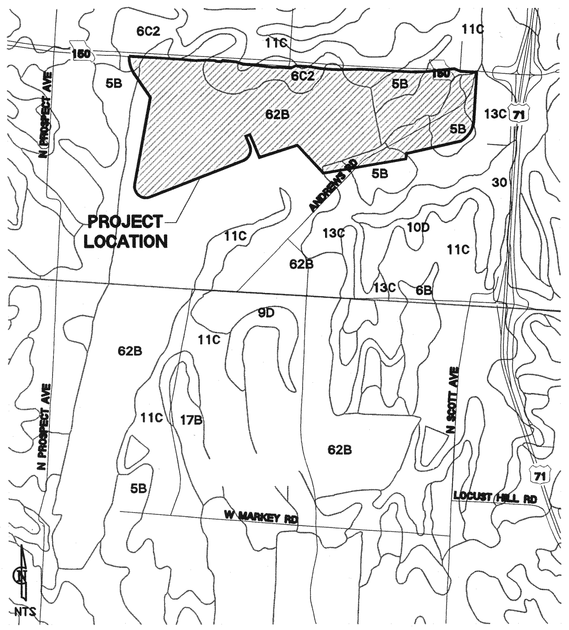


N.T.S.

Soil Classification from Soil Maps published in the Soil Surveys of Clay and Ray Counties, Missouri, categorize soil in this watershed as:

Hydrologic Soil Group – B Macksburg Silt Loam	Symbol – 5B 3 to 5%
Hydrologic Soil Group – B Sharpsburg Silt Loam	Symbol – 6C2 5 to 9% Eroded
Hydrologic Soil Group – D Snead Silty Clay Loam	Symbol – 9D 5 to 14%
Hydrologic Soil Group – D Snead–Rock Outcrop Complex	Symbol – 10D 5 to 14%
Hydrologic Soil Group – C Greenton Silty Clay Loam	Symbol – 11C 5 to 9%
Hydrologic Soil Group – D Sampsel Silty Clay Loam	Symbol – 13C 5 to 9%
Hydrologic Soil Group – B Polo Silt Loam	Symbol – 17B 2 to 5%
Hydrologic Soil Group – B Kennebec Silt Loam	Symbol – 30 N/A
Hydrologic Soil Group – B Macksburg–Urban Land Complex	Symbol – 62B 2 to 5%

GENERAL NOTES:

1. The intent of this Land Disturbance Plan is to assist the Contractor in his responsibility to provide all materials, tools, equipment and labor necessary to control erosion, siltation and discharges of soil material (sediment) into downstream systems or receiving channels. This shall be required during all phases of construction and until suitable ground cover is established for all disturbed areas. If any method of control fails, the Contractor shall notify the Owner immediately, so that the Owner or his agent can review the Contractor's proposed method of repair.

   This plan indicates the critical area(s) of concern and these area(s) will be controlled as a minimum. The control may consist of temporary control measures as shown on the plans or ordered by the Owner during the life of the contract to control erosion or water pollution, through the use of berms, dikes, dams, sediment basins, fiber mats, netting, straw bales, gravel, mulches, grasses, slope drains, diversion swales or other erosion control devices or methods. The Owner has the authority to limit the surface area of erodible earth material exposed by the construction operations and to direct the Contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other water courses, lakes, ponds, or other areas of water impoundment or conveyances.

   The temporary pollution control provisions contained herein shall be coordinated with any permanent erosion control features specified elsewhere in the contract to the extent practical to assure economical, effective and continuous erosion control throughout the construction and post construction period.

2. This sedimentation control plan makes use of the following applications:

X	PRESERVATION OF EXISTING VEGETATION
X	SEDIMENT BARRIERS
X	SEDIMENT TRAPS
	INLET PROTECTION
X	OUTLET PROTECTION
	SOIL RETAINING SYSTEMS
	SLOPE DRAINS
	SUBSURFACE DRAINS

   Physical description of each specific sediment control device to be utilized is called out on the plans with installation procedures, construction specifications and maintenance arrangement as called for on the detail sheet. In addition to the measures specified, the following general practices shall be adhered to when applicable.

A) Clearing and grubbing within 50' of a defined drainage course should be avoided when possible. Where changes to a defined drainage course occur, work should be delayed until all materials and equipment necessary to protect and complete the drainage change are on site. Changes shall be completed as quickly as possible once the work has been initiated. The area impacted by the construction activities shall be revegetated or protected from erosion as soon as possible, areas within 50' of a defined drainage ways should be recontoured as needed or otherwise protected within five (5) working days after grading has ceased.

B) Where soil disturbing activities cease in an area for more than 14 days, the disturbed areas shall be protected from erosion by stabilizing the area with mulch or other similarly effective erosion control measures. If the slope of the area is greater than 3:1 or if the slope is greater than 3% and greater than 150 feet in length, then the disturbed areas shall be protected from erosion by stabilizing the area with mulch or other similarly effective erosion control measures if activities cease for more than seven (7) days.

C) Existing vegetation shall be preserved to the extent and where practical. In no case shall disturbed areas remain without vegetative ground cover for a period in excess of 60 days.

D) Additional site management practices which shall be adhered to during the construction process shall include:

   Solid and hazardous waste management including providing trash containers and regular site clean up for proper disposal of solid waste such as building material, product/material shipping waste, food containers and cups, and providing containers for the proper disposal of waste paints solvents, and cleaning compounds.

   Provisions of portable toilets for proper disposal of sanitary sewage.

   Storage of construction materials away from drainage courses and low areas.

   Installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers.

3. All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Standards and Specifications adopted by the reviewing governing agency and good engineering practices. This shall be completed within fourteen (14) days after completing the work, in any area. If this is outside of the seeding period, Silt barriers or other similarly effective measures shall be provided until such time that the areas can be seeded.

4. The construction covered by these plans shall conform to all current Standards and Specifications adopted by the reviewing governing agency. The Contractor will be responsible for determining all additional standards, specifications or requirements which are required by governing agencies (including Local, State and Federal authorities) having jurisdiction over the work proposed by these construction drawings.

5. All erosion control measures, temporary or permanent, require maintenance to preserve their effectiveness. All erosion control devices shall be inspected immediately after each heavy rainstorm and at least daily during prolonged rainfall. Any required repairs should be made immediately. All costs associated with the repair work including related incidentals will be the contractor's responsibility and shall be included in the Contractor's bid for the proposed work.

6. All erosion control measures to be per Kansas City, Missouri Standard Details.

KANSAS CITY, MISSOURI ORDINANCE No. 981135

SEC. 63–29. SITE MAP AND GRADING PLAN

(1) See "Grading Plan(s)"
(2) See "Grading Plan(s)"
(3) See "Grading Plan(s)"
(4) See "Grading Plan(s)"
(5) See Soils Map this plan
(6) See "Grading Plan(s)"
(7) See this plan
(8) See "Erosion Control Plan(s)"
(9) See "Grading Plan(s)"
(10) See this plan
(11) See below

SEC. 63–30. EROSION AND SEDIMENT CONTROL PLAN

(1) From "Drainage Map(s)"

Point of Interest	Area (Acs.)	Composite "c"	Q_{10} (cfs)
A	53.61	.44	167.68
B	116.78	.78	92.96
C	24.03	.67	121.25
D	63.09	.78	71.38
E	12.73	.74	70.76
F	1807.95	.52	2856.40
F2	1110.16	.51	1991.13
F3	1331.10	.52	2159.90
F4	1595.52	.52	2700.12
F5	1684.76	.52	2758.68
F7	61.04	.86	62.52
G	4.76	.90	17.71

(2) Sediment Yield per Point of Interest, from APWA Sec. 5600, Figure 6.

Point of Interest	Area (Acs.)	Composite "c"	Annual Yield (cf/ac)	Duration of Disturbance (wks)	Point Yield (cf)
A	53.61	.44	130	52	130
B	116.78	.78	49	52	49
C	24.03	.67	94	52	94
D	63.09	.78	62	52	62
E	12.73	.74	100	52	100
F	1807.95	.52	53	52	53
F2	1110.16	.51	53	52	53
F3	1331.10	.52	53	52	53
F4	1595.52	.52	53	52	53
F5	1684.76	.52	53	52	53
F7	61.04	.86	48	52	48
G	4.76	.90	71	52	71

(3–5) See "Erosion Control Plan(s)", Also all measures will be monitored after every 0.5" rainfall but not to exceed every 2 days.

(7) See "Erosion Control Plan(s)"

(8) See "Erosion Control Plan(s)"

(9) See Construction Schedule below.

SEC. 63–36. COORDINATION WITH OTHER PERMITS

The applicant shall inspect the land disturbance site at least every fourteen (14) days, or more frequently if required on the plan, and within twenty–four hours following each rainfall event of 1/2" or more within any twenty–four hour period. For disturbed areas the have not been stabilized, all erosion and sediment control measures shall be inspected for proper installation, operation and maintenance. Locations where storm water leaves the site shall be inspected for evidence of erosion or sediment deposition. Any deficiencies shall be noted in a report of the inspection.

Inspection reports shall be kept by the applicant and shall be submitted to the director upon request. The inspection report shall include the following minimum information:

(1) Inspector's name;
(2) Date of inspection;
(3) Observations relative to the effectiveness of the erosion and sediment control measures;
(4) Actions necessary to correct deficiencies;
(5) Sampling results, if taken; and
(6) Signature of applicant or person performing the inspection if duly authorized to do so.

The director shall also perform regular inspections of the land disturbance site to ensure compliance with the erosion and sediment control plan for the site and the city's adopted standards.

SEC. 63–39. MAINTENANCE OF CONTROL MEASURES

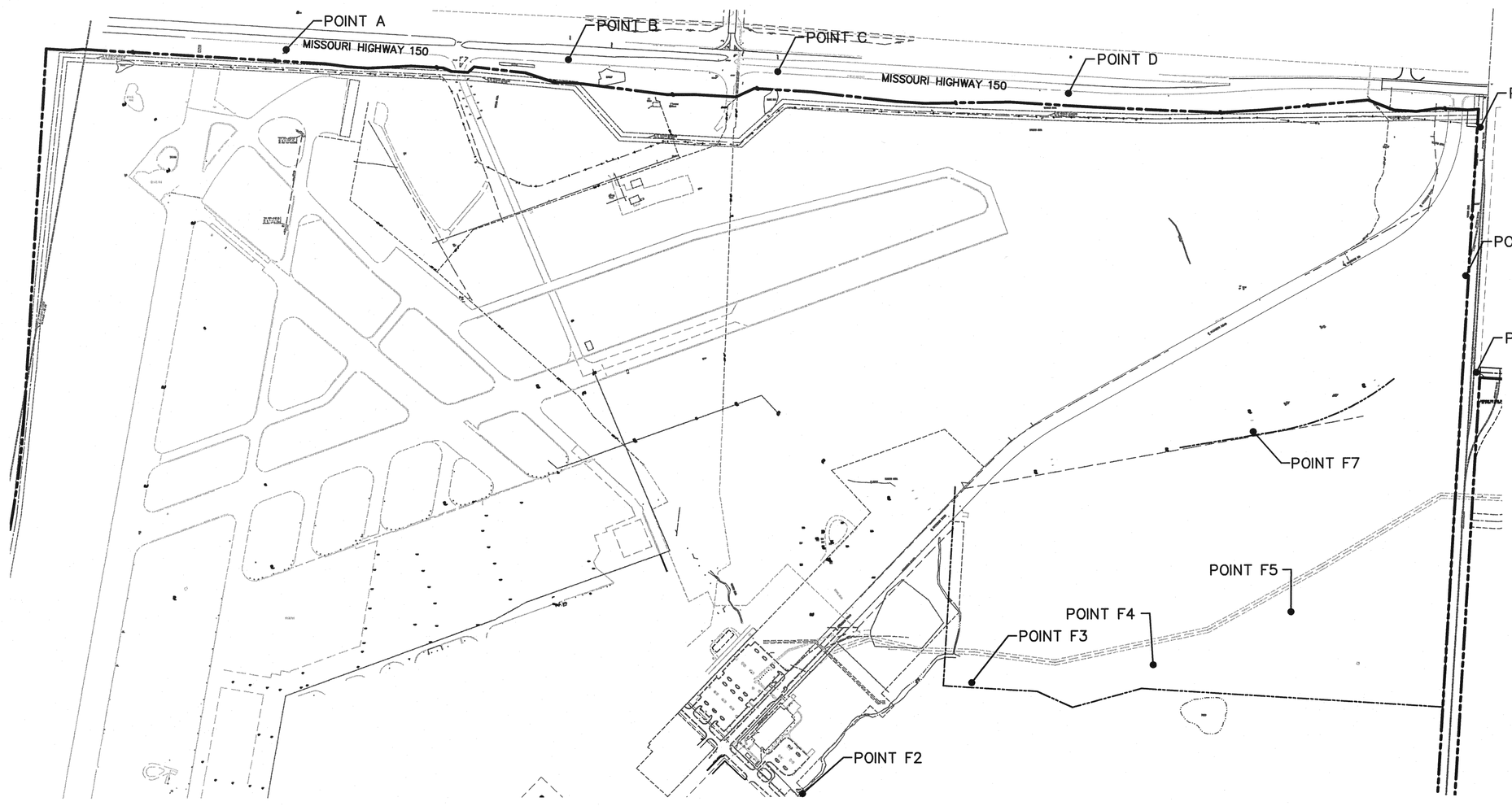
The applicant shall at all times maintain all erosion and sediment control measures in good order and in compliance with the erosion and sediment control plan for the site and with the city's adopted standards, for the duration of the permit as defined in Section 63–35 of this Article. In determining the applicant's compliance with the erosion and sediment control plan for the site, the director shall take into consideration any results that applicant has obtained through sampling.

SEC. 63–40. SAMPLING

The applicant shall have the option of including a system of regular sampling by individuals approved to perform such sampling by the City of Kansas City as a part of the applicant's erosion and Sediment Control Plan. The director may require sampling to determine the effectiveness of the erosion control plan or to obtain information to investigate complaints regarding the site. Sampling shall not be the only item reviewed to determine compliance with the erosion and sediment control plan for the site. The director may also perform sampling.

SEC. 63–41. REMOVAL OF CONTROL MEASURES

The applicant shall receive the director's approval before any structural erosion and sediment control measure identified on the plans is removed or made ineffective. Removal of erosion and sediment control measures must be performed in the manner described in the erosion and sediment control plan and in accordance with the city's adopted standards. When determining whether an erosion and sediment control measures may be removed or made ineffective, the director shall take into consideration testing results furnished by the applicant.



DISTURBED AREA & STORM SEWER OUTLETS (POINT OF INTERGT)

N

SCALE
0' 400' 800'
1"=400' HORIZ.

OPINION OF PROBABLE CONSTRUCTION SCHEDULE

CONSTRUCTION ACTIVITY	MONTH											
	1/08	2/08	3/08	4/08	5/08	6/08	7/08	8/08	9/08	10/08	11/08	12/08
Install Temporary Construction Entrance												
Install Erosion Control Devices – Phase 1												
Clearing & Grubbing												
Install Sediment/Detention Basins												
Grading												
Sanitary Sewer Construction												
Storm Sewer Construction												
Install Erosion Control Devices – Phase 2												
Paving & Curbs												
Water Main Construction												
Street Light Construction												
Remove temporary Botts Road												
Install Erosion Control Devices – Phase 3												
Seeding / Site Stabilization												
Remove Erosion Control Devices (post stabilization)												

NOTE: This schedule does not address weather delays or the seeding season. Schedule is preliminary for design use only and may need modified due to construction and contractor availability. Schedule may fluctuate due to market demand and as determined by the developer and is to be used as a guideline only. Seeding is not to occur during the winter months. If stabilization is to occur during this time, erosion control mat is to be in place to stablize disturbed area.

DATE	P.E. SIGNATURE	DESCRIPTION
10–01–07	R.J.S.	Prepared for Review.
11–16–07	R.J.S.	Issued for bid
12–07–07	R.J.S.	⚠1 Revised schedule

LAND DIST. PLAN GENERAL LAYOUT

CENTERPOINT–KCS
INTERMODAL CENTER

STATE OF MISSOURI
ROBERT J. SUNTA
E–25751
REGISTERED PROFESSIONAL ENGINEER

Reviewed By:	B.A.C.
Designed By:	R.J.S.
Drafted By:	J.W.W.
Lutjen Project No.: 07166	

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Location: N:\Engineering\Richard Gebaur – 07165 & 07166\Drafting\Mass Grading & Land Disturbance\GLD – 07166.dwg