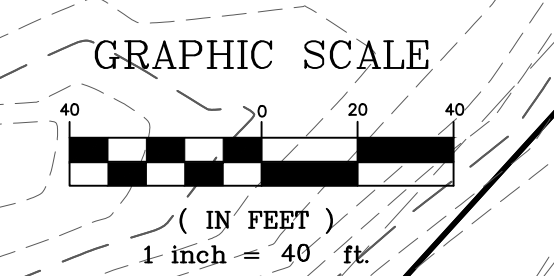


NOTE:
EXISTING GRASS SWALE AREAS WERE APPROVED WITH PREVIOUS PLAN SUBMITTAL AND SHALL ONLY BE MODIFIED AS NEEDED TO MEET CURRENT WATER QUALITY LIMITS.



2 YEAR, 20 MIN HIGHWATER	= 569.68'
15 YEAR, 20 MIN HIGHWATER	= 570.60'
25 YEAR, 20 MIN HIGHWATER	= 571.03'
100 YEAR, 20 MIN HIGHWATER	= 571.43'
100 YEAR, 20 MIN (LFB) HIGHWATER	= 572.65'

STORM WATER POLLUTION PREVENTION PLAN

- A. PURPOSE:**
The Storm Water Pollution Prevention Plan (SWPPP) shall meet the following objections:
- Prevent erosion where construction activities shall occur.
 - Prevent pollutants from mixing with storm water.
 - Prevent pollutants from being discharged by trapping them on-site, before they can affect the receiving waters.
- B. PROJECT DESCRIPTION:**
The project is located in the Peru Creek watershed in St. Charles County, Missouri. The project disturbs approximately 2.84 acres.
- The project activities consist of clearing and grading the site for future industrial development. The site will be protected with the various erosion protection measures listed below:
- Silt Barriers:** The perimeter of the project that allows storm water to exit will have silt barriers installed. These barriers shall be composed of mulch from onsite clearing operations. Details of these devices are depicted on the construction plans prepared by Bax Engineering Company, Inc.
 - Re-vegetation:** The site will consist of varying ground slopes upon completion of the grading activities and will be seeded and strowed to stabilize the slope and prevent erosion.
 - Storm Water Quality:** Construction of Bio-Retention areas and Bio-Swales will be utilized for storm water protection.
- C. MAINTENANCE AND INSPECTION:**
- Regular Maintenance:** Weekly inspections of the project will include: (a) The repair of any sediment (silt) mulch barriers not well shaped or out of place; (b) The removal of any accumulated trash and/or debris; (c) The clearing of debris, weeds and wild growth and the removal of vegetation where necessary to allow the storm water quality items to perform effectively; and (d) The removal of any externally deposited waste materials.
- Periodic Inspections:** Following each rain of more than 0.25 inch, the site will be inspected within 24 hours, and any necessary maintenance will be provided for a period of one year following the completion of the above remediation measures.

Maintenance and Inspections Summary: Summaries of the maintenance and the inspections will be maintained and shall be available from the Owner. An inspection report should be filed and kept on site for every inspection. The report should detail the findings of the inspection and if any action was required. The inspection form needs to include: name of site, name of inspector, permit number, date of inspection, major observations, actions taken to correct problems and the signature of inspector. The inspection reports need to be kept in an accessible onsite location. The reports must be kept on file by the permittee for three years after the project is completed.

The field inspections will be conducted in a systematic manner to minimize the possibility of any significant feature being overlooked. A detailed checklist will be developed and followed for the examination. Particular attention will be given to detecting evidence of erosion, slope instability, undue settlement, displacement, and tilting. Photographs and drawings will be used freely to record conditions in order to minimize descriptions. The field inspection will include appropriate features and items, including potential hazards to human life or property.

The condition of the slopes and vegetative cover will be examined and examined for erosion. If required basins will be examined for excessive sedimentation and increase in sediment loads, which will reduce the basins capacity.

Measures will be taken to promote the growth of vegetation and repair of damage caused by erosion and sedimentation. The inspection will also provide recommendations for measures that need to be undertaken immediately, based on the experience and judgment of the inspector. Necessary follow up inspections will be made as necessary to verify that any maintenance, alteration, or repair measures are accomplished by methods acceptable by standard engineering practice.

SPILL AND SITE POLLUTION:
Should an accidental spill occur refer to material safety data sheets. Any spills of hazardous materials in quantities in excess of reportable quantities as defined by EPA or the state agency regulations, shall be immediately reported to the EPA National Response Center (800-424-8802) and Missouri Department of Natural Resources (573-634-2436). Reportable spills for petroleum products is greater than 50 gallons. All other reportable hazardous materials and their quantities may be found on the web site at <http://www.dnr.mo.gov> on the local number is 573-840-9750. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetlands, or area like a road ditch, that drains into the above.

An emergency spill kit is required to be onsite for all potential spills.

Table 60-5 Soil Stabilization Schedule

Soil Disturbance Activity or Condition	Required Stabilization Time
Soil disturbance has ceased in areas greater than 2,000 square feet	14 days
After construction of dikes, swales, diversions, and other concentrated flow areas	5 days
When slopes are steeper than 3 horizontal to 1 vertical	7 days
When slopes are greater than 3% and longer than 150 feet	14 days
Perimeter controls around soil stockpiles	End of workday
Stabilization or covering of inactive stockpiles	30 days
When land disturbance is completed, permanent soil stabilization must be installed.	30 days

GRASS SWALE AREA WATER QUALITY 1
Water Quality Volume Required

WQv = (P) Rv (A) / 12
Rv = 0.05 + 0.009 (I)
P = 1.14 Inches of Rainfall
A = Drainage Area = 0.53 Acres (Pervious=0.12Ac. Impervious=0.41)
I = Percent Impervious = 0.41/0.53 = 77%
WQv = ((1.14)(0.05 + 0.009 x .77)) x 0.53Ac/12
WQv = 0.0374 Ac-Ft = 1630 ft³ Required.

Swale Water Quality Volumes:

573	388	0	0
574	1122	755	755
575	2278	1757	2455
VOL. @ 574.51			

GRASS SWALE AREA WATER QUALITY 2
Water Quality Volume Required

WQv = (P) Rv (A) / 12
Rv = 0.05 + 0.009 (I)
P = 1.14 Inches of Rainfall
A = Drainage Area = 1.03 Acres (Pervious=0.14Ac. Impervious=0.89)
I = Percent Impervious = 0.89/1.03 = 86%
WQv = ((1.14)(0.05 + 0.009 x .86)) x 1.03Ac/12
WQv = 0.0806 Ac-Ft = 3512 ft³ Required.

Swale Water Quality Volumes:

571.5	0	0	0
572	563	197	197
573	2185	1374	1571
573.5	3774	2980	4551
VOL. @ 573.43			

GRASS SWALE AREA WATER QUALITY 3
Water Quality Volume Required

WQv = (P) Rv (A) / 12
Rv = 0.05 + 0.009 (I)
P = 1.14 Inches of Rainfall
A = Drainage Area = 1.64 Acres (Pervious=0.73Ac. Impervious=0.91)
I = Percent Impervious = 0.91/1.64 = 55%
WQv = ((1.14)(0.05 + 0.009 x .55)) x 1.64Ac/12
WQv = 0.0849 Ac-Ft = 3699 ft³ Required.

Swale Water Quality Volumes:

570.4	0	0	0
571	1417	425	425
572	3589	2503	2928
573	5318	4454	7382
VOL. @ 572.17			



CALL BEFORE YOU DIG!
1-800-DIG-RITE

Site Address: 1300 & 1400 Grant Industrial Drive

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

PROJECT TITLE:
GRANT WAREHOUSE & STORAGE

ENGINEERING FIRM:
BAX ENGINEERING COMPANY, INC.
221 Point View Blvd.
St. Charles, MO 63301
636-928-5552
FAX 636-928-1718

DISCLAIMER OF RESPONSIBILITY:
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

Clifford L. Hellmann
Civil Engineer
E29817
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Surveying Authority No. 000144
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REVISIONS

10-15-19	CITY REVIEW
10-24-19	CITY REVIEW

Developer / Owner:
MJSM, L.L.C.
2209 DROSIE ROAD
ST. CHARLES, MO 63301
636-949-0680

P+Z No.: #1407.06.01
Approved September 5, 2019
City No.: #

Page No.: 5 of 11

STORM WATER POLLUTION PREVENTION PLAN

Issue Date: 09/10/2019