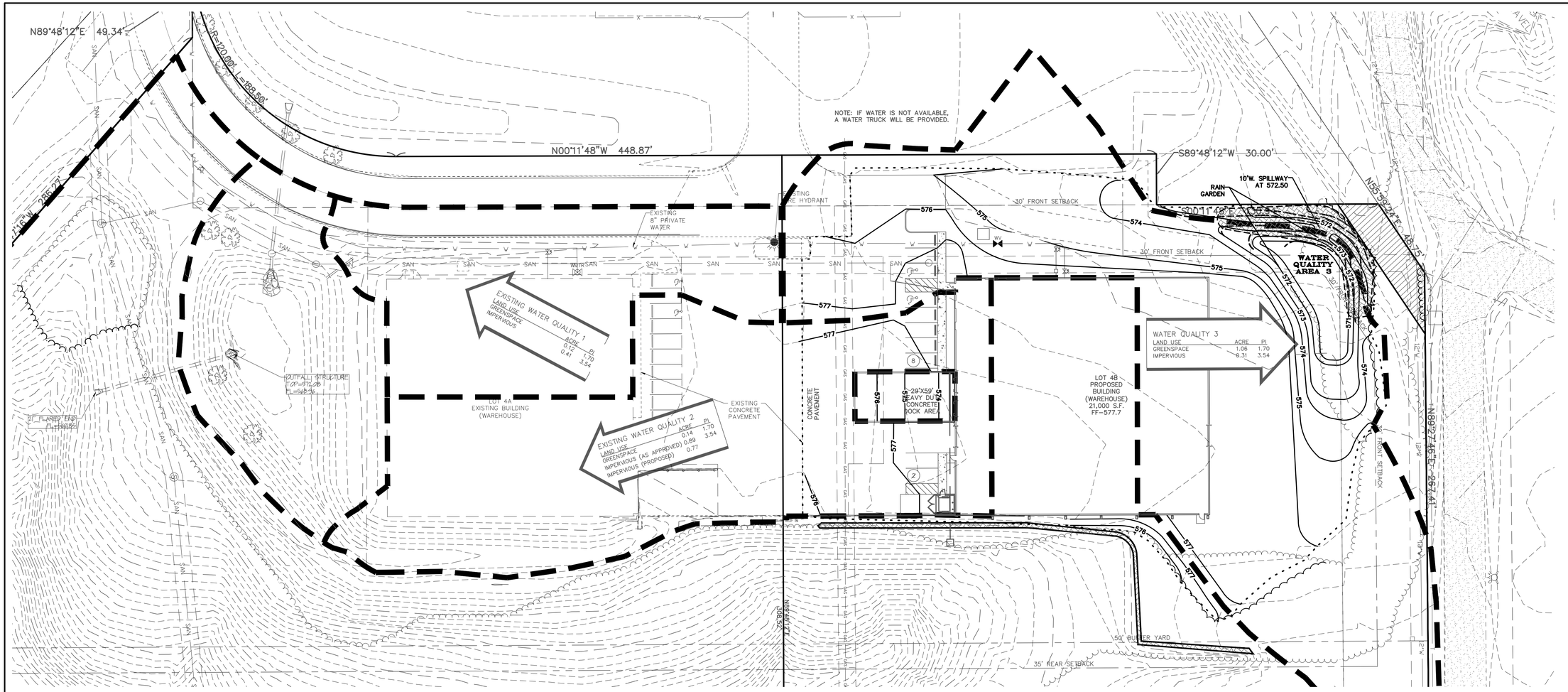

AS APPROVED WATER QUALITY 2

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 Volume:

571.3	0	0	0
572	563	197	197
573	2185	1374	1571
573.5	3774	2980	4551

VOL. @ 573.43

AS APPROVED 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 Volume:

573	388	0	0
574	1122	755	755
575	2278	1757	2455

VOL. @ 574.51

No changes in runoff or areas

PROPOSED 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 = 0.91 Acres

(Pervious=0.14Ac. Impervious=0.77)

I = Percent Impervious = 0.77/0.91 = 85%

WQv = ((1.14)(0.05 + 0.009 x .85)) x 0.91Ac/12

WQv = 0.0705 Ac-Ft = 3069 ft³ Required.

Swale Water Quality Volume:

571.3	0	0	0
572	563	197	197
573	2185	1374	1571
573.5	3774	2980	4551

VOL. @ 573.25

PROPOSED 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 = 1.37 Acres

(Pervious=1.06Ac. Impervious=0.31)

I = Percent Impervious = 0.31/1.37 = 23%

WQv = ((1.14)(0.05 + 0.009 x .23)) x 1.37Ac/12

WQv = 0.0334 Ac-Ft = 1457 ft³ Required.

Swale Water Quality Volume:

571	1660	0	0
572	2371	2015	2015
573	3675	3023	5038

VOL. @ 571.72

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 an 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 to1 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

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 Peruque Creek watershed in O'Fallon, Missouri. The project disturbs approximately 1.58 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:

1. 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.

2. Re-vegetation: The site will consist of varying ground slopes upon completion of the grading activities and will be seeded and strawed to stabilize the slope and prevent erosion.

3. Storm Water Quality: Construction of Water Quality areas 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 kept in an accessible onsite location. The reports must be kept on file by the permitee 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 evaluated and examined for erosion. If required basins will be examined for excessive sedimentation and increase in sediment loads, which will reduce the basins capacity.

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D. POST CONSTRUCTION MAINTENANCE:

Monthly inspections shall be made of the temporary BMP's until sufficient vegetation has been established. BMP's shall be maintained and any damage to BMP's shall be repaired as needed. Once vegetation has been established, the BMP's may be removed.

INSPECTION OF RAIN GARDEN

In first year of operation, inspection shall take place at least once each quarter during the spring, summer, fall and winter. Rain Garden shall be inspected after every storm exceeding 1" of rain to ensure that it operates in good working condition After the first year of operation routine inspections shall take place once every year.

Routine inspection of rain garden shall consist of the following:
Bioretention and appurtenances shall be inspected and any items in need of repair shall be promptly addressed. Detailed inspections shall include the following items:

1. Condition of grass cover on the embankment and perimeter.
2. Sediment accumulation.
3. Debris and trash accumulation.
4. All erosion gullies noted during the growing season shall be backfilled with topsoil, reseeded and protected (mulched) until vegetation is established.
5. Inspect the rain garden to determine if more than 25% of the volume has been lost due to sediment build-up, or 3 inches of sediment measured anywhere within the rain garden area. Sediment shall be removed from the when it is noticed that the filtering capacity of the filter has diminished substantially (i.e. when water ponds on the surface of the filter bed for more than 48 hours).

Plantings:

1. During the first growing season, inspect new or re-established vegetation weekly. Look for any stressed vegetation. Replace any dead or dying vegetation.
2. Quarterly inspection of landscaping to confirm health of plantings. Prune landscaping and replace dead vegetation as necessary with vegetation specified on the landscaping plan.

Mulch:

1. Mulch layer should be Hardwood Mulch with no dye. Pine wood, mulch chips and grass clippings are not acceptable.
2. Areas devoid of mulch should be re-mulched on an annual basis.

GRAPHIC SCALE

30 0 15 30

(IN FEET)
1 inch = 30 ft.

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

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.

Site Address: 1400 Grant Industrial Drive

PROJECT TITLE:
GRANT INDUSTRIAL PARK LOT 4B

Bax Project #01-169IFA | Issue Date: 05/11/2023

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 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 purposes other than the architectural or engineering properties.

STATE OF MISSOURI
CLIFFORD L. HEITMANN
NUMBER E-29817
REGISTERED PROFESSIONAL ENGINEER

Clifford L. Heitmann
Civil Engineer
E29817

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Surveying Authority No. 000144
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REVISIONS

07-17-23	CITY COMMENTS
08-15-23	CITY COMMENTS
09-18-23	CITY COMMENTS
10-11-23	CITY COMMENTS
10-26-23	CITY COMMENTS

Developer / Owner:
SUMMIT REAL ESTATE SERVICES LLC
29341 SPOTTED BULLY WAY
SAN JOSE, CA 92675

STORM WATER POLLUTION PREVENTION PLAN

P+Z No.
#23-002270
APPROVED 04-06-23

City No.
#xx

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