



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

DONAHUE
OD-R
FRAZIER
OD-R
15/NOV/07

November 14, 2007

REPLY TO
ATTENTION OF:

Regulatory Branch
(2007-0612)

Mr. Pat Ruelle
Skyport, LLC
6800 Lake Drive, Suite 125
West Des Moines, IA 50266

Dear Mr. Ruelle:

Permit No. 2007-0612 has been executed. One copy is enclosed for your records and one copy has been retained for our files.

Special condition "a" of the permit requires you to sign and return the enclosed "Compliance Certification" upon completion of the authorized work and any required mitigation.

Sincerely,

SIGNED

Mark D. Frazier
Regulatory Program Manager
Regulatory Branch

Enclosures

Copies Furnished:

- Environmental Protection Agency,
Watershed Planning and Implementation Branch
w/enclosures
- U.S. Fish and Wildlife Service,
Columbia, Missouri w/enclosures
- Missouri Department of Natural
Resources w/enclosures
- Missouri Department of Conservation
w/enclosures



1



DEPARTMENT OF THE ARMY PERMIT

Permittee Skyport Development, LLC

Permit No. 2007-612

Issuing Office U.S. Army Engineer District, Kansas City

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below, and with the plans and drawings attached hereto which are incorporated in and made a part of this permit.

Project Description: Fill within jurisdictional waters on the project area including 500 linear feet of an ephemeral stream and 2.43 acres of wetland for the purpose of site development for commercial purposes.

Permit Drawings: Location map, plan view, aerial photo, Sheets 1 through 3, dated 6 September 2007

Project Location: The project site is located on 160 acres in Section 25, Township 52 North, Range 34 West, Platte County, Missouri.

The 4 mitigation sites are located off-site within Section 14, Township 52 North, Range 33 West, Clay County, Missouri.

(Lat: 39.2866 Long: -94.6631)

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 2010. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

See continuation sheets, pages 4 and 5, of this document.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorization required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

SKyport Development, LLC

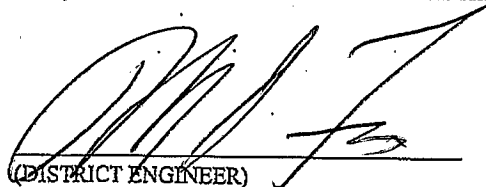


(PERMITTEE) by: PATRICIA J. Ruell, mgr.

10/30/07

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT ENGINEER)

ROGER A. WILSON, JR., COLONEL

BY: Mark D. Frazier, Regulatory Program Manager

NOV 14 2007

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

RECEIVED
REGULATORY BRANCH

07 NOV 13 AM 7:14

Special Conditions:

- a. You must sign and return a "Compliance Certification" after you complete the authorized work and any required mitigation. Your signature will certify that you completed the work in accordance with this permit, including general and specific conditions, and that any required mitigation was completed in accordance with the permit conditions.
- b. The applicant must create 1.20 acres of palustrine emergent wetlands, create 3.40 acres of forested/wet meadow wetlands, create 860 linear feet of tributary channel and enhance 3.5 acres of upland buffer around the created wetlands. The mitigation must be carried out as described in the mitigation plan and as shown on the maps of the mitigation locations attached to this permit as Exhibit 1.
- c. The applicant must protect all mitigation areas described in the mitigation plan by an approved third-party conservation easement. A final copy of the easement, including legal descriptions of the properties to be protected by the easement must be furnished and approved in writing by the Corps of Engineers prior to recording at the county Register of Deeds. The proposed easement description must be furnished to the Corps of Engineers within 90 days of all mitigation site construction. The recording of the easement must be accomplished within 60 days of easement approval from the Corps of Engineers.
- d. All mitigation work must be accomplished in accordance with Regulatory Guidance Letter 02-02 dated 24 December 2002, Regulatory Guidance Letter(RGL) 06-03 dated 19 September 2006 and the mitigation plan submitted for this work, by Terracon Consulting dated 30 May 2007. The applicant shall be responsible for meeting the success criteria of the mitigation plan and submitting an annual report for a period of five years or until these criteria have been met and the mitigation work deemed fully successful by this office.
- e. If any part of the authorized work is performed by a contractor, before starting work you must discuss the terms and conditions of this permit with the contractor; and, you must give a copy of this entire permit to the contractor.
- f. You must use clean, uncontaminated materials for fill in order to minimize excessive turbidity by leaching of fines, as well as to preclude the entrance of deleterious and/or toxic materials into the waters of the United States by natural runoff or by leaching.
- g. You must dispose of excess concrete and wash water from concrete trucks and other concrete mixing equipment in a non-wetland area above the ordinary high water mark and at a location where the concrete and wash water cannot enter the water body or an adjacent wetland area.
- h. You must excavate, dredge and/or fill in the watercourse in a manner that will minimize increases in suspended solids and turbidity which may degrade water quality and damage aquatic life outside the immediate area of operation.
- i. You must immediately remove and properly dispose of all debris during every phase of the project in order to prevent the accumulation of unsightly, deleterious and/or toxic materials in or near the water body.



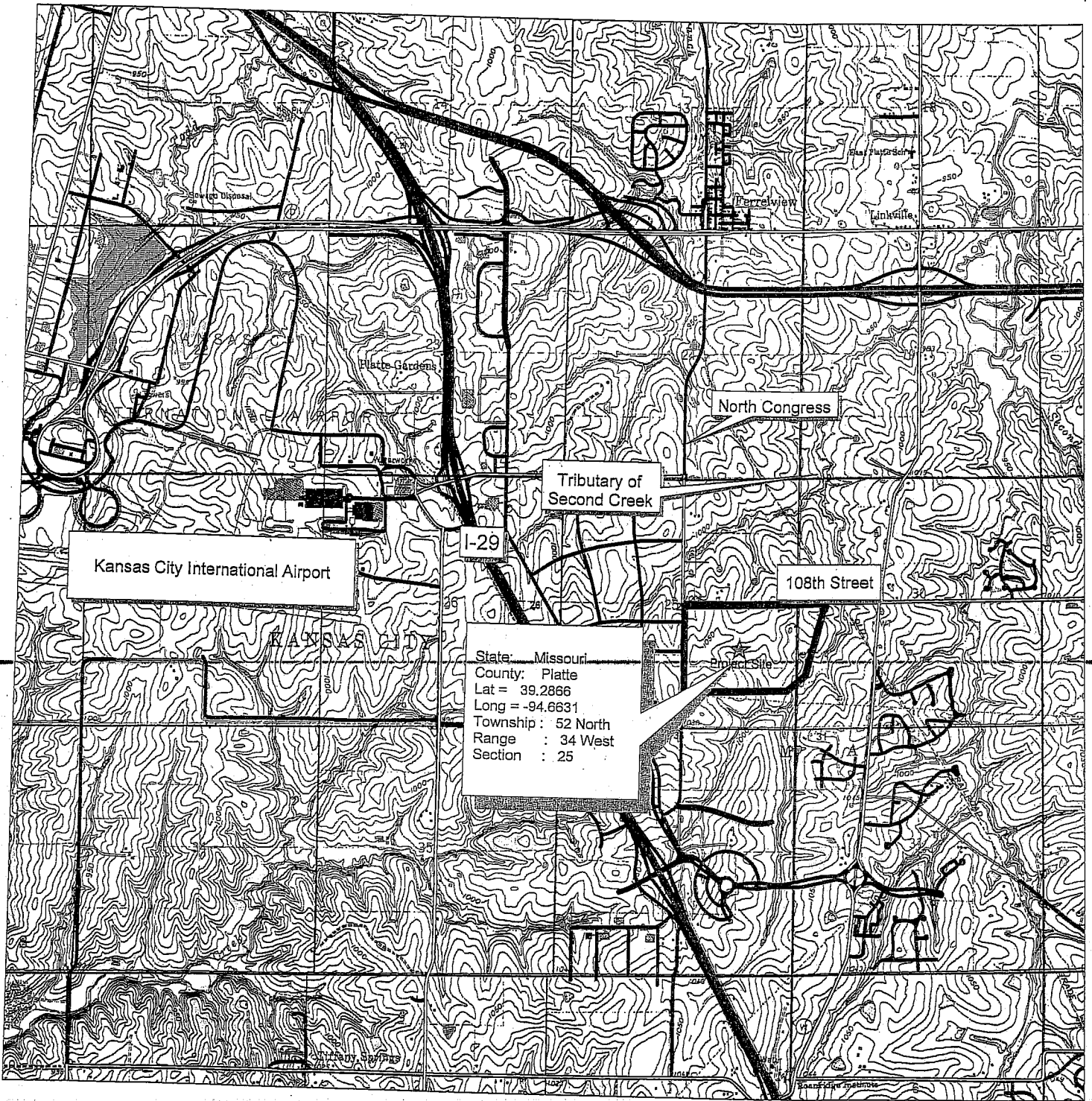
j. You must not dispose of any construction debris or waste materials below the ordinary high water mark of any water body, in a wetland area, or at any location where the materials could be introduced into the water body or an adjacent wetland as a result of runoff, flooding, wind, or other natural forces.

k. You must store all construction materials, equipment, and/or petroleum products, when not in use, above anticipated high water levels.

l. You must restrict the clearing of timber and other vegetation to the absolute minimum required to accomplish the work. Clearing, grading and replanting should be planned and timed so that only the smallest area necessary is in a disturbed, unstable or unvegetated condition.

m. Upon completion of earthwork operations, you must seed, replant or otherwise protect from erosion all fills in the water or on shore, and other areas on shore disturbed during construction. If seeding does not successfully vegetate the disturbed areas by the end of the first growing season, you must implement alternate measures to protect the disturbed areas from further erosion. You must contact the Kansas City District, Regulatory Branch prior to beginning work on any additional erosion control measures so that a determination can be made whether further authorization is required.

n. You must use only graded rock and/or quarry-run rock for riprap. The material must be reasonably well graded, consisting of pieces varying in size from 20 pounds up to and including at least 150 pound pieces. Generally, the maximum weight of any piece should not be more than 500 pounds. Gravel and dirt should not exceed 15% of the total fill volume.

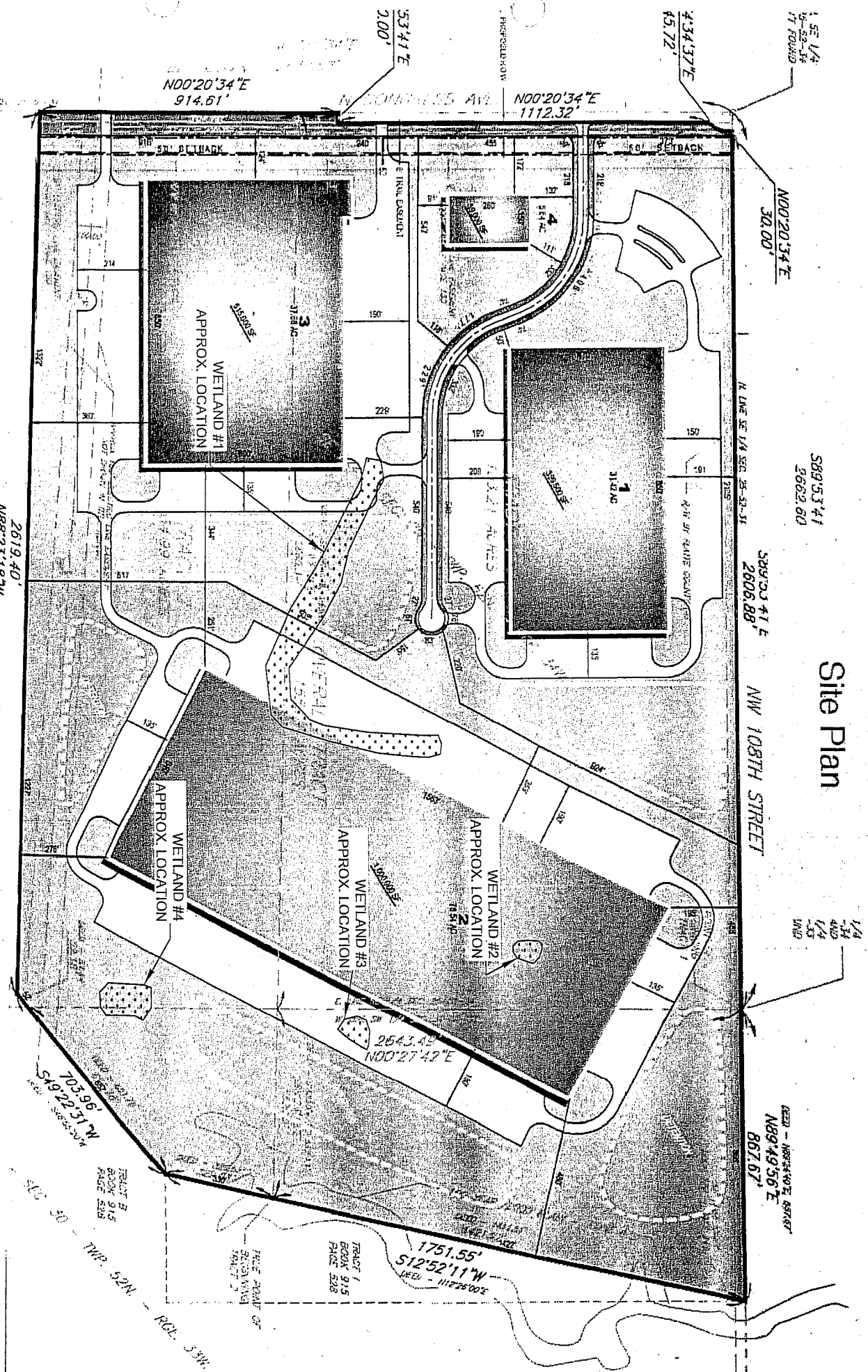


0 0.5 Miles



PERMIT NO. 2007-612
SKYPORT, LLC
TRIBUTARY OF SECOND CREEK
PLATTE COUNTY, MISSOURI
SHEET 1 OF 3, DATED 16 OCTOBER 2007

Site Plan



1.5E 1/4
 17 FOUND

N00°20'34"E
 30.00'

S89°53'41"
 2682.80'

S89°53'41"E
 2606.88'

NW 108TH STREET

1/4
 400
 1/4
 1/4
 1/4

S82° - N88°24'40"E 897.83'
 N89°49'56"E
 867.67'

N00°20'34"E
 1112.32'

N00°20'34"E
 914.61'

S34°17'E
 21.00'

S34°37'E
 45.72'

BOOK 943 - PAGE 879

2619.40'
 N88°23'18"W
 2620 - N88°34'27"E 2618.61'

OR. SE 1/4
 29-52-54
 247 FOUND

2657.10'
 S89°48'39"E

PERMIT NO. 2007-612
 SKYPORT, LLC
 TRIBUTARY OF SECOND CREEK
 PLATTE COUNTY, MISSOURI
 SHEET 2 OF 3, DATED 16 OCTOBER 2007

103.96'
 S49°22'51"W
 2621 - S88°22'20"W

1751.55'
 S12°52'11"W
 2621 - N12°28'00"E

WETLAND #4
 APPROX. LOCATION

WETLAND #3
 APPROX. LOCATION

WETLAND #2
 APPROX. LOCATION

WETLAND #1
 APPROX. LOCATION

TRACT 1
 BOOK 915
 PAGE 228

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TRACT 5
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TRACT 6
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TRACT 7
 BOOK 915
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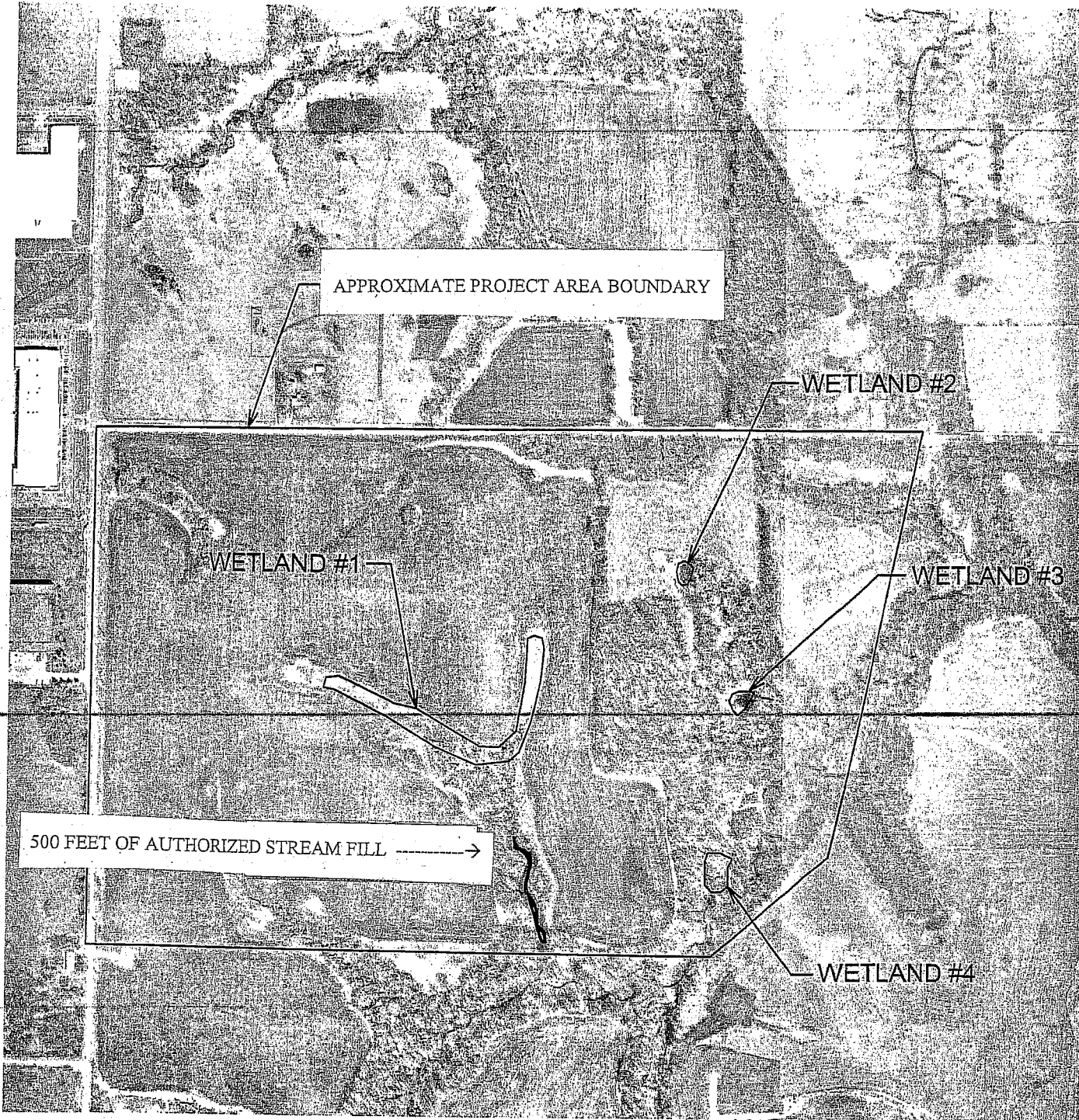
TRACT 8
 BOOK 915
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 BOOK 915
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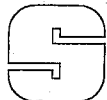
TRACT 10
 BOOK 915
 PAGE 228

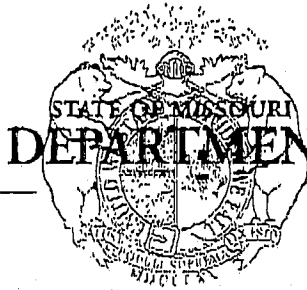
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PERMIT NO. 2007-612
 SKYPORT, LLC
 TRIBUTARY OF SECOND CREEK
 PLATTE COUNTY, MISSOURI
 SHEET 3 OF 3, DATED 16 OCTOBER 2007





Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

September 6, 2007

Mr. Pat Ruelle
Skyport, LLC
6800 Lake Drive, Suite 125
West Des Moines, IA 50266

Platte County
PN07-612/CEK004294

Dear Mr. Ruelle:

The Missouri Department of Natural Resources' Water Protection Program has reviewed Public Notice No. PN07-612/CEK004294 in which the applicant proposes development of the full tract of land for commercial industrial purposes and will involve soil grading to prepare the entire site for building pads, parking and other related facilities including storm water detention basins. The site contains crop land, grassed waterways including some with riparian vegetation and approximately 30 acres of woodland on steeper sloping land located in the southeast portion of the site. Jurisdictional waters within the project area include approximately 500 linear feet of a tributary stream channel of Second Creek and 2.54 acres of wetland. Mitigation for the impact to jurisdictional waters on the site is proposed to be mitigated by the applicant at an almost 2:1 ratio to an off-site location approximately 8 miles northeast of the project. The development site is within 2 miles of the Kansas City International Airport discouraging development of on-site wetland mitigation sites due to Federal Aviation Administration safety recommendations.

The project contains four small palustrine emergent and scrub-shrub wetlands associated with agricultural ponds or former ponds. Total wetland acreage on the site equals 2.54 acres, all of which would be filled by the development.

The proposed project site is on approximately 160 acres of agricultural land east of North Congress Avenue and south of 108th Street in Kansas City, Missouri. It is located in Section 25, Township 52 north, Range 34 west in Platte County, Missouri.

This office certifies that the proposed project will not cause the general or the numeric criteria to be exceeded nor impair beneficial uses established in the Water Quality Standards, 10 CSR 20-7.031, provided the following conditions are met:

1. Mitigation shall be in accordance with the mitigation plan submitted by Terracon on May 30, 2007. The mitigation area shall be protected by permanent conservation restriction. The conservation restriction covering this tract must reserve the area for aquatic

Mr. Pat Ruelle (PN07-612/CEK004294)

Page 2

September 6, 2007

habitat/wetland protection and wildlife purposes exclusively, and must be filed and recorded as conservation easement on the property in perpetuity. Documentation shall be provided to the Missouri Department of Natural Resources, Water Protection Program, NPDES Permits and Engineering Section, ATTN: Ms. Shannon Slater, P.O. Box 176, Jefferson City, MO 65102; and Army Corps of Engineers, Kansas City District, ATTN: Mr. Brian Donahue, 700 Federal Building, Kansas City, MO 64106.

2. Instream culverts shall be sized and placed to maintain a depth of water at least as deep as the channel directly upstream of the crossing. Structures creating water velocities in excess of two feet per second during average annual discharge shall be avoided. If preconstruction velocities exceed two feet per second, then structures shall not increase existing velocities. There shall be no drop between the downstream end of the culvert and the downstream water surface elevation.
3. Care shall be taken to keep machinery out of the waterway as much as possible. Fuel, oil and other petroleum products, equipment and any solid waste shall not be stored below the ordinary high water mark at any time or in the adjacent floodway beyond normal working hours. All precautions shall be taken to avoid the release of wastes or fuel to streams and other adjacent water bodies as a result of this operation.
4. Only clean, nonpolluting fill shall be used. The following materials are not suitable for bank stabilization and shall not be used due to their potential to cause violations of the general criteria of the Water Quality Standards, 10 CSR 20-7.031 (A)-(H):
 - a. Earthen fill, gravel, broken concrete where the material does not meet the specification outlined below, and fragmented asphalt, since these materials are usually not substantial enough to withstand erosive flows;
 - b. Concrete with exposed rebar;
 - c. Tires, vehicles or vehicle bodies, construction or demolition debris are solid waste and are excluded from placement in the waters of the state;
 - d. Liquid concrete, including grouted riprap, if not placed as part of an engineered structure; and
 - e. Any material containing chemical pollutants (for example: creosote or pentachlorophenol).

Recycled or broken concrete may be used provided that it is reasonably well graded, consisting of pieces varying in size from 20 pounds up to and including at least 150 pound pieces. Applicants must break all large slabs to conform to the well-graded requirement. Generally, the maximum weight of any piece shall not be more than 500 pounds. Gravel and dirt shall not exceed 15% of the total fill volume. All protruding reinforcement rods, trash, asphalt and other extraneous materials must be removed from the broken concrete prior to placement.

Recycled or broken concrete being used simply as fill need not conform to the well-graded requirement. It shall, however, be free of extraneous materials and shall be placed to eliminate voids within the fill.

Mr. Pat Ruelle (PN07-612/CEK004294)

Page 3

September 6, 2007

5. Clearing of vegetation/trees shall be the minimum necessary to accomplish the activity. A vegetated corridor shall be maintained from the high bank on either side of the jurisdictional channel to protect water quality and to provide for long-term stability of the stream channel, unless physical barriers prevent such a corridor.
6. Streambed gradient shall not be permanently altered during project construction.

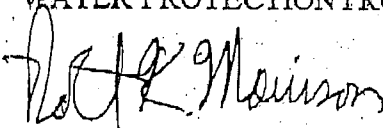
Pursuant to Chapter 644.052.9, RSMo, commonly referred to as the Missouri Clean Water Law, this 401 Water Quality Certification shall be valid only upon payment of a fee of seventy-five dollars (\$75.00). The enclosed invoice contains the necessary information on how to submit your fee. Payment must be received within ten (10) days of receipt of this certification. Upon receipt of the fee, a copy of the certification will be mailed to the applicable office of the Corps to inform them the certification is now in effect and final.

You may appeal to have the matter heard by the administrative hearing commission. To appeal, you must file a petition with the administrative hearing commission within thirty (30) 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 administrative hearing commission.

Water Quality Standards must be met during any operations authorized by these permits. If you have any questions, please contact Ms. Slater at (573) 526-1535, e-mail at shannon.slater@dnr.mo.gov, or at above referenced address.

Sincerely,

WATER PROTECTION PROGRAM

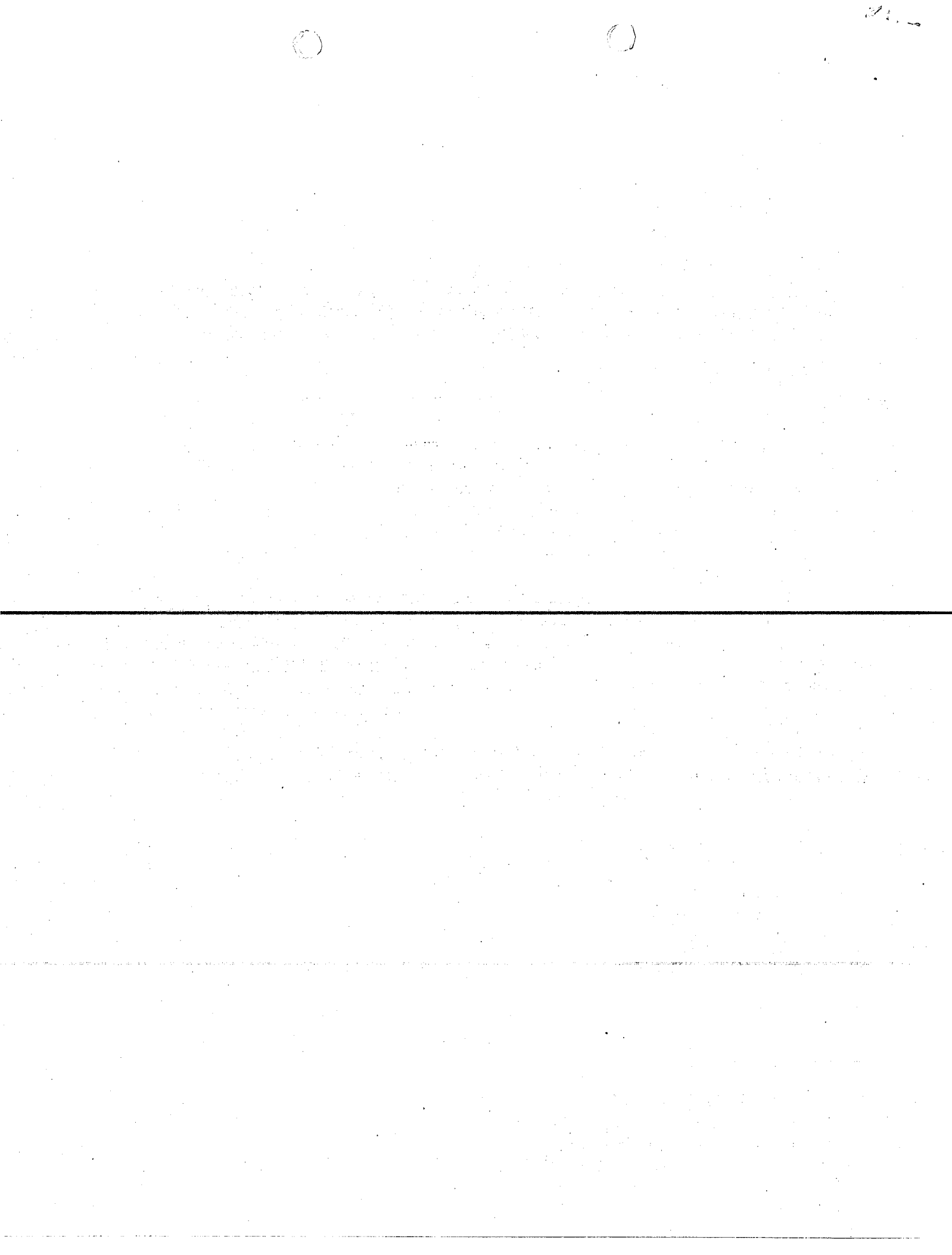


Robert K. Morrison, P.E., Chief
Water Pollution Control Branch

RKM:ssp

Enclosure

c: Mr. Andy Schreck, Skyport LLC
Mr. Brian Donahue, Army Corps of Engineers, Kansas City District
Ms. Eva Moritz, Terracon Consultants, Inc.
Mr. Gary Reed, Civil Design Advantage
Mr. Jeff Walters, Snyder and Associates
DNR - KCRO



Wetland Mitigation Plan
Skyport Development
Kansas City, Missouri
Terracon Project No. 08077023
May 30, 2007

5.1 Site Selection Process

As described in Section 2.0 of this report, the impacted wetlands and intermittent tributary are located within 10,000 feet of the Kansas City International Airport. According to the FAA Advisory Circular No. 150/5200-33A, *Hazardous Wildlife Attractants On Or Near Airports*, dated July 27, 2004, the recommended distance between aircraft areas and wildlife attractants is 10,000 feet. The FAA also recommends that wetland mitigation not occur onsite within 10,000 feet of the airport. Based on the FAA recommendations, Skyport LLC is proposing to mitigate the wetlands and tributary within the Rose Creek Development. Rose Creek is located approximately 8 miles northeast of the site (northeast corner of Interstate I-435 and Highway 169), in Clay County, Missouri. The location of the project site and mitigation site can be seen on Figure 4 in Appendix A.

Skyport LLC is proposing to conduct wetland mitigation at four locations and tributary mitigation at one location at the Rose Creek Development. The locations of the proposed mitigation areas can be seen on Figure 5 in Appendix A.

The mitigation sites were selected because of their location near existing intermittent tributaries, proposed detention basins, and for other aesthetic reasons. The proposed mitigation sites allow the developer to maintain a high ratio of developable area while incorporating the mitigation sites as features to adjacent properties. The mitigation sites will be used as a greenspace amenity to the Rose Creek Development. The selected sites were a practicable, cost effective way for the developers to incorporate the mitigation sites into the Rose Creek Development. Surface water runoff from surrounding upland areas will support the tributary and wetland mitigation sites.

5.2 Mitigation for Tributary Impacts

A total of 500 linear feet of an intermittent tributary will be impacted by the proposed development. The tributary impacts will be mitigated within a tributary/wetland mitigation area at the Rose Creek Development. The following table summarizes the length of the tributary mitigation area and the soil types at the tributary mitigation area.

Wetland Mitigation Plan
 Skyport Development
 Kansas City, Missouri
 Terracon Project No. 08077023
 May 30, 2007

Tributary Mitigation Area	Tributary Length (feet)	Soil Type
1	860	10F, Snead-Rock outcrop complex 26C2, Lagoda Silt Loam
Total	860	

The tributary mitigation area was developed after evaluating the stormwater hydrology of the site. Wetland/Tributary Mitigation Area 1 is located in the north-central portion of the Rose Creek Development as shown on Figures 5 and 7A in Appendix A. The area will include 860 linear feet of tributary mitigation within a 1.8 acre wetland buffer. Area 1 will flow from west to east and will discharge to an existing onsite tributary at the Rose Creek Development.

A typical cross section of the tributary mitigation can be seen as Figure 6 in Appendix A. The average bottom width of the tributary impacted by the project was 5 feet. As shown on Figure 6, the base of the tributary mitigation will be generally 9-foot wide with 3:1 side slopes. ~~The mitigated tributary will be approximately 1 foot deep and 15 feet wide at the top of the bank.~~ The tributary will be located within an approximately 108-foot wide wetland buffer zone (Wetland Mitigation Area 1) and will be located within greenspace areas of the Rose Creek Development. Grading plans for the proposed tributary mitigation area can be seen on Figure 7A in Appendix A.

5.3 Mitigation for Wetland Impacts

The wetland mitigation ratios were selected based on recommendations in the State of Missouri Aquatic Resource Mitigation Guidelines. The proposed ratios, as shown on Table 1 in Appendix B were based on the quality of wetlands described in Snyder's delineation report, including the variety of wetland vegetative species observed and the presence or absence of reed canary grass, which is considered to be a low quality, invasive wetland species.

As shown on Table 1 in Appendix B, a 1.9:1 ratio was generally recommended for shrub-scrub wetlands. The recommended mitigation ratio for emergent wetlands was 1:1 based on the diversity and quality of wetland species observed. In general, the shrub-scrub wetlands were considered to be moderate quality. The emergent wetlands were primarily low quality. The planting plan for the mitigation area will result in higher quality wetlands with more diverse tree and plant species.

The following sections describe the wetland and tributary mitigation areas.

Wetland Mitigation Plan
Skyport Development
Kansas City, Missouri
Terracon Project No. 08077023
May 30, 2007

5.3.1 Wetland/Tributary Mitigation Area 1

Wetland/Tributary Mitigation Area 1 is located in the north-central portion of the Rose Creek Development and will cover approximately 1.8 acres. Area 1 will include 860 linear feet of tributary mitigation. The location of Mitigation Area 1 can be seen on Figures 5 and 7A in Appendix A. The area will include 1.4 acres of wet meadow vegetation, 0.4 acres of emergent vegetation, and 1.4 acres of upland buffer surrounding the mitigation area, as shown on Figure 8A in Appendix A. Wetland Mitigation Area 1 will be located between the elevations of 962 and 965 feet. The water level in the mitigation area will be controlled by a riprap spillway set at an elevation of 964 feet.

Wetland Mitigation Area 1 is bounded by vacant tree-covered land to the north, a proposed residential area to the west and south, and an existing tributary "XX" to the east. The spillway will drain into an existing tributary identified as XX at the Rose Creek Development. Surface water runoff from the areas south and west of the site will support the mitigation area.

Based on a review of aerial photographs (Appendix B of Terracon's Wetland Delineation Report of the Rose Creek Development, Terracon Project No. 02067006, dated May 10, 2006), the historic land use of Wetland Mitigation Area 1 was agricultural. According to the Clay County Soil Survey Map (Figure 3 of Terracon's Wetland Delineation Report), the soil type identified within Wetland Mitigation Area 1 was 26C2, Lagoda Silt Loam, 5 to 9% slopes, eroded. Lagoda silt loam soils are not considered to be hydric. Although these soils are not generally considered hydric, they will provide appropriate conditions for supporting the mitigated wetlands.

Based on the area's historic use as farmland, the existing wildlife usage would be minimal. The proposed mitigation area will enhance the wildlife features of the adjacent intermittent tributary XX.

5.3.2 Wetland Mitigation Area 2

Wetland Mitigation Area 2 is located in the north-central portion of the Rose Creek Development and will cover approximately 1.5 acres. The location of Mitigation Area 2 can be seen on Figures 5 and 7B in Appendix A. The area will include 1.0 acre of wet meadow vegetation, 0.5 acres of emergent vegetation, and 0.6 acres of upland buffer on the north side of the mitigation area, as shown on Figure 8B in Appendix A. Wetland Mitigation Area 2 will consist of two areas separated by a rip rap spillway at elevation 964 feet. The northern portion of Wetland Mitigation Area 2 will be located between the elevations of 957 and 960 feet, and the southern portion of Wetland Mitigation Area 2 will be located between the elevations of 962

**Wetland Mitigation Plan
Skyport Development
Kansas City, Missouri
Terracon Project No. 08077023
May 30, 2007**

and 965 feet. The water level in the mitigation area will be controlled by two riprap spillways set at 957 and 964 feet.

Wetland Mitigation Area 2 is bounded by a detention basin to the north, residential streets to the west and south, and an existing tributary "XXVI" to the east. The spillway will drain into an existing tributary identified as XXVI at the Rose Creek Development. Surface water runoff from the areas south and west of the site will support the mitigation area.

Based on a review of aerial photographs (Appendix B of Terracon's Wetland Delineation Report dated May 10, 2006), the historic land use of Wetland Mitigation Area 2 was agricultural. According to the Clay County Soil Survey Map (Figure 3 of Terracon's Wetland Delineation Report), the soil type identified within Wetland Mitigation Area 2 was 26C2, Lagoda Silt Loam, 5 to 9% slopes, eroded. Lagoda silt loam soils are not considered to be hydric. Although these soils are not generally considered hydric, they will provide appropriate conditions for supporting the mitigated wetlands.

Based on the area's historic use as farmland, the existing wildlife usage would be minimal. The proposed mitigation area will enhance the wildlife features of the adjacent intermittent tributary XXVI.

5.3.3 Wetland Mitigation Area 3

Wetland Mitigation Area 3 is located in the east-central portion of the Rose Creek Development and will cover approximately 0.8 acres. The location of Mitigation Area 3 can be seen on Figures 5 and 7C in Appendix A. The area will include 0.6 acres of wet meadow vegetation, 0.2 acres of emergent vegetation, and 1.1 acres of upland buffer surrounding the mitigation area, as shown on Figure 8C in Appendix A. Wetland Mitigation Area 3 will be located between the elevations of 962 and 965 feet. The water level in the mitigation area will be controlled by a riprap spillway set at an elevation of 964 feet.

Wetland Mitigation Area 3 is bounded by tree-covered land and an existing tributary "XXI" to the north and west, residential lots to the south, and tree-covered land including Rocky Branch Creek to the east. The spillway will drain into an existing tributary identified as XXI at the Rose Creek Development. Surface water runoff from the area south of the site will support the mitigation area.

Based on a review of aerial photographs (Appendix B of Terracon's Wetland Delineation Report dated May 10, 2006), the historic land use of Wetland Mitigation Area 3 was agricultural. According to the Clay County Soil Survey Map (Figure 3 of Terracon's Wetland Delineation Report), the soil type identified within Wetland Mitigation Area 3 was 26C2, Lagoda Silt Loam, 5

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to 9% slopes, eroded. Lagoda silt loam soils are not considered to be hydric. Although these soils are not generally considered hydric, they will provide appropriate conditions for supporting the mitigated wetlands.

Based on the area's historic use as farmland, the existing wildlife usage would be minimal. The proposed mitigation area will enhance the wildlife features of the adjacent intermittent tributary XXI.

5.3.4 Wetland Mitigation Area 4

Wetland Mitigation Area 4 is located in the southeast corner of the Rose Creek Development and will cover approximately 0.5 acres. The location of Mitigation Area 4 can be seen on Figures 5 and 7D in Appendix A. The area will include 0.4 acres of wet meadow vegetation, 0.1 acres of emergent vegetation, and 0.4 acres of upland buffer surrounding the mitigation area, as shown on Figure 8D in Appendix A. Wetland Mitigation Area 4 will be located between the elevations of 962 and 965 feet. The water level in the mitigation area will be controlled by a riprap spillway set at an elevation of 964 feet.

Wetland Mitigation Area 4 is bounded by tree-covered land to the north, an existing tributary "XIII" to the south and east, and residential lots to the west. The spillway will drain into an existing tributary identified as XIII at the Rose Creek Development. Surface water runoff from the area west of the site will support the mitigation area.

Based on a review of aerial photographs (Appendix B of Terracon's Wetland Delineation Report dated May 10, 2006), the historic land use of Wetland Mitigation Area 4 was agricultural. According to the Clay County Soil Survey Map (Figure 3 of Terracon's Wetland Delineation Report), the soil type identified within Wetland Mitigation Area 4 was 5C, Macksburg silt loam, 5-9% slopes. Macksburg silt loam soils are not considered to be hydric. Although these soils are not generally considered hydric, they will provide appropriate conditions for supporting the mitigated wetlands.

Based on the area's historic use as farmland, the existing wildlife usage would be minimal. The proposed mitigation area will enhance the wildlife features of the adjacent intermittent tributary XIII.

5.4 Functions of Impacted Wetlands and Waters of the United States

The functions and values for the jurisdictional wetland are based on the "The Highway Methodology Workbook Supplement: Wetland Functions and Values", 1995. The methodology

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evaluates wetland functions and values from a descriptive approach. A jurisdictional wetland or tributary may have the following functions and values:

- groundwater recharge/discharge,
- flood flow alteration,
- nutrient removal/retention/transformation,
- production export,
- sediment/shoreline stabilization,
- wildlife habitat,
- recreation,
- educational/scientific value,
- uniqueness/heritage,
- visual quality/aesthetics, and/or
- endangered species habitat.

The principal functions of the delineated wetlands and WUS for the proposed project are ~~groundwater recharge/discharge, flood flow alteration, nutrient removal, shoreline stabilization,~~ and wildlife habitat. The wetlands identified at the project site consisted primarily of emergent wetlands. The WUS identified during the delineation consisted mainly of a wooded tributary which has flood flow alternation and wildlife habitat functions.

5.5 Likelihood of Success

A hydrologic study has been performed to evaluate if the wetland mitigation sites will have enough surface water to provide saturated soils in the upper 12 inches of the wetland mitigation area. A water balance analysis was conducted at the Rose Creek Development area to evaluate the amount of percolation to the water table after wetland development. The water balance is based on the relationships between precipitation, evapotranspiration, surface runoff, and soil moisture. The U.S. EPA water balance method for predicting soil moisture storage developed by Fenn, et al, and modified by Scharch was used. Averages of normal mean monthly precipitation and temperature were used. Based on the Clay County soil survey data, the soils within the wetland mitigation areas have high available high water capacity (available moisture capacity). In order to present a more conservative estimate of soil moisture storage, the available moisture capacity was assumed to be in the low to moderate range.

The water balance analysis indicates that approximately 2.3 to 6.0 inches of soil moisture storage will be available in the wetland mitigation sites throughout the year. The wetlands should receive sufficient stormwater/groundwater runoff throughout an average year to support wetland conditions. The Kansas City area receives sufficient precipitation throughout the year (37.6

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inches average) to sustain wetland conditions given the proposed wetland design. It is likely that this volume of water, along with the estimated soil moisture storage, will be sufficient to maintain the proposed wetland area given the structural controls of the mitigation sites. Copies of the water balance analysis have not been included in this report but can be provided upon request.

A storm water runoff analysis was conducted to evaluate the volume of water that will be delivered to the wetland area. The Rational Formula was used to evaluate the relationship between rainfall and peak runoff at the site. The 25-year storm frequency was used for evaluating surface water runoff structures.

The rainfall intensity curve for Kansas City, Missouri was constructed using the following storm events:

10 year, 1 hour	= 2.7 inches
10 year, 24 hour	= 5.7 inches
100 year, 1 hour	= 4.1 inches

In the wetland mitigation area the analysis used a weight runoff coefficient of $C = 0.3$ (single family residential and unimproved) for the 25-year design event. Storm water runoff calculations for overland flow and Peak Discharge were performed using Hydrocalc® software. The Peak Discharges (Q_p) for wetland mitigation areas 1, 2, 3, and 4 were estimated to be 17.4, 20.9, 10.4, and 7.0 cubic feet per second (cfs), respectively.

Based on the water balance analysis and stormwater runoff analysis, it is likely that the volume of water directed to the mitigation sites, along with the estimated soil moisture storage, will be sufficient to maintain the proposed wetland area given the structural controls of the mitigation sites. The wetland mitigation design, including the proposed seeding plans, will create a sustainable, self-maintaining wetlands that will have increased wetland species diversity.

6.0 MITIGATION WORK PLAN

The following sections provide details regarding the creation of the mitigation sites, including grading, hydrology, vegetation, tree planting, soils, and other features.

Grading of the project is anticipated to begin when the Section 404 permit is issued and will likely be completed in 120 to 160 calendar days. Due to the large size of the Rose Creek Development and grading timing for that site, we anticipate that the wetland and tributary mitigation areas will be completed within two years of impacts to the first wetland or tributary.

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6.1 Grading

The construction of the wetland and tributary mitigation areas will consist of grading the area to the approximate elevations shown on Figures 7A through 7D in Appendix A. A typical cross section for the tributary mitigation can be seen on Figure 6 in Appendix A. Standard construction methods and equipment will be used during grading and construction of the site.

6.2 Planned Soils

The Clay County Soil Survey identified Lagoda and Macksburg soils in the vicinity of the mitigation areas. Although these soils are not generally considered hydric, they will provide appropriate conditions for supporting the mitigated wetlands. The soils are silty loam soils with moderately slow permeability and high available water capacity.

The following items summarize the characteristics of the mitigation site soils based on the Clay County Soil Survey:

- Lagoda soils have moderately slow permeability and high available water capacity. The soil profile consists primarily of dark grayish-brown silt loam from 1 to 11 inches and dark yellowish-brown silty clay loam from 11 to 60 inches. The wetland mitigation designs will generally consist of cutting the existing grades approximately 2-9 feet. The slow permeability and high available water capacity should be sufficient to support the wetland mitigation areas.
- Macksburg soils are somewhat poorly drained soil at the head of upland drainageways. They have moderately slow permeability and high available water capacity. The seasonal high water table is from 2-4 feet. The soil profile consists of black silt loam from 0 to 7 inches and black to grayish-brown silty clay loam from 7 to 60 inches. The wetland mitigation design generally consists of cutting the existing grades approximately 1-10 feet. The seasonal high water table, slow permeability, and high available water capacity should be sufficient to support the wetland mitigation areas.

In order to facilitate the development of hydric soil characteristics, the wetland mitigation sites should be compacted at a rate of at least 90% to limit infiltration that may occur through the base of the wetland. Based on the results of the Water Balance Analysis, the soils within the mitigation sites should have adequate soil moisture storage to support wetland vegetation.

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6.3 Planned Hydrology/Water Control Structures

A hydrologic study has been performed to evaluate if the mitigation site will have enough surface water to inundate certain areas and to provide a minimum of saturated soils in the upper 12 inches, in other areas. As discussed previously, the mitigation sites will receive sufficient precipitation and will have adequate soil moisture storage throughout the year to support wetland conditions.

The wetland mitigation areas will be supported by upgradient groundwater flow, including runoff from single-family residential lots and undeveloped areas. We anticipate that the wetland mitigation areas will be inundated with water during the wet seasons (spring and fall) and will dry out during the remainder of the year, similar to the current hydro-period in the delineated wetlands on-site. Water levels in the mitigation sites will be controlled by rip-rapped spillways, which will require minimum maintenance. The spillway locations can be seen on Figures 7A through 7D in Appendix A.

6.4 Planned Seeding

Seeding of the mitigation sites will occur after earth moving and shaping of the site has been completed. If longer periods of time occur between shaping and the recommended planting time, final disking and harrowing preparation of the hydric soils will not take place until just prior to planting.

Seeding will be conducted by hand or by other methods of broadcasting before the mitigation area is submerged up to the normal pool. Seed should be applied at a rate of at least 15 pounds per acre. In order to ensure an even broadcast of seed, the seed may be mixed thoroughly using ten parts of moist sand to one part seed. The seed mixture could be purchased from Ernst Conservation Seed, or from a comparable vendor. A list of vendors can be found in Appendix C. The seed should be of Missouri origin, adjoining states, or as specified. The proposed seeding zones can be seen on Figures 8A through 8D in Appendix A and the recommended seed mixtures are listed in Appendix C.

As part of the as-built documentation, a copy of the seed mix tag or invoice that shows the variety, origin, and analysis of the seed will be submitted to the USACE.

In addition to the wetland mitigation areas, additional ~20-foot wide upland buffer will be planted surrounding each wetland mitigation site. The buffer areas will reduce water quality impacts to the mitigation areas and will enhance the water quality within the site. The buffers will retain soil eroded from the upland ground and will minimize siltation of the mitigated wetlands and

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tributary. The upland buffer plantings zones can be seen on Figures 8A through 8D in Appendix A and the recommended Upland Buffer Mix can be found in Appendix C.

The following table summarizes the approximate sizes of the seeding zones within each mitigation site.

Mitigation Area	Emergent Wetland (acres)	Wet Meadow (acres)	Upland Buffer (acres)
Wetland/Tributary Mitigation Area 1	0.4	1.4	1.4
Wetland Mitigation Area 2	0.5	1.0	0.6
Wetland Mitigation Area 3	0.2	0.6	1.1
Wetland Mitigation Area 4	0.1	0.4	0.4
Total	1.2	3.4	3.5

6.5 Planned Tree Planting

The wetlands identified during the delineation were either scrub/shrub or emergent wetlands. Table 1 in Appendix B details the type of wetland encountered at each wetland location. The wetland impacts at WL-1 and WL-4 would be considered shrub-scrub and emergent wetlands. Impacts to shrub-scrub wetlands will include tree plantings at a rate of 10 trees/acre for 5 gallon pot size trees (~1-inch diameter, 7-10 feet tall). For scrub/shrub wetlands, shrubs will be planted at a rate of 10 shrubs/acre. Table 1 in Appendix B summarizes the tree/shrub planting rates for the wetland mitigation areas. Based on the impacted wetland acres as shown on Table 1 in Appendix A, six shrubs and six 5-gallon pot size trees should be planted within the wetland mitigation areas.

The tributary identified during the delineation was primarily forested. The proposed tree planting rate for forested riparian areas is two trees per 50' of impacted tributary length (one tree planted on each side of the mitigated tributary). Based on the proposed impact length of 500 linear feet, twenty 5 gallon pot size trees will be planted along the mitigated tributary.

The following table summarizes the tree/shrub planting recommendations:

	Trees 5 gallon	Shrubs 5 gallon
Tributary Mitigation	20	NA
Wetland Mitigation	6	6
Total	26	6

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The following species shall be planted within the wetland and tributary mitigation areas.

Tree Species	Wetland Indicator
Bald Cypress	OBL
Swamp White Oak	FACW+
Pecan Hickory	FACW
Pin Oak	FACW
American Sycamore	FACW
Sweetgum	FACW
Green Hawthorn	FACW
Shellbark Hickory	FACW
Washington Hawthorn	FAC
Blackgum	FAC
Bitternut Hickory	FAC
Bur Oak	FAC-
Common Hackberry	FAC-
Shrub Species	Wetland Indicator
Deciduous Holly	FACW
Gray Dogwood	FAC
Rough-Leaf Dogwood	FAC
Arrow-wood Viburnum	FAC
Nannyberry Viburnum	FAC+

Unless otherwise approved by the USACE, at least 6 of the 13 tree species and least 2 of the 5 shrub species should be planted. Species with a wetland indicator of OBL shall be planted within the lower wet meadow elevations or closer to the base of the tributary. Species with a wetland indicator of FACW+ and FACW shall be planted within the wet meadow or lower elevations of the buffer area. Species with a wetland indicator of FAC and FAC- shall be planted within the upper elevations of the wet meadow or within the buffer area. Any trees/shrub species substituted must be pre-approved by the USACE and be seed, nut, or fruit producing with a wetland indicator of OBL, FACW, or FAC.

We recommend that tree guards be placed around the tree trunks to protect them from wildlife grazing. The vegetation will be kept shaded and moist during transportation and prior to planting. Planting shall not occur until after earth moving and shaping of the wetland mitigation site is completed. We recommend that the trees/shrubs be mulched, staked/guyed, pruned, and watered in accordance with local urban standard specifications.

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6.6 Erosion Control Measures

The following methods will be utilized during construction. Culvert and rip rap materials will be clean, non-erodible, and non-toxic to aquatic life.

Due to the size of the project, a National Pollution Discharge Elimination System (NPDES) permit will be required. The conditions of this permit include creating a Pollution Prevention Plan to prevent silt or sediment from moving off-site. Erosion control measures will be utilized throughout the site, wetland and tributary areas, until vegetation becomes established. The contractor will be responsible for installation and maintenance of the erosion control measures throughout the duration of construction until disturbed areas become stabilized with vegetation.

6.7 Other Planned Features

We recommend that signs stating "Conservation Easement, Do Not Disturb" be posed to protect the wetland and tributary mitigation areas and surrounding buffers. The signs should be placed every 200 to 400 feet along the edge of the upland buffers. An example sign can be seen as Figure 9 in Appendix A.

7.0 PERFORMANCE STANDARDS

7.1 Success Criteria

During the annual monitoring phase of the project, the responsible party will retain a wetland consultant to collect several data points within each wetland mitigation area to gauge the performance of the areas. The data point locations will be in the same approximate location each year so that the development of the wetland mitigation site can be compared through time. A Routine Wetland Determination Data Form will be used to record the mitigation area characteristics, including vegetation, hydrology, and soils. Following collection of field data, the data point locations will be evaluated to see if they meet USACE criteria to be classified as a wetland. If the data point locations show that the mitigation areas are lacking one or more of the three wetland criteria for two consecutive years, the wetland consultant will propose corrective action measures to the USACE.

During the annual monitoring visits, the wetland consultant will record the mortality of the planted tree/shrub species within the wetland/tributary mitigation areas. If the survival rate becomes less than 80% of the permit requirement, trees will be replanted.

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This proposed monitoring plan will provide clear precise measurable parameters to describe how performance standards will be used to verify objectives. Annual reports will be generated to document the development of the mitigation areas.

7.2 Functions of Mitigated Wetlands and Waters of the United States

The delineated wetlands are primarily located adjacent to isolated farm ponds and drainageways within the project area. The developer will be mitigating the wetland impacts within four areas at the Rose Creek Development site. The wetland and tributary mitigation areas were designed to have the same functions as the existing wetlands and they will provide the opportunity to increase the variety and quality of the wetland vegetation. The mitigated wetlands and tributaries and surrounding buffer areas will have functions including the following:

- **Groundwater Recharge/Discharge:** This function refers to the interaction between the wetland and aquifer. The wetland mitigation areas will provide similar functions for groundwater recharge/discharge because they have been designed to contain overland flow of surface water through wetland basins, similar to the existing jurisdictional wetlands on-site. The water retained in the wetlands will slowly infiltrate through the base of the wetland and be discharged into the aquifer.
- **Flood Flow Alteration:** This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. The wetlands will provide storage capacity for surface water during periods of heavy precipitation, releasing the water slowly through infiltration. The wetland mitigation areas have been designed to provide storage capacity during flood events. The tributary mitigation areas and onsite detention basins will direct water through the development and will provide additional flood storage capacity. The tributary mitigation area will facilitate the flow of groundwater through the wetland during periods of heavy rainfall.
- **Nutrient Removal/Retention/Transformation:** This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands, and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients from entering aquifers or surface waters. The wetland and tributary mitigation areas and surrounding vegetated will help purify water by processing nutrients, suspended materials, and other pollutants. Surface water will enter the wetlands and tributaries and the flow rates will be reduced, allowing suspended materials time to settle. Wet meadow and emergent wetland vegetation and tree growth will assist in nutrient removal and transformation.

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- **Wildlife Habitat:** This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Wetlands provide breeding, nesting, feeding, and cover habitats for invertebrates, insects, amphibians, reptiles, birds, and mammals. Migratory birds and waterfowl use the ecosystems as food, shelter, breeding, and wintering grounds. Wetlands can also potentially provide critical habitat for Federal and State-listed threatened and endangered species. The wetland and tributary mitigation areas will provide wildlife habitat in the general project vicinity without creating hazards to the airplanes arriving and departing from the Kansas City International Airport.

The wetland and tributary mitigation areas will be connected into existing intermittent tributaries and will provide wildlife corridors throughout the Rose Creek Development. The areas will be adjacent to residential properties and will be an amenity to those properties. The wetland mitigation areas will provide improved wildlife functions.

8.0 SITE PROTECTION AND MAINTENANCE

8.1 Responsible Party

Skyport LLC will be responsible for the long-term maintenance, monitoring and protection of the mitigation site. The responsible party can be reached at the following address:

Skyport LLC
6800 Lake Drive, Suite 125
West Des Moines, IA 50266

8.2 Legal Protective Measures

Following issuance of the permit, Skyport LLC will have a copy of the permit filed at the county recorder's office to serve as an easement over the wetland and tributary mitigation areas.

8.3 Maintenance Plan

In general, the wetland and tributary mitigation areas will be allowed to develop with minimal maintenance. If it becomes apparent during the five year annual monitoring period that measures to control predation/grazing of plantings, temporary irrigation, replacement plantings, structure maintenance/repair, or control of invasive species are needed, the responsible party will be notified and the necessary work will be completed. Following the five year monitoring period, the responsible party will provide maintenance of the mitigation areas, as needed.

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9.0 MONITORING PLAN

As described previously, the responsible party will retain a wetland consultant to conduct annual monitoring at the site. The annual wetland monitoring will use mandatory technical criteria, field indicators, and other sources of information to determine whether the wetland mitigation areas are exhibiting the three essential characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. The annual monitoring methods used generally follow the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The site visit will consist of observing wetland vegetation, recording growth progress, and noting whether wetland vegetation is competing with invasive weeds. Information collected from the field will be reviewed to recommend best management practices for the mitigation site.

Following the annual site visit, a written report will be compiled on the mitigation project for submittal to the USACE. The report will monitor the annual status of the wetland and tributary mitigation areas and will include the following items:

- Photographs
- Summary of hydrology
- Evaluation of wetland vegetation
- Documentation of tree/shrub mortality rates
- Hydric soil observations
- Summary of corrective work planned or undertaken during the reporting period

The wetland consultant will visit the site one time during the active growing season to collect data. The data point locations will be established during the first annual monitoring event. The findings of the annual monitoring will be submitted on the USACE maximum 10 page monitoring report standard format by October 31 of each year.

Based on our experience in wetland mitigation, we believe that the standard five-year annual monitoring period is generally sufficient to determine if wetland features and goals are being met at each phase of the project. During each of the annual monitoring reports damage and mortality of the vegetation and trees will be assessed and the need for additional seeding or plantings will be evaluated and discussed. Following the monitoring period, the need for additional monitoring will be assessed if the wetland goals are not being met.

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10.0 ADAPTIVE MANAGEMENT PLAN

As described previously, the mitigation areas will be monitored annually to gauge whether wetland functions are becoming established. The characteristics of the mitigation areas could be affected by flood, draught, invasive species, or changes in surrounding land use. If the data point locations show that the mitigation areas are lacking one or more of the three wetland criteria for two consecutive years, the wetland consultant will propose corrective action measures to the USACE.

11.0 GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon the data obtained from field studies and surveys at the indicated locations and from other information discussed in this report. This report does not reflect any variations that may occur across the site.

This report is prepared for the exclusive use of our client for specific application to the project as discussed and has been prepared in accordance with generally accepted local assessment practices within the scope of the client's directives. No warranties, either expressed or implied, are intended or made.

Proposed Wet Meadow Seeding Mix
Fifteen Bulk Pounds per Acre

ERNMX- 122 * Modified to include Missouri Native Species
FACW Wetland Meadow Mix

% Composition	Scientific Name	Common Name	Wetland Indicator Status
1	<i>Aster novae-angliae*</i>	New England aster	FACW
2	<i>Bromus latiglumis*</i>	hairy wood brome	FACW
2	<i>Carex vulpinoidea*</i>	fox sedge	OBL
3	<i>Carex stipata var. stipata*</i>	stalk-grain sedge	OBL
2	<i>Carex lurida*</i>	Lurid Sedge	OBL
1	<i>Carex scoparium</i>	Blunt Broom Sedge	FACW
19	<i>Carex vulpinoidea</i>	Fox Sedge	OBL
1	<i>Cinna arundinacea</i>	Wood Reedgrass	FACW
20	<i>Elymus virginicus</i>	Virginia Wild Rye	FACW
1.5	<i>Eupatorium fistulosum*</i>	Joe Pye Weed	OBL
3	<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed	OBL
5	<i>Eupatorium perfoliatum</i>	Boneset	OBL
0.5	<i>Geum aleppicum</i>	Yellow Avens	FACU
1	<i>Geum laciniatum</i>	Rough Avens	FACW
2	<i>Glyceria grandis*</i>	American Mannagrass	OBL
1	<i>Helenium autumnale</i>	Sneezewood	FACW
5	<i>Heliopsis helianthoides</i>	Ox-Eye Sunflower	NI
5	<i>Juncus effusus*</i>	Soft Rush	OBL
1	<i>Ludwigia alternifolia</i>	Seedbox	OBL
0.5	<i>Juncus effusus</i>	bog rush	OBL
1	<i>Penthorum sedoides</i>	Ditch Stonecrop	OBL
5	<i>Scirpus atrovirens</i>	Green Bulrush	OBL
2	<i>Scirpus pendulus*</i>	drooping bulrush	OBL
3	<i>Scirpus polyphyllus</i>	Many-leaved Bulrush	
0.5	<i>Senecio integerrimus var. integerrimus*</i>	whole-leaf groundsel	FACW-
5	<i>Solidago gigantea*</i>	late goldenrod	FACW
5	<i>Verbena hastata</i>	Blue Vervain	FACW
1	<i>Vernonia missurica*</i>	Missouri ironweed	FACW
1	<i>Zizia aurea</i>	Golden Alexanders	FAC

- *Substitute *Aster novae-angliae* (New England aster) for *Aster umbellatus* (Flat-Top Aster)
- *Substitute *Bromus latiglumis* (Hairy wood brome) for *Bromus altissima* (Wild Bromegrass)
- *Substitute *Carex vulpinoidea*(fox sedge) for *Carex comosa* (Cosmos Sedge (Bristly))
- *Substitute *Carex stipata var. stipata* (stalk-grain sedge) for *Carex lupulina* (Hop Sedge)
- *Substitute *Carex lurida* (Lurid Sedge) for *Carex stipata var. stipata* (stalk-grain sedge)
- *Substitute *Eupatorium fistulosum* (Joe Pye Weed) for *Eupatorium maculatum var. bruneri* (Spotted joe pye weed)
- *Substitute *Glyceria grandis* (American Mannagrass) for *Glyceria striata* (fowl manna grass)
- *Substitute *Juncus effusus* (bog rush) for *Mimulus ringens* (Monkey Flower)
- *Substitute *Scirpus pendulus* (drooping bulrush) for *Scirpus cyperinus* (Woolgrass)
- *Substitute *Senecio integerrimus*(groundsel) for *Senecio aureus* (Golden Ragwort)
- *Substitute *Solidago gigantea* (Late goldenrod) for *Solidago graminifolia* (Grass-Leaved Goldenrod)
- *Substitute *Vernonia missurica* (Missouri ironweed) for *Vernonia noveboracensis* (New York Ironweed)

Proposed Emergent Wetland Seeding Mix
Fifteen Bulk Pounds per Acre

ERNMIX-131 * Modified to include Missouri Native Species
OBL Wetland Mix

% Composition	Scientific Name	Common Name	Wetland Indicator Status
3	<i>Alisma subcordatum</i>	Mud Plantain	OBL
5	<i>Aster novae-angliae*</i>	New England aster	FACW
5.5	<i>Bidens cernua</i>	Nodding Bur-Marigold	OBL
3	<i>Carex laeviconica*</i>	smooth-cone sedge	OBL
2	<i>Carex lupulina*</i>	Hop Sedge	FACW+
3.5	<i>Carex stipata var. stipata*</i>	stalk-grain sedge	OBL
20	<i>Carex vulpinoidea</i>	Fox Sedge	OBL
0.5	<i>Clematis virginiana</i>	Virgin's Bower	FACU
0.5	<i>Coltha palustris</i>	Marsh Marigold	
2	<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed	OBL
2	<i>Glyceria striata*</i>	fowl manna grass	OBL
5	<i>Juncus effusus*</i>	Soft Rush	OBL
2	<i>Penthorum sedoides</i>	Ditch Stonecrop	OBL
3	<i>Rumex verticillatus</i>	Swamp Dock	OBL
4.5	<i>Scirpus pallidus*</i>	pale bulrush	OBL
7	<i>Scirpus atrovirens</i>	Green Bulrush	OBL
6	<i>Scirpus pendulus*</i>	drooping bulrush	OBL
0.5	<i>Solidago gigantea*</i>	late goldenrod	FACW
10	<i>Sparganium americanum</i>	Eastern Lesser Bur-Reed	OBL
10	<i>Sparganium eurycarpum</i>	Giant Bur-Reed	OBL
5	<i>Verbena hastata</i>	Blue Vervain	FACW

- *Substitute Aster novae-angliae (New England aster) for Aster firmus (Shining Aster)
- *Substitute Carex laeviconica (smooth-cone sedge) for Carex comosa (Cosmos Sedge (Bristly))
- *Substitute Carex lupulina (Hop Sedge) for Carex crinita (Fringed Sedge)
- *Substitute Carex stipata var. stipata (stalk-grain sedge) for Carex lurida (Lurid Sedge)
- *Substitute Carex stipata var. stipata (stalk-grain sedge) for Dulichium arundinaceum (Three-Way Sedge)
- *Substitute Glyceria striata (fowl manna grass) for Glyceria grandis (American Mannagrass)
- *Substitute Juncus effusus (bog rush) for Mimulus ringens (Monkey Flower)
- *Substitute Scirpus pallidus (pale bulrush) for Scirpus acutus (Hard-Stem Bulrush)
- *Substitute Scirpus pallidus (pale bulrush) for Scirpus cyperinus (Woolgrass)
- *Substitute Scirpus pendulus (drooping bulrush) for Scirpus polyphyllus (Many-Leaved Bulrush)
- *Substitute Scirpus pallidus (pale bulrush) for Scirpus validus (Soft-Stem Bulrush)
- *Substitute Solidago gigantea (Late goldenrod) for Solidago patula (Rough-Leaf Goldenrod)
- Delete Chelone glabra (Turtlehead)

ERNMIX-131 is available through Ernst Conservation Seed, 9006 Mercer Pike, Meadville, PA 16335
800-873-3321, www.ernstseed.com

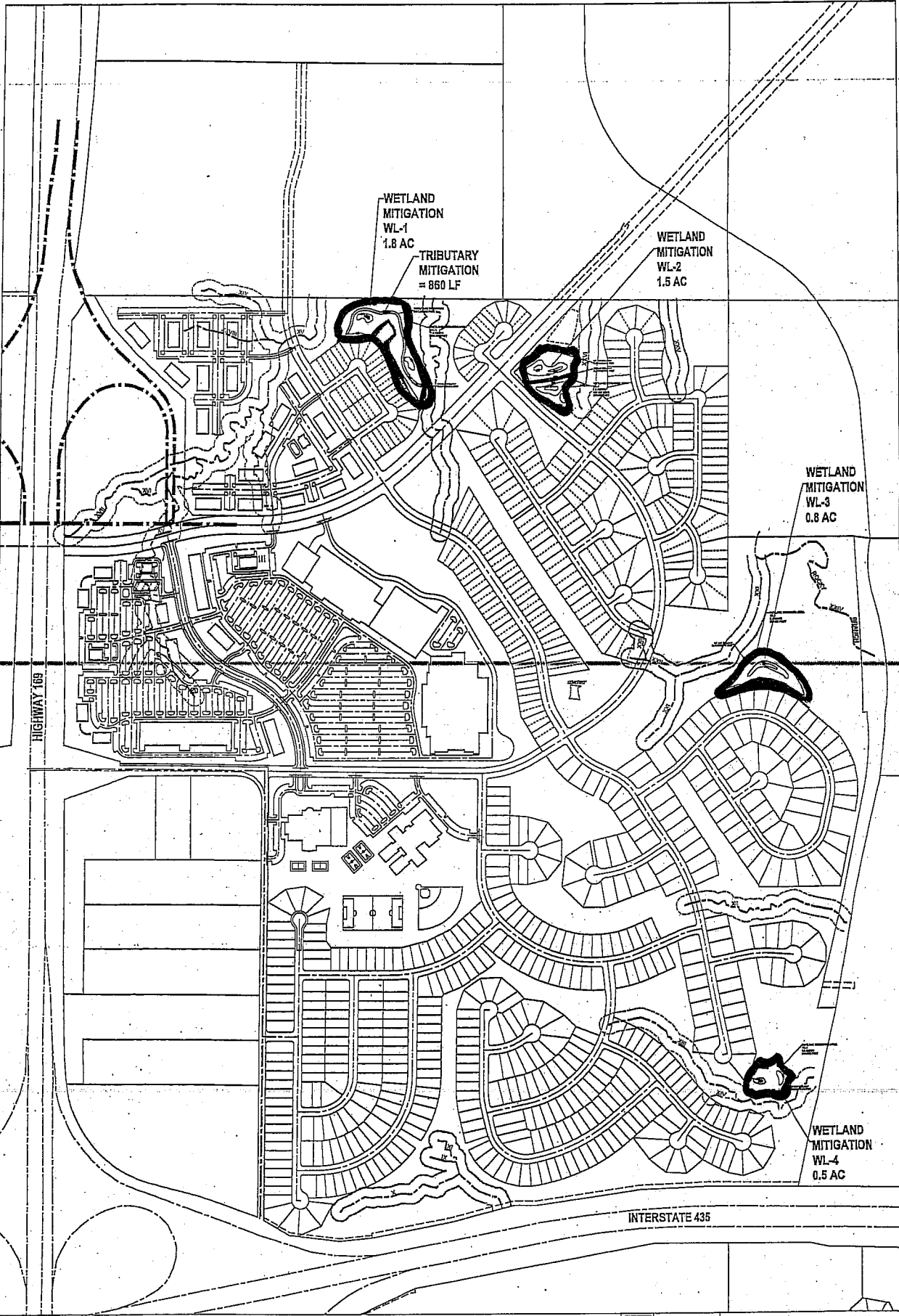
Proposed Upland Buffer Mix
Fifteen Bulk Pounds per Acre

Native Upland Wildlife Forage and Cover Meadow Mix
ERNMX - 123 * Modified to include Missouri Native Species

% Composition	Scientific Name	Common Name	Wetland Indicator Status
10	Andropogon gerardii	Big bluestem	FAC
10	Cassia fasciculata	Partridge Pea	FACU
8	Coreopsis tinctoria	Plains Coreopsis	FAC-
12	Elymus canadensis	Canada Wild Rye	FACU+
10	Panicum virginicum	Switchgrass	FAC
10	Poa trivialis*	Rough blue grass	FACW
10	Sorghastrum nutans	Indian grass	UPL
10	Andropogon virginicus*	Broom-sedge bluestem	FACU
20	Tripsacum dactyloides	Eastern Gamagrass	FACW

*Substitute Rough Blue Grass (Poa trivialis) for Poa palustris (Fowl Bluegrass)
 *Substitute Broom-sedge bluestem (Andropogon virginicus) for Andropogon scoparius (Little bluestem)

ERNMX -123 is available through Ernst Conservation Seed, 9006 Mercer Pike, Meadville, PA 16335
 800-873-3321, www.ernstseed.com



terracon

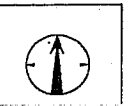
FIGURE 5 MITIGATION LOCATION MAP

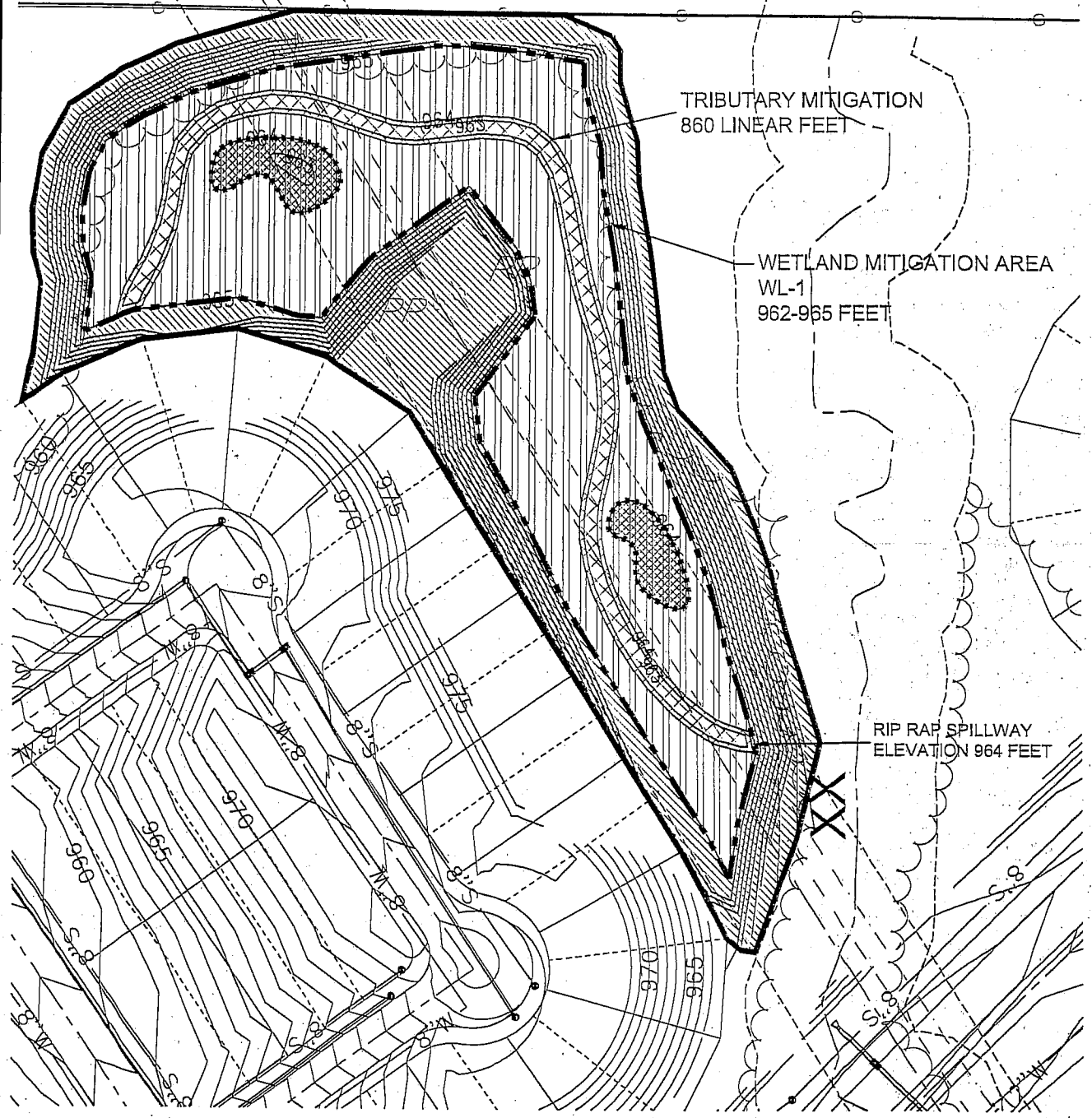
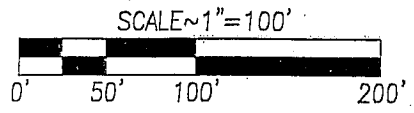
SKYPORT DEVELOPMENT MITIGATION SITE
NORTHEAST OF HWYS. 435 AND 169
KANSAS CITY, MISSOURI

APPROXIMATE DRAWING SCALE

PROJECT # FILE NAME DATE BY

0 500'





LEGEND

- UPLAND BUFFER = 1.4 ACRES
- PALUSTRINE EMERGENT WETLANDS = 0.4 ACRES
- FORESTED & WET MEADOW WETLANDS = 1.4 ACRES

LOCATION DESCRIPTION

LOCATED IN THE NORTHEAST 1/4 OF THE
NORTHWEST 1/4 OF SECTION 14, T52N, R33W.

APPROXIMATE LATITUDE: 39°19'30" N
APPROXIMATE LONGITUDE: 94°34'38" W

NOTE: WETLAND MITIGATION DESIGN BY TERRACON

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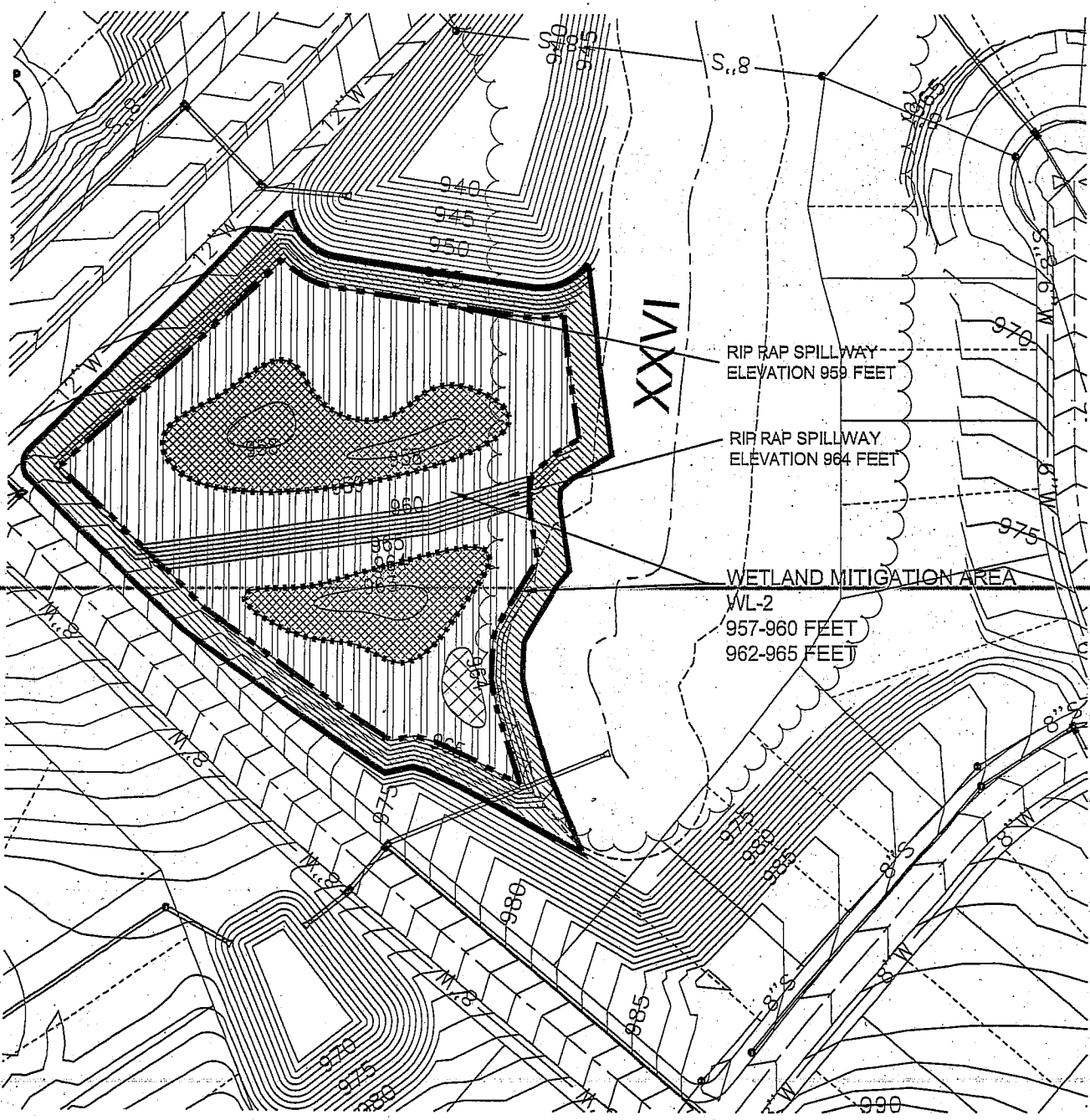
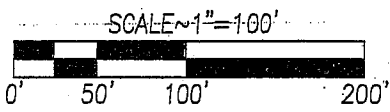
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**SKYPORT
WETLAND MITIGATION EXHIBIT**



5501 NW 112th SUITE G GRIMES, IOWA 50111
PH: (515) 369-4400 Fax: (515) 369-4410

CIVIL DESIGN ADVANTAGE, INC. ENGINEER TECH.






RIP RAP SPILLWAY
ELEVATION 959 FEET

RIP RAP SPILLWAY
ELEVATION 964 FEET

WETLAND MITIGATION AREA
WL-2
957-960 FEET
962-965 FEET

LEGEND

-  - UPLAND BUFFER = 0.6 ACRES
-  - PALUSTRINE EMERGENT WETLANDS = 0.5 ACRES
-  - FORESTED & WET MEADOW WETLANDS = 1.0 ACRES

LOCATION DESCRIPTION

LOCATED IN THE NORTHWEST 1/4 OF THE
NORTHEAST 1/4 OF SECTION 14, T52N, R33W.

APPROXIMATE LATITUDE: 39°19'28" N
APPROXIMATE LONGITUDE: 94°34'25" W

NOTE: WETLAND MITIGATION DESIGN BY TERRACON

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**SKYPORT
WETLAND MITIGATION EXHIBIT**

KANSAS CITY, MO



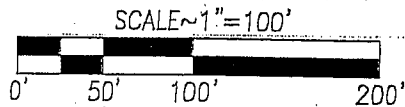
CIVIL DESIGN ADVANTAGE

5501 NW-112th SUITE G GRIMES, IOWA 50111

PH: (515) 369-4400 Fax: (515) 369-4410

ENGINEER:

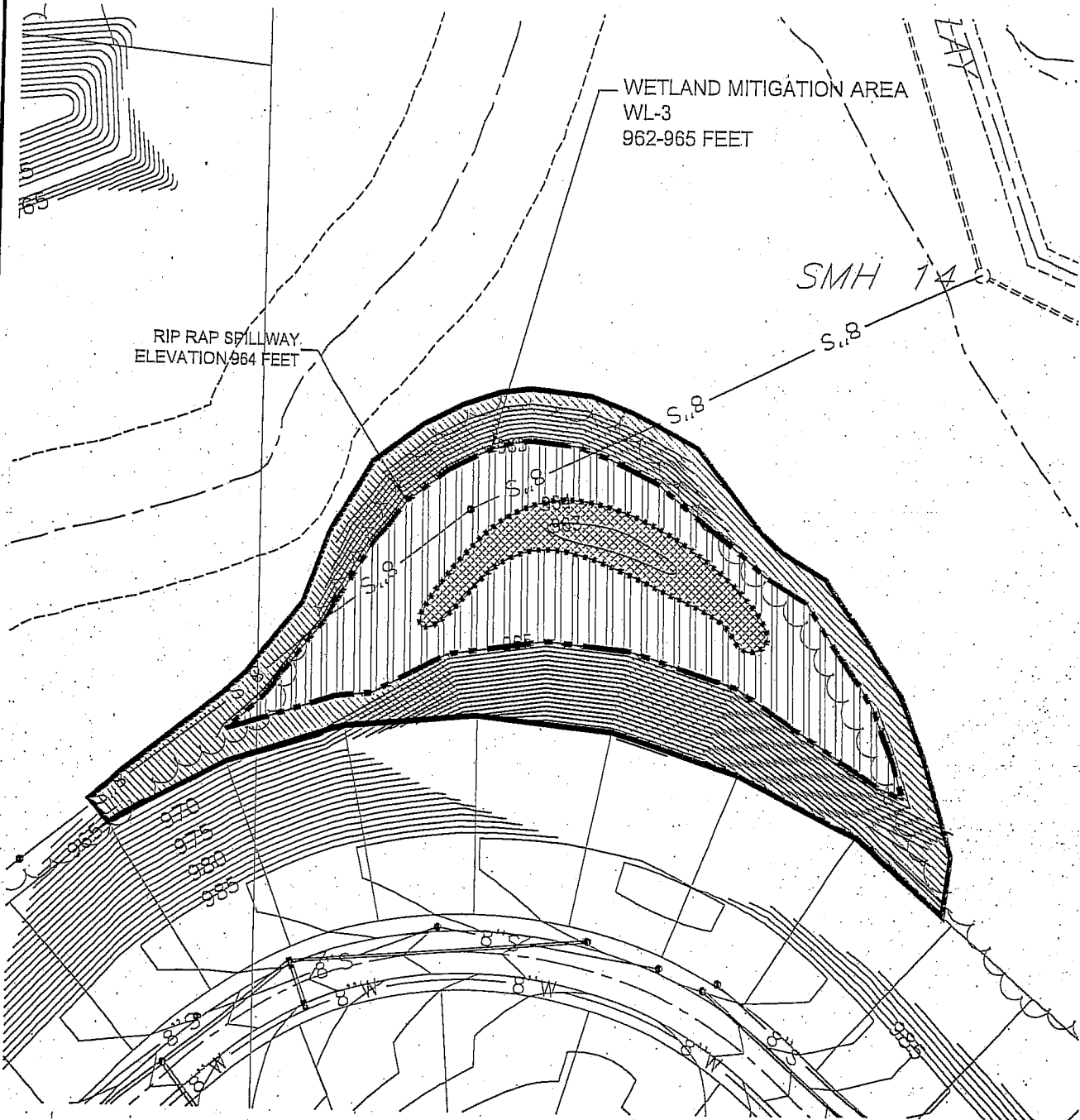
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
WETLAND MITIGATION AREA
WL-3
962-965 FEET

RIP RAP SPILLWAY
ELEVATION 964 FEET

SMH 14



LEGEND

-  - UPLAND BUFFER = 1.1 ACRES
-  - PALUSTRINE EMERGENT WETLANDS = 0.2 ACRES
-  - FORESTED & WET MEADOW WETLANDS = 0.6 ACRES

LOCATION DESCRIPTION

LOCATED IN THE SOUTH HALF OF THE
NORTHEAST 1/4 OF SECTION 14, T52N, R33W.

APPROXIMATE LATITUDE: 39°19'11" N
APPROXIMATE LONGITUDE: 94°34'10" W

NOTE: WETLAND MITIGATION DESIGN BY TERRACON

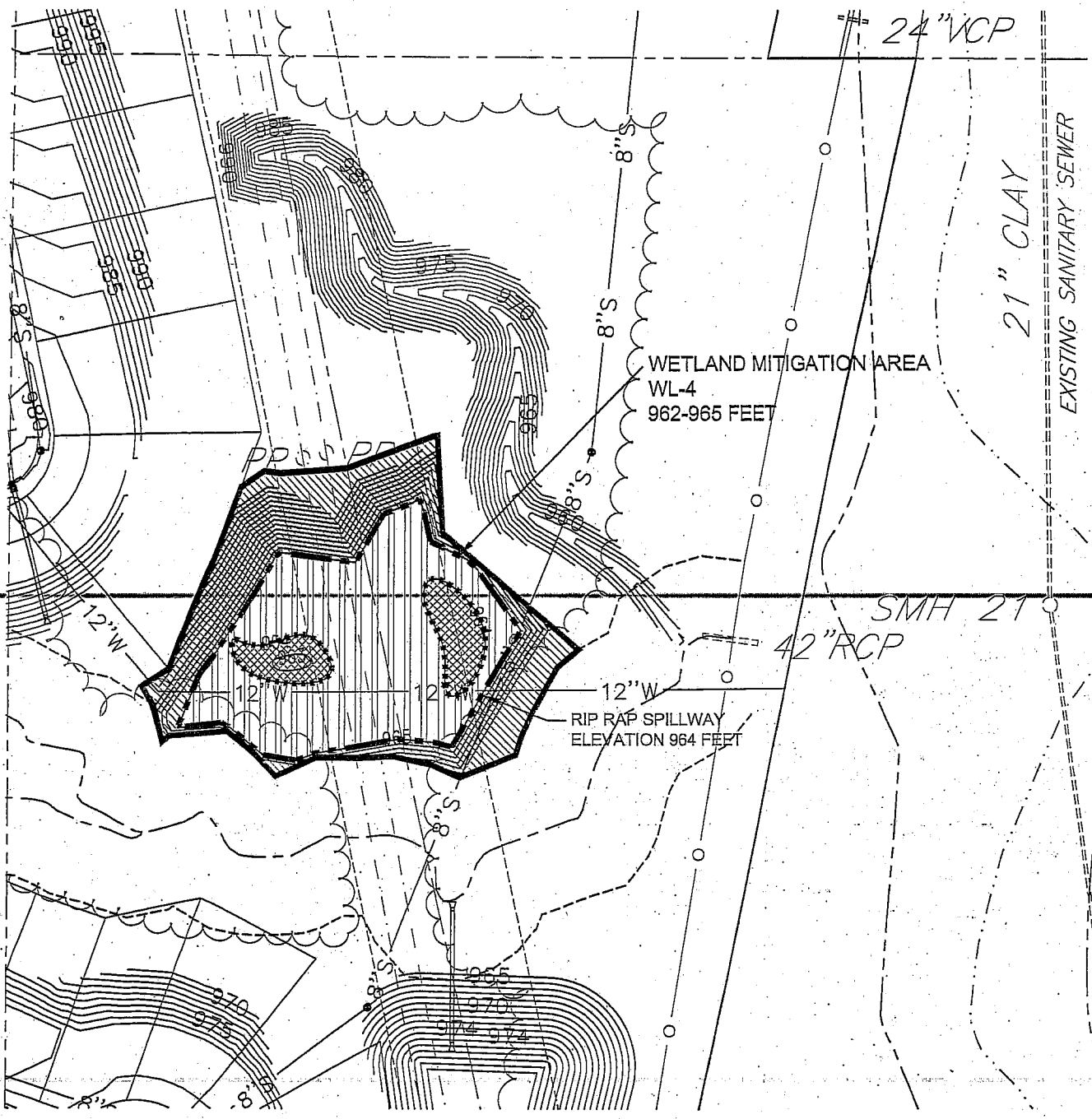
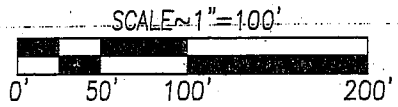
SKYPORT



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LEGEND

- UPLAND BUFFER = 0.4 ACRES
- PALUSTRINE EMERGENT WETLANDS = 0.1 ACRES
- FORESTED & WET MEADOW WETLANDS = 0.4 ACRES

LOCATION DESCRIPTION

LOCATED IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14, T52N, R33W.

APPROXIMATE LATITUDE: 39°18'49" N
 APPROXIMATE LONGITUDE: 94°34'10" W

NOTE: WETLAND MITIGATION DESIGN BY TERRACON

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**SKYPORT
WETLAND MITIGATION EXHIBIT**

KANSAS CITY, MO



CIVIL DESIGN ADVANTAGE ENGINEERS

5501 NW 112th SUITE G-GRIMES, IOWA 50111
 PH: (515) 369-4400 Fax: (515) 369-4410

ENGINEER:

TECH:

A topographic map with contour lines and a grid. A thick black line represents a highway, with labels for I-29, I-435, and HWY 169. Two areas are outlined in black: a larger one in the upper right and a smaller one in the lower left. A title box is at the top center, and two site labels are connected to their respective areas by lines.

Project Site and Mitigation Site Locations

Rose Creek Development
Mitigation Area Site

I-435

I-29

HWY
169

Skyport Development

