



DATE: October 31, 2022

MEMO TO: Terry Wilke, Chair
Planning Committee

FROM: Randall L. Seebach
Director of Planning and Land Preservation

RECOMMENDATION: Recommend approval of a Resolution approving an Intergovernmental Agreement (IGA) providing for the granting of temporary easements and the conveyance of fee simple interest in District property to the Libertyville Township Road District required for the Oak Spring Road Bridge Replacement project at Wilmot Woods Forest Preserve.

STRATEGIC DIRECTIONS SUPPORTED: Public Access and Connections

FINANCIAL DATA: In return for granting temporary easements and conveying fee-simple title, with an estimated value of \$2,750.00, the District would receive a fully repaved entrance drive and parking lot, with an estimated value of \$25,000.00.

BACKGROUND: The Libertyville Township Road District (Road District) is nearing the completion of its Phase I Study for replacement of the Oak Spring Road bridge over the Des Plaines River. The Forest Preserve District owns property on both sides of Oak Spring Road in the vicinity of the bridge and the right-of-way. The proposed bridge abutments are expected to extend beyond the limits of the existing right-of-way.

The Road District's Phase I Study has identified the need to acquire approximately 0.1 acres of fee simple property from the Forest Preserve District for the use of the new bridge abutments and 0.7 acres of temporary construction easement from the Forest Preserve District for the construction of the new bridge abutments. The Road District has also requested a temporary construction easement within the District's existing canoe launch parking lot for construction staging during the project. In return for use of the parking lot, the Township has offered to repave the entire entrance drive and parking lot upon completion of the project. This parking lot is nearing the end of its useful life and is on the District's list for re-surfacing within the next five years.

The attached resolution approves the IGA that sets forth the parties' obligations and the land conveyances that the Road District requires for the improvements, including:

- 0.7 acres of temporary easements on both sides of Oak Spring Road for construction of a new bridge, for construction staging during the project, and the repaving of the District's entrance drive and parking lot when the bridge reconstruction is complete.
- 0.1 acres of fee simple property on both sides of Oak Spring Road for the placement of permanent bridge abutments.

The attached resolution authorizes the District President and his designees to finalize these property right grants and conveyances.

REVIEW BY OTHERS: Executive Director, Chief Operations Officer, Director of Finance, Corporate Counsel.

STATE OF ILLINOIS)
) SS
COUNTY OF LAKE)

**BOARD OF COMMISSIONERS
LAKE COUNTY FOREST PRESERVE DISTRICT
RESCHEDULED REGULAR NOVEMBER MEETING
NOVEMBER 15, 2022**

MISTER PRESIDENT AND MEMBERS OF THE BOARD OF COMMISSIONERS:

Your **PLANNING COMMITTEE** presents herewith “A Resolution approving an Intergovernmental Agreement with the Libertyville Township Road District for the Oak Spring Road Bridge Replacement at Wilmot Woods Forest Preserve,” and requests its approval.

PLANNING COMMITTEE:

Date: _____ Roll Call Vote: Ayes: ____ Nays: _____

Voice Vote Majority Ayes; Nays: _____

**LAKE COUNTY FOREST PRESERVE DISTRICT
LAKE COUNTY, ILLINOIS**

**A RESOLUTION APPROVING AN INTERGOVERNMENTAL AGREEMENT WITH
THE LIBERTYVILLE TOWNSHIP ROAD DISTRICT FOR THE OAK SPRING ROAD
BRIDGE REPLACEMENT AT WILMOT WOODS FOREST PRESERVE**

WHEREAS, the Lake County Forest Preserve District (the “District”) owns certain parcels of land within Wilmot Woods Forest Preserve (the “Property”) located on each side of Oak Spring Road; and

WHEREAS, the Libertyville Township Road District (the “Road District”) has proposed the replacement of the Oak Spring Road bridge improvements along or near the Des Plaines River (the “Project”); and

WHEREAS, District staff has negotiated an intergovernmental agreement with the Road District (the "Intergovernmental Agreement") which provides for the District to (i) grant to the Road District temporary construction easements totaling approximately 0.7 acres and (ii) convey to the Road District fee simple interest in approximately 0.1 acres (the “Fee Simple Parcel”) (such grant and conveyance are referred to herein, collectively, as the "Land Conveyances") so that the Road District may complete the Project; and

WHEREAS, pursuant to Section 10 of Article VII of the Illinois Constitution of 1970 and Section 5 of the Intergovernmental Cooperation Act, 5 ILCS 220/5, units of local government, such as the District and the Road District, may contract or otherwise associate among themselves in any manner not prohibited by law or ordinance; and

WHEREAS, the District has adopted an Ordinance Regarding Licenses and Easements (the “License and Easement Ordinance”) which sets forth the general requirements for granting easements; and

WHEREAS, pursuant to Section 6 of the Downstate Forest Preserve District Act, 70 ILCS 805/6, the District has the power to grant easements and rights-of-way for public services; and

WHEREAS, in accordance with Section 2 of the Local Governmental Property Transfer Act, 50 ILCS 605/2, the Road District has adopted, or will adopt, an ordinance declaring that it is necessary or convenient for it to use and occupy the Fee Simple Parcel (the “Road District Ordinance”); and

WHEREAS, pursuant to the Local Governmental Property Transfer Act, 50 ILCS 605/0.01, et seq., the District is authorized to transfer its right, title, and interest in the Fee Simple Parcel to the Road District upon such terms as may be agreed to by the District and the Road District; and

WHEREAS, it is in the best interests of the District to enter into the Intergovernmental Agreement with the Road District and to dedicate the Fee Simple Parcel to the Road District and complete the Land Conveyances as provided in the Intergovernmental Agreement;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the Lake County Forest Preserve District, Lake County, Illinois **THAT:**

Section 1: Recitals. The recitals set forth above are incorporated as a part of this Resolution by this reference.

Section 2: Approval of Intergovernmental Agreement. The Intergovernmental Agreement is hereby approved in substantially the form attached hereto. The President, Executive Director and Secretary are authorized and directed to execute on behalf of the District the Intergovernmental Agreement, in substantially the form attached hereto, and whatever other documents are necessary to effectuate the Land Conveyances and other transactions contemplated by such Intergovernmental Agreement.

Section 3: Approval of Land Conveyances. The District President is hereby authorized to approve and execute plats of dedication, plats of easement, deeds, agreements and any other documents necessary to make the Land Conveyances to the Road District, and to cause other District officers and employees to approve and execute such documents, after such documents have been reviewed and approved by the District's Corporate Counsel.

Section 4: Effective Date. This Resolution shall be in full force and effect from and after (i) its passage and approval in the manner provided by law and (ii) approval by the Road District of the Road District Ordinance.

PASSED this ____ day of _____, 2022

AYES:

NAYS:

APPROVED this ____ day of _____, 2022

Angelo D. Kyle, President
Lake County Forest Preserve District

ATTEST:

Julie Gragnani, Secretary
Lake County Forest Preserve District

Exhibit No. _____

INTERGOVERNMENTAL AGREEMENT
by and between
LAKE COUNTY FOREST PRESERVE DISTRICT
and LIBERTYVILLE TOWNSHIP ROAD DISTRICT

THIS AGREEMENT ("Agreement") is dated as of the _____ day of _____, 2022 ("**Effective Date**"), and is by and between the **LAKE COUNTY FOREST PRESERVE DISTRICT**, a body politic and corporate, organized and existing under the Downstate Forest Preserve District Act, 70 ILCS 805/0.01 *et seq.* (the "**LCFPD**") and the **TOWNSHIP ROAD DISTRICT OF LIBERTYVILLE, Illinois**, an Illinois body politic and corporate, acting by and through its Highway Commissioner, (the "**Township Road District**").

IN CONSIDERATION OF the recitals and the mutual covenants and agreements set forth in this Agreement, and other good and valuable consideration the sufficiency of which is hereby acknowledged, LCFPD and the Township Road District (collectively, the "**Parties**") agree as follows:

SECTION 1. RECITALS.

A. The Township Road District has jurisdiction and control by fee title, permanent easement, and/or prescriptive easement of a segment of the public right-of-way known as Oak Spring Road generally depicted on **Exhibit A** attached hereto as the "**Right-of-Way**". This Agreement concerns a portion of the Right-of-Way located between Appley Avenue, on the west, and St. Mary's Road, on the east, to accommodate the Township Road District's reconstruction of the Oak Spring Road Bridge (the "**Bridge**") over the Des Plaines River (the "**Work**").

B. LCFPD is the fee title owner of the properties commonly known as "**Wilmot Woods Forest Preserve**", a portion of which is generally depicted on **Exhibit A** (the "**Preserve**").

C. LCFPD owns and operates an existing parking lot within the Preserve off of Oak Spring Road (the "**Parking Lot**") that provides access to an existing canoe launch and the Des Plaines River Trail (the "**Canoe Launch**"). The Parking Lot and Canoe Launch are generally depicted on **Exhibit A**. An approximately 300' long trail segment connects the Parking Lot and Canoe Launch to the LCFPD's Des Plaines River Trail (the "**Trail Segment**"), which is generally depicted on **Exhibit A**.

D. To complete the Work, the Township Road District desires (i) that LCFPD grant to it temporary construction easements that allow the Township Road District to perform certain components of the Work, including construction staging (the "**Temporary Easements**"), within the areas of the Preserve generally depicted as the "**Easement Premises**" on **Exhibit A** and (ii) that LCFPD dedicate to it fee simple interest within portions of the Preserve adjacent to the Right-of-Way, totaling approximately 0.11 acres in area, and generally depicted on **Exhibit A** (the "**Dedication Parcels**").

E. The Parties desire to enter into this Agreement setting forth their respective rights and obligations relating to (i) the construction of the Work, (ii) the dedication of the

Dedication Parcels, and (iii) the grant and use of the Temporary Easements.

F. The Parties enter into this Agreement pursuant to the Downstate Forest Preserve District Act, 70 ILCS 805/0.01 *et seq.*, the Township Code, 60 ILCS 1/1-1 *et seq.*, Article VII, Section 10 of the Illinois Constitution, the Intergovernmental Cooperation Act, 5 ILCS 220/1 *et seq.*, the Local Government Property Transfer Act, 50 ILCS 605/0.01, *et seq.*, and all other applicable authority.

SECTION 2. DEDICATION OF DEDICATION PARCELS AND GRANT OF TEMPORARY EASEMENTS TO TOWNSHIP ROAD DISTRICT.

The Township Road District shall prepare and deliver to the LCFPD one or more Plats of Highway or other instruments pursuant to which LCFPD shall (i) dedicate fee simple interest in the Dedication Parcels to the Township Road District and (ii) grant the Temporary Easements to the Township Road District (collectively, the "***Plat of Highways***"). The final configuration of the Dedication Parcels and Easement Premises depicted in the Plat of Highways will be subject to the approval of the Township's Highway Commissioner and the LCFPD's Executive Director, who shall not unreasonably withhold or delay their approval. The Plat of Highways shall be subject to the provisions of this Agreement. After its approval, LCFPD shall execute the Plat of Highways and deliver it to the Township Road District. The Township Road District will cause the Plat of Highways to be recorded and shall send a copy of the recorded Plat of Highways to LCFPD. If the Township Road District does not deliver a Plat of Highways to LCFPD for its review within one year after the Effective Date of this Agreement, then (i) LCFPD will have no obligation to dedicate the Dedication Parcels or grant the Temporary Easements to the Township Road District and (ii) either Party may terminate this Agreement by written notice to the other Party.

SECTION 3. DESIGN AND CONSTRUCTION OF THE WORK.

A. Contract Documents.

1. **Preparation of Contract Documents.** The Township Road District shall prepare, at its sole cost and expense, plans and specifications (collectively, the "***Plans***"), bidding documents and construction contract (collectively, the "***Construction Contract***"), and all other documents necessary to let and construct the Work (collectively, the Plans, the Construction Contract, and the other documents are the "***Contract Documents***").

2. **Construction Contract.** The Township Road District represents that the Work will be federally funded and the Illinois Department of Transportation ("***IDOT***") will be the awarding authority for such funds. The Township Road District shall cause the Construction Contract to require each contractor to which a contract for the Work (or any portion thereof) is awarded (each, a "***Contractor***") to:

- (i) comply with any requirements of IDOT and applicable laws or regulations related to such funding,
- (ii) restore District property, as provided in Section 5.D of this Agreement,
- (iii) defend and indemnify LCFPD and the Township Road District from and for

all claims arising from the Contractor's performance of, or failure to perform, the Work;

- (iv) grant to the Township Road District and to the LCFPD (with respect to any portion of the Work within or affecting the Easement Premises) the right to inspect the Work at any time and to jointly provide final acceptance of the Work; and
- (v) with respect to wages paid for the Work, pay prevailing wages as required by the Illinois Prevailing Wage Act or the federal Davis-Bacon Act,
- (vi) post performance security and payment security required by the Illinois Public Construction Bond Act or other applicable law,
- (vii) at all times while the Work or any restoration work on District property is being performed, provide insurance in coverages and amounts acceptable to LCFPD and the Township Road District, including general liability insurance that names LCFPD and the Township Road District as additional insureds. Insurance coverages and amounts acceptable to the LCFPD shall be issued from insurance companies holding at least an "A5" or better rating as rated by A.M. Best Company, and meet the following terms:

- Worker's Compensation and Employer's Liability. Contractor shall maintain workers' compensation and employer's liability insurance with limits of not less than:
 - Worker's Compensation: Statutory
 - Employer's Liability:
 - a. \$1,000,000 - injury per occurrence
 - b. \$500,000 - disease per employee
 - c. \$500,000 - disease policy limit

Such insurance shall evidence that coverage applies in the State of Illinois.

- Comprehensive General Liability: Contractor shall maintain comprehensive general liability ("**CGL**") insurance with limits of not less than:
 - General Aggregate: \$2,000,000
 - Bodily Injury:
 - a. \$2,000,000 - per person
 - b. \$2,000,000 - per occurrence
 - Property Damage:
 - a. \$2,000,000 - per occurrence
 - b. \$2,000,000 - per aggregate

- Other Coverages:
 - a. Premises/Operations
 - b. Independent Contractors
 - c. Personal Injury (with Employment Exclusion deleted)
 - d. Broad Form Property Damage Endorsement
 - e. Blanket Contractual Liability (must expressly cover all indemnity provisions of the contract)
 - f. Bodily Injury and Property Damage “X”, “C”, and “U” exclusions shall be deleted

All employees shall be included as insureds. If such CGL insurance contains a general aggregate limit, it shall apply separately to this Agreement, with coverage written on an “occurrence” basis.

- Comprehensive Motor Vehicle Liability: Contractor shall maintain comprehensive motor vehicle liability with limits for vehicles owned, non-owned or rented, not less than:
 - Bodily Injury:
 - a. \$500,000 - per person
 - b. \$1,000,000 - per occurrence
 - Property Damage:
 - a. \$500,000 - per occurrence
 - b. \$1,000,000 - aggregate

All employees shall be included as insureds.

- Umbrella Policy. The required coverages may be in any combination of primary, excess and umbrella policies. Any excess or umbrella policy must provide excess coverage of underlying insurance on a following-form basis such that when any loss covered by the primary policy exceeds the limits under the primary policy, the excess or umbrella policy becomes effective to cover such loss.
- Evidence of Insurance. Contractor shall, within ten (10) days after execution and delivery of this Agreement by the Township Road District and, thereafter, within ten (10) days after receipt of a request from the LCFPD, furnish the LCFPD with certificates of insurance acceptable to the LCFPD and, if requested by the LCFPD, applicable policy endorsements executed by a duly-authorized representative of each insurer, evidencing compliance with these insurance requirements.

SECTION 4. MAINTENANCE, OPERATION, AND CONTROL.

- A. Right-of-Way**. At all times, the Township Road District shall maintain,

operate, and control all portions of the Right-of-Way and all roadway improvements thereon, and have the unrestricted right to use the Right-of-Way for public roadway purposes, including roadway improvements that are deemed necessary or appropriate in the sole and exclusive judgment of the Township Highway Commissioner. After their dedication, the Dedication Parcels shall be part of the Right-of-Way.

B. Easement Premises. During the term of the Temporary Easements, the Township Road District shall have exclusive use of the Easement Premises for construction purposes. The Township Road District must (i) close public vehicular access and public pedestrian access to the Parking Lot, Canoe Launch, and Trail Segment during the Work by placing barricades and “Trail Closed” signs (a) on the Trail Segment at its intersection with the Des Plaines River Trail and (b) at the vehicular entrance to the Parking Lot from the Right-of-Way (collectively, the “**Barricades**”); (ii) notify the LCFPD not less than 14 days prior to the dates of the closures; (iii) post, at least seven (7) days prior to such closures, clearly visible signs at the intersection of the Trail Segment with the Des Plaines River Trail notifying the public that the Trail Segment will be closed until the expected Work completion date; and (iv) remove any and all Barricades within one day after the later of (a) the termination of the Temporary Easements and (b) completion of all restoration work within the Parking Lot Area and Trail Segment.

SECTION 5. GENERAL PROVISIONS.

A. Compliance with Laws. In exercising their rights under this Agreement, the Parties shall comply with all applicable federal, state, and local laws.

B. Term of Temporary Easements. The Temporary Easements shall have a term that commences on the date the District executes the Plat of Highways and delivers it to the Township Road District and ends on the earlier of (i) the date that is five (5) years after such date of execution and delivery and (ii) written notice from the Township Road District that the Work is complete.

C. Vacation. Upon termination of the Temporary Easements for any reason, the Township Road District shall, at no cost to the District and within 60 days after such termination, (i) remove any facilities, equipment, tools, materials, and other items related to the Work from the Easement Premises and other District property, (ii) complete its restoration obligations under Section 5.D of this Agreement, and (iii) vacate the Easement Premises. If the Township Road District fails to comply with the previous sentence, LCFPD shall have the right, but not the obligation, to perform and complete such actions and to charge the Township Road District for all costs and expenses, including legal and administrative costs, incurred by the LCFPD in doing so.

D. Restoration.

1. General Obligations. If any of the Work damages, destroys, contaminates or causes any adverse impact to LCFPD property, including without limitation the Parking Lot, Trail Segment, Canoe Launch, or any portion of the Preserve, the Township Road District shall restore, at no cost to LCFPD, such property (i) in accordance with the specific requirements of this Agreement or (ii) if no specific restoration obligation or

standard is stated herein, to a condition at least as good as the condition of such property before such damage, destruction, c o n t a m i n a t i o n or adverse impact.

2. Parking Lot. After the Work is complete, the Township Road District shall, at its sole cost and expense, (i) remove the existing asphalt surface course and binder course from the Parking Lot, (ii) replace them with a new asphalt surface course and binder course, (iii) restripe the Parking Lot, and (iv) prior to performing the work in (i) through (iii) above, remove and replace any portion of the aggregate base course necessary or desirable to accommodate the new binder course and surface course, as determined by the LCFPD in its reasonable discretion (the **“Parking Lot Restoration Work”**). The Parking Lot Restoration Work shall be completed in accordance with the details attached hereto as **Exhibit B** and the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

3. Trail Segment. If any of the Work damages, destroys, contaminates or causes any adverse impact to a portion of the Trail Segment, the Township Road District shall, at its sole cost and expense, remove and replace such portion in accordance with the detail attached hereto as **Exhibit C** and as specified in **Exhibit D**.

4. Canoe Launch Sign/Gates and Fences. If the existing “Canoe Launch” sign, gates and any split rail fence segments are removed during the Work, the Township Road District shall, at its sole cost and expense (i) reinstall them in locations as directed by LCFPD staff, in conditions as good or better than their condition prior to the Work, (ii) during the Work, safeguard the condition of the sign panel and frame to ensure it can be reinstalled, and (iii) if the sign panel and/or frame are damaged, reimburse the LCFPD for the cost of replacing the sign materials.

5. Unimproved Areas. The Township Road District shall, at its sole cost and expense, regrade, provide pulverized topsoil for, prepare seed bed for, seed and install erosion control blanket for, all disturbed unimproved areas within the Easement Premises as specified and approved by the LCFPD in its reasonable discretion.

E. Indemnification. The Township Road District shall indemnify, hold harmless, defend, and release the LCFPD, its commissioners, officers, agents, and employees from and against any alleged loss, claim, damage, and expense (including, without limitation, attorneys' fees and litigation costs) that may be alleged or asserted against any of those parties in connection with the Work, this Agreement, or the Township Road District’s performance of, or failure to perform, its obligations under this Agreement (collectively, the **“Indemnified Claims”**), whether or not any such performance or failure to perform is alleged to result from the Township Road District’s breach of this Agreement, negligence, willful misconduct, or any other standard of conduct; however, this indemnity will not apply to the extent any Indemnified Claims are caused by the willful misconduct or negligence of the LCFPD.

F. Notice. Any notice or communication required or permitted to be given under this Agreement shall be in writing and shall be delivered: (i) personally, (ii) overnight by a reputable overnight courier, (iii) by certified mail, return receipt requested, and deposited in the U.S. Mail, postage prepaid, or (iv) by electronic mail. Electronic mail

notices shall be deemed valid only to the extent that they are actually received by the individual to whom addressed. Unless otherwise expressly provided in this Agreement, notices shall be deemed received upon the earlier of (a) actual receipt; (b) one business day after deposit with an overnight courier as evidenced by a receipt of deposit; or (c) three business days following deposit in the U.S. Mail, as evidenced by a return receipt. By notice complying with the requirements of this Section, each Party shall have the right to change the address or the addressee, or both, for all future notices and communications to such Party, but no notice of a change of addressee or address shall be effective until actually received.

Notices and communications to LCFPD shall be addressed to, and delivered at, the following address:

Lake County Forest Preserve District
1899 W. Winchester Road
Libertyville, IL 60048
Attention: Alex Ty Kovach, Executive Director
E-mail: akovach@lcfpd.org

With a copy to:

Matthew E. Norton, Esq.
Holland & Knight LLP
131 S. Dearborn Street, 30th Floor
Chicago, IL 60603
E-mail: matt.norton@hklaw.com

Notices and communications to the Libertyville Township Road District shall be addressed to, and delivered at, the following addresses:

Libertyville Township Road District
343 Merrill Court
Libertyville, IL 60048
Attention: Martin J. Neal, Highway Commissioner
E-mail: HighwayDepartment@Libertyvilletownship.us

With a copy to:

James C. Hartman, Attorney at Law
Magee Hartman, P.C.
444 N. Cedar Lake Road
Round Lake, IL 60073
E-mail: jh@mageehartman.com

The foregoing shall not be deemed to invalidate any notice actually received.

G. Time of the Essence. Time is of the essence in the performance of this Agreement.

H. Governing Law. This Agreement shall be governed by, and enforced in accordance with, the internal laws, but not the conflicts of laws rules, of the State of Illinois.

I. Exhibits. Exhibits A through D attached to this Agreement are, by this reference, incorporated in and made a part of this Agreement.

J. Amendments and Modifications. No amendment or modification to this Agreement shall be effective unless and until it is reduced to writing and approved and executed by all Parties to this Agreement in accordance with all applicable statutory procedures.

K. Authority to Execute. Each person executing this Agreement warrants and represents to the Parties (i) that he or she has the full and complete right, power and authority to execute this Agreement and to agree to the terms, provisions, and conditions set forth in this Agreement on behalf of the Party on whose behalf he or she is executing; and (ii) that all legal actions necessary to authorize him or her to execute and deliver this Agreement have been taken.

L. Severability. Should any provision, covenant, agreement, or portion of this Agreement or its application to any person, entity, or property be held invalid by a court of competent jurisdiction, the remaining provisions of this Agreement and the validity, enforceability, and application to any person, entity, or property shall not be impaired thereby, but the remaining provisions shall be interpreted, applied, and enforced so as to achieve, as near as may be, the purpose and intent of this Agreement to the greatest extent permitted by applicable law.

M. No Third-Party Beneficiaries. No claim as a third-party beneficiary under this Agreement by any person, firm, or corporation, or entity shall be made, or be valid, against the Parties.

N. Power and Authority of the Township Highway Commissioner. This Agreement shall not be construed, in any manner or form, to limit the power or authority of the Township Highway Commissioner, subject to Section 5.A of this Agreement, to maintain, operate, manage, improve, construct, reconstruct, repair, widen or expand Township Highways as best determined, as provided by law.

O. Relationship of the LCFPD and the Township Road District. Nothing in this Agreement is intended or shall be construed, in any manner or form, as creating or establishing a legal partnership or agency relationship between the Parties, or as establishing (i) the LCFPD (including its elected officials, duly appointed officials, employees and agents) as the agent, representative or employee of the Township Road District or (ii) the Township Road District (including its elected officials, duly appointed officials, employees and agents) as the agent, representative or employee of the LCFPD, for any purpose or in any manner, whatsoever. Each Party is and shall remain independent of the other Party with respect to all services performed under this Agreement.

P. Entire Agreement. The entire agreement of the Parties is contained herein, and this Agreement supersedes all oral agreements and negotiations between the Parties relating to the subject matter hereof.

Q. Agreement Shall Be Binding. This Agreement shall be binding upon and inure to the benefit of the Parties, their successors and assigns. Neither Party shall assign, transfer, sell, grant, convey, deed, cede or otherwise give over, in any manner or form, any of its duties, obligations and/or responsibilities as heretofore set forth in this Agreement without first obtaining the expressed written consent and permission of the other Party to this Agreement.

R. Default/Revocation. If the Township Road District breaches any term or provision of this Agreement, and fails to cure such breach within 30 days after receiving written notice describing such breach, or, if such breach cannot be cured within 30 days, either (i) fails to commence to cure such breach within 30 days after receiving notice or (ii) fails to continuously and diligently pursue a cure of such breach, the LCFPD may: (i) terminate this Agreement, (ii) revoke the Temporary Easements, and (iii) pursue any of the remedies set forth in this Agreement or otherwise available to the District at law or in equity.

S. Enforcement. This Agreement shall be enforceable in any court of competent jurisdiction in Lake County by each of the Parties by any appropriate action at law or in equity, including any action to secure the performance of the representations, promises, covenants, agreements, duties, responsibilities and obligations contained herein.

T. Multiple Counterparts. This Agreement may be executed in multiple identical counterparts, and all of said counterparts shall, individually and taken together, constitute this Agreement.

ATTEST:

**LAKE COUNTY FOREST PRESERVE
DISTRICT**

By: _____
Julie Gragnani, Secretary

By: _____
Angelo D. Kyle, President

ATTEST:

Libertyville Township Road District

By: _____
Anne Hansen, Clerk
Libertyville Township

By: _____
Martin J. Neal, Highway Commissioner

Date: _____, 2022

INDEX OF EXHIBITS









Exhibit A	General Depiction of Right-of-Way, Preserve (portion), Canoe Launch, Parking Lot, Trail Segment, Easement Premises, and Dedication Parcels
Exhibit B	IDOT Specifications for Parking Lot Restoration Work
Exhibit C	Trail Segment Restoration Detail
Exhibit D	Trail Segment Restoration Specifications

Exhibit A

General Depiction of Right-of-Way, Preserve (portion), Canoe Launch, Parking Lot, Trail Segment, Easement Premises, and Dedication Parcels

Exhibit A

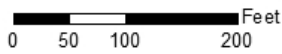
Legend

- | | | |
|---|---|--|
|  Preserve |  Des Plaines River Trail |  Canoe Launch |
|  Parking Lot |  Easement Premises |  Railroad |
|  Trail Segment |  Dedication Parcels | |

Lake County Forest Preserve District
Land Preservation and Special Projects
1899 W Winchester Rd
Libertyville, Illinois 60048
847-968-3351

Courtesy Copy Only.
Property boundaries indicated are provided
for general location purposes. Wetland
and flood limits shown are approximate and
should not be used to determine setbacks for
structure or as a basis for purchasing property.

Prepared using information from:
Lake County Department of Information
& Technology: GIS/Mapping Division
18 North County Street
Waukegan, Illinois 60085-4357
847-377-2373



2022 Aerial Photo

Map Prepared 18 October 2022



Exhibit B
IDOT Specifications for Parking Lot Restoration Work

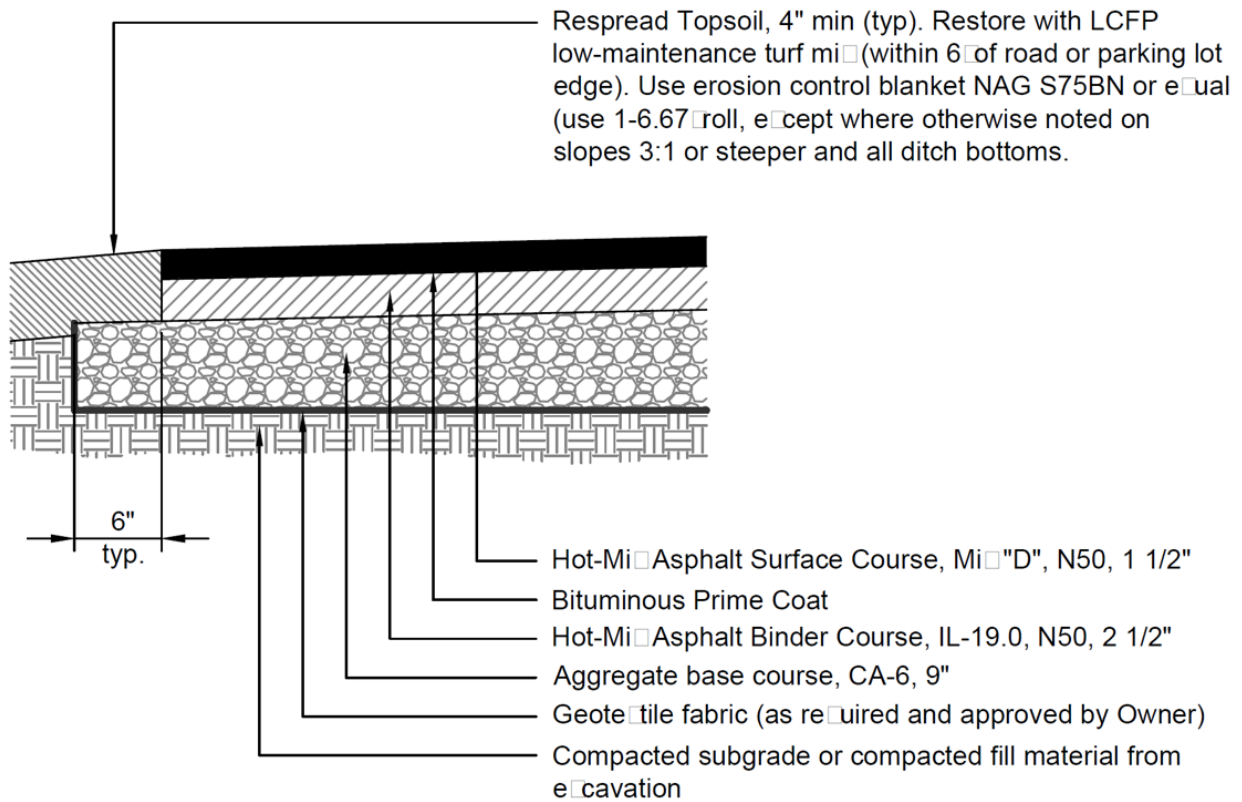
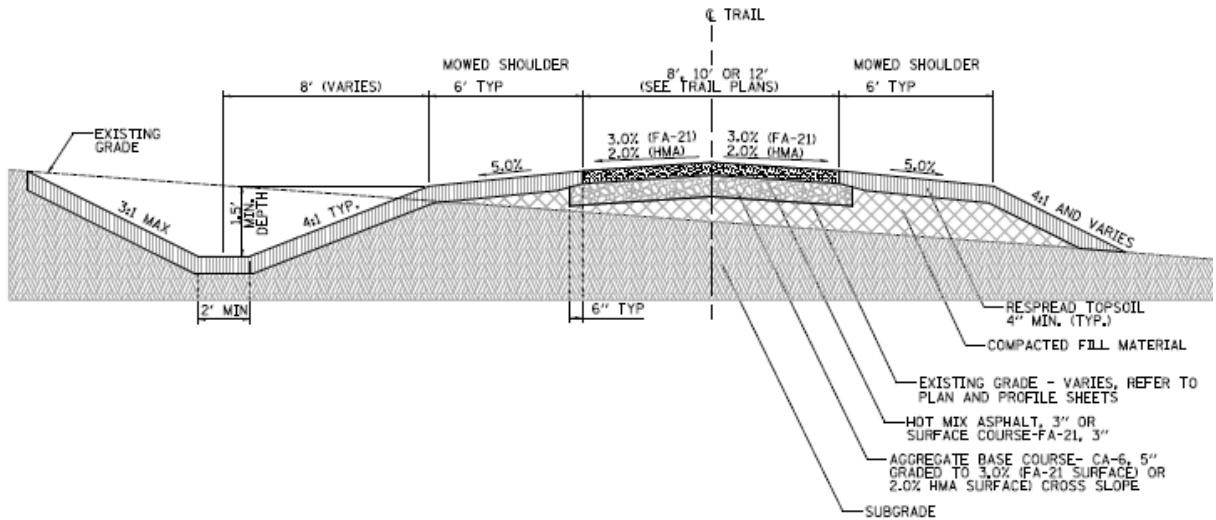


Exhibit C Trail Segment Restoration Detail



PAVED TRAIL – OPEN AREA

PROPOSED TYPICAL SECTION
PROPOSED 10' WIDE AGGREGATE TRAIL
STA. 16+00.0 TO 21+00.0 - 6' MOWED SHOULDER

PROPOSED 10' WIDE HMA TRAIL
STA. 21+00.0 TO 23+78.0 6' MOWED SHOULDER AND IDOT MOWED R.O.W.

TRAIL - OPEN AREA NOTES

1. THE TYPICAL SECTION DEPICTED ABOVE APPLIES TO BOTH FA-21 AGGREGATE AND HOT-MIX ASPHALT SURFACE TYPES, REFER TO THE PLAN AND PROFILE SHEETS FOR SURFACING REQUIREMENTS AT SPECIFIC TRAIL LOCATIONS, NOTE THE DIFFERENCE IN CROSS SLOPES FOR DIFFERENT SURFACE TYPES.
2. SPECIFIC TRAIL LOCATIONS MAY NOT REQUIRE THE DITCHING SHOWN OR MAY REQUIRE DITCHING ON BOTH SIDES OF THE TRAIL, REFER TO OTHER PLAN SHEETS FOR DITCHING REQUIREMENTS AND LOCATIONS.
3. ALL AGGREGATE BASE, AGGREGATE SURFACE AND HOT-MIX ASPHALT SURFACES SHALL BE INSTALLED USING A PAVING MACHINE. AGGREGATE TRAIL SURFACES SHALL BE COMPACTED WITH A ROLLER NO WIDER THAN HALF THE TRAIL WIDTH TO MAINTAIN THE CROWNED PROFILE.
4. THE EXISTING GRADE LINES SHOWN IN THE SECTIONS ARE FOR ILLUSTRATIVE PURPOSES ONLY, REFER TO THE PLAN AND PROFILE SHEETS FOR EXISTING AND PROPOSED ELEVATIONS AND CUT AND FILL REQUIREMENTS ALONG THE TRAIL LENGTH.
5. A WOVEN GEOTEXTILE FOR GROUND STABILIZATION MAY BE REQUIRED UPON DIRECTION BY THE OWNER WHEN UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED AND IS NOT SHOWN ON THE SECTION.
6. THE FINISHED TOPSOIL GRADE DIRECTLY ADJACENT TO PAVED TRAIL EDGES MUST BE EQUAL TO OR SLIGHTLY (1/4") LOWER THAN THE EDGE OF TRAIL TO ASSURE POSITIVE DRAINAGE.
7. PROVIDE A SOFT GRADUAL TRANSITION BETWEEN EXISTING AND PROPOSED GRADING.

LANDSCAPE NOTES

1. MOWED TRAIL SHOULDERS SHALL BE SEEDED WITH LCFP LOW-MAINTENANCE MIX UNLESS IN A D.O.T. RIGHT OF WAY, REFER TO OTHER PLAN SHEETS FOR SEED MIXES OUTSIDE OF THE MOWED SHOULDERS.
2. MOWED SHOULDERS AND SEEDED SLOPES 3:1 OR LESS SHALL BE HYDRO-MULCHED WITH PROMATRIX ENGINEERED FIBER MATRIX (EFM), SLOPES GREATER THAN 3:1, DITCHES AND OTHER CONCENTRATED FLOW ZONES SHALL BE COVERED WITH NORTH AMERICAN GREEN (NAG) S75BN EROSION CONTROL BLANKET OR APPROVED EQUAL AND WITH THE MANUFACTURERS RECOMMENDED STAPLE PATTERN, DITCHES TYPICALLY REQUIRE A MINIMUM OF TWO (2) ROLLS OF BLANKET AT 6.67' WIDTH EACH.

③

Paved Trail - Open Area
(Not to Scale)

	Two Florence Place, Suite 1400 Jasco, Illinois 60143 Tel: 630,773,3900 Fax: 630,773,3975 www.civiltechinc.com	Designed - JRR Drawn - JRR Checked - KRK Date - 1/02/2019	Revised - Revised - Revised - Revised -	LAKE COUNTY FOREST PRESERVE DISTRICT

Exhibit D
Trail Segment Restoration Specifications

SECTION 03100

EARTHWORK AND GRADING

1. GENERAL

1.01 DESCRIPTION

A. Work under this Section includes:

1. All mass earthwork, excavation, placement and rough grading of soils for pavements, landscape areas and other site improvements.

B. Other specification sections which may directly relate to the work in this section include, but are not limited to, include the following:

1. Section 02300 – Site Resource Protection
2. Section 02400 – Soil Erosion and Sediment Control
3. Section 02500 – Vegetation Removal
4. Section 05100 – Subgrade Preparation
5. Section 03110 – Ground Stabilization

2. PRODUCTS

2.01 ON-SITE FURNISHED EXCAVATION

A. On-site excavated soils and borrow materials to be used for fills shall meet the requirements of Article 204.02 of the IDOT Standard Specifications and shall be subject to approval by the Owner or Engineer prior to harvesting, hauling and placement.

2.02 IMPORTED FURNISHED EXCAVATION

A. Off-site furnished material shall be suitable for fills meeting the requirements of Article 204.02 of the IDOT Standard Specifications and shall be subject to approval by the Owner or designated Engineer prior to delivery to the work site.

3. EXECUTION

3.01 GENERAL REQUIREMENTS

A. The Contractor shall inspect the site, review any provided geotechnical data and become familiar with the site conditions prior to bidding and start of work. Any geotechnical investigations provided by the Owner apply only to those locations where the data was collected and may not be indicative of conditions elsewhere on the site.

B. Unless specifically noted, all elevations and contours shown on Construction Drawings are finished grades. Grades at points between elevations or contours are to be determined by uniform slopes between given grades or elevations, or between such figures and existing grades. Perform all rough and finish grading required to attain the elevations indicated on the drawings. Grading tolerances shall be plus or minus one-tenth of a foot (0.1') for all rough and finish work.

C. Excavation and embankment work shall conform to the applicable requirements of Sections 202, 203, 204, 205, 207, and 502 of the IDOT Standard Specifications except that excavated materials that are suitable for structural fill material shall be

used in the construction of the embankments to raise trails, pavements and structures to the proposed subgrade. Suitable material from excavation that is used as embankment or other structural fills shall be free from rocks, roots, sticks, and other foreign bodies that could affect compaction.

- D. Unless otherwise indicated, material for fills shall be suitable on-site excavated soil and borrow material and shall be subject to approval by the Owner. Fill material and the surface to be filled shall be free of any frozen material. Material previously compacted that has been flooded and no longer meets the density specified shall be re-compacted or replaced.
- E. No site grading shall begin until all required soil erosion and sediment control measures are in place and a pre-construction meeting has been held with the Owner and representatives from the Lake County Stormwater Management Commission to identify any other permitting requirements.
- F. Before commencement of earthwork and grading, perform all vegetation clearing and removals.
- G. Where the Contractor's equipment is operated on any portion of pavement or other structure used by traffic on or adjacent to the section under construction, the Contractor shall clean the pavement of all dirt and debris at the end of each day's operations and at other times as directed by the Owner.
- H. The Contractor shall use all means necessary to protect the Work before, during, and after construction and to protect all objects designated to remain. In the event of damage, Contractor shall immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.
- I. During construction operations the Contractor shall insure positive site drainage at the conclusion of each day. Provide berms or channels to prevent flooding of subgrades. Promptly remove all water collecting in depressions. Site drainage may be achieved by ditching, pumping or any other acceptable method. The Contractor's failure to provide the above will preclude any possible added compensation requested due to delays or unsuitable materials created as a result thereof.
- J. Earthwork shall not take place when soil moisture is excessive. Do not place, spread, fill or roll during unfavorable weather conditions. Do not resume operations until the soil moisture content is such that the specifications can be achieved. The Contractor may scarify the surface to accelerate drying to required moisture content but no additional compensation shall be allowed without the approval of the Owner.

3.02 GEOTECHNICAL INVESTIGATIONS AND SOILS REPORTS

- A. A geotechnical investigation and soils report has been completed for this project and is included in these contract documents. The Owner assumes no responsibility for the accuracy of the report and the information contained in the report applies only to those locations where the sampling was performed and may not be indicative of conditions elsewhere on the site.
- B. No geotechnical investigation or soils report has been performed for this project.

3.03 BALANCE OF CUTS AND FILLS

- A. One of the following conditions is anticipated for this project:

It is anticipated that the site contains adequate soil resources and potential borrow areas to achieve the proposed grades with a balance of cuts and fills. Borrow areas are shown on the plans or explained in the Notes. The Contractor shall utilize the proposed excavations on the grading plan and any borrow locations to balance cuts and fills. Any excess soils shall be excavated, deposited and graded on the site.

It is anticipated that the site does not contain suitable borrow areas and any additional fill material that may be required will need to be imported from another suitable off-site location.

This project contains excessive soil cuts which cannot be entirely relocated at the site. A quantity of these soils shall be removed from the site.

- B. It is the Owner's intent that the final site grading will result in a balance between soil cuts and soil fills, regardless of whether soil quantities on the site are adequate, deficient or in excess. The Contractor shall be solely responsible for balancing site materials according to the plans and existing and proposed finish grades. On-site topsoil stripping and stockpiling, excavation, hauling, placement and re-spreading of materials beyond the specified work areas shall be incidental to the Work when required to balance cuts and fills. If material overages are indicated, the excess soils shall be excavated, harvested, hauled or otherwise moved to new locations and deposited and spread as directed by the Owner. Topsoil at new cut or fill areas shall be stripped, stockpiled and then re-spread after establishment of subgrades. When material deficits occur, borrow areas may be indicated on the plans or identified in the field by the Owner. When required to utilize borrow areas, the Contractor shall strip, stockpile and re-spread any existing topsoil as part of the borrow operations. If on-site excavation and borrow operations do not provide enough suitable material for fill areas, the Contractor shall be responsible for providing off-site fill material as part of the Site Grading pay item. Contingency quantities for On-Site Furnished Excavation and / or Imported Furnished Excavation shall be for replacement of unsuitable soils only and at the direction of the Owner.
- C. The Contractor shall be solely responsible for determining all earthwork quantities based on the existing and proposed elevations provided on the plans. The Contractor shall be responsible for performing any additional survey work that the Contractor deems necessary to complete an accurate estimate of earthwork quantities.
- D. When there is excess on-site topsoil, the Contractor shall spread and grade the topsoil in thicknesses greater than the minimum where possible. The contractor shall also respread and grade excess on-site topsoil in other areas as directed by the Owner.

3.04 SITE GRADING REQUIREMENTS

- A. This work shall consist of furnishing all materials, equipment and labor to create the proposed grades, subgrades, elevations, contours and land shapes as indicated in the plans. This work shall include all required topsoil stripping and stockpiling, mass earthwork, rough grading, excavation, filling, hauling, importing of soils from off-site locations, soil placement, shaping and spreading of stockpiled topsoil. Site grading shall provide for any required subgrade elevations for proposed aggregate bases, pavement, surfacing, structures, topsoil or other improvements.
- B. All topsoil or soils to be utilized for planting, seeding or re-vegetation shall be carefully stripped, harvested and segregated from the soils below. Topsoil shall be

stripped and stockpiled before any filling is performed. Soils which are not suitable for planting shall not be mixed or harvested with topsoil. After stripping, the topsoil shall be deposited in the identified location for stockpile materials for re-spreading at a later time. For trail development, topsoil shall be deposited in rows along the length of the trail. Topsoil stockpiles shall not be overly compacted. Protect all topsoil stockpiles from contamination by other materials or harmful substances.

- C. During the process of creating the required cuts and fills, should the Contractor encounter unsuitable material in areas that require structural fill, the Contractor shall immediately notify the Owner prior to proceeding with the work. Upon inspection of the work area by the, the Owner and / or Engineer shall determine a prescribed remedy. If it is determined that excessive soil moisture is present, the Contractor shall aerate, disc or otherwise dry the material to make it suitable for use. If the Owner determines that removal is warranted, the unsuitable materials shall be removed and replaced as specified in Section 03110 – Unsuitable Materials. The material used for replacement shall be approved by the Owner.
- D. Areas proposed for trails and pavement shall be compacted to a minimum ninety-five percent (95%) of maximum density based on a Standard Proctor (ASTM D-698).
- E. Areas proposed for structural fills for building pads shall be compacted to a minimum of 95 percent (95%) based on a Modified Proctor (ASTM D-1557).
- F. Areas proposed for landscaped areas shall not be compacted in excess of eighty-five percent (85%) density based on Standard Proctor.
- G. Where proposed improvements or grades require cuts or excavation, the excavated material shall be utilized in achieving specified grades at other areas of the site. If the excavated material meets the requirements, it may be used as structural fill. No material shall be hauled from the site or placed in an unauthorized location without the Owner's approval, and no compensation shall be allowed for such hauling and disposal unless specifically listed in the Schedule of Prices.
- H. Site grading shall include the creation of all ditches, swales and other drainage landforms shown in the plans. Ditches and swales shall be shaped with smooth transitions to adjacent grades. Ditches shall be sloped to drain in the direction shown on the Construction Drawings. The Contractor shall be solely responsible for assuring positive drainage upon the completion of site grading.
- I. Areas proposed for landscaping, planting, seeding or re-vegetation shall receive a minimum of 4 inches of topsoil from on-site stockpiles unless otherwise specified. Before placement of topsoil, the Contractor shall assure that the existing soil surface is not overly compacted or glazed and free from debris. If such conditions exist, the Contractor shall clean, scarify and/or till the surface to a minimum depth of 8 inches before the placement of topsoil. The topsoil shall be spread evenly and graded in preparation for Finish Grading. Any branches, roots, rocks or other debris shall be removed and disposed. Place and spread the topsoil to the minimum thickness as specified and in a uniform layer.
- J. Upon completion of the proposed improvements, all areas which have become impacted by excessive soil compaction such as haul routes and staging areas shall be disked, tilled or otherwise relieved of compaction such that those areas can sustain long-term vegetative growth. Final payment for Site Grading shall not be paid until these areas are made acceptable for final landscaping.

3.05 SITE GRADING – SENSITIVE WOODED AREA REQUIREMENTS

- A. This work shall consist of furnishing all materials, equipment and labor to create the proposed grades and subgrades required for trail construction and other improvements in sensitive wooded areas. Sensitive wooded areas differ from open areas in that they contain valuable trees and vegetation that may potentially be harmed by soil disturbance. It also differs in that no additional Subgrade Preparation is required. It is the intent of the Owner to minimize any potential harm to tree root systems by limiting the amount of grading and soil disturbance.
- B. Site grading in sensitive wooded areas shall include herbaceous vegetation mowing when needed, removal of surface litter and, placement of cut soils, formation of ditching by minor filling rather than cutting, shaping shoulder areas and testing of soil materials to attain the subgrade elevations required for trail construction. The Contractor shall limit the width of the graded area to only that which is necessary to construct the actual trail width and avoid performing the work during excessively wet conditions. A typical cross section is shown in the plans; however, the Contractor shall be required to adjust the final profile depending on adjacent trees and site conditions. These variances in design may include eliminating, redirecting or shortening the ditches, adjusting the final trail location and adjusting the finish grade of the trail.
- C. Before the start of surface grading, the Owner shall inspect the soil conditions and vegetation and determine the extent and depth of surface removal required to provide an adequate subgrade condition with minimal root damage. This depth shall generally be between 1 to 4 inches. This depth may vary across different parts of the site. Any material which is removed from the trail bed subgrade shall be deposited adjacent to the trail edges for re-spreading after trail surface construction. The final subgrade surface shall be smooth, uniform and reflective of the original surface profile.
- D. Upon completion of the surface soil removal, the Owner and Contractor shall review the surface conditions together prior to any other work to reveal any unsuitable soils or areas. No rolling or compaction shall be performed on the subgrade unless directed by the Owner.
- E. Ditching shall be constructed at the locations specified on the plans and at locations directed by the Owner by adjustment of the finished elevations in conjunction with filling adjacent to the edge of pavement. Ditches shall be sloped to drain in the direction shown on the plans. Field modifications from the typical detail shown on the construction drawings may be required in an effort to preserve desirable trees. This may include relocation of ditching, deleting ditches adjacent to trees, creating shorter ditches perpendicular to the trail and adjusting the built dimensions. The contractor shall review drainage issues with the Owner onsite before commencement of work in sensitive wooded areas.

3.06 DEEP EXCAVATION AND SEPARATION OF SOILS FOR LANDSCAPE AREAS

- A. When the proposed grading requires excavation to elevations 48" or more below the existing natural surface, additional separation of soil layers shall be performed to assure that the final soil profile is suitable for the growth of trees, shrubs and herbaceous plants. In addition to stripping and stockpiling the Topsoil Layer, the contractor shall strip, separate and stockpile the next 36" depth of the Subsoil Layer directly underlying the topsoil layer. Soils excavated from below

48" of the existing natural surface shall be separated from both the Topsoil and Subsoil Layers.

- B. In areas proposed for planting, seeding or sodding, the previously separated soils as described above shall be respread and layered according to their original natural position. Soils excavated from depths of 48" and deeper shall be deposited first in the deepest position. Next, the Subsoil Layer originating directly below the Topsoil Layer shall be deposited and respread in an even layer. The final finished elevations shall be achieved by respreading of the Topsoil Layer.

3.07 ON-SITE AND IMPORTED FURNISHED EXCAVATION

- A. On-Site Furnished Excavation and Imported Furnished Excavation are strictly contingent items when listed in the Schedule of Prices and shall only be used with the Owner's approval when anticipated borrow areas prove to be insufficient in quality as suitable structural fill material and no other suitable borrow areas exist on the site.
- B. All provided Furnished Excavation shall be in accordance with Section 205 of the IDOT Standard Specifications. Samples of Imported Furnished Excavation material shall be submitted to the Owner for approval prior to delivery and installation.
- C. On-Site Furnished Excavation shall include all labor and equipment to strip and segregate topsoil, excavate, load, haul, dump, place, compact, re-spread topsoil and otherwise transfer suitable material from a borrow area to the designated fill area.
- D. Imported Furnished Excavation shall include all labor and equipment to locate, test, acquire, excavate, load, haul, dump, place, compact, re-spread topsoil and otherwise transfer suitable material from an off-site source to the designated fill area.
- E. Furnished Excavation used in trail and road embankment construction as well as other pavement areas shall be compacted to a minimum of 95 percent (95%) based on a Standard Proctor (ASTM D-698).
- F. Furnished Excavation used in structural fills for building pads shall be compacted to a minimum of 95 percent (95%) based on a Modified Proctor (ASTM D-1557).

3.08 STRUCTURE EXCAVATION

- A. Structure Excavation is defined as excavation directly related to the construction of specific structural elements such as footings, vaults, buildings, abutments, underpasses and other related improvements which require excavation that is typically deeper and requiring more precise dimensions, depths and side slopes than typically required for general earth excavation.
- B. Quantities for Structure Excavation shall be defined either by excavation dimensions shown on the plans or by the dimensional requirements of the structure itself, bedding and backfill requirements and safety considerations for sloped or benched sides greater than five feet in height.
- C. Structure Excavation shall be measured separately from any other unrelated earthwork and grading.

END OF SECTION 03100

**SECTION 03120
FINISH GRADING AND TOPSOIL**

1. GENERAL

1.01 DESCRIPTION

A. Work under this Section includes:

1. Furnished topsoil placement and finish grading for revegetation of select areas of the work site.

B. Other specification sections which may directly relate to the work in this section include, but are not limited to, include the following:

1. Section 03100 – Earthwork and Grading
2. Section 05200 – Trail Construction
3. Section – 09200 – Woody and Herbaceous Plants
4. Section 09300 – Turf Seeding
5. Section 09310 – Native Seeding

2. PRODUCTS

2.01 FURNISHED TOPSOIL

A. After existing on-site topsoil has been respread, the Owner will determine if additional furnished topsoil is required. That decision will be based on quality and quantity of existing topsoil.

B. Topsoil shall consist of natural loam, sandy loam, silty loam, silty clay loam, or clay loam humus-bearing soils which are fertile and friable, adapted to the sustenance of plant life and originating from the A soil horizon of prairie and / or agricultural lands. Topsoil shall be free of stones, roots, trash, debris, contaminants, residual herbicides and other materials deleterious to plant growth. A sample and a soil analysis test by an independent lab shall be submitted along with the source location of the material. Topsoil testing shall indicate a pH between 6.0 and 8.0 and an organic content of not less than 4%. For Pulverized Topsoil, the following particle gradation is required:

Sieve Designation	Percent Passing
1" screen	100
¼" screen	97 – 100
No. 10 US Sieve Series	95 – 100
No. 140 US Sieve Series	60 – 90

2.02 COMPOST

A. Compost for use as soil amendments, planting mixes and for topdressing shall be 100% organic decomposed plant materials derived from grass clippings, leaves, small brush, silage, hay or other appropriate feedstock. The compost shall originate from a facility approved by the Illinois Environmental Protection Agency. The component proportions and processing methods shall be strictly managed to produce a product that meets or exceeds the EPA Performance Standards for General Use Compost and for End-Product Compost Derived from Landscape Waste and the U.S. Composting Council Seal of Testing Assurance Program. The

compost shall be entirely free of inorganic materials, fuels, poisons or other contaminants. The end product shall be mature, stable, weed free and produced by aerobic decomposition through temperature management and appropriate remixing schedules. It shall be screened to result in a maximum 1/2" particle size. The compost shall have a pH of between 6.0 and 8.0.

Provide full laboratory test results and a product sample for approval.

3. EXECUTION

3.01 GENERAL

- A. Provide all filling, spreading, cleaning and finish grading to achieve the lines, grades and minimum thickness indicated in the Contract Documents. Placement of onsite topsoil and furnished topsoil (if required) shall conform to Section 211 of the IDOT Standard Specifications. All finish grading shall be done in a manner that provides positive drainage.
- B. A significant amount of handwork is required to ensure a clean and smooth horizontal trail edge and a smooth transition between the edge of the trail and the adjacent grassed areas. Areas immediately adjacent to the trail shall be of the same or a lesser elevation than the edge of trail in order to allow water to flow off the trail surface as quickly and efficiently as possible.
- C. Unless specifically noted, all grades shown are finished grades. Elevations at points between elevations or contours are to be determined by uniform slopes between given grades or elevations, or between such figures and existing grades. Perform all finish grading required to attain the elevations indicated on the plans. Grading tolerance shall be plus or minus one tenth (0.1) of a foot for all finish grading.

3.02 EXCESSIVE COMPACTION

- A. Topsoil spreading and finish grading shall not commence on excessively compacted soils. Soils which have been compacted by construction activities, especially haul routes, shall be relieved of the excessive compaction by mechanical means such as use of a chisel plow, disc and rake which can physically break up the soil to the full depth of compaction. This work shall not be paid for separately but shall be considered incidental to the earthwork and grading operations.

3.03 FINISH GRADING

- A. Finish grading shall include all soil fracturing, blending and shaping to create a smooth and uniform surface for planting. Depressions from settlement shall be filled as needed. Transitions in grade shall be gradual and rounded. All surfaces shall be finished to provide adequate drainage. Create grades which drain away from structures at a minimum of 1/4-inch per foot for 10 feet.
- B. The respreading of topsoil which has been stripped and stockpiled from graded areas is not included in this section. All respreading of stockpiled topsoil shall be paid for under the pay item Site Grading. Only the final finish grading of on-site topsoil is included in this section.
- C. All areas of the work site indicated for planting, seeding or revegetation, and additionally all previously vegetated areas that have been disturbed, construction access, staging, stockpile and storage areas, borrow sites, disposal areas and any other bare soil areas requiring restoration shall be finish graded.

- D. No soil shall be placed or worked while muddy or frozen.
- E. When complete, the surface of the topsoil shall be free from rocks and debris greater than 1 inch in diameter and soil clods greater than 2 inch diameter. Areas adjacent to paving shall be trimmed of all aggregate base beyond the specified width. If surface debris cannot be adequately cleaned manually, the Contractor shall utilize a dedicated mechanical rock and debris collection attachment for motorized equipment.
- F. New finish graded areas shall be protected from traffic and erosion. All settlement or washing away that may occur from any cause prior to or after seeding and soil stabilization shall be repaired and finish graded again to the required elevations, shapes and slopes at no additional cost to the Owner.

3.04 FURNISHED TOPSOIL

- A. This work shall include all materials, equipment, and labor to provide, place, spread and fine grade furnished topsoil to the minimum thickness as specified in the Contract Documents.
- B. Before placement of topsoil, the Contractor shall assure that the existing soil surface is not overly compacted or glazed and free from debris. If such conditions exist, the Contractor shall clean, scarify and/or till the surface to a minimum depth of 8 inches before the placement of topsoil. Place and spread the topsoil to the minimum thickness as specified and in a uniform layer. Do not excessively compact the topsoil after placement.
- C. If required, furnished topsoil shall be fine graded as described above.

3.05 COMPOST SOIL AMENDMENT (DEPTH)

- A. Compost shall be spread evenly at the required depth and tilled into the existing soil to a minimum depth of (8) eight inches used a powered mechanical tiller or tiller attachment. The surface shall then be raked and graded to a smooth surface profile.

END OF SECTION 03120

**SECTION 05100
SUBGRADE PREPARATION**

1. GENERAL

1.01 DESCRIPTION

- A. Work under this Section includes:
 - 1. Final preparation of the subgrade for trails, pavements and structures.
- B. Other specification sections which may directly relate to the work in this section include, but are not limited to, include the following:
 - 1. Section 03100 – Earthwork and Grading
 - 2. Section 03110 – Ground Stabilization
 - 3. Section 05200 – Trails
 - 4. Section 05300 – Roads and Parking

2. PRODUCTS

2.01 GEOTEXTILE FOR GROUND STABILIZATION

- A. Geotextile fabric shall be non-woven, needle punched polypropylene staple fiber that is UV stabilized and resistant to chemicals, mildew and insects.
- B. The geotextile fabric shall be:
 - 1. Thrace-LINQ 225EX
 - 2. or approved equivalent meeting the following minimum criteria:

Grab Tensile Strength	215 lbs
Elongation	50%
Puncture (CBR)	600 lbs
Permittivity	1.3 sec ⁻¹

3. EXECUTION

3.01 GENERAL

- A. Subgrade preparation shall be performed after the completion of Site Grading at all locations which will receive trails, pavement or structural improvements in preparation for the placement of aggregate base material.
- B. When proof rolling reveals additional unstable areas, undercut excavation shall be undertaken only as approved and directed by the Owner and Engineer.
- C. All excess excavated and spoil materials shall be spread or relocated on-site or removed from the site as directed by the Owner.

3.02 SUBGRADE PREPARATION – OPEN AREAS

- A. This work shall consist of furnishing all materials, equipment and labor for the final preparation of the subgrade for open areas. Subgrade preparation for open areas shall include final grading to within 0.1-foot of specified subgrade elevations,

shaping, disking, aerating, sheepsfoot rolling, vibratory rolling, compacting, proof rolling and testing as required.

- B. Areas proposed for trails and pavement shall be compacted to a minimum ninety-five percent (95%) of maximum density based on a Standard Proctor (ASTM D-698). Any areas that are inaccessible to a roller shall be compacted either by other mechanical means or using a hand tamper meeting the approval of the Owner and Engineer. The Contractor shall proof roll the finished subgrade with the Owner or Engineer present.
- C. Areas proposed for structural fills for building pads shall be compacted to a minimum of 95 percent (95%) based on a Modified Proctor (ASTM D-1557).
- D. When proof rolling reveals additional unstable soil areas, the Owner shall be notified immediately. If soil moisture is excessive, the material shall be aerated and compacted again and retested. If, in the opinion of the Owner and Engineer a more significant remedy is required, the Contractor shall be directed to perform additional work such as removal of unsuitable materials, placement of geotextile fabrics and/or soil replacement with an approved suitable material. These more significant tasks shall be paid for under separate pay items.
- E. When soil moisture is excessive or inadequate, the surfaces shall be disked, wetted or dried as required, and re-compacted. Where soil has been softened or eroded by flooding or placement during unfavorable weather, remove all affected areas and re-compact as specified.

3.03 TEST ROLLING EQUIPMENT AND PROCEDURES

- A. Test rolling of subgrades shall be performed in the presence of the Owner or Engineer. When test rolling reveals unsuitable or unstable soils, the Owner and Engineer shall determine the most appropriate remedy and direct the Contractor accordingly as described above.
- B. Test rolling equipment shall conform to following description:
 - 1. Tandem axle, dual wheel dump truck.
 - 2. Tire pressure shall be no less than ninety percent (90%) of manufacturer's recommended maximum inflation.
 - 3. Minimum gross weight of loaded truck shall be 60,000 pounds.
 - 4. Provide weigh slip to the Engineer.
- C. Perform test rolling procedure as follows:
 - 1. Operate equipment at a rate not to exceed three (3) mph to five (5) mph or a comfortable walking pace.
 - 2. Adjust speed to allow the Engineer to measure any deflections and areas of rutting.
 - 3. Operate test rolling equipment in a pattern so that affected areas are loaded with at least one (1) pass.
 - 4. After test rolling, check subgrade for conformance to drawings, and correct any surface irregularities. Re-shape subgrade within tolerances specified.
- D. Test Rolling Evaluation:
 - 1. Rutting up to one inch (1") is acceptable.
 - 2. Rutting in excess of one inch (1") but not more than six inches (6"), shall be considered a failure and requires reworking soil and compaction to required

density.

3. Deflection, (pumping) up to one inch (1") is acceptable.
4. Deflection in excess of one inch (1") but not more than two inches (2") shall be acceptable if there is not substantial cracking or lateral movement of soil.
5. Deflection in excess of two inches (2") but not more than six inches (6") shall be considered a failure, and requires reworking soil and compaction to required density.
6. Rutting and deflection in excess of six inches (6") will require review and recommendation for corrective action by the Engineer.
7. After remedial work is performed, a final test roll shall be performed upon completion of work.
8. If remedial work is performed as directed, second test roll may be waived at discretion of the Engineer.

- E. When performing Subgrade Preparation, if it is determined that the material composition is acceptable and that excessive moisture has rendered the material unstable, the Contractor shall perform air drying techniques as per Article 301.04 of the IDOT Standard Specifications before consideration of removal of the material.

3.04 SUBGRADE PREPARATION – SENSITIVE WOODED AREAS

- A. Machine subgrade preparation for the trail sections in sensitive wooded areas is not required. Work required prior to installation of geotextile fabric and placement of aggregate base for sensitive wooded areas is described in the subsection "Site Grading - Sensitive Wooded Areas" contained in Section 03100 – Earthwork and Grading.
- B. After final surface preparation, the Contractor shall install the specified geotextile fabric at trail sections identified as sensitive wooded areas on the plans. The geotextile shall extend one foot past the finished edge of the trail. Full rolls shall be cut to the appropriate width as needed. Roll ends shall be overlapped a minimum of 4 feet. All wrinkles shall be removed from the fabric before covering with stone. No Aggregate Base Course shall be placed until the subgrade and geotextile fabric has been approved by the Owner or Engineer.

3.05 SUBGRADE PREPARATION – TRAILS OVER EXISTING GRAVEL

- A. This work shall consist of furnishing all materials, equipment and labor for the final preparation of the trail subgrade over existing gravel surfaces. Subgrade preparation shall include grading of existing gravel surfaces, leveling, profiling, filling low areas and pot holes with CA-6, cutting ridges and high points, compacting, proof rolling and testing as required.
- B. Compaction shall be to a minimum ninety-five percent (95%) of maximum density based on a Standard Proctor (ASTM D-698).

END OF SECTION 05100

SECTION 05200

TRAILS

1. GENERAL

1.01 DESCRIPTION

- A. Work under this Section includes:
 - 1. Trails and other pedestrian pavements with surfaces consisting of fine aggregates or hot-mix asphalt.
- B. Other specification sections which may directly relate to the work in this section include, but are not limited to, include the following:
 - 1. Section 03100 – Earthwork and Grading
 - 2. Section 05100 – Subgrade Preparation
 - 3. Section 03110 – Ground Stabilization
 - 4. Section 03120 – Finish Grading and Topsoil
 - 5. Section 03200 – Culvert Crossings

1.02 SUBMITTALS

- A. Prior to placing bituminous mixtures, the Contractor shall submit to the Owner for approval the HMA mix design and name of the supplying plant with IDOT certifications.
- B. Contractor shall submit source information and samples of aggregate surface materials to the Owner for approval prior to delivery and placement.
- C. Contractor shall submit source information and samples of aggregate base materials to the Owner for approval prior to delivery and placement.
- D. For grass trails, the Contractor shall submit seed mix composition and sources for approval by the Owner.

1.03 TESTING

- A. The Owner shall employ a professional testing service to perform density and / or other tests for the base and surface courses. The Contractor shall follow the instructions of the testing technician when a specific course of action is deemed necessary.

2. PRODUCTS

2.01 AGGREGATE SURFACE COURSE – FA-21

- A. Aggregate surfaces for trail construction shall be crushed aggregate material complying with IDOT Standard Specification Article 1003.01 gradation FA-21. Aggregate shall consist of 100% crushed native material and buff in color as typically found in the Fox River valley of Northern Illinois and Southern Wisconsin. Limestone screenings are not acceptable. Furnished material shall be obtained from one of the following locations:

1. Thelen Sand and Gravel
Route 173 (North Pit)
Antioch, Illinois
Prime Bike Path Mix
847-395-3313
2. Payne & Dolan, Inc.
28327 W. Route 173
Antioch, IL 60002
Prime Bike Path Mix
847-838-3700
3. or approved equal.

2.02 AGGREGATE BASE COURSE – CA-6, TYPE B

- A. Aggregate materials for use as aggregate base course shall be CA-6, Type B, in conformance with IDOT Standard Specification Article 1004.01.

2.03 HOT-MIX ASPHALT MATERIALS

- A. All hot-mix asphalt materials shall comply with the applicable provisions of the IDOT Standard Specifications.
- B. Trail HMA Mix Design shall be Mix “D”, N50 (IL 9.5 mm) as per the IDOT Standard Specifications.

2.04 AGGREGATE SUBBASE COURSE – CA-7/11, 10”

- A. Aggregate materials for use as aggregate subbase course in sensitive woodland areas shall be CA-7/11, in conformance with IDOT Standard Specification Article 1004.01.

3. EXECUTION

3.01 AGGREGATE BASE COURSE – CA-6, Type B

- A. This work shall consist of furnishing all materials, equipment, and labor and performance of all required operations for the installation of the aggregate base course for construction of the proposed trail and as specified in the Contract Documents. No aggregate base course shall be placed until the subgrade has been proof rolled or otherwise tested for stability and approved by the Owner or Engineer.
- B. The work shall meet the applicable portions of Section 301 and 351 of the IDOT Standard Specifications except as herein noted.
- C. The Contractor shall establish all grades to achieve the minimum thickness indicated in the Contract Documents prior to ordering delivery of granular base material. Owner shall not be responsible for any costs associated with the delivery of surplus granular material.
- D. Aggregate base course shall be placed with a paver box or other method approved by Owner to ensure uniform width, depth, crown, and final surface smoothness. Placement of the aggregate base shall closely follow the horizontal alignment as staked in the field. The paver box operator shall possess sufficient skills and experience to perform the work.

- E. Aggregate base course shall be compacted half the trail width at a time to preserve the specified crown. Compaction shall be to a minimum of ninety-five percent (95%) Standard Proctor in accordance with the IDOT Standard Specifications. Any portion of the proposed trail without the required crown after compaction will not be accepted by the Owner and the contractor will be required to take whatever steps necessary to provide the required crown. All irregularities in the trail base course shall be smoothed out. Depressions shall be filled, high points cut down and the entire aggregate base course edge shall be trimmed and finished uniformly.
- F. The Contractor shall perform a proof roll of the aggregate base course with the Owner or Engineer present for approval. Any failures of the base course, as determined by Owner or Engineer, that occur during the proof rolling shall be immediately repaired and subjected to retesting until all areas have passed the testing or proof rolling.

3.02 AGGREGATE BASE COURSE – SENSITIVE WOODED AREAS

- A. Aggregate base courses for trails constructed in sensitive wooded areas may require variable depths across the width of the trail to achieve the desired finish elevations due to the minimal modification of the underlying sub-base. The Contractor shall maintain the minimum base depths as shown in the plans and increase the base depth as needed to achieve the desired finish elevations and cross section. Additional base course depths required to achieve the specified surface profile shall not be measured for payment but shall be paid for separately as a variable depth aggregate base course.

3.03 AGGREGATE SURFACE COURSE – FA 21

- A. This work shall consist of furnishing all materials, equipment, and labor and performance of all required operations for the installation of the aggregate surface course for construction of the proposed trail.
- B. The work shall meet the applicable portions of Section 402 of the IDOT Standard Specifications except as herein noted. No surface course shall be placed until the base course has been approved by the Owner or Engineer.
- C. Aggregate surface course shall be placed with a paver box or other method approved by Owner to ensure uniform width, depth, crown, and final surface smoothness.
- D. The paver box operator shall possess sufficient skills and experience to perform the work.
- E. Trail surface course shall be compacted half the trail width at a time, to preserve the crown, except where plans indicate a trail cross slope. Compaction shall be to a minimum of ninety-five percent (95%) Standard Proctor in accordance with the IDOT Standard Specifications. Any portion of the proposed trail without the required crown after compaction will not be accepted by the Owner and the contractor will be required to take whatever steps necessary to provide the required crown. All irregularities in the trail surface shall be smoothed out. Depressions shall be filled and the entire trail surface shall be trimmed and finished uniformly.

3.04 HOT-MIX ASPHALT SURFACE

- A. The work shall meet the applicable portions of the IDOT Standard Specifications except as herein noted.

- B. HMA surface course shall be placed with a paver box or other method approved by Owner to ensure uniform width, depth, crown, and final surface smoothness. Finished work which results in measurable deviations in the specified lines, dimensions or surface conditions and / or which may create unsafe conditions, inadequate drainage, segregation of materials or substantial aesthetic deficiencies shall be removed and replaced to the satisfaction of the Owner.

3.05 AGGREGATE SUBBASE COURSE – CA 7/11

- A. Aggregate subbase course shall be constructed for trails constructed only in specific areas as shown on the plans. The depth of the aggregate subbase course may vary across the width of the trail to achieve the desired finish elevations due to the minimal modification of the underlying sub-base (3-4") but shall average approximately 10". The Contractor shall maintain the minimum subbase depths as shown in the plans and increase the base depth as needed to achieve the desired finish elevations and cross section. Additional base course depths required to achieve the specified surface profile shall not be measured separately for payment but shall be considered incidental to the pay item.

3.06 AGGREGATE TRAIL REPAIR

- A. Any aggregate trail, in part or in whole, which is damaged by the Contractor in the course of performing the contract, shall restore all damaged areas to pre-existing condition using only the approved materials indicated in this specification. Any rutting or displacement or distortion of the original trail profile shall require that the damaged areas be removed and reconstructed per the owner's standard details, sections and specifications.

END OF SECTION 05200

SECTION 09300

TURF SEEDING

1. GENERAL

1.01 DESCRIPTION

A. This section includes:

1. Installation and establishment of turf-type seed mixes and related products.
2. Maintenance of seeded areas during establishment period.

B. Other specification sections which may directly relate to the work in this section include, but are not limited to, include the following:

1. Section 02400 – Soil Erosion and Sediment Control
2. Section 03120 – Finish Grading and Topsoil
3. Section 09110 – Herbicide Treatment

1.02 QUALITY ASSURANCE

A. Contractor Qualifications: The work described in this section requires specialized knowledge, experience, skills and equipment to successfully complete. The Contractor shall possess the full capability to execute the work as specified, including trained, experienced and skilled personnel and possession or access to the required equipment. The Contractor shall also provide the name and qualifications of the foreman assigned to this project. The Contractor or Subcontractors responsible for the work in this section are subject to Owner approval as described in Article 1.12.

1.03 SUBMITTALS

A. Prior to delivery of any materials to the site, submit manufacturer's or suppliers material sheets for any and all materials to be used during this portion of the work. Include complete data on source, quantity and quality. No materials shall be delivered to project site until the corresponding submittal has been approved. Refer to the product descriptions below for specific submittal requirements.

2. PRODUCTS

2.01 FERTILIZER

A. Fertilizer for all areas to be seeded with turf seed mixes shall be a balanced (such as 20-20-20) nitrogen – phosphorous - potassium composition that contains a minimum of 25% of the nitrogen component in a slow release form.

B. Submit the manufacturer's product sheet with material analysis, nitrogen release information and rate or quantity of bags required to provide 2 pounds of nitrogen per 1000 square feet for the specified seeding areas for approval.

C. Provide fertilizer to the site in original unopened bags from the manufacturer showing complete analysis of nitrogen, phosphorous, potassium, minor elements and major element source types.

2.02 EROSION CONTROL BLANKET

A. Erosion control blanket shall be:

1. S75BN Single Net Straw Blanket, a 9.3-lb. leno-woven biodegradable jute top netting with 100% straw fiber matrix, as provided by:

North American Green, Inc.
P.O. Box 66
Evansville, IN 47618-9989
(800) 772-2040
www.nagreen.com

2. or approved equal

B. Erosion control blanket staples shall be:

1. 6" in length, composed of Polyhydroxyalkanoate (PHA) plastic and 100% biodegradable from microbial activity in accordance with ASTM D5338 and ASTM D5271, as provided by:

E-Staples by
American Excelsior Company
Arlington, Texas
(800) 777-7645
www.curlex.com

2. or Eco-Stake 6" Hardwood Pins by

North American Green, Inc.
P.O. Box 66
Evansville, IN 47618-9989
(800) 772-2040
www.nagreen.com

3. or approved equal. Provide manufacturer's product sheet for any proposed equal product approval.

2.03 HYDRO-MULCH

A. Hydromulch for slopes 2:1 or less shall be:

1. ProMatrix Engineered Fiber Matrix (EFM), a hydraulically-applied seeding mulch composed of 100% recycled Thermally Refined wood fibers, crimped interlocking man-made biodegradable fibers and naturally derived polymers. It shall be delivered in the manufacturer's sealed weather-resistant 50-pound bags, as manufactured by:

PROFILE Products LLC
750 Lake-Cook Road – Suite 440
Buffalo Grove, IL 60089
(800) 366-1180
www.profileproducts.com

2. or approved equal. Provide manufacturer's product sheet for any proposed equal product approval.

B. Hydromulch for slopes greater than 2:1 shall be:

1. Flexterra HP-FGM, a hydraulically-applied, 100% biodegradable seeding mulch composed of thermally refined wood fibers (80%), cross-linked biopolymers and water absorbents (10%), crimped, man-made interlocking fibers (5%) and micro-pore granules (5%). The material shall be phytosanitized and free from plastic netting. It shall be delivered in the manufacturer's sealed weather-resistant 50-pound bags, as manufactured by:

PROFILE Products LLC
 750 Lake-Cook Road – Suite 440
 Buffalo Grove, IL 60089
 (800) 366-1180
 www.profileproducts.com

2. or approved equal. Provide manufacturer's product sheet for any proposed equal product approval.

2.04 WATER

- A. Water shall be free from oil, acid, alkali, salts, and other harmful substances. Water may be utilized from potable or non-potable sources such as lakes and ponds. The Owner shall not be responsible for providing water. Any available water sources located on the Owners' property shall not be utilized without permission from the Owner.

2.05 SEED

- A. The Contractor shall provide all seed in original unopened bags as mixed by the supplier. Each bag shall bear the supplier's guarantee of composition and percentage of purity and germination. Each bag shall list the botanical, common and cultivar names of each species, percentage of species mix, year of production and packaging, seed origin and net weight. Seed shall be protected against leakage, damage and moisture to insure viability and dormancy. No seed shall be sown until the Owner has inspected and approved the unopened seed mix bags.

B. Seed Mixes

When checked, seed mixes indicated on the plans include the following:

- LCFP PARKLAND MIX

SPECIES OR MIX	RATE (lbs. per A/1000 sf)	% +/-
Kentucky Bluegrass Mix	155 / 3.5	70%
Creeping Red Fescue	45 / 1.0	20%
Perennial Rye	20 / .5	10%
TOTAL	220 / 5.0	100%

- a. Kentucky Bluegrass Mix shall be a blend of at least two improved cultivars selected for low maintenance and short germination and establishment time.

- b. Improved Creeping Red Fescue shall be an improved cultivar or blend of cultivars.
- c. Perennial Rye shall be an improved cultivar or blend of cultivars selected for disease resistance.

LCFP HIGH-TRAFFIC MIX

SPECIES OR MIX	RATE (lbs. per. A/1000sf)	% +/-
Turf-Type Tall Fescue Mix	300 / 6.9	85%
Kentucky Bluegrass Mix	50 / 1.1	15%
TOTAL	350 / 8	100%

- a. Turf Type Tall Fescue Mix shall be a blend of at least two improved cultivars selected for drought tolerance, wear resistance, USDA Zone 5 hardiness and with a leaf texture suitable for blending with Kentucky Bluegrass. At least 30% of the mix shall be a rhizomatous selection such as Titan, Defiance, etc.
- b. Kentucky Bluegrass Mix shall be a blend of at least two improved cultivars selected for low maintenance and short germination and establishment time.

LCFP LOW MAINTENANCE MIX

SPECIES OR MIX	RATE (lbs. per A/1000sf)	% +/-
Fine Fescue Mix	260 / 6	100%
TOTAL	260 / 6	100%

- a. Fine Fescue Mix shall be a blend of creeping red, chewings, hard and sheep's fescue; acceptable commercial blends include Highlands Fescue Mix, Legend Fine Fescue Blend and Greenskeeper National Links Mixture.

3. EXECUTION

3.01 SEED BED PREPARATION

- A. Seed bed preparation shall not begin until all other site work, topsoil spreading and finish grading have been completed. Before seed bed preparation, the Contractor shall assure that the final grading allows for proper drainage.
- B. All areas to be seeded shall be inspected and approved by the Owner prior to the sowing of seed.

- C. Surfaces to be seeded shall be loose and friable to a minimum depth of 3 inches. Hard and compacted surfaces are not acceptable and must be disked or tilled and raked to provide a suitable seed bed. Any rocks, soil cods or other debris greater than 1" in diameter that is generated shall be removed and disposed. The prepared surface shall be free from crusting and caking.
- D. Seed beds that cannot be adequately cleaned of debris by manual raking and picking shall be cleaned by mechanical means using a dedicated rock / debris collecting tractor attachment.

3.02 FERTILIZATION

- A. The specified fertilizer shall be applied a rate of 2 pounds of Nitrogen per 1000 square feet or 87 pounds of Nitrogen per acre using a calibrated drop spreader or other mechanical method that will result in uniform coverage. Application of the fertilizer by hand is not acceptable.
- B. Fertilizer shall be applied prior to seeding. No fertilizer shall be applied until the Owner has inspected and approved the products. Payment for fertilization shall not be approved until proof of yield has been demonstrated by a counting of the fertilizer bags.
- C. No fertilizer shall be applied in areas designated for native seed mixes.

3.03 SEEDING – GENERAL

- A. All areas of bare soil which have been graded or otherwise disturbed by construction shall be seeded, unless specified on the plans otherwise. Refer to the plans for locations of the specified seed mixes.
- B. Temporary work areas, staging areas, haul roads and all other similarly disturbed areas which require restoration shall be prepared and seeded according to the requirements contained in this section.

3.04 APPROVED SEEDING METHODS

- A. Turf seeding shall be performed by the method(s) checked below:
 - Broadcast method using calibrated drop spreaders, either manually operated or using motorized equipment. Broadcast seeding is the only approved method in small or narrow areas where mechanical seeding equipment cannot make two passes as described below. After broadcasting seed, the seed bed shall be lightly raked either manually or with a machine drag attachment.
 - Mechanical seeding method using equipment which deposits seed in linear rows or furrows directly on the soil then packs and covers the seed in one continuous operation. This method may only be used when space allows the seed to be installed in two directions with the second pass being 45 to 60 degrees from the first pass. Mechanical seeding method shall not be used on grass trails or trail shoulders. Mechanical equipment must be calibrated to deposit the proper amount of seed at the proper depth, generally 1/8" to 1/4" deep.
- B. Regardless of the method used to deposit the seed, all seeded areas shall be rolled using a smooth or lightly spiked mechanical roller.
- C. All seeding equipment shall be approved by the Owner prior to seeding. Seeding equipment shall be properly calibrated to the required seeding rates.

3.05 SEEDING SCHEDULES

- A. Turf seeding is recommended to be performed between April 1 and June 1 or from August 1 and October 1 for optimum germination. The Contractor may elect to perform this seeding immediately after work progress allows; however, all responsibility for supplemental watering to stimulate germination and growth shall rest with the Contractor. Guaranty and maintenance requirements as specified herein are not changed or relieved by the timing of seeding.

3.06 EROSION CONTROL BLANKET

- A. Immediately after seeding is complete, place erosion control blanket on all areas as designated on the plans. Refer to the manufacturer's recommendation for selection of staple patterns and quantities appropriate to the site conditions.
- B. The Contractor shall guarantee that all erosion control blanket remains securely in place until a minimum of 90% of the ground has been stabilized by germination and growth of permanent or temporary seed. Erosion control blanket shall be re-stapled, reapplied or otherwise reset as specified as often as necessary until stabilization has been achieved.
- C. On slopes greater than 3:1 the Contractor shall install the erosion control blanket with a trenched edge at the top of the slope to resist water infiltration under the blanket.

3.07 HYDROMULCH

- A. Immediately after seeding is complete, apply hydromulch on all areas as designated on the plans. Hydromulch shall not be applied to areas which are to receive erosion control blanket. Strictly comply with the equipment and material manufacturer's instructions and recommendations. The timing of the hydromulch application shall allow the product to fully cure before the next precipitation event. The hydromulch shall be applied in at least two opposing passes at the following rates:

4H - 1V to 3H - 1V Slopes: 3000 lbs. / acre
3H - 1V to 2H - 1V Slopes: 3500 lbs. / acre
2H - 1V to 1H - 1V Slopes: 4000 lbs. / acre

3.08 WATERING

- A. Supplemental watering of seeded areas shall be performed at the discretion of the Contractor. Watering may be necessary in order to conform to the guarantee requirements as described in this section.

3.09 TURF MOWING

- A. All turf areas shall be maintained at mowed height of 3" until achieving the performance and guaranty criteria for seeded areas. Mow turf promptly when it reaches a height of 6" in height. This work shall be considered incidental to Turf Seeding.

3.10 GUARANTY

- A. General: All guaranties for turf seeding and other related work in this section shall be solely at the cost of the Contractor. The guarantee period shall be in effect until the ground coverage requirement described below is met and the final acceptance is issued in writing by the Owner.

- B. Seed Beds: Upon completion of seeding operations, the Contractor shall become responsible for protecting the seeded areas from any damage resulting from foot or vehicle traffic, vandalism or weather. When possible, isolate and contain the completed areas with temporary fencing. Erosion or soil subsidence caused by rain shall be repaired to the original grade, prepared for seed, reseeded and the appropriate erosion control product reapplied. Any damage which occurs before achieving the performance and guaranty criteria shall be repaired to original specifications by the Contractor at no expense to the Owner.
- C. Seed Germination and Establishment: Seeded areas shall have a minimum of 90% ground coverage with active growth and no bare ground greater than two square feet before final acceptance. Approximately 90 days after the initial seeding (or the following spring for fall seeding), the site shall be inspected by the Owner and Contractor to determine turf coverage, condition and plan for remedial seeding if necessary. At the proper time as determined by the Owner, the Contractor shall promptly remove any erosion control blanket or hydromulch and reseed the bare areas according to the specifications as necessary until the minimum coverage is achieved. After each reseeded, the Contractor shall reinstall new erosion control blanket or reapply hydromulch as originally indicated on the plans. If, after three growing seasons (one growing season defined as either spring: May-June or fall: September-October), the required coverage has not been achieved, the Owner reserves the right to reduce payment or retainage for compensation for the amount of ground without adequate germination and growth.
- D. Hydromulch: The Contractor shall guarantee that all hydromulch is applied at the minimum rate. Any areas where the minimum rate is not achieved shall be reapplied until meeting the specification. The Contractor shall guarantee that all hydromulch remains effective and shall reapply the hydromulch as needed until such time that the minimum seed coverage is achieved.
- E. Erosion Control Blanket: Any erosion control blanket which becomes displaced for any reason shall be reinstalled to its' original condition and position with additional staples. Any erosion control blanket which becomes damaged or otherwise ineffective shall be replaced with new product. All rills and gullies shall be repaired and the area shall be reseeded prior to reinstallation of erosion control blanket.

END OF SECTION 09300