other pests or has not otherwise been treated or manufactured with chemicals, or that does not contain adhesives or resins. Untreated wood does not include plywood, particleboard, chipboard or wood with other than minimal amounts of paint, coating or finish.

For More Information

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-4817 office
(573) 751-2706 fax
www.dnr.mo.gov/env/apcp/index.html

Missouri Department of Natural Resources
Solid Waste Management Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-5401 office
(573) 526-3902 fax
www.dnr.mo.gov/env/swmp/index.html

APPENDIX K

NOTICE OF INTENT (NOI)

NOTICE OF INTENT (NOI)

for Discharge of Stormwater Runoff from Construction Activities

PROJECT NAME: _____

PROJECT No.: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

The Missouri Department of Natural Resources has issued a General Operating Permit (No. **MOR100050**) to the City of Joplin, which authorizes city-wide land disturbance activities. The City has chosen to apply this permit and authorization to the above referenced project.

The undersigned Contractor agrees to act as the City's agent for the Storm Water Pollution Prevention Plan (SWPPP). The Contractor shall perform all documentation, inspection and maintenance of erosion control BMP's, in full conformity with the requirements of the City's General Operating Permit, for the duration of the project.

The City will monitor SWPPP documentation during the construction process. The Contractor shall turn over all SWPPP documentation to the City at the completion of construction.

Anticipated project Start Date: _____, and Completion Date: _____

Estimated total area to be disturbed: _____ acres Total area of the site: _____ acres

Contractor Representative: _____ Date: _____
Name, Title

City Representative: _____ Date: _____
Name, Title

APPENDIX L

NOTICE OF TERMINATION (NOT)

FORM H

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)

FORM H - REQUEST FOR TERMINATION OF A GENERAL PERMIT

UNDER MISSOURI CLEAN WATER LAW

1.00 TYPE OF GENERAL PERMIT REQUESTED TO BE TERMINATED

1.10 PERMIT NUMBER

MO —

2.00 FACILITY

NAME		COUNTY	
ADDRESS	CITY	STATE	ZIP CODE

3.00 OWNER

NAME	E-MAIL	PHONE	
		FAX	
ADDRESS	CITY	STATE	ZIP

4.00 CONTINUING AUTHORITY

NAME		PHONE	
		FAX	
ADDRESS	CITY	STATE	ZIP

5.00 REASON FOR TERMINATION REQUEST: (CHECK ONE)

☐ For land disturbance sites, area is stabilized by seeding, mulching, sodding, paving, or other means, no further land disturbance activities are planned, all building construction (commercial or residential) is completed, and construction equipment removed.

☐ For industrial facilities, site activities have ceased and site closed and no significant materials remain exposed to storm water.

☐ For any type of site, a site specific permit was obtained.

☐ Other reason (specify) _____

_____

_____

6.00 I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THE TERMINATION REQUEST, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NO. ( ) (AREA CODE)
SIGNATURE	DATE SIGNED

APPENDIX M

CITY WIDE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM STORM WATER DISCHARGE GENERAL PERMIT

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	MOR100050
Owner: Address:	City of Joplin 602 S. MAIN STREET JOPLIN, MO 64801
Continuing Authority:	CITY OF JOPLIN 602 S. MAIN STREET JOPLIN, MO 64801
Facility Name: Facility Address:	City of Joplin 602 S. MAIN STREET JOPLIN, MO 64801
Legal Description: UTM Coordinates: Receiving Stream: First Classified Stream - ID#: USGS# and Sub Watershed#:	Sec. 03, T27N, R33W, Jasper County 365478.661/4105416.450 Tributary to Joplin Creek (U) Joplin Creek (C) 5006.00 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, filling and other activity that results in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution of waters of the state)
Issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis

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.

July 05, 2022
Issue Date

Chris Wieberg

Chris Wieberg, Director
Water Protection Program

July 04, 2027
Expiration Date

I. APPLICABILITY

A. Permit Coverage and Authorized Discharges

1. This Missouri State Operating Permit (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.

   A Missouri State Operating Permit 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 Missouri Department of Natural Resources (Department) is in violation of both State regulations per 10 CSR 20-6.200(1)(A) and Federal regulations per 40 CFR 122.26. The owner/operator of this permit is responsible for compliance with this permit [10 CSR 20-6.200 (3)(B)].

2. This general permit is issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis, for land disturbance projects performed by or under contract to the permittee.

3. This permit authorizes stormwater discharges from land disturbance support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, concrete, or asphalt batch plants) provided appropriate stormwater controls are designed, installed, and maintained and the following conditions are met and addressed in the Stormwater Pollution Prevention Plan (SWPPP). The permittee is responsible for compliance with this permit for any stormwater discharges from construction support activity.
   (a) The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
   (b) The support activity is not a commercial operation or serve multiple unrelated construction sites;
   (c) The support activity does not continue to operate beyond the completion of the construction activity at the project it supports;
   (d) Sediment and erosion controls are implemented in accordance with the conditions of this permit; and
   (e) The support activity is strictly stormwater discharges or non-stormwater discharges listed in PART I, APPLICABILTY, Condition A.4. Support activities which discharge process water shall apply for separate coverage (e.g.,a concrete batch plant discharging process water shall be covered under a MOG49).

4. This permit authorizes non-stormwater discharges associated with your construction activity from the following activities provided that these discharges are treated by appropriate Best Management Practices (BMPs) where applicable and addressed in the permittee's site specific SWPPP required by this general permit:
   (a) Discharges from emergency fire-fighting activities;
   (b) Hydrant flushing and water line flushing, provided the discharged water is managed to avoid instream water quality impacts;
   (c) Landscape watering, including to establish vegetation;
   (d) Water used to control dust;
   (e) Waters used to rinse vehicles and equipment, provided there is no discharge of soaps, solvents, or detergents used for such purposes;
   (f) External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (e.g., paint or caulk containing polychlorinated biphenyls (PCBs))
   (g) Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. Directing pavement wash waters directly into any water of the state, storm drain inlet, or stormwater conveyance (constructed or natural site drainage features), unless the conveyance is connected to an effective control, is prohibited;
   (h) Uncontaminated air conditioning or compressor condensate;
   (i) Uncontaminated, non-turbid discharges of ground water or spring water;
   (j) Foundation or footing drains where flows are not contaminated with process materials; and
   (k) Uncontaminated construction dewatering water discharged in accordance with requirements found in this permit for specific dewatering activities.

B. Permit Restrictions and Limitations

1. This permit does not authorize the discharge of process wastewaters, treated or otherwise.

2. For sites operating within the watershed of any Outstanding National Resource Water (which includes the Ozark National Riverways and the National Wild and Scenic Rivers System), sites that discharge to an Outstanding State Resource Water, or facilities located within the watershed of an impaired water as designated in the Clean Water Act (CWA) Section 303(d) list with an impairment for sedimentation/siltation:
   (a) This permit authorizes stormwater discharge provided no degradation of water quality occurs due to discharges from the permitted facility per 10 CSR 20-7.031(3)(C).
   (b) A site with a discharge found to be causing degradation or contributing to an impairment by discharging a pollutant of concern, during an inspection or through complaint investigations, may be required to become a no discharge facility or obtain a site-specific permit with more stringent monitoring and SWPPP requirements.

3. This permit does not allow placement of fill material into any stream or wetland, alteration of a stream channel, or obstruction of stream flow unless the appropriate CWA Section 404 permitting authority provides approval for such actions or determines such actions are exempt from Section 404 jurisdiction. Additionally, this permit does not authorize placement of fill in floodplains unless approved or determined exempt by appropriate federal and/or state floodplain development authorities.

4. This operating permit does not affect, remove, or replace any requirement of the National Environmental Policy Act; the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; or any other relevant acts. Determination of applicability to the above mentioned acts is the responsibility of the permittee. Additionally, this permit does not establish terms and conditions for runoff resulting from silvicultural activities listed in Section 402(l)(3)(a) of the Clean Water Act.

5. Compliance with all requirements in this permit does not supersede any requirement for obtaining project approval from an established local authority nor remove liability for compliance with county and other local ordinances.

6. The Department may require any facility or site authorized by a general permit to apply for a site-specific permit [10 CSR 20-6.010(13)(C)].

7. If a facility or site covered under a current general permit desires to apply for a site-specific permit, the facility or site may do so by contacting the Department for application requirements and procedures.

8. Any discharges not expressly authorized in this permit and not clearly disclosed in the permit application cannot become authorized or shielded from liability under CWA section 402(k) or Section 644.051.16, RSMo, by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including any other permit applications, funding applications, the SWPPP, discharge monitoring reporting, or during an inspection. Discharges at the facility not expressly authorized by this permit must be covered by another permit, be exempt from permitting, or be authorized through some other method.

II. EXEMPTIONS FROM PERMIT REQUIREMENTS

1. Sites that discharge all stormwater runoff directly to a combined sewer system (as defined in 40 CFR 122.26 and 40 CFR 35.2005) connecting to a publicly owned treatment works which has consented to receive such a discharge are exempt from Department stormwater permit requirements.

2. Land disturbance activities that disturb less than one (1) acre of total land area which are not part of a common plan or sale where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

3. Oil and gas related activities as listed in 40 CFR 122.26(a)(2)(ii) where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

4. Linear, strip, or ribbon construction or maintenance operations meeting one (1) of the following criteria are exempt from Department stormwater permit requirements:
   (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 BMPs are employed during the emergency repair.

III. REQUIREMENTS

1. The permittee shall post a public notification sign at the main entrance to the site, or a publically visible location, with the specific MOR100 permit number. 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 site is finalized.

2. The permittee shall be responsible for notifying the land owner and 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 actions 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.

3. Ensure the design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:
   (a) Control stormwater volume, velocity, and peak flow rates 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 and scour;
   (c) Minimize the amount of exposed soil during construction activity;
   (d) Minimize the disturbance of steep slopes;
   (e) Minimize sediment discharges from the site. Address factors such as:
      1) The amount, frequency, intensity, and duration of precipitation;
      2) The nature of resulting stormwater runoff;
      3) Expected flow from impervious surfaces, slopes, and drainage features; and
      4) 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 as detailed in Part V. BMP REQUIREMENTS Condition 7, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration and filtering, unless infeasible; and
   (g) Minimize soil compaction and preserve topsoil where practicable.

   A 2-year, 24-hour storm event can be determined for the project location using the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 which can be located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html, or the permittee can determine local rainfall distribution for a 2-year, 24 hours storm event using multi-decade local high density rain gauge data, as approved by the Department.

4. BMPs for land disturbance [10 CSR 20-6.200(1)(D)2] are a schedule of activities, practices, or procedures that reduces the amount of soil available for transport or a device that reduces the amount of suspended solids in runoff before discharge to waters of the state. The term BMPs are also used to describe the sediment and erosion controls and other activities used to prevent stormwater pollution. BMPs are divided into two main categories: structural or non-structural; and they are also classified as temporary or permanent.
   Temporary BMPs may be added and removed as necessary with updates to the SWPPP as specified in the requirements below.

5. Installation of BMPs necessary to prevent soil erosion and sedimentation at the downgradient project boundary (e.g. buffers, perimeter controls, exit point controls, storm drain inlet protection) must be complete prior to the start of all phases of construction. By the time construction activity in any given portion of the site begins, downgradient BMPs must be installed and operational to control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities. Additional BMPs shall be installed as necessary throughout the life of the project.

6. All BMPs shall be maintained and remain in effective operating condition during the entire duration of the project, with repairs made within the timeframes specified elsewhere in this permit, until final stabilization has been achieved.
   (a) Ensure BMPs are protected from activities that would reduce their effectiveness.
   (b) Remove any sediment per the BMP manufacturer's instructions or before it has accumulated to one-half of the above-ground height of any BMP that collects sediment (i.e., silt fences, sediment traps, etc.)
   (c) The project is considered to achieve final stabilization when Part V. BMP REQUIREMENTS, Condition 13 is met.

7. Minimize sediment trackout from the site and sediment transport onto roadways.
   (a) Restrict vehicle traffic to designated exit points.
   (b) Use appropriate stabilization techniques or BMPs at all points that exit onto paved roads or areas outside of the site.
   (c) Use additional controls or BMPs to remove sediment from vehicle and equipment tires prior to exit from facility where necessary.
   (d) Any sediment or debris that is tracked out past the exit pad or is deposited on a roadway after a precipitation event shall be removed by the shorter of either the same business day (for business days only), or by the end of the next business day if track-out occurs on a non-business day, and before predicted rain events. Remove the track-out sediment by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. Sediment or debris tracked out on pavement or other impervious surfaces shall not be disposed of into any stormwater conveyance, storm drain inlet, or water of the state.
   (e) Stormwater inlets susceptible to receiving sediment or other pollutants from the permitted land disturbance site shall have curb inlet protection. This may include inlets off the active area where track out from vehicles and equipment could impact the stormwater runoff to those inlets.

8. Concrete washout facilities shall be used to contain concrete waste from the activities onsite, unless the washout of trucks and equipment is managed properly at an off-site location.
   The washout facility shall be managed to prevent solid and/or liquid waste from entering waters of the state by the following:
   (a) Direct the wash water into leak-proof containers or pits designed so that no overflows can occur due to inadequate sizing or precipitation;
   (b) Locate washout activities away from waters of the state, stormwater inlets, and/or stormwater conveyances where practicable. If not practicable, use BMPs to reduce risk of waste leaving the washout facility;
   (c) Washout facilities shall be cleaned, or new facilities must be constructed and ready for use, once the washout is 75% full;
   (d) Designate the washout area(s) and conduct such activities only in these areas.
   (e) Ensure contractors are aware of the location, such as by marking the area(s) on the map or signage visible to the truck and/or equipment operators.

9. Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state.
   (a) Provide solid and hazardous waste management practices, including providing trash containers, regular site cleanup for proper disposal of solid waste such as scrap building material, product/material shipping waste, food/beverage containers, spent structural BMPs;
   (b) Provide containers and methods for proper disposal of waste paints, solvents, and cleaning compounds.
   (c) Manage sanitary waste. Portable toilets shall be positioned so that they are secure and will not be tipped or knocked over and so that they are located away from waters of the state and stormwater inlets and stormwater conveyances.
   (d) Ensure the storage of construction materials be kept away from drainage courses, stormwater conveyances, storm drain inlets, and low areas.

10. All fueling facilities present shall at all times adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers.

11. Any hazardous wastes that are generated onsite shall be managed, stored, and transported according to the provisions of the Missouri Hazardous Waste Laws and Regulations.

12. Store all paints, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so they are not exposed to stormwater or provide other prescribed BMPs (such as plastic lids and/or portable spill pans) to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention, control, and countermeasures to contain the spill. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall prevent the contamination of groundwater.

13. Implement measures intended to prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicles and equipment to thereby prevent the contamination of stormwater from these substances. This may include prevention measures such as, but not limited to, utilizing drip pans under vehicles and equipment stored outdoors, covering fueling areas, using dry clean-up methods, use of absorbents, and cleaning pavement surfaces to remove oil and grease.

14. Spills, Overflows, and Other Unauthorized Discharges.
    (a) Any spill, overflow, or other discharge not specifically authorized in the permit above are unauthorized.
    (b) Should an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a Department staff member voice-mail does not satisfy this reporting requirement.
    (c) A record of all spills shall be retained with the SWPPP and made available to the Department upon request.
    (d) Other spills not reaching waters of the state must be cleaned up as soon as possible to prevent entrainment in stormwater but are not required to be reported to the Department.

15. The full implementation of this operating permit shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16 and the CWA §402(k); however, this permit may be reopened and modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Clean Water Act §§ 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

IV. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MANAGEMENT REQUIREMENTS

1. 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, including solids for each site covered under this permit.

   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 [40 CFR 122.44 (k)(4)] from entering waters of the state above established general and narrative criteria; compliance with Missouri Water Quality Standards; and compliance with the terms and conditions of this general permit.

   (a) **The SWPPP must be developed and implemented prior to conducting any land disturbance activities and must be specific to the land disturbance activities at the site.**
   (b) The permittee shall fully implement the provisions of the SWPPP required under this permit as a condition of this general permit throughout the term of the land disturbance project. Failure to develop, implement, and maintain a SWPPP may lead to immediate enforcement action.

(c) The SWPPP shall be updated any time site conditions warrant adjustments to the project or BMPs.
(d) Either an electronic copy or a paper copy of the SWPPP, and any required reports, must be accessible to anyone on site at all times when land disturbance operations are in process or other operational activities that may affect the maintenance or integrity of the BMP structures and made available as specified under Part VIII. STANDARD PERMIT CONDITIONS, Condition I of this permit. The SWPPP shall be readily available upon request and should not be sent to the Department unless specifically requested

2. Failure to implement and maintain the BMPs chosen, which can be revised and updated, is a permit violation. The chosen BMPs will be the most reasonable and cost effective while also ensuring the highest quality water discharged attainable for the facility. Facilities with established SWPPPs and BMPs shall evaluate BMPs on a regular basis and change the BMPs as needed if there are BMP deficiencies.

3. The SWPPP must:
   (a) List and describe the location of all outfalls;
   (b) List any allowable non-stormwater discharges occurring on site and where these discharges occur;
   (c) Incorporate required practices identified below;
   (d) Incorporate sediment and erosion control practices specific to site conditions;
   (e) Discuss whether or not a 404 Permit is required for the project; and
   (f) Name the person(s) responsible for inspection, operation, and maintenance of BMPs. The SWPPP shall list the names and describe the role of all owners/primary operators (such as general contractor, project manager) responsible for environmental or sediment and erosion control at the land disturbance site.

4. The SWPPP briefly must describe the nature of the land disturbance activity, including:
   (a) The function of the project (e.g., low density residential, shopping mall, highway, etc.);
   (b) The intended sequence and timing of activities that disturb the soils at the site; and
   (c) Estimates of the total area expected to be disturbed by excavation, grading, or other land disturbance support activities including off-site borrow and fill areas;

5. In order to identify the site, the SWPPP shall include site information including size in acres. 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.

6. The function of the SWPPP and the BMPs listed therein is to prevent or minimize pollution to waters of the state. A deficiency of a BMP means it was not effective in preventing or minimizing pollution of waters of the state.

   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 https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf; and https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp.

   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 Department. This manual is available at: https://dnr.mo.gov/document-search/protecting-water-quality-field-guide.

   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 must be described and justified in the SWPPP. Although the use of these manuals or other resources is recommended and may be used for BMP selection, they do not supersede the conditions of this permit. They may be used to inform in the decision making process for BMP selection but they are not themselves part of the permit conditions.

The permittee may retain the SWPPP, inspection reports, and all other associated documents (including a copy of this permit) electronically pursuant to RSMo 432.255. The documents must be made available to all interested persons in either paper or electronic format as required by this permit and the permittee must remit a copy (electronic or otherwise) of the SWPPP and inspection reports to the Department upon request.

7. The SWPPP must contain a legible site map, multiple maps if necessary, identifying:
   (a) Site boundaries of the property;
   (b) Locations of all waters of the state (including wetlands) within the site and half a mile downstream of the site's outfalls;
   (c) Location of all outfalls;
   (d) Direction(s) of stormwater flow (use arrows) and approximate slopes before and after grading activities;
   (e) 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);
   (f) Location of structural and non-structural BMPs, including natural buffer areas, identified in the SWPPP;
   (g) Locations where stabilization practices are expected to occur;
   (h) Locations of on-site and off-site material, waste, borrow, or equipment storage areas and stockpiles;
   (i) Designated points where vehicles will exit the site;
   (j) Location of stormwater inlets and conveyances including ditches, pipes, man-made conduits, and swales; and
   (k) Areas where final stabilization has been achieved.

8. An individual shall be designated by the permittee as the environmental lead. This environmental lead shall have knowledge in erosion, sediment, and stormwater control principles, knowledge of the permit, and the site's SWPPP. The environmental lead shall ensure all personnel and contractors understand any requirements of this permit may be affected by the work they are doing. The environmental lead or designated inspector(s) knowledgeable in erosion, sediment, and stormwater control principles shall inspect all structures that function to prevent or minimize pollution of waters of the state.

9. Throughout coverage under this permit, the permittee shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. All SWPPP modifications shall be signed and dated. The permittee shall amend the SWPPP to incorporate any significant site condition changes which impact the nature and condition of stormwater discharges. At a minimum, these changes include whenever the:
   (a) Location, 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) The 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 sediment deposits in streams, lakes, or downstream waterways, sediment or other wastes off site); and/or
   (f) Department determines violations of water quality standards may occur or have occurred.

10. Site Inspections: The environmental lead, or a designated inspector, shall conduct regularly scheduled inspections. 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. Site inspections shall include, at a minimum, the following:
   (a) For disturbed areas that have not achieved final stabilization, all installed BMPs and other pollution control measures shall be inspected to ensure they are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
   (b) For areas on site that have achieved either temporary or final stabilization, while at the same time active construction continues on other areas, ensure that all stabilization measures are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
   (c) Inspect all material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit. Inspect for conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.
   (d) Inspect all areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater.

(e) All stormwater outfalls shall be inspected for evidence of erosion, sediment deposition, or impacts to the receiving stream. If a discharge is occurring during an inspection, the inspector must observe and document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including turbidity, color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.
(f) When practicable the receiving stream shall also be inspected for a minimum of 50 feet downstream of the outfall.
(g) The perimeter of the site shall be inspected for evidence of BMP failure to ensure concentrated flow does not develop a new outfall.
(h) The SWPPP must explain how the environmental lead will be notified when stormwater runoff occurs.

11. Inspection Frequency: All BMPs must be inspected in accordance to one of the schedules listed below. The inspection frequency shall be documented in the SWPPP, and any changes to the frequency of inspections, including switching between the options listed below, must be documented on the inspection form:
(a) At least once every seven (7) calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal work day or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday; or
(b) Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches of precipitation or greater, or the occurrence of runoff from snowmelt. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee shall either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station near the site location.
1) Inspections are only required during the project's normal working hours.
2) An inspection must be conducted within 24 hours of a storm event which has produced 0.25 inches. The inspection shall be conducted within 24 hours of the event end, or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
3) If it is elected to inspect every 14 calendar days and there is a storm event at the site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee shall conduct an inspection within 24 hours of the end of the storm or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
(c) Areas on site that have achieved stabilization, while at the same time active construction continues on other areas, may reduce inspection frequency to monthly, for those stabilized areas, if the following conditions exist:
1) For areas where disturbed portions have undergone temporary stabilization, inspections shall occur at least once a month while stabilized and when re-disturbed shall follow either frequency outlined in (a),(b), or (c) above.
2) Areas on site that have achieved final stabilization must be inspected at least once per month until the permit is terminated.
(d) If construction activities are suspended due to frozen conditions, the permittee may temporarily reduce site inspections to monthly until thawing conditions begin to occur if all of the following are met:
1) Land disturbances have been suspended; and
2) All disturbed areas of the site have been stabilized in accordance with Part V. BMP REQUIREMENTS, Condition 13.
3) The change shall be noted in the SWPPP.
(e) Any basin dewatering shall be inspected daily when discharge is occurring. The discharge shall be observed and dewatering activities shall be ceased immediately if the receiving stream is being impacted. These inspections shall be noted on a log or on the inspection report.

If weather conditions or other issues prevent correction of BMPs within seven 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 seven day time period. The documentation must be filed with the regular inspection reports. The corrections shall be made as soon as weather conditions or other issues allow.

12. Site Inspection Reports: A log of each inspection and/or copy of the inspection report shall be kept readily accessible and must be made available upon request by the Department. Electronic logs are acceptable as long as reports can be provided within 24 hours. If inspection reports are kept off site, the SWPPP must indicate where they are stored. The inspection report shall be signed by the environmental lead or designated inspector (electronically or otherwise).
(a) The inspection report is to include the following minimum information:
1) Inspector's name and title.
2) Date and time of inspection.
3) Observations relative to the effectiveness of the BMPs and stabilization measures. The following must be

documented:
a. Whether BMPs are installed, operational, and working as intended;
b. Whether any new or modified stormwater controls are needed;
c. Facilities examined for conditions that could lead to spill or leak;
d. Outfalls examined for visual signs of erosion or sedimentation at outfalls. Excessive erosion or sedimentation may be due to BMP failure or insufficiency. Response to observations should be addressed in the inspection report.

4) Corrective actions taken or necessary to correct the observed problem.
5) Listing of areas where land disturbance operations have permanently or temporarily stopped.

13. Any structural or maintenance deficiencies for BMPs or stabilization measures shall be documented and corrected as soon as possible but no more than seven (7) calendar days after the inspection.
(a) Corrective action documentation shall be stored with the associated site inspection report.
(b) Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events.
(c) If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (this may include pictures) and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The permittee shall correct the problem as soon as weather conditions or issues allow.
(d) Corrective actions may be required by the Department. The permittee must comply with any corrective actions required by the Department as a result of permit violations found during an inspection.

V. BMP REQUIREMENTS

1. The information, practices, and BMP requirements in this section shall be implemented on site and, where noted, provided for in the SWPPP.

2. Existing vegetation and trees shall be preserved where practicable. The permittee is encouraged to preserve topsoil where practicable.

3. The permittee shall select appropriate BMPs for use at the site and list them in the SWPPP. When selecting effective BMPs, the permittee shall consider stormwater volume and velocity. A BMP that has demonstrated ineffectiveness in preventing or minimizing sediment or other pollutants from leaving a given site shall be replaced with a more effective BMP, or additional and sequential BMPs and treatment devices may be incorporated as site conditions allow. The permittee should consider a schedule for performing erosion control measures when selecting BMPs.

4. The SWPPP shall include a description of both structural and non-structural BMPs that will be used at the site.
(a) 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 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 and schedules for the BMP.
(b) 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) When the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project; and
3) Site conditions that must be met before removal of the BMP if the BMP is not a permanent BMP.

5. Structural BMP Installation: The permittee shall ensure all BMPs are properly installed and operational at the locations and relative times specified in the SWPPP.
(a) Perimeter control BMPs for runoff from disturbed areas shall be installed before general site clearing is started. Note this requirement does not apply to earth disturbances related to initial site clearing and establishing entry, exit, or access of the site, which may require that stormwater controls be installed immediately after the earth

disturbance.
(b) For phased projects, BMPs shall be properly installed as necessary prior to construction activities.
(c) Stormwater discharges which leave the site from disturbed areas shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps (including vegetative buffers), or silt fences prior to leaving the land disturbance site.
(d) A drainage course change shall be clearly marked on a site map and described in the SWPPP.
(e) If vegetative stabilization measures are being implemented, stabilization efforts are considered "installed" when all activities necessary to seed or plant the area are completed. Vegetative stabilization is not considered "operational" until the vegetation is established.

6. Install sediment controls along any perimeter areas of the site that are downgradient from any exposed soil or other disturbed areas. Prevent stormwater from circumventing the edge of the perimeter control. For sites where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the site.

7. For surface waters of the state, defined in Section 644.016.1(27) RSMo, located on or adjacent to the site, the permittee must maintain a riparian buffer or structural equivalent in accordance with at least one of the following options. The selection and location must be described in the SWPPP.
   (a) Provide and maintain a 50-foot undisturbed natural buffer; or
   (b) Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
   (c) If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.
   (d) The permittee is not required to comply with (a), (b), or (c) above if one or more of the following exceptions apply and documentation is provided in the SWPPP:
      1) As authorized per CWA Section 404 Department of the Army permit and its associated Section 401 Water Quality Certification from the Department.
      2) If there is no discharge of stormwater to waters of the state through the area between the disturbed portions of the site and waters of the state located within 50 feet of the site. This includes situations where the permittee has implemented permanent control measures that will prevent such discharges, such as a berm or other barrier.
      3) Where no natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for the current development of the site.
         a. Where some natural buffer exists but portions of the area within 50 feet of the waters of the state are occupied by preexisting development disturbances the permittee is required to comply with (a), (b), or (c) above.
      4) For linear projects where site constraints make it infeasible to implement a buffer or equivalent provided the permittee limit disturbances within 50 feet of any waters of the state and/or the permittee provides supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the water of the state. The permittee must also document in the SWPPP the rationale for why it is infeasible for the permittee to implement (a), (b), or (c) and describe any buffer width retained and supplemental BMPs installed.
   (e) Where the permittee is retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:
      1) The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
      2) The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

8. Slopes for disturbed areas must be identified in the SWPPP. A site map or maps defining the sloped areas for all phases of the project must be included in the SWPPP. The disturbance of steep slopes shall be minimized.
9. Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil.
   (a) Locate the piles outside of any natural buffers zones, established under the condition above, and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;
   (b) Install a sediment barrier along all downgradient perimeter areas;
   (c) Divert surface flows around stockpiles to reduce and minimize erosion of the stockpile.

(d) For piles that will be unused for 14 or more days, provide cover with appropriate temporary stabilization in accordance with Part V. BMP REQUIREMENTS, Condition 13.
(e) Rinsing, sweeping, or otherwise placing any soil, sediment, debris, or stockpiled product which has accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or water of the state is prohibited.

10. The site shall include BMPs for pollution prevention measures and shall be noted in the SWPPP. At minimum such measures must be designed, installed, implemented, and maintained to:
(a) Minimize the discharge of pollutants from equipment and vehicle rinsing; no detergents, additives, or soaps of any kind shall be discharged. Rinse waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
(b) 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;
(c) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures, including, but not limited to, the installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers; and
(d) Prevent discharges from causing or contributing to an exceedance of water quality standards including general criteria.

11. Sedimentation Basins: The SWPPP shall include a sedimentation basin for each drainage area with ten or more acres disturbed at one time.
(a) The sedimentation basin shall be sized, at a minimum, to treat a local 2-year, 24-hour storm.
(b) Sediment basins shall not be constructed in any waters of the state or natural buffer zones.
(c) Discharges from dewatering activities shall be managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods and specific BMPs designed to treat dewatering water.
1) Appropriate controls include, but are not limited to, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (e.g. bag or sand filters), and passive treatment systems that are designed to remove or retain sediment.
2) Erosion controls and velocity dissipation devices (e.g., check dams, riprap, and vegetated buffers) to minimize erosion at inlets, outlets, and discharge points from shall be utilized.
3) Water with an oil sheen shall not be discharged and shall be marked in SWPPP.
4) Visible floating solids and foam shall not be discharged.
(d) Until final stabilization has been achieved, sediment basins and impoundments shall utilize outlet structures or floating skimmers that withdraw water from the surface when discharging.
1) Under frozen conditions, it may be considered infeasible to withdraw water from the surface and an exception can be made for that specific period as long as discharges that may contain sediment and other pollutants are managed by appropriate controls. If determined infeasible due to frozen conditions, documentation must be provided in the SWPPP to support the determination, including the specific conditions or time period when this exception applies.
(e) Accumulated sediment shall not exceed 50% of total volume or as prescribed in the design, whichever is less. Note in the SWPPP the locations for disposal of the material removed from sediment basins.
(f) Prevent discharges to the receiving stream causing excessive visual turbidity. For the purposes of this permit, visual turbidity refers to a sediment plume or other cloudiness in the water caused by sediment that can be identified by an observer.
(g) 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 infeasible, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment. 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.

12. Soil disturbing activities on site that have ceased either temporarily or permanently shall initiate stabilization immediately in accordance with the options below. For soil disturbing activities that have been temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days:
    (a) The permittee shall construct BMPs to establish interim stabilization; and
    (b) Stabilization must be initiated immediately and completed within 14 calendar days.
    (c) For soil disturbing activities that have been permanently ceased on any portion of the site, final stabilization of disturbed areas must be initiated immediately and completed within 14 calendar days.
        1) Allowances to the 14-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. Allowances may be determined unnecessary after review by the Department.
    (d) Until stabilization is complete, interim sediment control 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. 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), then the permittee shall establish interim stabilization within seven days of ceasing operations on that part of the site. The following activities would constitute the immediate initiation of stabilization:
        1) Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable;
        2) Applying mulch or other non-vegetative product to the exposed areas;
        3) Seeding or planting the exposed areas;
        4) Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.
    (e) If vegetative stabilization measures are being implemented, stabilization is considered "installed" when all activities necessary to seed or plant the area are completed. Installed does not mean established.
    (f) If non-vegetative stabilization measures are being implemented, stabilization is considered "installed" when all such measures are implemented or applied.
        1) Non-vegetative stabilization shall prevent erosion and shall be chosen for site conditions, such as slope and flow of stormwater.
    (g) Final stabilization is not considered achieved until vegetation has grown and established to meet the requirements below.

13. Prior to removal of BMPs, ceasing site inspections, and removing from the quarterly report, final stabilization must be achieved. Final stabilization shall be achieved as soon as possible once land disturbance activities have ceased. Document in the SWPPP the type of stabilization and the date final stabilization is achieved.
    (a) The project is considered to have achieved final stabilization when perennial vegetation (excluding volunteer vegetation), pavement, buildings, or structures using permanent materials (e.g., riprap, gravel, etc.) cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation must be at least 70% coverage of 100% of the vegetated areas on site. Vegetation must be evenly distributed.
    (b) Disturbed areas on agricultural land are considered to have achieved final stabilization when they are restored to their preconstruction agricultural use. If former agricultural land is changing to non-agricultural use, this is no longer considered agricultural land and shall follow condition (a).
    (c) If the intended function of a specific area of the site necessitates that it remain disturbed, final stabilization is considered achieved if all of the following are met:
        1) Only the minimum area needed remains disturbed (i.e., dirt access roads, motocross tracks, utility pole pads, areas being used for storage of vehicles, equipment, materials). Other areas must meet the criteria above.

2) Permanent structural BMPs (e.g., rock checks, berms, grading, etc.) or non-vegetative stabilization measures are implemented and designed to prevent sediment and other pollutants from entering waters of the state.
3) Inspection requirements in Part IV. SWPPP MANAGEMENT REQUIREMENT, Condition 11 are met and documented in the SWPPP.

(d) Winter weather and frozen conditions do not excuse any of the above final stabilization requirements. If vegetation is required for stabilization the permittee must maintain BMPs throughout winter weather and frozen conditions until thawing and vegetation meets final stabilization criteria above. Document stabilization attempts during frozen conditions in the SWPPP. Consider future freezing when removing vegetation and plan with temporary stabilization techniques before the ground becomes frozen.

VI. SITE FINALIZATION & PERMIT TERMINATION

1. Until a site is finalized, the permittee must comply with all conditions in the permit, including continuation of site inspections and reporting quarterly to the Department. To finalize the site and remove from this permit coverage, the site shall meet the following requirements:
   (a) For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which the permittee had control during the construction activities, the requirements for final vegetative or non-vegetative stabilization in Part V. BMP REQUIREMENTS, Condition 13;
   (b) The permittee has removed and properly disposed of all construction materials, waste, and waste handling devices and has removed all equipment and vehicles that were used during construction, unless intended for long-term beyond construction phase;
   (c) The permittee has removed all temporary BMPs that were installed and maintained during construction, except those that are intended for long-term use or those that are biodegradable; and
   (d) The permittee has removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following the construction activities.

2. The permit may be terminated if;
   (a) There has been a transfer of control of all areas of the site for which the current permittee is responsible under this permit to another operator, and that operator has obtained coverage under this permit;
   (b) Active sites obtain coverage under an individual or alternative general NPDES permit, with land disturbance conditions; or
   (c) This permit may be terminated when all projects covered under this permit are finalized. In order to terminate the permit, the permittee shall notify the Department by submitting a Request for Termination along with the final quarterly report for the current calendar quarter.

VII. REPORTING AND SAMPLING REQUIREMENTS

1. The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns, or evidence of off-site impacts from activities at a site. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.

2. Electronic Discharge Monitoring Report (eDMR) Submission System. The NPDES Electronic Reporting Rule, 40 CFR Part 127, reporting of any report required by the permit shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.

3. Permittees shall prepare a quarterly report with a list of active land disturbance sites including any off-site borrow or depositional areas associated with the construction project and submit the following information electronically as an

attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:

(a) The name of the project;
(b) The location of the project (including the county);
(c) The name of the primary receiving water(s) for each project;
(d) A description of the project;
(e) The number of acres disturbed;
(f) The percent of completion of the project; and
(g) The projected date of completion.

The quarterly report(s) shall be maintained by the permittee and readily available for review by the Department at the address provided on the application as well as submitted quarterly via the Department's eDMR system. The permittee shall submit quarterly reports according to Table A.

Table A	**Schedule for Quarterly Reporting**
Activity for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

VIII. STANDARD PERMIT CONDITIONS

1. Records: 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.
   (a) The records shall be accessible during normal business hours and retained for a period of at least three (3) years from the date of termination.
   (b) The permittee shall provide a copy (electronic or otherwise) 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 within 24 hours of the request (or next working day), unless given more time by the representative.
   (c) 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.

2. Land Ownership and Change of Ownership: Federal and Missouri stormwater regulations [10 CSR 20-6.200(1) (B)] 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 larger common plan of development or sale where that plan is at least one acre in size.
   (a) If the permittee sells any portion of a permitted site to a developer for commercial, industrial, or residential use, this land remains a part of the common sale and the new owner must obtain a permit prior to conducting any land disturbance activity. Therefore, the original permittee must amend the SWPPP to show that the property has been sold and, therefore, no longer under the original permit coverage.
   (b) Property of any size which is part of a larger common plan of development where the property has achieved final stabilization and the original permit terminated will require application of a new land disturbance permit for any future land disturbance activity unless the activity is by an individual residential building lot owner on a site less than one acre.
   (c) If a portion of a larger common plan of development is sold to an individual for the purpose of building his or her own private residence, a permit is required if the portion of land sold is equal to or greater than one acre. No permit is required, however, for less than one acre of land sold.

3. Permit Transfer: This permit may not be transferred to a new owner.

4. Termination: This permit may be terminated when the project has achieved final stabilization, defined in Part VI. SITE FINALIZATION & PERMIT TERMINATION.
   (a) In order to terminate the permit, the permittee shall notify the Department by submitting the form Request for Termination of Operating Permit Form MO 780-2814. The form should be submitted to the appropriate regional office or through an approved electronic system if it should become available.
   (b) 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.**

5. Duty to Reapply: 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. This permit may be applied for and issued electronically in accordance with Section 644.051.10, RSMo.
   (a) Due to the nature of the electronic permitting system, a period of time may be granted at the discretion of the Department in order to apply for a new permit after the new version is effective. Applicants must maintain appropriate best management practices and inspections during the discretionary period.

6. Duty to Comply: The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

7. Modification, Revocation, and Reopening:
   (a) 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 CSR20-6.010(13) and 10 CSR 20-6.200(1)(B).
   (b) 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.

8. Other Information: Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

9. Duty to Provide Information: The permittee shall furnish to the Department, within 24 hours unless explicitly granted more time in writing, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

10. Inspection and Entry: The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of the permit;
    (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

11. Signatory Requirement:
    (a) All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    (b) The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or non-compliance) 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 by both.
    (c) The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

12. Property Rights: This permit does not convey any property rights of any sort or any exclusive privilege.

13. Notice of Right to Appeal: If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov

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
FACT SHEET FOR MASTER GENERAL PERMIT
MO-R100XXX

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of 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 CWA). 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 Missouri Department of Natural Resources (Department) under an approved program operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2, a Fact Sheet 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 permit. A Fact Sheet is not an enforceable part of an MSOP.

DEFINITIONS FOR THE PURPOSES OF THIS PERMIT:

Common Promotional Plan: A plan undertaken by one (1) or more persons to offer lots for sale or lease; where land is offered for sale by a person or group of persons acting in concert, and the land is contiguous or is known, designated, or advertised as a common unit or by a common name or similar names, the land is presumed, without regard to the number of lots covered by each individual offering, as being offered for sale or lease as part of a common promotional plan.

Dewatering: The act of draining rainwater and/or groundwater from basins, building foundations, vaults, and trenches.

Effective Operating Condition: For the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Emergency-Related Project: A project initiated in response to a public emergency (e.g. earthquakes, extreme flooding conditions, tornado, disruptions in essential public services, pandemic) for which the related work requires immediate authorization to avoid imminent endangerment to human health/safety or the environment or to reestablish essential public services.

Exposed Soils: For the purposes of this permit, soils that as a result of earth-disturbing activities are left open to the elements.

Immediately: For the purposes of this permit, immediately should be defined as within 24 hours.

Impervious Surface: For the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

Infeasible: Infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices.

Install or Installation: When used in connection with stormwater controls, to connect or set in position stormwater controls to make them operational.

Land Disturbance Site or Site: The land or water area where land disturbance activities will occur and where stormwater controls will be installed and maintained. The land disturbance site includes construction support activities, which may be located at a different part of the property from where the primary land disturbance activity will take place or on a different piece of property altogether. Off-site borrow areas directly and exclusively related to the land disturbance activity are part of the site and must be permitted.

Larger Common Plan of Development or Sale: A continuous area where multiple separate and distinct construction activities are occurring under one plan, including any off-site borrow areas that are directly and exclusively related to the land disturbance activity. Off-site borrow areas utilized for multiple different land disturbance projects are considered their own entity and are not part of the larger common plan of development or sale. See definition of Common Promotional Plan to understand what a 'common plan' is.

Minimize: To reduce and/or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Non-structural Best Management Practices (BMPs): Institutional, educational, or pollution prevention practices designed to limit the amount of stormwater runoff or pollutants that are generated in the landscape. Examples of non-structural BMPs include picking up trash and debris, sweeping up nearby sidewalks and streets, maintaining equipment, and training site staff on stormwater control practices.

Operational: for the purposes of this permit, stormwater controls are made "operational" when they have been installed and implemented, are functioning as designed, and are properly maintained.

Ordinary High Water Mark: The line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris.

Peripheral: For the purposes of this permit, peripheral should be defined as the outermost boundary of the area that will be disturbed.

Permanently: For the purposes of this permit, permanently is defined as any activity that has been ceased without any intentions of future disturbance.

Pollution Prevention Controls (or Measures): Stormwater controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Qualified Person (inspections): A person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Stormwater Control (also referred to as sediment/erosion controls): refers to any temporary or permanent BMP or other method used to prevent or reduce the discharge of pollutants to waters of the state.

Structural BMP: Physical sediment/erosion controls working individually or as a group (treatment train) appropriate to the source, location, and area climate for the pollutant to be controlled. Examples of structural BMPs include silt fences, sedimentation ponds, erosion control blankets, and seeding.

Temporary Stabilization: A condition where exposed soils or disturbed areas are provided temporary vegetation and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

Treatment Train: A multi-BMP approach to managing the stormwater volume and velocity and often includes erosion prevention and sediment control practices often applied when the use of a single BMP is inadequate in preventing the erosion and transport of sediment. A good option to utilize as a corrective action.

Volunteer Vegetation: A volunteer plant is a plant that grows on its own, rather than being deliberately planted for stabilization purposes. Volunteers often grow from seeds that float in on the wind, are dropped by birds, or are inadvertently mixed into soils. Commonly, volunteer vegetation is referred to as 'weeds'. This does not meet the requirements for final stabilization.

Waters of the State: Section 644.016.1(27) RSMo. defines waters of the state as, "All waters within the jurisdiction of this state, including all rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or by two or more persons jointly or as tenants in common."

PART I – BASIC PERMIT INFORMATION

Facility Type:	Industrial Stormwater; Land Disturbance
Facility SIC Code(s):	1629
Facility Description:	Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling, 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 establishes a Stormwater Pollution Prevention Plan (SWPPP) requirement for pollutants of concern from this type of facility or for all facilities and sites covered under this permit. 10 CSR 20-6.200(7) specifies "general permits shall contain BMP requirements and/or monitoring and reporting requirements to keep the stormwater from becoming contaminated".

Land disturbance activities include clearing, grubbing, excavating, grading, filling and other activities that result in the destruction of the root zone and/or other activities that are reasonably certain to cause pollution to waters of the state. A Missouri State Operating Permit for land disturbance permit is required for construction disturbance activities of one or more acres or for construction activities that disturb less than one acre when they are 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.

The primary requirement of a land disturbance permit is the development of a SWPPP which incorporates site-specific BMPs to minimize soil exposure, soil erosion, and the discharge of pollutants. The SWPPP ensures the design, implementation, management, and maintenance of BMPs in order to prevent sediment and other pollutants from leaving the site.

When it precipitates, stormwater washes over the loose soil on a construction site and various other materials and products being stored outside. As stormwater flows over the site, it can pick up pollutants like sediment, debris, and chemicals from the loose soil and transport them to nearby storm sewer systems or directly into rivers, lakes, or coastal waters.

The Missouri Department of Natural Resources is responsible for ensuring that construction site operators have the proper stormwater controls in place so that construction can proceed in a way that protects your community's clean water and the surrounding environment. One way the department helps protect water quality is by issuing land disturbance permits.

Local conditions are not considered when developing conditions for a general permit. A facility may apply for a site-specific permit if they desire a review of site-specific conditions.

PART II – RECEIVING STREAM INFORMATION

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. This permit applies to facilities discharging to the following water body categories:

- ✓ Missouri or Mississippi River [10 CSR 20-7.015(2)]
- ✓ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ✓ Losing Streams [10 CSR 20-7.015(4)]
- ✓ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ✓ Special Streams [10 CSR 20-7.015(6)]
- ✓ Subsurface Waters [10 CSR 20-7.015(7)]
- ✓ All Other Waters [10 CSR 20-7.015(8)]

Missouri Water Quality Standards (10 CSR 20-7.031) defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's designated water uses shall be maintained in accordance with 10 CSR 20-7.031(24). A general permit does not take into consideration site-specific conditions.

MIXING CONSIDERATIONS:
This permit applies to receiving streams of varying low flow conditions. Therefore, the effluent limitations must be based on the smallest low flow streams considered, which includes waters without designated uses. As such, no mixing is allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)]. No Zone of Initial Dilution is allowed. [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:
There are no receiving water monitoring requirements recommended at this time.

PART III – RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

305(B) REPORT, 303(d) LIST, & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 305(b) of the Federal CWA requires each state identify waters not meeting Water Quality Standards and for which adequate water pollution controls have not been required. Water Quality Standards protect such beneficial uses of water as whole body contact, maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) list helps state and federal agencies keep track of waters which are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed which shall include the TMDL calculation. For facilities with an existing general permit before a TMDL is written on their receiving stream, the Department will evaluate the permit and may require any facility authorized by this general permit to apply for and obtain a site-specific operating permit.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA Section 303(d)(4); CWA Section 402(c); 40 CFR Part 122.44(l)] requires a reissued permit to be as stringent as the previous permit with some exceptions.
✓ Not Applicable: All effluent limitations in this permit are at least as protective as those previously established.

ANTIDEGRADATION:
Antidegradation policies ensure protection of water quality for a particular water body on a pollutant by pollutant basis to ensure Water Quality Standards are maintained to support beneficial uses such as fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as an Outstanding National Resource Water or Outstanding State Resource Water [10 CSR 20-7.031(3)(C)]. Antidegradation policies are adopted to minimize adverse effects on water.

The Department has determined the best avenue forward for implementing the Antidegradation requirements into general stormwater permits is by requiring the appropriate development and maintenance of a SWPPP. The SWPPP must identify all reasonable and effective BMPs, taking into account environmental impacts and costs. This analysis must document why no discharge or no exposure options are not feasible at the facility. This selection and documentation of appropriate control measures will then serve as the analysis of alternatives and fulfill the requirements of the Antidegradation Rule and Implementation Procedure 10 CSR 20-7.031(3) and 10 CSR 20-7.015(9)(A)5.

Any facility seeking coverage under this permit which undergoes expansion or discharges a new pollutant of concern must update their SWPPP and select reasonable and cost effective new BMPs. New facilities seeking coverage under this permit are required to develop a SWPPP including this analysis and documentation of appropriate BMPs. Renewal of coverage for a facility requires a review of the SWPPP to ensure the selected BMPs continue to be appropriate.
✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BENCHMARKS:
When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor and, if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the limitations of the permit.
✓ Not applicable; this permit does not contain numeric benchmarks.

BEST MANAGEMENT PRACTICES (BMPS):
Minimum site-wide BMPs are established in this permit to ensure all permittees are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these BMPs are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum BMPs are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state; therefore, pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "...any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the CWA then refers to those parameters found in 40 CFR 401.15.

The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

✓ The industries covered under this permit have an associated Effluent Limit Guideline (ELG) which is applicable to the stormwater discharges in this permit and is applied under 40 CFR 125.3(a).

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize CWA reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

✓ Applicable; this permit requires quarterly reports.

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, RSMo 644.076.1, as well as Standard Permit Conditions Part VIII of this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission.

LAND APPLICATION:
Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.

✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:
Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

✓ Applicable; this permit provides coverage for land disturbance activities. These activities have SWPPP requirements and may be combined with the standard site SWPPP. Land disturbance BMPs should be designed to control the expected peak discharges. The University of Missouri has design storm events for the 25 year 24 hour storm; these can be found at: http://ag3.agebb.missouri.edu/design_storm/comparison_reports/20191117_25yr_24hr_comparison_table.htm; to calculate peak discharges, the website https://www.lmnoeng.com/Hydrology/rational.php has the rational equation to calculate expected discharge volume from the peak storm events.

NUTRIENT MONITORING:
Nutrient monitoring is required for facilities characteristically or expected to discharge nutrients (nitrogenous compounds and/or phosphorus) when the design flow is equal to or greater than 0.1 MGD per 10 CSR 20-7.015(9)(D)8.

✓ This is a stormwater only permit; therefore, it is not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

OIL/WATER SEPARATORS:
Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.

✓ Not applicable; this permit does not authorize the operation of OWS. The facility must obtain a separate permit to cover operation of and discharge from these devices.

PERMIT SHIELD:
The permit shield provision of the CWA (Section 402(k)) and Missouri Clean Water Law (644.051.16 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, they are effectively in compliance with certain sections of the CWA and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions but is only available when the facility is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the Department at time of application. It is the facility's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, as well as wastewater land application, storage, and treatment areas, are all fully disclosed to the Department at the time of application or during the draft permit review process. Subsequent requests for authorization to discharge additional pollutants or expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require permit modification or may require the facility be covered under a site specific permit.

PRETREATMENT PROGRAM:
This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) must ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

✓ Not Applicable; the facilities covered under this permit are not required to meet pretreatment requirements under an ELG.

PUBLIC NOTICE OF COVERAGE FOR AN INDIVIDUAL FACILITY:
Public Notice of reissuance of coverage is not required unless the facility is a specific type of facility as defined in 10 CSR 20-6.200(1). The need for an individual public notification process shall be determined and identified in the permit [10 CSR 20-6.020(1)(C)5.].

✓ Not applicable; public notice is not required for coverage under this permit to individual facilities. The MGP is public noticed in lieu of individual permit PN requirements.

REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation 40 CFR Part 122.44(d)(1)(i) requires effluent limitations for all pollutants which are or may be discharged at a level which will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard. In accordance with 40 CFR Part 122.44(d)(iii) if the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the water quality standard, the permit must contain effluent limits for the pollutant.

✓ The permit writer reviewed industry materials, available past inspections, and other documents and research to evaluate general and narrative water quality reasonable potential for this permit. Permit writers also use the Department's permit writer's manual, the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding technology based effluent limitations, effluent limitation guidelines, and water quality standards. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs.

SCHEDULE OF COMPLIANCE (SOC):

Per § 644.051, RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement or if prohibited by other statute or regulation. An SOC includes an enforceable sequence of interim requirements (e.g. actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the CWA, and 40 CFR 122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, an SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

✓ Not Applicable: This permit does not contain a SOC.

SETBACKS:

Setbacks, sometimes called separation distances, are common elements of permits and are established to provide a margin of safety in order to protect the receiving water and other features from accidents, spills, unusual events, etc. Specific separation distances are included in 10 CSR 20-8 for minimum design standards of wastewater structures. While wastewater is considered separately from stormwater under this permit, the guides and Chapter 8 distances may remain relevant to requirements under this permit if deemed appropriate by the permittee.

✓ Discharge to the watersheds of a Metropolitan No-Discharge Stream (10 CSR 20-7.031 Table F) is authorized by this permit if the discharges are in compliance with 10 CSR 20-7.015(5) and 10 CSR 20-7.031(7). Discharges to these watersheds are authorized for uncontaminated stormwater discharges only.

✓ This permit authorizes stormwater discharges which are located in a way to allow water to be released into sinkholes, caves, fissures, or other openings in the ground which could drain into aquifers (except losing streams) per 10 CSR 20-7.015(7). It is the best professional judgment of the permit writer to allow discharges to losing streams as the effluent is stormwater only.

✓ This permit authorizes stormwater discharge in the watersheds of Outstanding state Resource Waters (OSRW); Outstanding National Resources Waters (ONRW), which includes the Ozark National Riverways and the National Wild and Scenic Rivers System; and impaired waters as designated in the 305(b) Report provided no degradation of water quality occurs in the OSRW and ONRW due to discharges from the permitted facility per 10 CSR 20-7.015(6)(B) and 10 CSR 20-7.031(3)(C). Additionally, if the facility is found to be causing degradation or contributing to an impairment by discharging a pollutant of concern during an inspection or through complaint investigations, they will be required to become a no discharge facility or obtain a site specific permit with more stringent monitoring and SWPPP requirements. Missouri's impaired waters can be found at https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters. Sites within 1000 feet of a OSRW, ONRW, or water impaired for sediment must operate as a no-discharge facility. These additional protections are borrowed from the USEPA 2021 draft Construction General Permit.

SLUDGE – DOMESTIC BIOSOLIDS:
Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including, but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

✓ This permit does not authorize discharge or land application of biosolids. Sludge/biosolids is not generated by this industry.

SLUDGE – INDUSTRIAL:
Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including, but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

✓ Not applicable; sludge is not generated by this industry.

SPILL REPORTING:
Any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply when the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. https://dnr.mo.gov/waste-recycling/investigations-cleanups/environmental-emergency-response.

Underground and above ground storage devices for petroleum products, vegetable oils, and animal fats may be subject to control under federal Spill Prevention, Control, and Countermeasure Regulation and are expected to be managed under those provisions, if applicable. Substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) which are transported, stored, or used for maintenance, cleaning or repair shall be managed according to the provisions of RCRA and CERCLA.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k), BMPs must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites,* (Document number EPA 833-R-06-004) published by the EPA in 2007 https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally, in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared if the SIC code for the facility is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management.

The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed, the facility will employ the control measures determined to be adequate to prevent pollution from entering waters of the state. The facility will conduct inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example if the BMP being employed is deficient in controlling stormwater pollution, corrective action should be taken to repair, improve, or replace the failing BMP. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

The EPA has developed factsheets on the pollutants of concern for specific industries along with the BMPs to control and minimize stormwater (https://www.epa.gov/npdes/stormwater-discharges-industrial-activities). Along with EPA's factsheets, the International Stormwater BMP database (https://bmpdatabase.org/) may provide guidance on BMPs appropriate for specific industries.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)].

Alternative analysis evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The alternative analysis evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of the *Antidegradation Implementation Procedure* defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The alternative analysis evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure*, Section II.B.

✓ Applicable: A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate control practices specific to site conditions, and provide for maintenance and adherence to the plan.

UNDERGROUND INJECTION CONTROL (UIC):
The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well.

In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031 or other health-based standards or may otherwise adversely affect human health. If the Department finds the injection activity may endanger USDWs, the Department may require closure of the injection wells or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

✓ Not applicable; this permit does not authorize subsurface wastewater systems or other underground injection. These activities must be assessed under an application for a site specific permit. Certain discharges of stormwater into sinkholes may qualify as UIC. It is important the permittee evaluate all stormwater basins, even those holding water; as sinkholes have varying seepage rates. This permit does not allow stormwater discharges into sinkholes. The facility must ensure sinkholes are avoided in the construction process. The State's online mapping resource https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=87ebef4af15d438ca658ce0b2bbc862e has a sinkhole layer.

VARIANCE:
Per the Missouri Clean Water Law Section 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law Section 644.006 to 644.141 or any standard, rule, or regulation promulgated pursuant to Missouri Clean Water Law Section 644.006 to 644.141.
✓ Not Applicable: This permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITATIONS:
Per 10 CSR 20-2.010(78), the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant which may be discharged into the stream without endangering its water quality. Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's Technical Support Document For Water Quality-based Toxics Control (TSD) (EPA/505/2-90-001).
✓ Not applicable; water quality limitations were not applied in this permit.

WATER QUALITY STANDARDS:
Per 10 CSR 20-7.031(4), General Criteria shall be applicable to all waters of the state at all times, including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the Department to include in each NPDES permit conditions to achieve water quality established under Section 303 of the CWA, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:
Per 10 CSR 20-7.031(1)(FF), a toxicity test conducted under specified laboratory conditions on specific indicator organism; and per 40 CFR 122.2, the aggregate toxic effect of an effluent measured directly by a toxicity test. A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving water.
✓ Not applicable: At this time, permittees are not required to conduct a WET test. This permit is for stormwater only.

PART IV – EFFLUENT LIMITATIONS DETERMINATION

EPA Construction General Permit (CGP)
The CGP was used to research and support best professional judgment decisions made in establishing technology-based conditions for this general permit which are consistent with national standards. The permit writer determined the standards established by the CGP are achievable and consistent with federal regulations. Additionally, the conditions reflecting the best practicable technology currently available are utilized to implement the ELG.

In this general permit, technology-based effluent conditions are established through the SWPPP and BMP requirements. Effective BMPs should be designed on a site-specific basis. The implementation of inspections provides a tool for each facility to evaluate the effectiveness of BMPs to ensure protection of water quality. Any flow through an outfall is considered a discharge. Future permit action due to permit modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit.

PART V–REPORTING REQUIREMENTS

SAMPLING:
The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns or BMP effectiveness, or evidence of off-site impacts from activities at the facility. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.

REPORTING:
There are quarterly reporting requirements for MO-R100xxx land disturbance permits. Project specific information is required to be report to the Department through the eDMR system.

PART VI – RAINFALL VALUES FOR MISSOURI & SURFACE WATER BUFFER ZONES

Knowledge of the 2-year, 24-hour storm event is used in this permit for two main reasons:
1) The design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants.
2) If the seven-day inspection frequency is utilized, an inspection must occur within 48 hours after any storm event equal to or greater than a 2-year, 24 hour storm has ceased.
For site-specific 2-year, 24-hour storm event information utilize the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 (NOAA Atlas 14) which is located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html. For more information visit; https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume8.pdf.

Surface Water Buffer Zones: In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of erosion and sediment controls used to reduce the discharge of sediment prior to the buffer. For additional information; https://www.epa.gov/sites/default/files/2017-02/documents/2017_cgp_final_appendix_g_-_buffer_reqs_508.pdf

PART VII – ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review and applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the permit. The proposed determinations are tentative pending public comment.

PUBLIC MEETING:
The department hosted three public meetings for this permit. The meetings were held on January 27, February 17, and March 9, 2021.

PUBLIC NOTICE:
The Department shall give public notice when a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest or because of water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing.

The Department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this permit is started March 25, 2022 and ended April 25, 2022. Two comment letters were received.

DATE OF FACT SHEET: 03/2/2022

COMPLETED BY:
SARAH WRIGHT
MS4 & LAND DISTURBANCE PERMITTING COORDINATOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - STORMWATER AND CERTIFICATION UNIT
(573) 526-1139
Sarah.wright@dnr.mo.gov, dnr.generalpermits@dnr.mo.gov

APPENDIX N

DRAWINGS

GENERAL NOTES

1. ALL WORK PRESENTED, IMPLIED, AND/OR COMPLETED AS A PART OF THIS PLAN SET SHALL CONFORM TO THE LATEST EDITION OF THE STANDARD SPECIFICATIONS OF THE CITY OF JOPLIN UNLESS SPECIFICALLY STATED OTHERWISE. ALL ITEMS AND WORK REFERENCING MODOT OR MODOT STANDARD DETAILS SHALL CONFORM TO THE LATEST EDITION OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS (APPROVED BY CITY OF JOPLIN) AND ONE (1) COPY OF ALL APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS ON THE SITE AT ALL TIMES.
2. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", 1(800)344-7483, AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES. !!STOP!! CALL BEFORE YOU DIG!
3. THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE CITY OF JOPLIN AND PROJECT ENGINEER. OLSSON IS THE PROJECT ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THESE PLANS.
5. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF JOPLIN OR THE CITY OF JOPLIN'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY AT AND ADJACENT TO THE PROJECT AREA, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION CREW AND THE GENERAL PUBLIC AND THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.
7. THE JOB SITE SHALL BE A DRUG FREE WORK PLACE, CONSUMPTION OF ALCOHOLIC BEVERAGES ON THE JOB SITE IS STRICTLY PROHIBITED.
8. ALL SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE 2011 PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY.
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL IN ACCORDANCE WITH CURRENT MODOT STANDARDS AND SPECIFICATIONS.
10. ALL ELEVATIONS ARE TO NORTH AMERICAN VERTICAL DATUM (N.A.V.D. 1988).
11. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER TO DO A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.
12. THE CONTRACTOR SHALL SUBMIT WRITTEN REQUEST TO THE PROJECT ENGINEER FOR APPROVAL OF ALL AREAS TO BE USED FOR STAGING, MOBILIZATION, EQUIPMENT AND MATERIAL STORAGE AND GENERAL PROJECT CONSTRUCTION MANAGEMENT. REQUEST SHALL BE SUBMITTED TO THE PROJECT ENGINEER WITHIN 5 DAYS OF THE NOTICE TO PROCEED.
13. NO EQUIPMENT OR MATERIAL SHALL BE DEPOSITED ON PRIVATE PROPERTY WITHOUT WRITTEN PERMISSION. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES RESULTING FROM SUCH ACTS AND SHALL REMOVE THE MATERIAL AND RESTORE THE PROPERTY AT THE EXPENSE OF THE CONTRACTOR.
14. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM TO 7:00 PM UNLESS APPROVED OR DIRECTED BY THE PROJECT ENGINEER.
15. THE CITY OF JOPLIN SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL DEMOLITION AND REMOVAL ITEMS SUCH AS SIGNAGE, POLES, SIGNAL EQUIPMENT, ETC. THE CONTRACTOR SHALL COORDINATE WITH PUBLIC WORKS FOR A TIME AND LOCATION TO DELIVER THOSE ITEMS TO THE CITY. CONSTRUCTION DEBRIS SUCH AS BROKEN CONCRETE, EXCESS FILL, ETC. SHALL BECOME THE PROPERTY OF THE CONTRACTOR. MATERIAL SHALL BE COMPLETELY REMOVED FROM THE SITE PER CITY OF JOPLIN REQUIREMENTS PRIOR TO ACCEPTANCE OF THE PROJECT. ALL MATERIAL SHALL BE DISPOSED OF IN A MANNER THAT IS IN COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
16. UNLESS SPECIFICALLY STATED OTHERWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL EXISTING METERS, VALVES, VALVE BOXES, BUILDING DRAINS, STORM AND SANITARY MANHOLES, ETC., TO MATCH FINISHED GRADE. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL SANITARY SERVICE LINES WHERE REQUIRED TO MAINTAIN CONTINUOUS SERVICE. THE CONTRACTOR SHALL CONTACT MISSOURI AMERICAN WATER TO COORDINATE THE ADJUSTMENT OF EXISTING WATER FACILITIES.
17. THE CONTRACTOR SHALL PROTECT EXISTING RIGHT-OF-WAY AND SURVEY MONUMENTS. ANY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI.
18. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH A SCHEDULE OF OPERATIONS AT THE BEGINNING OF EACH WEEK.
19. THE CONTOUR LINES & SPOT ELEVATIONS SHOWN ARE TO FINISH GRADE FOR SURFACE OF PAVEMENT, TOP OF SIDEWALKS AND CURBS, TOP OF FLOOR SLABS, ETC. REFER TO TYPICAL SECTIONS AND DETAILS FOR SLAB AND AGGREGATE BASE THICKNESS TO DEDUCT FOR GRADING LINE ELEVATIONS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PUBLIC STREETS IN THE VICINITY OF THE JOB SITE CLEAN AND FREE OF ROCKS, SOIL AND DEBRIS. CLEAN STREETS OF CONSTRUCTION DEBRIS DAILY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF SURFACE EROSION DURING CONSTRUCTION AND UNTIL THE CITY OF JOPLIN ACCEPTS THE WORK AS COMPLETE. THE CONTRACTOR SHALL UTILIZE AND COMPLY WITH ALL REQUIREMENT OF THE CITY OF JOPLIN'S LAND DISTURBANCE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). ALL EROSION AND SEDIMENT CONTROL PLANS SHALL BE INCORPORATED IN THE SWPPP. CONTRACTOR SHALL MAINTAIN THE SWPPP THROUGHOUT THE PROJECT AND COMPLETE THE REQUIRED DOCUMENTATION UNTIL THE SITE IS STABILIZED AND ACCEPTED BY THE PROJECT ENGINEER.
22. CONSTRUCTION ACCESS TO THE SITE SHALL BE LIMITED TO THE APPROVED TEMPORARY CONSTRUCTION ENTRANCE(S) AT THE EXIT OF THE WORK SITE AS DETERMINED BY THE CONTRACTOR. TEMPORARY CONSTRUCTION ENTRANCE SHALL HAVE SHOT ROCK FOR ITS SURFACE. THE CONTRACTOR SHALL UPDATE SWPPP FOR EACH PHASE OF THE PROJECT TO SHOW THE LOCATION OF TEMPORARY CONSTRUCTION ENTRANCE AND CONCRETE CLEAN OUT.
23. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD BY THE CONTRACTOR.
24. CONTRACTOR TO PROTECT ANY STORM INLETS FROM SEDIMENT THAT TAKE STORM WATER FROM THE AREA OF CONSTRUCTION.
25. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLAN.
26. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING BERMS, SILT FENCES, OR OTHER MEANS TO PREVENT ERODED MATERIALS FROM REACHING ADJACENT PROPERTIES. IN THE EVENT THE PREVENTION MEASURES ARE NOT EFFECTIVE, THE CONTRACTOR SHALL REMOVE ANY DEBRIS, SILT, OR MUD AND RESTORE THE PROPERTIES TO ORIGINAL OR BETTER CONDITION.
27. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DOWNSTREAM EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION. EROSION CONTROL PROCEDURES SHALL BE IN PLACE PRIOR TO BEGINNING GRADING ACTIVITIES.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SEDIMENT CONTROL BARRIERS DURING CONSTRUCTION OR UNTIL THEY ARE RELEASED FROM THIS RESPONSIBILITY BY THE PROJECT ENGINEER.
29. THE CONTRACTOR SHALL CLEAN OUT ALL EXISTING AND PROPOSED INLETS, PIPES AND MANHOLES OF DEBRIS AND SEDIMENTATION AT COMPLETION OF SITEWORK. THIS WORK SHALL BE DONE TO THE SATISFACTION OF THE CITY OF JOPLIN & PROJECT ENGINEER.
30. STRIPPINGS ARE TO BE STOCKPILED. FOLLOWING THE COMPLETION OF THE GRADING, THIS TOPSOIL SHALL BE USED AS FILL MATERIAL ON AREAS BETWEEN THE SIDEWALK AND BACK OF CURB. IF STOCKPILE IS INACTIVE FOR MORE THAN 14 DAYS, STABILIZE OR PROTECT THE PERIMETER AS PER CITY OF JOPLIN "EROSION AND SEDIMENT CONTROL GUIDELINES".
31. ALL HERBACEOUS VEGETATION SHALL BE REMOVED FROM WITHIN THE LIMITS OF THE GRADING AND REDISTRIBUTED WITH THE TOPSOIL.
32. THE CONTRACTOR SHALL FINISH GRADE SLOPES AS SHOWN IN THE PLANS, NO STEEPER THAN 1 FOOT VERTICAL IN 3 FEET HORIZONTAL EXCEPT WHERE NOTED ON THE PLANS.
33. ALL BACK FILL SHALL BE TAMPED. BACK FILL WITHIN THE RIGHT-OF-WAY SHALL BE COMPACTED TO 95% MAX. DENSITY AS PER ASTM-D698 (STANDARD PROCTOR COMPACTION).
34. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY DUE TO ACTUAL LOCATION OF EXISTING FACILITIES.
35. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN WITHIN THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIRS OF SUCH STRUCTURES WHEN BROKEN OR OTHERWISE DAMAGED BY CONSTRUCTION ACTIVITIES.
36. ALL TRENCHING SHALL BE IN ACCORDANCE WITH SECTION 1700 OF THE JOPLIN STANDARD SPECIFICATIONS. NO SEPARATE MEASUREMENTS AND PAYMENT WILL BE MADE FOR TRENCH EXCAVATION AND BACKFILL REQUIRED FOR STORM SEWER CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF MATERIAL FROM STORM SEWER TRENCHING.
37. CONTRACTOR SHALL PROTECT ALL EXISTING BUILDINGS DURING CONSTRUCTION. PRIOR TO BEGINNING THE CONTRACTOR SHALL COLLECT CONSTRUCTION PHOTOS/VIDEOS OF ALL EXISTING STRUCTURES TO DOCUMENT EXISTING STRUCTURE CONDITIONS.
38. CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE CONVEYANCE DURING CONSTRUCTION.
39. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PRECAST CONCRETE STRUCTURES AND PIPE FOR REVIEW AND APPROVAL BY THE PROJECT ENGINEER. THE SHOP DRAWINGS MUST BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MISSOURI. THE CONTRACTOR MUST RECEIVE APPROVAL OF THE SUBMITTED SHOP DRAWINGS PRIOR TO FABRICATION. FAILURE TO DO SO SHALL BE CAUSE FOR REJECTION.
40. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS TO ALL BUSINESSES AT ALL TIMES IN ACCORDANCE WITH THE CITY OF JOPLIN, ADA, PROWAG, AND MUTCD REQUIREMENTS, INCLUDING TEMPORARY ACCESS AND SAFETY REQUIREMENTS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THIS ITEM IS SUBSIDIARY TO OTHER BID ITEMS.
41. NO EQUIPMENT, MATERIALS, AND/OR DEBRIS SHALL BE STORED WITHIN THE TREE DRIPLINE (IN ALL DIRECTIONS).
42. NO PRUNING SHALL BE PERFORMED EXCEPT BY OR IN THE PRESENCE OF AN APPROVED LICENSED ARBORIST.
43. ALL STORM SEWER PIPE LENGTHS ARE MEASURED FROM THE INSIDE FACE OF THE DOWNSTREAM STRUCTURE TO THE INSIDE FACE OF UPSTREAM STRUCTURE ALONG THE CENTERLINE, (FOR BIDDING AND PAYMENT PURPOSE ONLY)
44. THE LOCATION POINT FOR ALL STORM SEWER STRUCTURES SHALL BE CENTER OF STRUCTURE AND ALL DIMENSIONS AS ARE INSIDE OF STRUCTURE WIDTHS AS INDICATED ON PLAN SHEETS.
45. DOUBLE INLETS TO HAVE OPENING ALLOWING DRAINAGE BETWEEN THE TWO STRUCTURES, OPEN AREA TO BE GREATER THAN OR EQUAL TO DOWNSTREAM OPENING AREA.
46. COMPACTED FILL QUANTITY IS THE NET FILL VOLUME CALCULATED FROM THE EXISTING GRADE SURFACE TO THE FINISHED GRADE SURFACE AND DOES NOT INCLUDE SUBTRACTION FOR GRANULAR BACKFILL, WINGWALLS, STORM SEWER, CURB AND GUTTER, SEGMENTAL RETAINING WALL BLOCKS, ETC.
47. ALL CITY OF JOPLIN STANDARD DETAILS ARE TO BE USED UNLESS STATED OTHERWISE IN THE PLANS, SPECIFICATIONS, OR DIRECTED BY THE PROJECT ENGINEER. A COPY OF THE CITY OF JOPLIN STANDARD DETAILS ARE LOCATED IN THE SPECIFICATION APPENDIX.

BASE BID QUANTITIES

ITEM NO.	DESCRIPTION	NO. UNITS	UNIT TYPE
1	MOBILIZATION & BONDING	1	LS
2	EROSION CONTROL & SITE CLEANUP	1	LS
3	CLEARING, GRUBBING, & DEMOLITION	1	LS
4	UNCLASSIFIED EXCAVATION	250	CY
5	ON-SITE FILL	250	CY
6	IMPORTED FILL	230	CY
~~7~~	~~TRANSPORTATION AND DISPOSAL OF CONTAMINATED MATERIAL~~	100	~~CY~~
7	CONCRETE PAVEMENT REPAIR	584	SY
8	SEGMENTAL BLOCK RETAINING WALL	633	SFF
9	15" RCP	214	LF
10	18" RCP	100	LF
11	24" RCP	308	LF
12	TWIN 7' X 5' RCB	97	LF
13	WINGWALLS AND APRON	2	EA
14	TYPE D CURB INLET (7' X 3')	7	EA
15	JUNCTION BOX (4' X 4')	1	EA
16	24" FLARED END SECTION WITH TOEWALL	1	EA
17	JOPLIN STANDARD 1/4 TON ROCK BLANKET	130	SY
18	CONCRETE LINED CHANNEL	97	SY
19	CONCRETE CURB & GUTTER	372	LF
20	SEEDING	1.14	AC
21	TRAFFIC CONTROL TOTAL SIGNAGE	315	SF
22	TRAFFIC CONTROL CHANNELIZERS	15	EA
23	TRAFFIC CONTROL TYPE 3 BARRICADES	6	EA
24	TRAFFIC CONTROL COORDINATION	1	LS
25	SANITARY SEWER ENCASEMENT	106	LF

1

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STATE OF MISSOURI
AARON D. BOLL
NUMBER PE-2021008724
PROFESSIONAL ENGINEER

AARON D. BOLL
PROFESSIONAL ENGINEER
MO# PE-2021008724

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	7.27.22	ADDENDUM #1

GENERAL NOTES

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

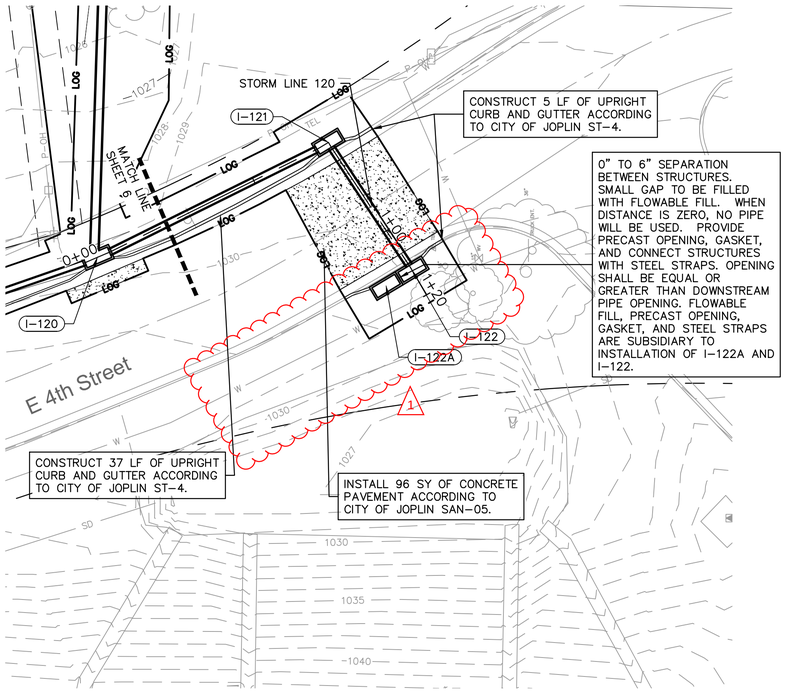
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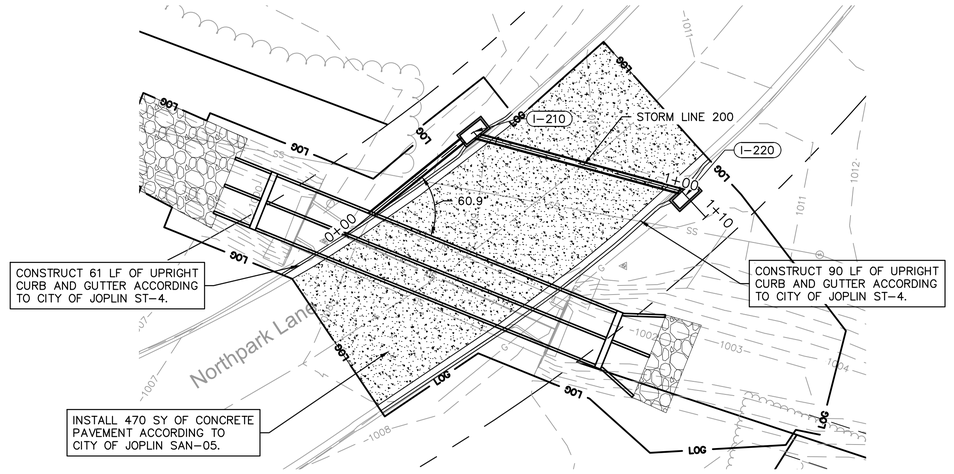
2022

drawn by: EMPS
designed by: ADB
checked by: EJS
project no.: K17-0642
drawing no.: W_GEN01_K170642
date: 07.26.2022

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2 *of* 22

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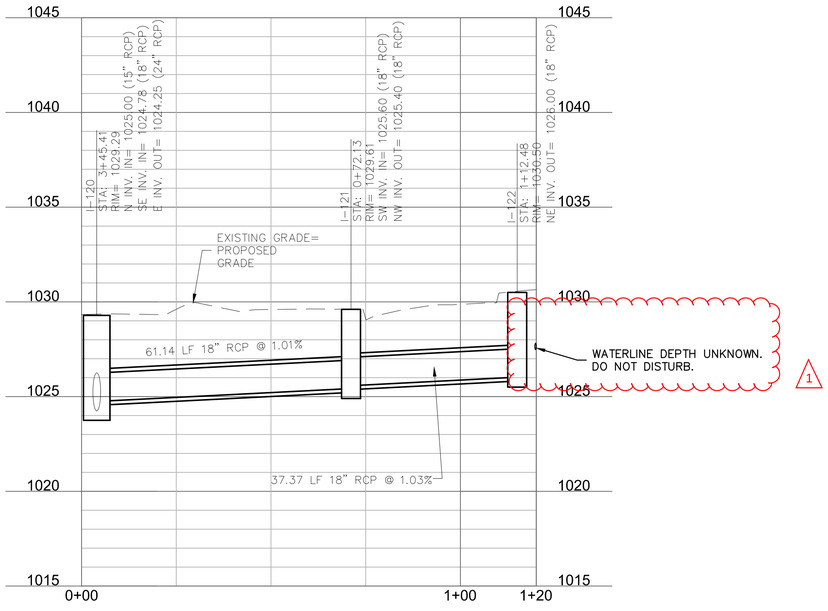
STRUCTURES	
ID	DESCRIPTION
I–121	7' X 3' TYPE D CURB INLET 0+72.13, 0.00' STORM LINE 120 N: 334254.817; E: 2796713.318
I–122	7' X 3' TYPE D CURB INLET 1+12.48, 0.00' STORM LINE 120 N: 334232.708; E: 2796679.559
I–122A	7' X 3' TYPE D CURB INLET 1+12.48, 8.00' STORM LINE 120 N: 334239.569; E: 2796675.442
I–210	7' X 3' TYPE D CURB INLET 0+43.31, 0.00' STORM LINE 200 N: 335034.590; E: 2797526.803
I–220	7' X 3' TYPE D CURB INLET 1+02.27, 0.00' STORM LINE 200 N: 334978.611; E: 2797509.947

NOTE: STRUCTURE COORDINATES ARE TO THE CENTER OF STRUCTURE.

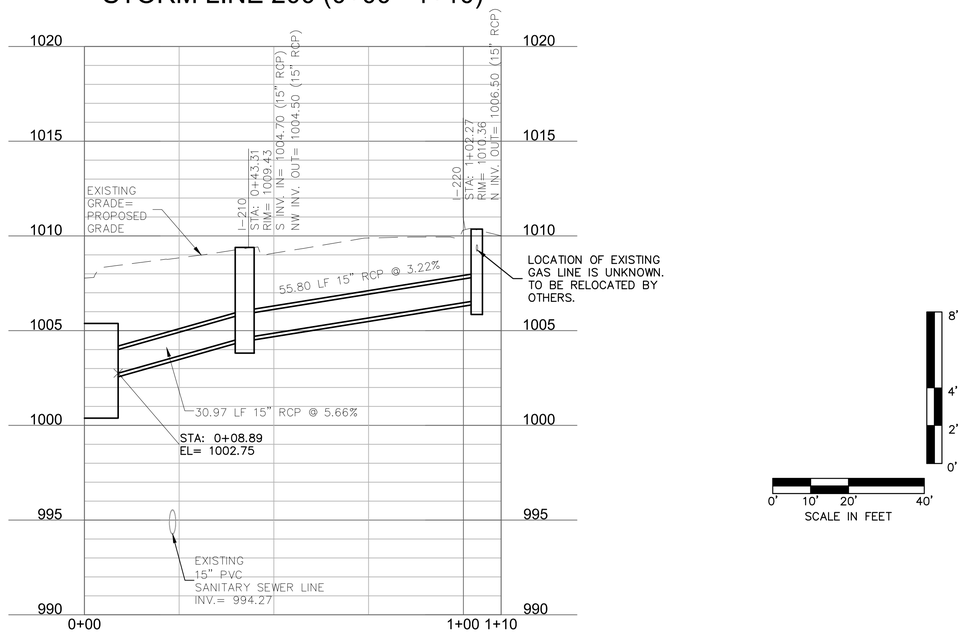
N

0' 10' 20' 40'
SCALE IN FEET

STORM LINE 120 (0+00 - 1+20)



STORM LINE 200 (0+00 - 1+10)



8' 4' 2' 0'
0' 10' 20' 40'
SCALE IN FEET

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REVISIONS

STORM SEWER PLAN AND PROFILE
STORM LINE 120 & 200

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

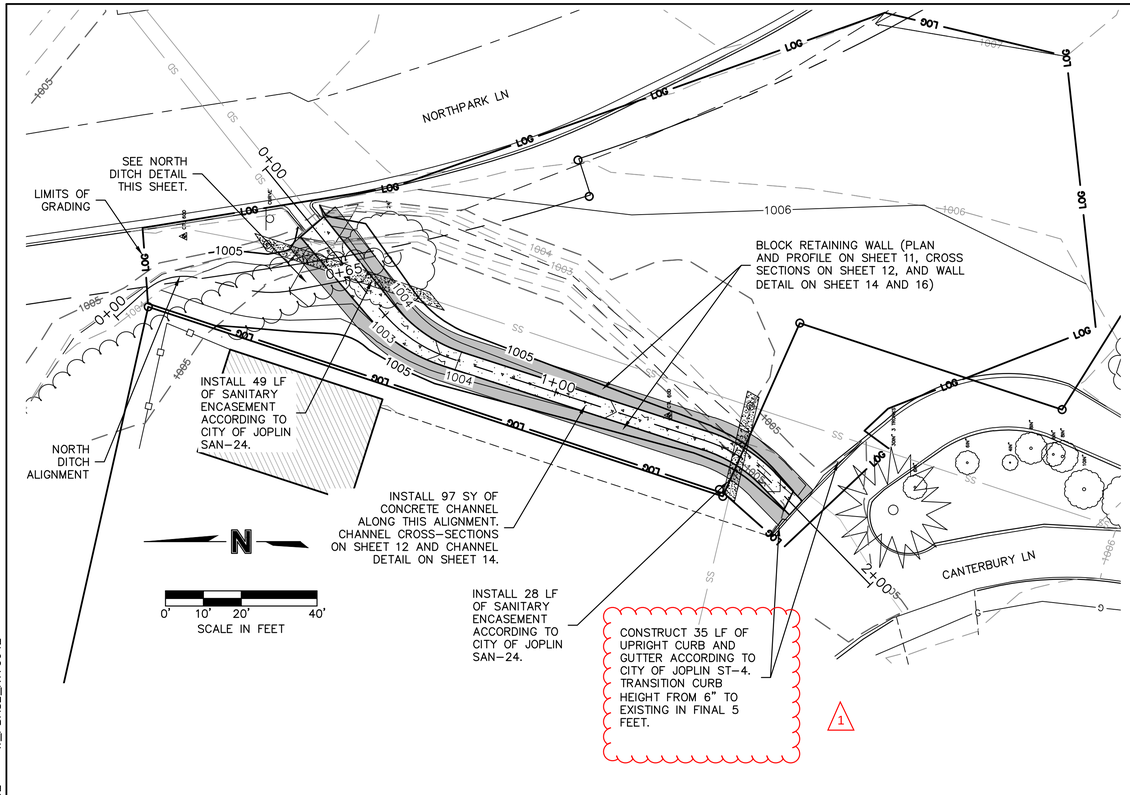
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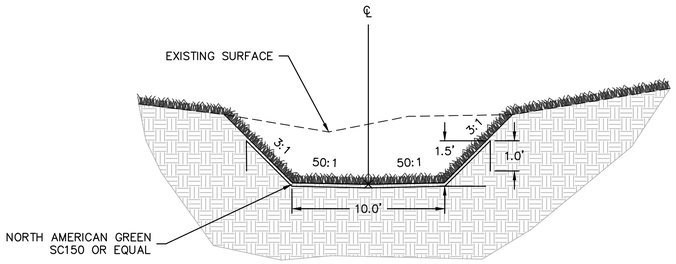
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date: 07.26.2022

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7 of 22

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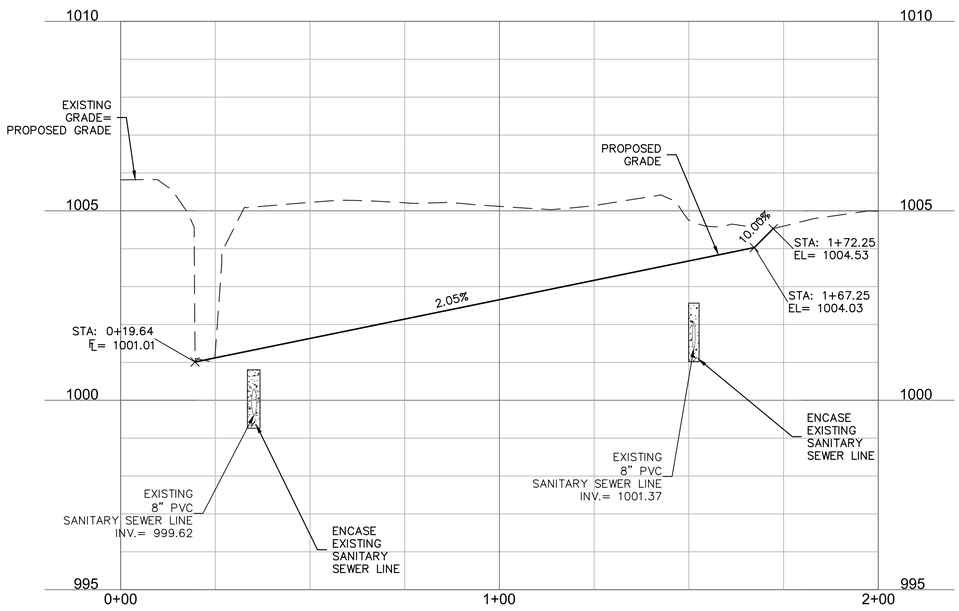




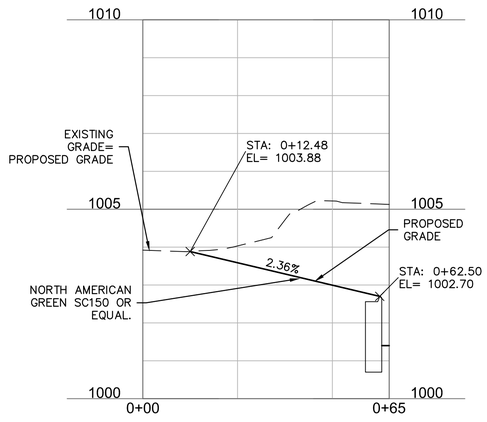
NORTH DRAINAGE DITCH DETAIL

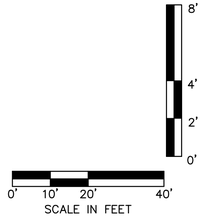
N.T.S.

CONCRETE CHANNEL (0+00 - 2+00)



NORTH DRAINAGE DITCH (0+00 - 0+65)





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PLAN AND PROFILE
CONCRETE CHANNEL AND NORTH DRAINAGE DITCH

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

JOPLIN, MISSOURI

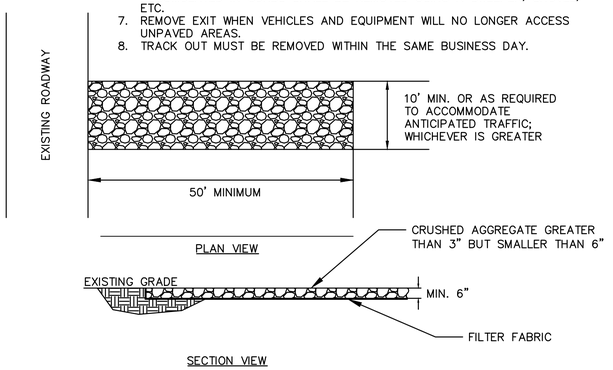
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SHEET
10 *of* 22

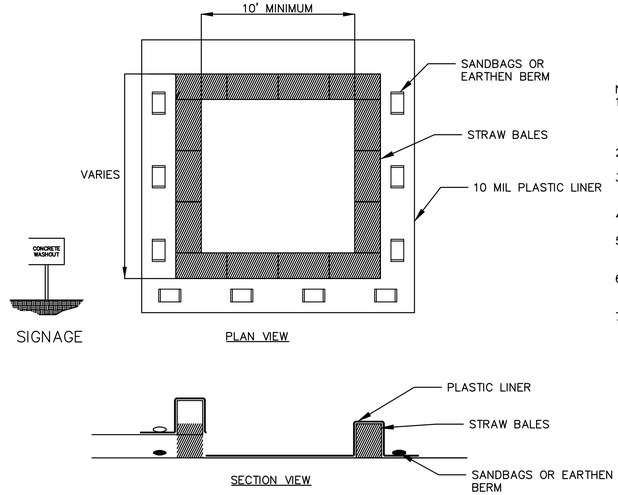
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NOTES:
1. RUMBLE STRIPS ARE RECOMMENDED FOR LARGER SITES.
2. AVOID PLACING EXITS IN AN OUTFALL AREA OR OTHER LOW AREAS WHERE WATER PONDS OR FLOWS.
3. A CULVERT SHALL BE INSTALLED IF EXIT CROSSES A DITCH.
4. ROCK APRON INSTALLATION SHALL BE WIDE ENOUGH TO ACCOMODATE TURNING VEHICLES.
5. ADD NEW ROCK OR RAKE EXISTING ROCK WHEN VOIDS FILL WITH SEDIMENT.
6. ANY MUD, ROCK OR DEBRIS TRACKED ONTO PAVED SURFACES AND ACCUMULATED IN CURBS SHALL BE REMOVED USING A SWEEPER, SHOVEL, ETC.
7. REMOVE EXIT WHEN VEHICLES AND EQUIPMENT WILL NO LONGER ACCESS UNPAVED AREAS.
8. TRACK OUT MUST BE REMOVED WITHIN THE SAME BUSINESS DAY.



CONSTRUCTION EXIT

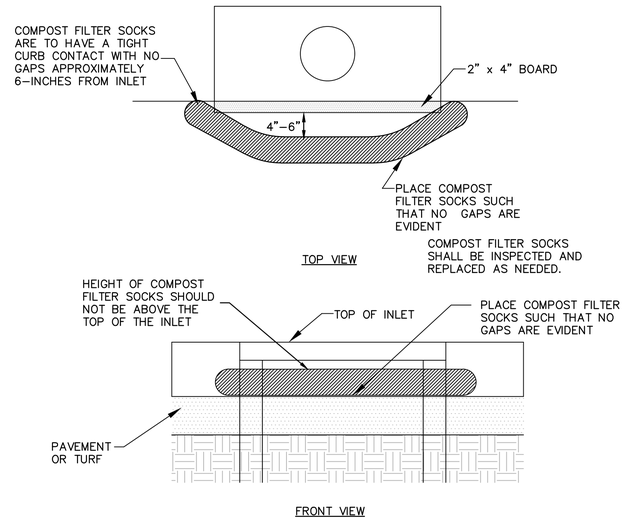
N.T.S.



NOTES:
1. WASHOUT CONTAINMENT SHALL BE INSTALLED FOR DURATION OF CONCRETE WORK AND RETAIN CONCRETE AND OTHER WASHOUT LIQUIDS UNTIL EVAPORATION OR REMOVAL BY PUMP.
2. CONTAINMENT SHALL BE SIZED FOR EXPECTED WASHOUT VOLUMES.
3. AVOID PLACING NEAR STORM DRAINS, STREAMS, SINKHOLES, OUTFALLS OR OTHER LOW AREAS WHERE WATER PONDS OR FLOWS.
4. OTHER APPROVED LEAK–PROOF CONTAINMENT IS ACCEPTABLE.
5. TRAPS SHALL BE ROUTINELY. MAINTAINED AT 75% CAPACITY AND REPLACED AS NECESSARY TO PERFORM.
6. THE WASHOUT PIT SHALL BE COVERED BEFORE PREDICTED RAIN EVENTS TO PREVENT OVERFLOW.
7. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CONCRETE WASHOUT

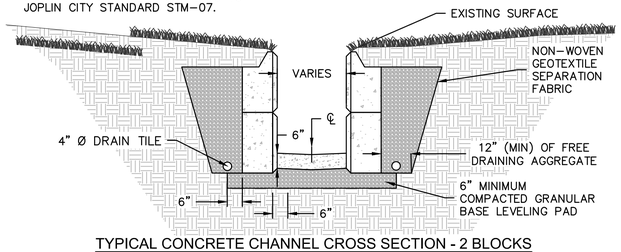
N.T.S.



COMPOST FILTER SOCKS AT CURB INLET DETAIL

N.T.S.

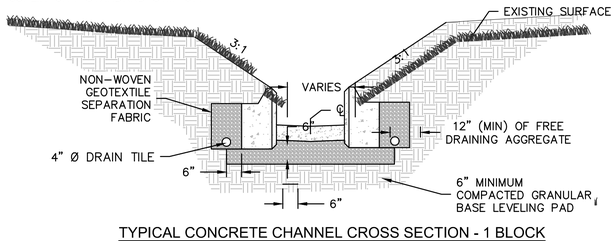
NOTE:
CONSTRUCT CHANNEL ACCORDING TO JOPLIN CITY STANDARD STM–07.



TYPICAL CONCRETE CHANNEL CROSS SECTION - 2 BLOCKS
STA 0+19.73 TO STA 0+23.73

N.T.S

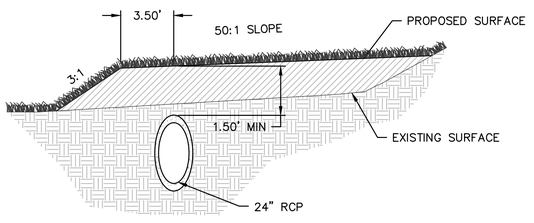
NOTE:
CONSTRUCT CONCRETE CHANNEL ACCORDING TO JOPLIN CITY STANDARD STM–07.



TYPICAL CONCRETE CHANNEL CROSS SECTION - 1 BLOCK
STA 0+23.73 TO STA 1+71.75

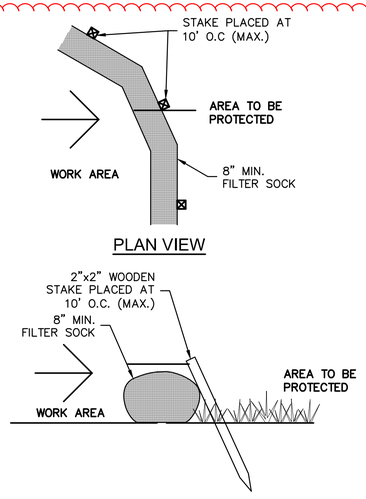
N.T.S

NOTE: CHANNEL WIDTH VARIES FROM APPROXIMATELY 8' AT THE HEADWAL TO 5' AT STA 0+73. CHANNEL WIDTH IS 5' FROM STA 0+73 TO STA 1+71.75. BLOCK WALL 2 CONTINUES 2 BLOCKS UNTIL STA 0+27.73. CONTRACTOR TO USE WORLD BLOCK. OTHERWISE, CONTRACTOR MUST SUBMIT SHOP DRAWINGS OF BLOCK WALL LAYOUT AND DESIGN SEALED BY A PROFESSIONAL ENGINEER.



STORMLINE 100 SURFACE GRADING
STA 1+97 TO STA 3+03.25

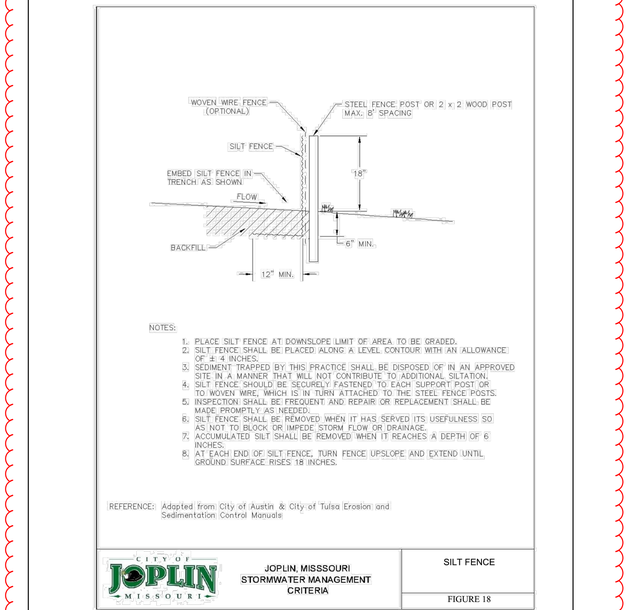
N.T.S



COMPOST FILTER SOCK DETAILS

NOT TO SCALE

NOTES:
1. COMPOST FILTER SOCK SHALL MEET THE REQUIREMENTS OF MoDOT SECTION 806.8.6.4.8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL BEFORE INSTALLING SOCK.
2. FILTER SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER ENGINEER.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



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STATE OF MISSOURI
AARON D. BOLL
NUMBER PE-2021008724
PROFESSIONAL ENGINEER
AARON D. BOLL
PROFESSIONAL ENGINEER
MO# PE-2021008724

REV. NO.	DATE	REVISIONS DESCRIPTION
1	7.27.22	ADDENDUM #1

REVISIONS

DETAILS

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

2022

JOPLIN, MISSOURI

drawn by: EMPS
designed by: ADB
checked by: EJS
project no.: K17-0642
drawing no.: W_DTL01_K170642
date: 07.26.2022

SHEET 14 of 22

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CONSTRUCTION SEQUENCE:

PHASE 1). CONSTRUCT NEW CULVERT BOX ACROSS NORTHPARK LANE. TRAFFIC CONTROL SHALL CONSIST OF FULL CLOSURE OF NORTHPARK LANE SOUTH OF E 3RD STREET AND NORTH OF E 7TH STREET. LOCAL TRAFFIC TO BE DETOURED ACCORDINGLY. SEE SHEET 18 FOR DETOUR ROUTE.

PHASE 2A). CONSTRUCT EASTERN HALF OF STORM SEWER CROSSING AT E 4TH STREET NORTH OF E 7TH STREET. EAST SIDE OF E 4TH STREET TO BE CLOSED FOR CONSTRUCTION WITH FLAGGER PRESENT DURING WORK HOURS AND STEEL PLATE ACROSS ROADWAY DURING NON-CONSTRUCTION PERIODS. WEST SIDE OF ROADWAY TO BE UTILIZED TO MAINTAIN NORTH-SOUTH TRAFFIC IN EXISTING SOUTHBOUND LANE.

PHASE 2B). CONSTRUCT WESTERN HALF OF STORM SEWER CROSSING AT E 4TH STREET NORTH OF E 7TH STREET. WEST SIDE OF E 4TH STREET TO BE CLOSED FOR CONSTRUCTION WITH FLAGGER PRESENT DURING WORK HOURS AND STEEL PLATE ACROSS ROADWAY DURING NON-CONSTRUCTION PERIODS. EAST SIDE OF ROADWAY TO BE UTILIZED TO MAINTAIN NORTH-SOUTH TRAFFIC IN EXISTING NORTHBOUND LANE.

PHASE 3). CONSTRUCT STORM SEWER LATERAL ALONG E 4TH STREET NORTH OF E 7TH STREET. WORK ZONE SHALL ENCROACH MAXIMUM OF 6' ALONG THE EAST SIDE OF E 4TH STREET TO MAINTAIN TWO-WAY NORTH-SOUTH TRAFFIC ALONG THE ROADWAY.

TRAFFIC CONTROL QUANTITIES

ITEM	UNIT	QUANTITY
TOTAL SIGNAGE (SQUARE FOOTAGE)	SF	315
CHANNELIZERS	EACH	15
TYPE 3 BARRICADES	EACH	6

1



LEGEND

- Phase 1 Traffic Control
- Phase 2A Traffic Control
- Phase 2B Traffic Control
- Phase 3 Traffic Control

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TRAFFIC CONTROL PLAN
TRAFFIC CONTROL SEQUENCE PLAN

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

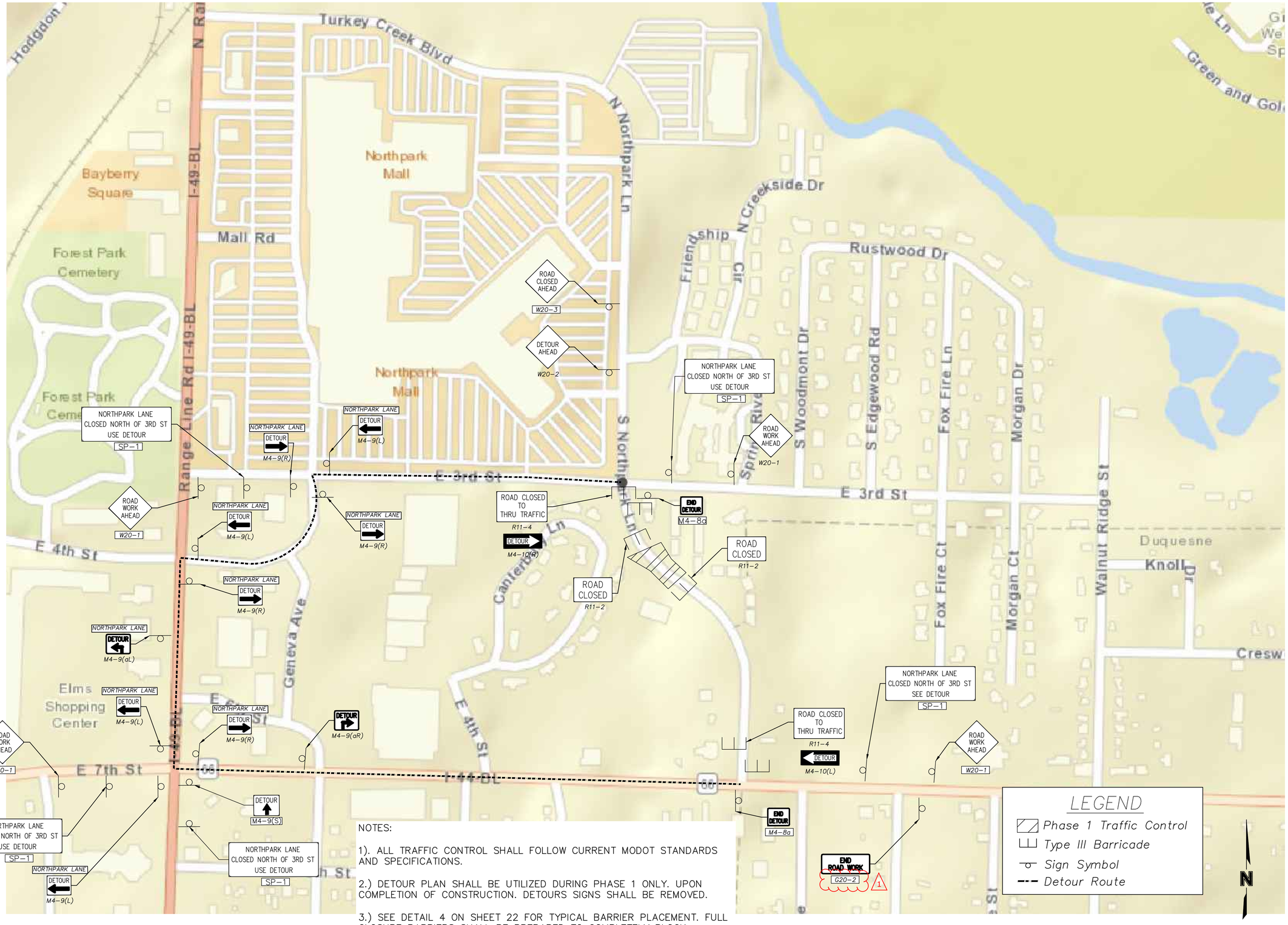
JOPLIN, MISSOURI

2022

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designed by:	JMP
checked by:	JSS
project no.:	K17-0642
drawing no.:	F_TC_K170642
date:	07.26.2022

SHEET
17 of 22

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NOTES:

1). ALL TRAFFIC CONTROL SHALL FOLLOW CURRENT MODOT STANDARDS AND SPECIFICATIONS.

2.) DETOUR PLAN SHALL BE UTILIZED DURING PHASE 1 ONLY. UPON COMPLETION OF CONSTRUCTION. DETOURS SIGNS SHALL BE REMOVED.

3.) SEE DETAIL 4 ON SHEET 22 FOR TYPICAL BARRIER PLACEMENT. FULL CLOSURE BARRIERS SHALL BE PREPARED TO COMPLETELY BLOCK ROADWAY FROM CURB TO CURB.

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TRAFFIC CONTROL PLAN
DETOUR PLAN (PHASE 1)

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

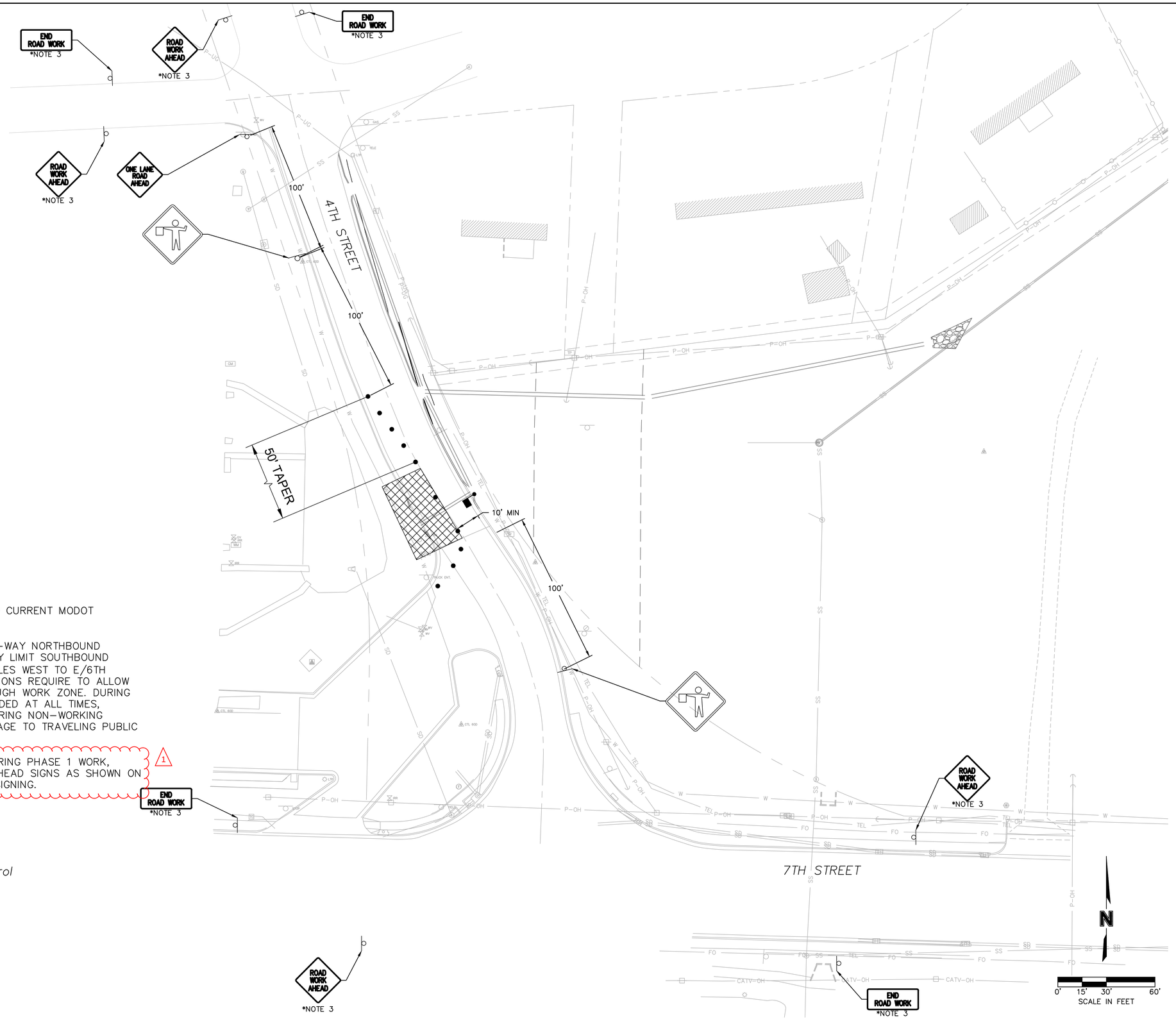
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NOTES:

1). ALL TRAFFIC CONTROL SHALL FOLLOW CURRENT MODOT STANDARDS AND SPECIFICATIONS.

2.) CONTRACTORS SHALL, MAINTAIN ONE–WAY NORTHBOUND TRAFFIC AT ALL TIMES. CONTRACTOR MAY LIMIT SOUTHBOUND TRAFFIC AND ROUTE SOUTHBOUND VEHICLES WEST TO E/6TH STREET DURING WORK HOURS AS CONDITIONS REQUIRE TO ALLOW FREE–FLOW NORTHBOUND TRAFFIC THROUGH WORK ZONE. DURING WORK HOURS ONE–LANE MUST BE PROVIDED AT ALL TIMES, CONTRACTOR SHALL PLATE ROADWAY DURING NON–WORKING HOURS AND PROVIDE APPROPRIATE SIGNAGE TO TRAVELING PUBLIC ADVISING OF STEEL PLATE IN ROADWAY.

1 3.) IF PHASE 2 ROAD WORK OCCURS DURING PHASE 1 WORK, CONTRACTOR SHALL OMIT ROAD WORK AHEAD SIGNS AS SHOWN ON THIS PHASE AND UTILIZE THE PHASE 1 SIGNING.

LEGEND

- Phase 2A Traffic Control
- Type III Barricade
- Sign Symbol
- Channelizing Device
- Flagger

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TRAFFIC CONTROL PLAN
PHASE 2A TRAFFIC CONTROL

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

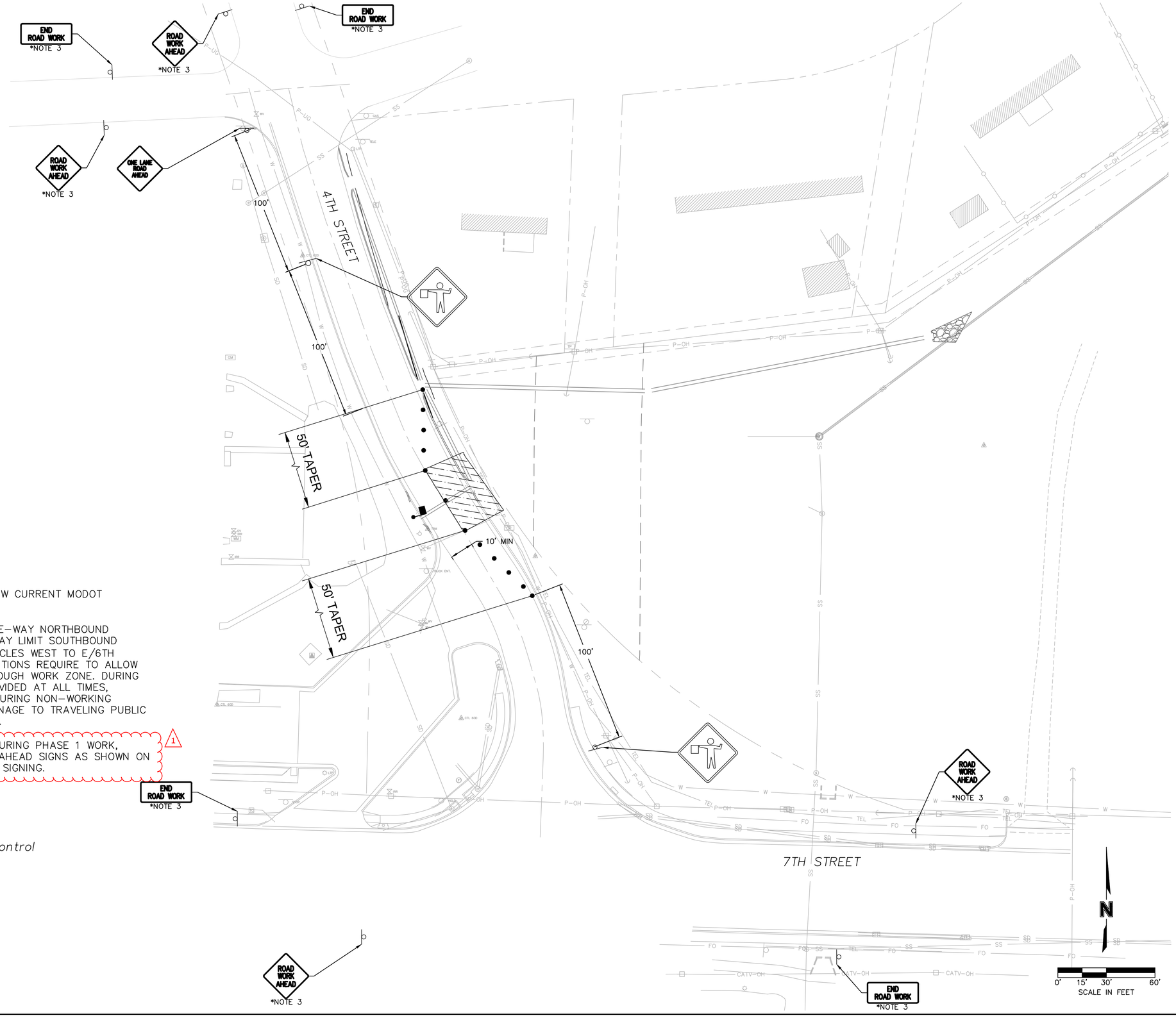
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1 3.) IF PHASE 2 ROAD WORK OCCURS DURING PHASE 1 WORK, CONTRACTOR SHALL OMIT ROAD WORK AHEAD SIGNS AS SHOWN ON THIS PHASE AND UTILIZE THE PHASE 1 SIGNING.

LEGEND

- Phase 2B Traffic Control
- Type III Barricade
- Sign Symbol
- Channelizing Device
- Flagger

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TRAFFIC CONTROL PLAN
PHASE 2B TRAFFIC CONTROL

STORMWATER IMPROVEMENTS
7TH AND CANTERBURY LANE

JOPLIN, MISSOURI

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