CITY OF WEST DES MOINES
CITY COUNCIL MEETING COMMUNICATION

DATE: February 17, 2020

ITEM: Resolution – Approval of 28E Intergovernmental Agreement with the Des Moines Metropolitan Wastewater Reclamation Authority for Sugar Creek Bank Stabilization Phase 1

FINANCIAL IMPACT: The installation and maintenance costs will be the responsibility of the Des Moines Metropolitan Wastewater Reclamation Authority pursuant to the 28E Agreement.

SYNOPSIS: The City of West Des Moines and the Des Moines Metropolitan Wastewater Reclamation Authority ("WRA") have negotiated a 28E Agreement for the purpose of accessing, constructing, establishing, maintaining and conserving a sustainable and natural stream corridor to support stream stability, water quality and ecological functions along Sugar Creek from Stagecoach Drive to Booneville Road in West Des Moines. Pursuant to the 28E Agreement, the City is obligated to convey to the WRA a Permanent Access, Maintenance and Conservation Easement and an Ingress/Egress Easement. The WRA will install the bank stabilization improvements and maintain the improvements for a period of twenty (20) years from completion and acceptance of project.

RECOMMENDATION: City staff recommends adopting Resolution approving the 28E Intergovernmental Agreement between the City of West Des Moines and Des Moines Metropolitan Wastewater Reclamation Authority.

Lead Staff Member: Richard J. Scieszinski, City Attorney

STAFF REVIEWS

Department Director	Brian J. Hemesath, P.E., City Engineer
Appropriations/Finance	
Legal	
Agenda Acceptance	

PUBLICATION(S) (if applicable)

Published In	
Dates(s) Published	

SUBCOMMITTEE REVIEW (if applicable)

Committee	None		
Date Reviewed			
Recommendation			

RESOLUTION APPROVING AND AUTHORIZING THE EXECUTION OF 28E INTERGOVERNMENTAL AGREEMENT BY AND BETWEEN THE CITY OF WEST DES MOINES AND THE DES MOINES METROPOLITAN WASTEWATER RECLAMATION AUTHORITY

WHEREAS, the City of West Des Moines (West Des Moines) and the Des Moines Metropolitan Wastewater Reclamation Authority (WRA) desire to enter into an agreement under the provisions of Chapter 28E of the Code of Iowa, whereunder the WRA will construct, establish, and maintain for a period of twenty (20) years a riparian buffer with permanent vegetative cover and other stream corridor improvements along Sugar Creek in West Des Moines in an effort to support stream stability, water quality and ecological functions in West Des Moines; and

WHEREAS, under Chapter 28E of the Code of Iowa, West Des Moines agrees to formalize its responsibilities by entering into a 28E Agreement with the WRA for the WRA Sugar Creek Improvements Phase 1 Project.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WEST DES MOINES, IOWA, that the Iowa Code Chapter 28E Intergovernmental Agreement between the City of West Des Moines and the Des Moines Metropolitan Wastewater Reclamation Authority pertaining to The WRA Sugar Creek Improvements Phase 1 Project, a copy of which is hereto attached, be duly approved and is authorized to be filed in the office of the Iowa Secretary of State and all things necessary to place said 28E Agreement in full force and effect in accordance with Chapter 28E, Code of Iowa is herewith authorized.

PASSED AND APPROVED on the 17th day of February, 2020.

_____ Attest:_____

Steven K. Gaer, Mayor Ryan T. Jacobson, City Clerk

28E AGREEMENT BETWEEN THE CITY OF WEST DES MOINES, IOWA AND THE DES MOINES METROPOLITAN WASTEWATER RECLAMATION AUTHORITY FOR AGREEMENT FOR CONSERVATION ON WRA SUGAR CREEK PHASE-1 IMPROVEMENTS PROJECT

This Agreement is entered by and between the City of West Des Moines, Iowa, a municipal corporation, hereinafter referred to as CITY and the Des Moines Metropolitan Wastewater Reclamation Authority, a political subdivision organized under Chapters 28E and 28F of the Iowa Code, hereinafter referred to as WRA.

WHEREAS, the WRA will be acquiring two easements for conservation (hereinafter collectively "Easements") within certain real estate located along Sugar Creek between Booneville Road and Stagecoach Drive and locally known as a part of Outlot 'BB' and a part of District/Parcel 690000/1622176001 (hereinafter "Area 1") and locally known as a part of Outlot 'B' and a part of District/Parcel 690000/1622176016 (hereinafter "Area 2"), West Des Moines, Iowa, and both legally described as follows, as further depicted on the exhibit attached hereto as "WRA Access/Maintenance Exhibit – Project Area":

AREA 1 – EASEMENT FOR CONSERVATION
A PART OF OUTLOT 'BB', CORRECTED MICHAEL'S LANDING PLAT 1, AN OFFICIAL PLAT IN THE CITY OF WEST DES MOINES, DALLAS COUNTY, IOWA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID OUTLOT 'BB'; THENCE NORTH 00°37'23" EAST ALONG THE WEST LINE OF SAID OUTLOT 'BB', 142.30 FEET; THENCE NORTH 00°38'12" EAST CONTINUING ALONG SAID WEST LINE, 1047.87 FEET; THENCE SOUTH 89°56'09" EAST, 150.00 FEET; THENCE SOUTH 22°58'45" EAST, 231.84 FEET; THENCE SOUTH 29°42'58" WEST, 267.21 FEET; THENCE SOUTH 00°38'12" WEST, 311.96 FEET; THENCE SOUTH 50°57'15" EAST, 282.43 FEET; THENCE SOUTH 00°00'00" WEST, 135.79 FEET TO THE SOUTH LINE OF SAID OUTLOT 'BB'; THENCE SOUTH 70°35'30" WEST ALONG SAID SOUTH LINE, 357.44 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINS 223,728 SQUARE FEET OR 5.14 ACRES MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

AREA 2 – EASEMENT FOR CONSERVATION
OUTLOT "B", KINGS LANDING PLAT 2, AN OFFICIAL PLAT NOW INCLUDED IN AND FORMING A PART OF THE CITY OF WEST DES MOINES, DALLAS COUNTY, IOWA.

(hereinafter collectively "Easement Area"); and

WHEREAS, the WRA needs the Easement Area for the purpose of the WRA Sugar Creek Improvements – Phase 1 Project (hereinafter "Project"), which Project shall include constructing, establishing, maintaining, and conserving a sustainable and natural stream corridor that supports

stream stability, water quality, and ecological functions, particularly including a riparian buffer with permanent vegetative cover and other stream corridor improvements; and

WHEREAS, for Area 1, the WRA will acquire the easement on a voluntary basis in order to complete the Project; and

WHEREAS, for Area 2, the CITY wishes to grant an easement to the WRA to allow the WRA to complete the Project; and

WHEREAS, upon completion of the Project, including twenty (20) years of maintenance of the Project improvements by the WRA, the WRA shall release the easement for Area 2 and assign all rights in the easement for Area 1 to the CITY; and

WHEREAS, granting the easement for Area 2 to the WRA to allow the WRA to complete the Project will not adversely affect the use of adjoining real estate by the CITY for municipal purposes.

NOW, THEREFORE, the WRA and the CITY (hereinafter collectively "the Parties") hereby agree as follows:

1. Purpose of Agreement. Pursuant to Chapter 28E of the 2019 Code of Iowa, the Parties have entered into this Agreement to set forth the terms by which the WRA will acquire the Easements for the Project, and the WRA will release all rights as to Area 2 and will assign all rights in the easement as to Area 1 to the CITY upon completion of the Project, which shall include twenty (20) years of maintenance by the WRA. This Agreement is a voluntary undertaking by the parties.

2. Effective Date. The parties agree that this Agreement shall be effective, after its approval by the respective governing bodies of the CITY and the WRA, upon execution by the parties and its filing with the Iowa Secretary of State.

3. Administration. The parties hereby agree that the WRA Director shall be designated as administrator for purposes of this Agreement as provided by Section 28E.6 of the Code of Iowa, that the WRA Director shall administer this Agreement on behalf of the WRA and the West Des Moines City Manager shall administer this Agreement on the behalf of the CITY. No separate entity or joint board is created by this Agreement.

4. Duration. This Agreement shall remain in effect for a fixed term from the execution of this Agreement by the CITY until such time as the WRA both assigns its interest in Area 1 to the CITY and releases its interest in Area 2, or until terminated prior to the end of this fixed term as provided for herein below.

5. Acquisition of Easement.

   A. Property Interests Required by WRA. The WRA shall acquire the easement for Area 1 and grant the easement for Area 2. The Easements shall be in a form that meets all State

Revolving Fund (hereinafter "SRF") requirements and has been reviewed and approved in writing by both the WRA and the SRF. The easement for Area 1 shall also include a statement that the easement may be assigned to the CITY at the conclusion of the Project.

B. Title. Prior to accepting the easement to Area 2, the CITY shall provide evidence of ownership of all property interests to be granted or assigned to the WRA by virtue of an attorney opinion(s) provided to the WRA by the CITY, along with a copy of each recorded easement, deed, or other basis for ownership. The attorney opinions shall opine that CITY has title to and ownership of the easement area for Area 2. WRA shall not accept the Easements until the WRA, in its sole discretion is satisfied the Easements have been acquired from the correct titleholders and the Easements are in a form acceptable to the WRA to allow the WRA to construct and maintain the Project.

C. Conveyance of the Easement. For Area 2, the CITY shall convey an easement to the WRA for all rights reasonably necessary for the WRA to complete the Project. Completion of the Project shall include construction of the Project and twenty (20) years of maintenance from the time construction is completed. Upon completion of the Project, the WRA shall assign all its rights in the easement for Area 1 to the CITY and shall release its easement for Area 2.

6. Easement Terms and Conditions. The parties hereby agree the Easements shall include but not be limited to the following minimum terms and conditions:

A. Erection of Structures Prohibited. Except the Project improvements, the parties, including the fee title owner of Area 1, shall not erect any structure over or within Easement Area that is reasonably likely to substantially obstruct or impede the normal flow of surface water over the Easement Area. The WRA understands the City intends, pursuant to a different easement, to construct a bike trail and associated improvements within the Easement Area in the future and hereby acknowledges said bike trail and associated improvements shall not be a violation of this provision so long as said bike trail and associated improvements are not detrimental to the function of the Project and the natural floodplain.

B. Plantings Prohibited. Except the Project improvements, the parties, including the fee title owner of Area 1, shall not plant trees or shrubs within any part of Easement Area which are reasonably likely to materially obstruct or impede the normal flow of surface water over the Easement Area. In no event shall any planting inconsistent with the native species for the geographic region be allowed within the Easement Area.

C. Obstructions Prohibited. Except the Project improvements, the parties, including the fee title owner of Area 1, shall not erect or cause to be placed on the Easement Area any structure, material, device, thing or matter which are reasonably likely to obstruct or impede the normal flow of surface water over the Easement Area.

D. Change of Grade Prohibited. Except the Project improvements, the parties, including the fee title owner of Area 1, shall not change the grade, elevation or contour of any

part of the Easement Area without obtaining the prior written consent of the WRA Director, which consent shall not be unreasonably delayed or denied.

E. Row Crops Prohibited. The parties, including the fee title owner of Area 1, shall not perform row crop production within the Easement Area.

F. Dumping Prohibited. The parties, including the fee title owner of Area 1, shall not dump refuse, waste, sewage, or other debris within the Easement Area.

G. Alterations Prohibited. The parties, including the fee title owner of Area 1, shall not make any alterations to the Easement Area that conflict with the purpose of this Agreement, including any actions, intentional or accidental, that would adversely impact the established riparian best management practices or stability of the stream channel. The CITY and CITY's successors and assigns and the fee title owner of Area 1 and its successors and assigns shall be responsible to mitigate all adverse impacts caused by their actions.

H. Right of Access. WRA, its agents, contractors, employee and assigns shall have the right of access to the Easement Area and have all rights of ingress and egress reasonably necessary for the use and enjoyment of the Easement Area. The Easements allow WRA, its agents, contractors, employees and assigns the right to enter in, upon and onto the Easement Area at any time to perform any and all activities reasonably related to or reasonably necessary for the construction, reconstruction, repair, conservation, or maintenance of the Easement Area. This right of access shall begin on the date that the WRA accepts the easements. Prior to performing any work in the Easement Area, the WRA shall give the CITY thirty (30) days notice. Any closures of any future trails in the Easement Area shall be coordinated with the CITY to minimize the time the trail is closed.

I. Maintenance. The objective of the Easements is to reduce creek bank erosion and improve water quality through the preservation of a deep-rooted vegetated stream buffer. Unless approved in writing by the WRA Director, the CITY and CITY's successors and assigns and the fee title owner of Area 1 and its successors and assigns shall not mow, fertilize, or otherwise maintain the immediate streambank area located within the Easement Area. The WRA and assigns shall be allowed to engage in all activities reasonably necessary to maintain the immediate streambank area located within the Easement Area. The WRA shall bear the responsibility to maintain the streambank erosion control improvements included in the Project for a period of twenty (20) years, commencing when construction of the Project has been completed. The WRA shall perform routine inspections and monitoring of the Project improvements.

J. Wetlands Mitigation. The Easement Area contains some existing wetland area. The WRA will be responsible for mitigation of any wetland area that is disturbed as part of the Project.

K. Approval by the WRA Board. The Easements shall not be binding until they have received final approval and acceptance by the WRA Board by Resolution which approval and acceptance shall be noted on this Agreement by the WRA Board.

L. Restoration of the Easement Area. Upon completion of the initial installation of the Project improvements, the WRA shall promptly restore and grade the Easement Area pursuant to the attached grading plans, which may be altered by the CITY as may be required by on-site conditions after the installation of the Project improvements. See Exhibit "A". Upon completion of initial installation of the Project improvements, the WRA shall seed the Easement Area with weed free, full vegetative coverage of all the disturbed area. The WRA shall also plant and maintain for one (1) year landscaping as indicated in the attached Exhibit "B". The WRA shall restore to the reasonable satisfaction of the CITY any subsequent damage to the Easement Area directly caused by the WRA, its employees, or its contractors within a reasonable time after the damages are incurred, following written notice to the WRA.

M. Security. The WRA agrees that it will provide any and all security measures reasonably necessary for the Easement Area during the course of any work.

N. Conservation. The Easement Area shall be dedicated and maintained as open space for the conservation of natural floodplain functions for at least the duration of the Project, including twenty (20) years of maintenance. The WRA understands the City intends, pursuant to a separate easement in Area 1 and on its own property in Area 2, to construct a bike trail and associated improvements within the Easement Area in the future and hereby acknowledges said bike trail and associated improvements shall not be a violation of this provision so long as said bike trail and associated improvements are not detrimental to the function of the Project and the natural floodplain.

7. Insurance.

A. Definition of WRA for Part 6. For purposes of Part 7 of this Agreement, the term "WRA" shall mean the Des Moines Metropolitan Wastewater Reclamation Authority and its Operating Contractor, the City of Des Moines, Iowa, including their respective elected and appointed officials, employees and volunteers.

B. Insurance Requirements. The CITY and the WRA shall, respectively, purchase and maintain the following insurance coverages throughout the duration of this Agreement. Said insurance shall be provided by an insurance company(ies) or an insurance equivalent provided by a local governmental risk pool pursuant to Section 670.7 of the Iowa Code, "admitted" and "nonadmitted" to do business in the State of Iowa, having no less than an A.M. Best Rating of "B+" or equivalent Demotech rating. A self-insurance/excess insurance program may satisfy these requirements if approved by the other Party. The WRA may, from time to time, review the insurance requirements of this Agreement and require reasonable changes as deemed necessary to protect the CITY and the WRA from loss.

1) Worker's Compensation & Employer's Liability Insurance: Worker's Compensation Insurance, including *Employer's Liability Coverage*, in accordance with all applicable statutes of the State of Iowa. The coverage limits for Employer's Liability Insurance shall be $500,000 each accident for Bodily Injury by Accident, $500,000 each accident for Bodily Injury by Disease, and $500,000 policy limit for Bodily Injury by Disease.

2) Commercial General Liability Insurance: Commercial General Liability insurance on a per occurrence basis with limits of liability not less than $2,000,000 per occurrence and/or aggregate combined single limit covering Personal Injury, Bodily Injury and Property Damage. Coverage shall include the following extensions: (a) Premises and Operations, (b) Products and Completed Operations, (c) Personal and Advertising Injury and (d) Explosion, Collapse and Underground (XCU). Coverage shall be no less comprehensive and no more restrictive than the coverage provided by a standard form Commercial General Liability Policy (ISO CG 0001 or any subsequent ISO equivalent or a non-ISO equivalent form).

3) Automobile Liability Insurance: Automobile Liability Insurance with limits of liability of not less than $2,000,000 per occurrence combined single limit including Bodily Injury and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.

4) Umbrella/Excess Insurance: The General Liability and Automobile Liability Insurance requirements above may be satisfied with a combination of primary and Umbrella/Excess Insurance. The Umbrella/Excess Insurance shall also be written on a per occurrence basis. If the Umbrella/Excess Liability Insurance policy does not follow the form of the primary policy(ies), it shall include the same endorsements as required of the primary policy(ies).

5) Directors & Officers or Public Officials Liability Insurance: Directors and Officers or Public Officials Liability Insurance with limits of liability of not less than $1,000,000 per loss and $1,000,000 aggregate per policy period all losses.

6) Governmental Immunity: Liability insurance policies shall include an endorsement that preserves governmental immunity granted under Code of Iowa Section 670.4 by stating that the purchase of the liability insurance and including the WRA as an Additional Insured shall not waive any of the defenses of governmental immunity available to the City or WRA under Code of Iowa Section 670.4 as it now exists or as it may be amended from time to time and that the insurance policy only covers those claims not subject to the defense of governmental immunity under Code of Iowa Section 670.4 and the policy shall not deny any of the rights and benefits accruing to the City or WRA under the policy for reasons of governmental immunity unless and until a court of competent jurisdiction has ruled in favor of the defense(s) of governmental immunity asserted by the City or WRA.

7) Cancellation & Material Change Endorsement: The insurance policies shall include a thirty (30) day advance written notification of Cancellation, forty-five (45) days advance written notification of Nonrenewal and ten (10) days advance written notification for cancellation due to nonpayment.

8) Proof of Insurance: The CITY and the WRA shall, respectively, submit to the other, a Certificate(s) of Insurance demonstrating compliance with the above insurance requirements. A letter of self-insurance may be submitted in lieu of a Certificate of Insurance if the limits of self-insurance are equal to or exceed those required above.

C. Waiver of Subrogation. To the extent permitted by law, the WRA and the CITY hereby release one another, their respective elected and appointed officials, its agents, employees and volunteers and other working on their behalf, from and against any and all liability or responsibility to each other or anyone claiming through or under the others by way of subrogation or otherwise, for any loss or damage to property caused by fire or any other casualty and for any loss due to occupational injury. This provision shall be applicable and in full force and effect only with respect to loss or damage arising out of this Agreement. The policies of insurance of each shall contain a clause or endorsement to the effect that such release shall not adversely affect or impair such policies or prejudice the right of each to recover thereunder.

8. Federal, State, and Local Laws for Construction. The WRA shall follow all applicable federal, state, and local laws and regulations for the construction of the Project.

9. Notices. All notices which the parties are authorized or required to give one another pursuant to this Agreement shall be in writing and may be personally delivered or sent by ordinary mail to the addresses hereinafter provided. Mailed notices shall be deemed to be received by the Party to whom directed when they are postmarked. Such notices shall be delivered or mailed to the following persons at the addresses listed:

Notices to the WRA:
WRA Director
3000 Vandalia Road
Des Moines, Iowa 50317

Notices to CITY:
City Manager, City of West Des Moines
4200 Mills Civic Parkway
West Des Moines, IA 50265

10. Declaration of Default and Notice. In the event that either party determines that the other has defaulted in the performance of its obligations hereunder, the aggrieved party may declare that default has occurred and given notice thereof to the defaulting party. Notice of default shall be given in writing, shall specify the nature of the default and the provision of this Agreement involved, and shall specify what action is required of the defaulting party to correct the default. The defaulting party shall have thirty (30) days from the date of its receipt of the notice of default to correct the default. If an end of said thirty-day period the default has not, in the opinion of the aggrieved party, been corrected, and if such default shall constitute a material breach of this Agreement, that party may then take action it

determines necessary or appropriate to enforce or obtain performance of the provisions of this Agreement.

12. Remedies. In addition to any other remedies available under applicable law, the WRA and CITY shall have the right to the equitable remedy of specific performance to enforce compliance with any provision of this Agreement.

13. Amendment of Agreement. This Agreement may be amended only by written agreement signed by both parties.

14. Assignment of Agreement. Neither party may assign this Agreement to a third party without the written consent of the other party.

15. No Third Party Beneficiaries. Nothing in this Agreement shall be construed to create in any third party, or in favor of any third party, any right(s), license(s), power(s), or privilege(s).

16. Severability. If any section, provision, or part of this Agreement shall be found to be invalid or unconstitutional, such finding shall not affect the validity of the Agreement as a whole or any section, provision, or part thereof not found to be invalid or unconstitutional.

17. Governing Law; Jurisdiction. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Iowa. Lawsuits brought by either party in connection with this Agreement shall be heard and tried in Polk County District Court, Des Moines, Iowa.

18. Entire Agreement. This Agreement represents the entire agreement between the WRA and the CITY regarding this matter. Any subsequent change or modification to the terms of this Agreement shall be in the form of a duly executed addendum to this Agreement.

19. Execution of Agreement. This Agreement shall be executed in two counterparts, each of which so executed shall be deemed to be an original.

DES MOINES METROPOLITAN WASTEWATER RECLAMATION AUTHORITY

By: _____
Tim Moerman, Chair

Attest: _____
Sara Kurovski, Secretary

Approved as to Form:

_____
Lisa A. Wieland, Attorney for WRA's Operating Contractor

STATE OF IOWA)
)
COUNTY OF POLK)

On this ____ day of _____, 20__, before me, the undersigned, a Notary Public in and for the State of Iowa, personally appeared Tim Moerman and Sara Kurovski, to me personally known, and, who, being by me duly sworn, did say that they are the Chair and Secretary, respectively of the DES MOINES METROPOLITAN WASTEWATER RECLAMATION AUTHORITY, a legal entity created and existing under the laws of the State of Iowa; that the seal affixed to the foregoing instrument is the seal of said Authority, and that the instrument was signed and sealed on behalf of said Authority, by authority of its Board, and said Chair and Secretary acknowledged the execution of the instrument to be the free act and deed of said Authority by it voluntarily executed.

_____
Notary Public in and for the State of Iowa

CITY OF WEST DES MOINES, IOWA

By: _____
Steven K. Gaer, Mayor

Attest: _____
Ryan T. Jacobson, City Clerk

Approved as to Form:

_____
West Des Moines City Attorney's Office

STATE OF IOWA)
) ss:
COUNTY OF POLK)

On this _____ day of _____, 20___, before me, a Notary Public in and for the State of Iowa, personally appeared Steven K. Graer and Ryan T. Jacobson, to me personally known, and, who being by me duly sworn, did say that they are the Mayor and City Clerk of the City of West Des Moines, Iowa, a Municipal Corporation, created and existing under the laws of the State of Iowa, and that the seal affixed to the foregoing instrument is the seal of said Municipal Corporation by authority and resolution of its City Council, and said Mayor and City Clerk acknowledged said instrument to be the free act and deed of said Municipal Corporation by it voluntarily executed.

_____
Notary Public in and for the State of Iowa

Index Legend	
City:	West Des Moines
County:	Dallas County
Parcel ID:	Ex: 1622176001
Description:	Pt Outlot "BB", Corrected Michaels Landing & Outlot "B", King's Landing Plat 2
Proprietor:	Michaels Landing Owners Association: Outlot "BB" City of West Des Moines: Outlot "B"
Surveyor:	Erin D. Griffin
Company:	Snyder & Associates, Inc.
Return To:	2727 SW Snyder Boulevard Ankeny, IA 50023 | (515) 964-2020

PERMANENT ACCESS/MAINTENANCE EASEMENT BEING CONVEYED TO THE DES MOINES WASTEWATER RECLAMATION AUTHORITY
SUGAR CREEK BANK STABILIZATION - PHASE 1
WRA ACTIVITY IO 07-2020-001

AREA 1 PROPERTY OWNER:

MICHAEL'S LANDING OWNERS ASSOCIATION
5550 WILD ROSE LN SUITE 400
WEST DES MOINES, IA 50266-5304

AREA 1 LEGAL DESCRIPTION:

A PART OF OUTLOT 'BB', CORRECTED MICHAEL'S LANDING PLAT 1, AN OFFICIAL PLAT IN THE CITY OF WEST DES MOINES, DALLAS COUNTY, IOWA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID OUTLOT 'BB'; THENCE NORTH 00°37'23" EAST ALONG THE WEST LINE OF SAID OUTLOT 'BB', 142.30 FEET; THENCE NORTH 00°38'12" EAST CONTINUING ALONG SAID WEST LINE, 1047.87 FEET; THENCE SOUTH 89°56'09" EAST, 150.00 FEET; THENCE SOUTH 22°58'45" EAST, 231.84 FEET; THENCE SOUTH 29°42'58" WEST, 267.21 FEET; THENCE SOUTH 00°38'12" WEST, 311.96 FEET; THENCE SOUTH 50°57'15" EAST, 282.43 FEET; THENCE SOUTH 00° 00'00" WEST, 135.79 FEET TO THE SOUTH LINE OF SAID OUTLOT 'BB'; THENCE SOUTH 70°35'30" WEST ALONG SAID SOUTH LINE, 357.44 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINS 223,728 SQUARE FEET OR 5.14 ACRES MORE OR LESS, SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

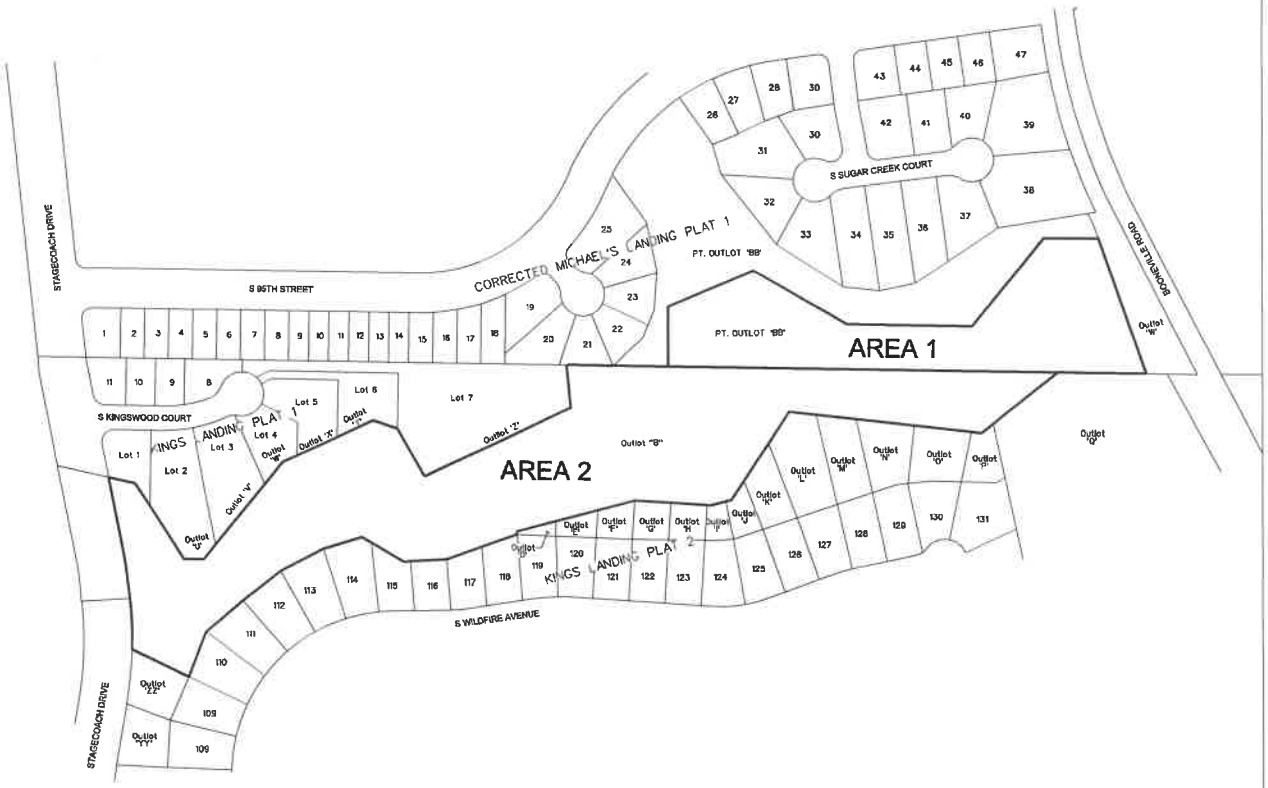
FOR THE PURPOSE OF THIS DESCRIPTION, ALL BEARING AND DISTANCES ARE REFERENCED TO NAD83(2011) IA SPCS SOUTH ZONE, US SURVEY FOOT.

AREA 2 PROPERTY OWNER:

CITY OF WEST DES MOINES
4200 MILLS CIVIC PKWY
WEST DES MOINES, IA 50265

AREA 2 LEGAL DESCRIPTION:

OUTLOT "B", KINGS LANDING PLAT 2, AN OFFICIAL PLAT NOW INCLUDED IN AND FORMING A PART OF THE CITY OF WEST DES MOINES, DALLAS COUNTY, IOWA.



SNYDER & ASSOCIATES

0 150 300
FEET

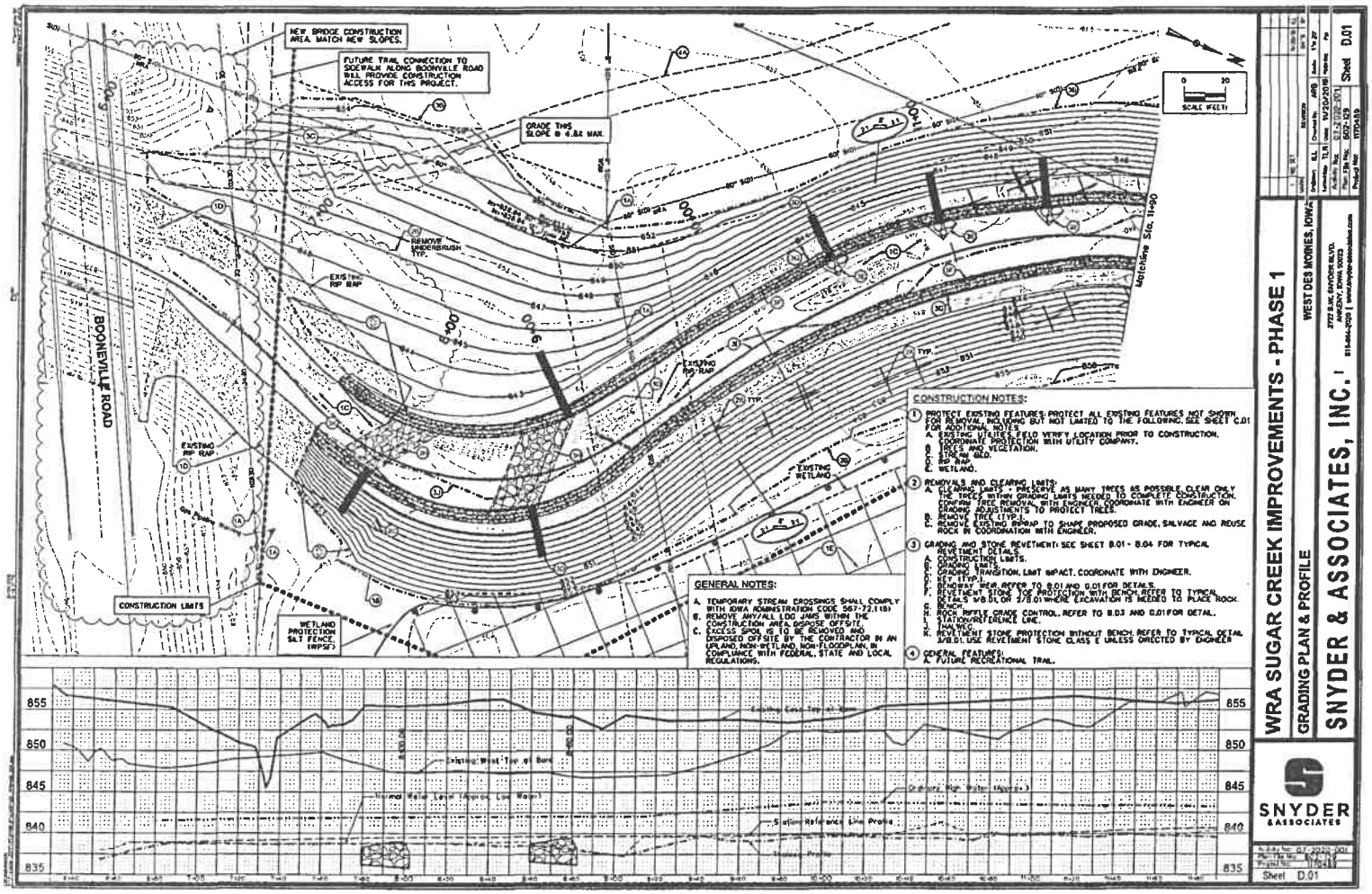
WRA ACCESS/MAINTENANCE EXHIBIT

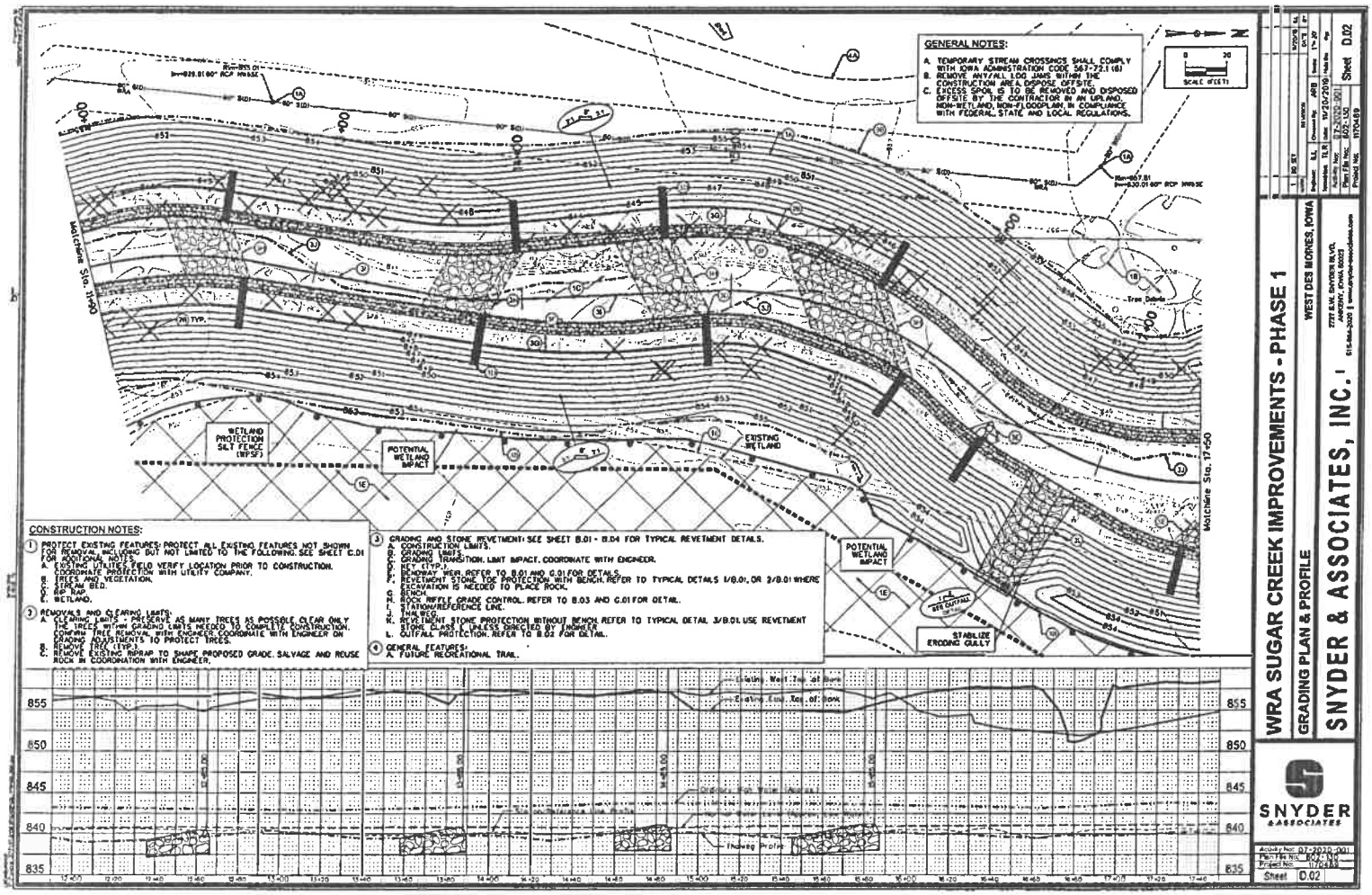
West Des Moines, IA

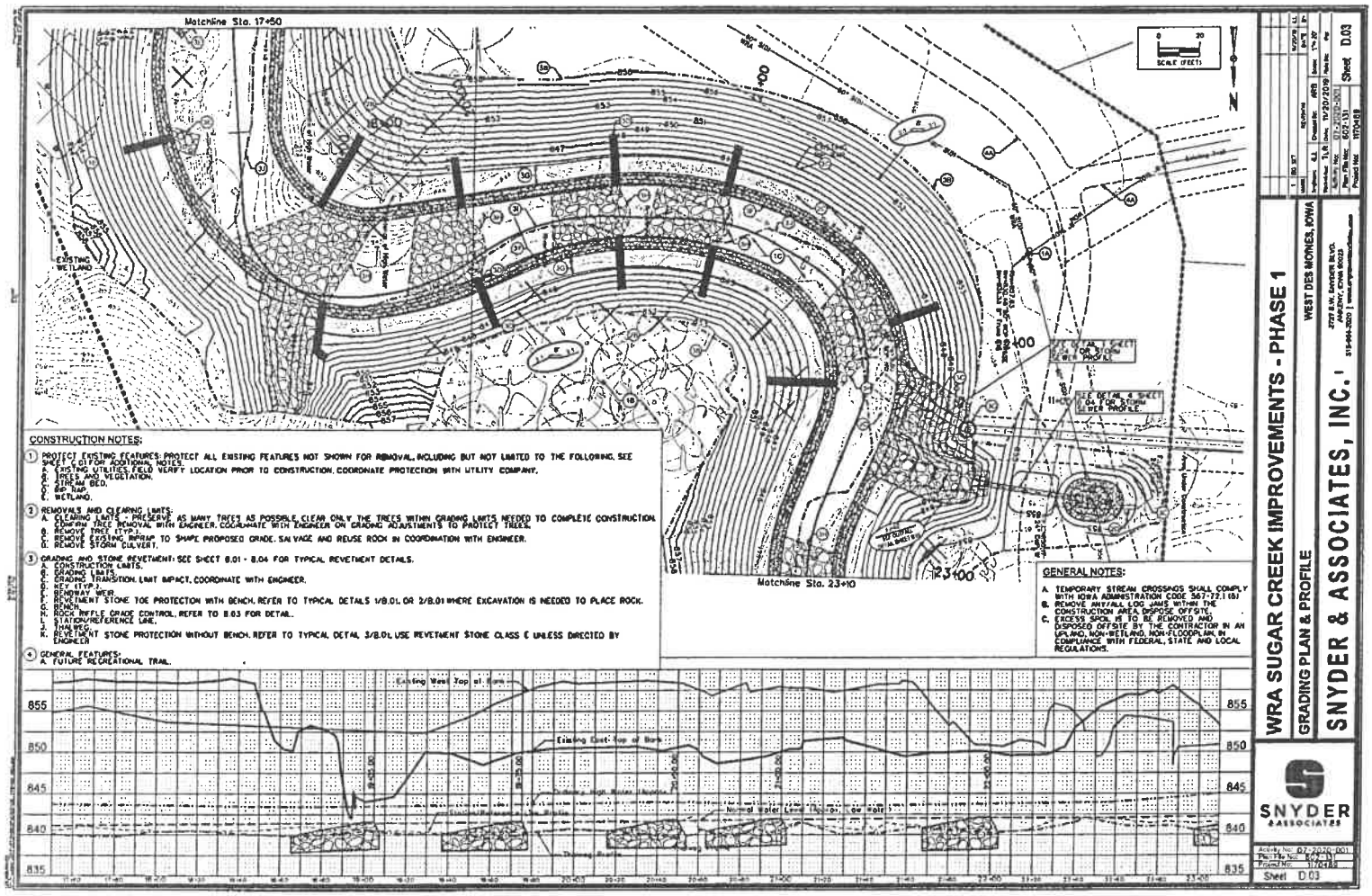
PROJECT AREA

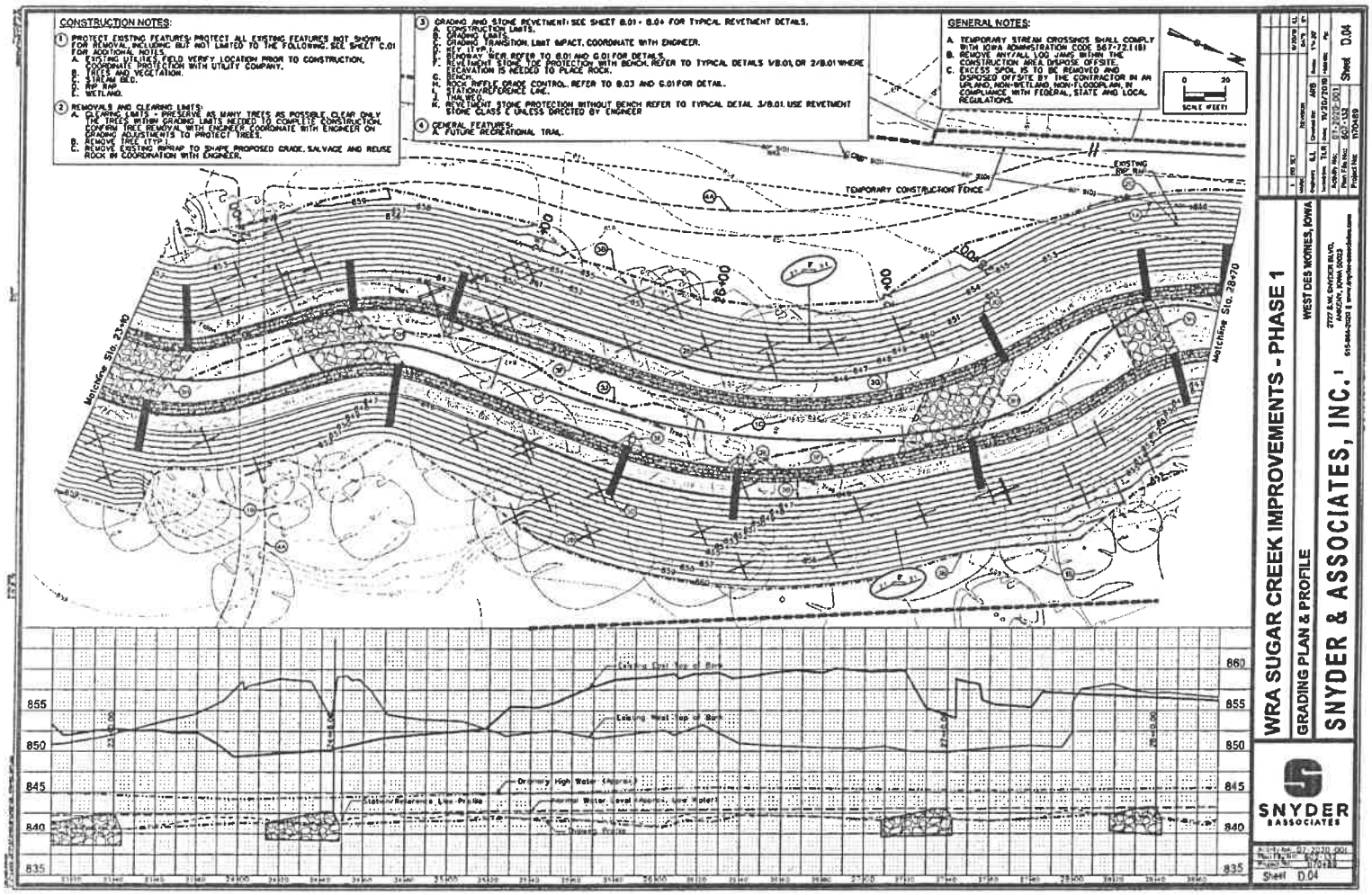
SHEET 1 OF 1

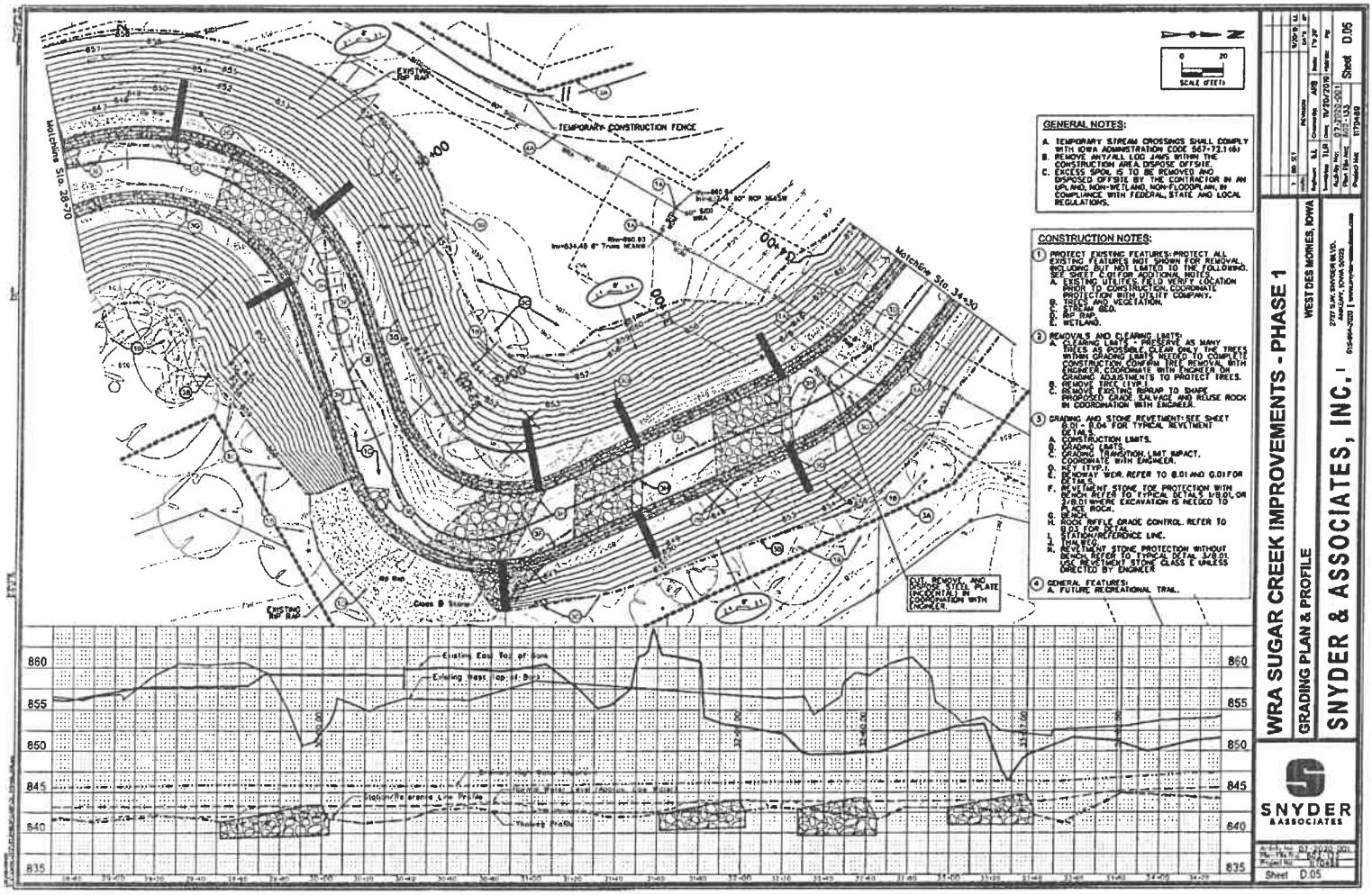
11/18/2019

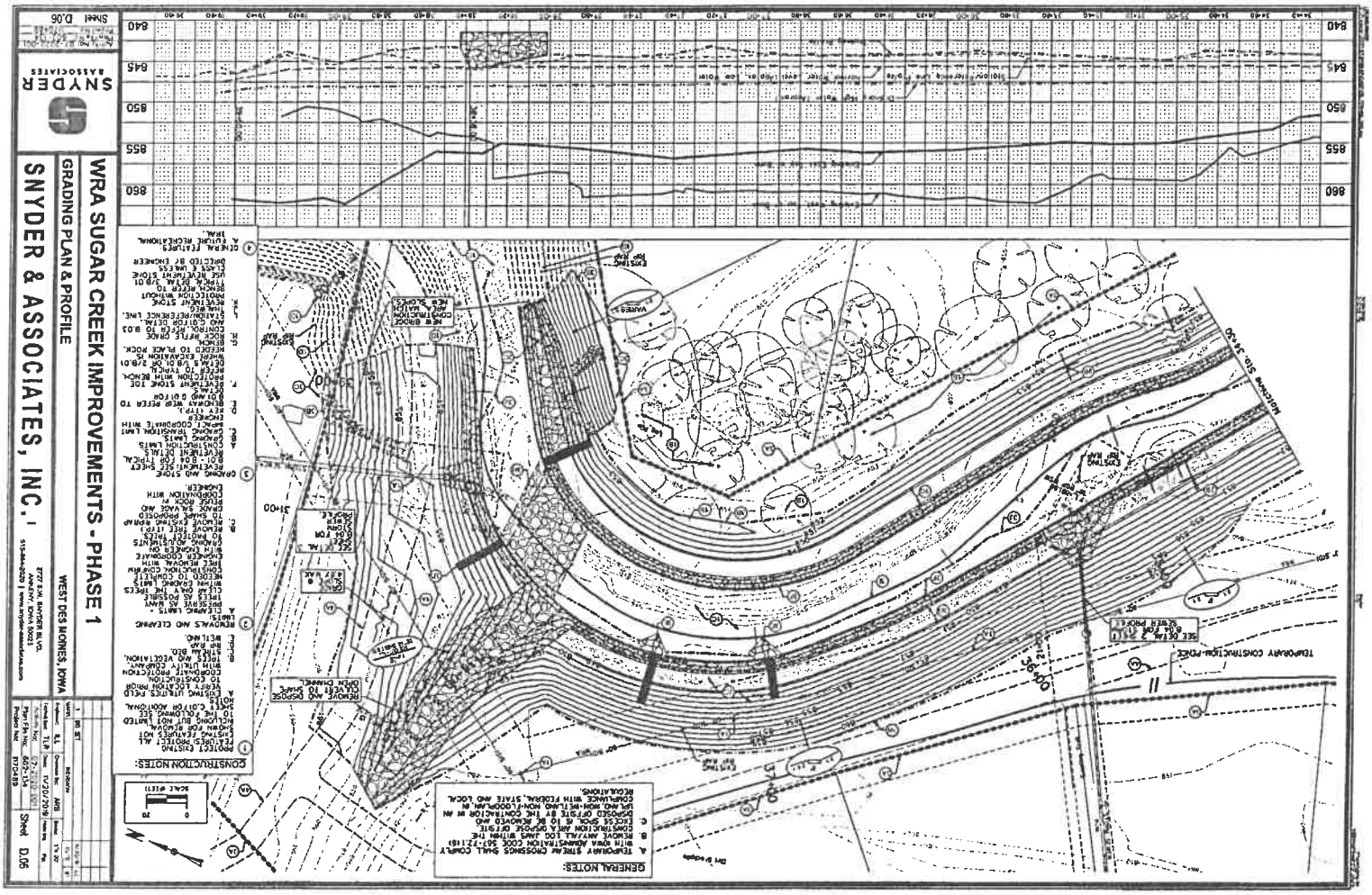

NEW BRIDGE CONSTRUCTION AREA. MATCH NEW SLOPES.
FUTURE TRAIL CONNECTION TO SIDEWALK ALONG BOONEVILLE ROAD WILL PROVIDE CONSTRUCTION ACCESS FOR THIS PROJECT.
GRADE THIS SLOPE @ 4.8X MAX.
REMOVE UNDERBRUSH TYP.
EXISTING RIP RAP
BOONEVILLE ROAD
EXISTING WETLAND
CONSTRUCTION LIMITS
WETLAND PROTECTION SILT FENCE. (WPSF)
Matchline Sta. 11+90
SCALE (FEET)
CONSTRUCTION NOTES:
1 PROTECT EXISTING FEATURES: PROTECT ALL EXISTING FEATURES NOT SHOWN FOR REMOVAL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING. SEE SHEET C.01 FOR ADDITIONAL NOTES.
A. EXISTING UTILITIES. FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. COORDINATE PROTECTION WITH UTILITY COMPANY.
B. TREES AND VEGETATION.
C. STREAM BED.
D. RIP RAP.
E. WETLAND.
2 REMOVALS AND CLEARING LIMITS:
A. CLEARING LIMITS - PRESERVE AS MANY TREES AS POSSIBLE. CLEAR ONLY THE TREES WITHIN GRADING LIMITS NEEDED TO COMPLETE CONSTRUCTION. CONFIRM TREE REMOVAL WITH ENGINEER. COORDINATE WITH ENGINEER ON GRADING ADJUSTMENTS TO PROTECT TREES.
B. REMOVE TREE (TYP.).
C. REMOVE EXISTING RIPRAP TO SHAPE PROPOSED GRADE. SALVAGE AND REUSE ROCK IN COORDINATION WITH ENGINEER.
3 GRADING AND STONE REVETMENT: SEE SHEET B.01 - B.04 FOR TYPICAL REVETMENT DETAILS.
A. CONSTRUCTION LIMITS.
B. GRADING LIMITS.
C. GRADING TRANSITION. LIMIT IMPACT. COORDINATE WITH ENGINEER.
D. KEY. (TYP.).
E. RENOVATE WEIR. REFER TO B.01 AND D.01 FOR DETAILS.
F. REVETMENT STONE TOE PROTECTION WITH BENCH. REFER TO TYPICAL DETAILS 3/B.01, OR 2/B.01 WHERE EXCAVATION IS NEEDED TO PLACE ROCK.
G. BENCH.
H. ROCK RIFFLE GRADE CONTROL. REFER TO B.03 AND D.01 FOR DETAIL.
I. STATION/REFERENCE LINE.
J. THALWEG.
K. REVETMENT STONE PROTECTION WITHOUT BENCH. REFER TO TYPICAL DETAIL 3/B.01. USE REVETMENT STONE CLASS E UNLESS DIRECTED BY ENGINEER
4 GENERAL FEATURES:
A. FUTURE RECREATIONAL TRAIL.
GENERAL NOTES:
A. TEMPORARY STREAM CROSSINGS SHALL COMPLY WITH IOWA ADMINISTRATION CODE 567-72.1(8)
B. REMOVE ANY/ALL LOG JAMS WITHIN THE CONSTRUCTION AREA DISPOSE OFFSITE.
C. EXCESS SPOIL IS TO BE REMOVED AND DISPOSED OFFSITE BY THE CONTRACTOR IN AN UPLAND, NON-WETLAND, NON-FLOODPLAIN, IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
855
850
845
840
835
Existing East Top of Bank
Existing West Top of Bank
Ordinary High Water (Approx.)
Station Reference Line Profile
Thalweg Profile
WRA SUGAR CREEK IMPROVEMENTS - PHASE 1
WEST DES MOINES, IOWA
GRADING PLAN & PROFILE
SNYDER & ASSOCIATES, INC.
2727 SW SNYDER BLVD.
ANKENY, IOWA 50023
515-964-2020 | www.snyderassociates.com
SNYDER & ASSOCIATES
Sheet D.01

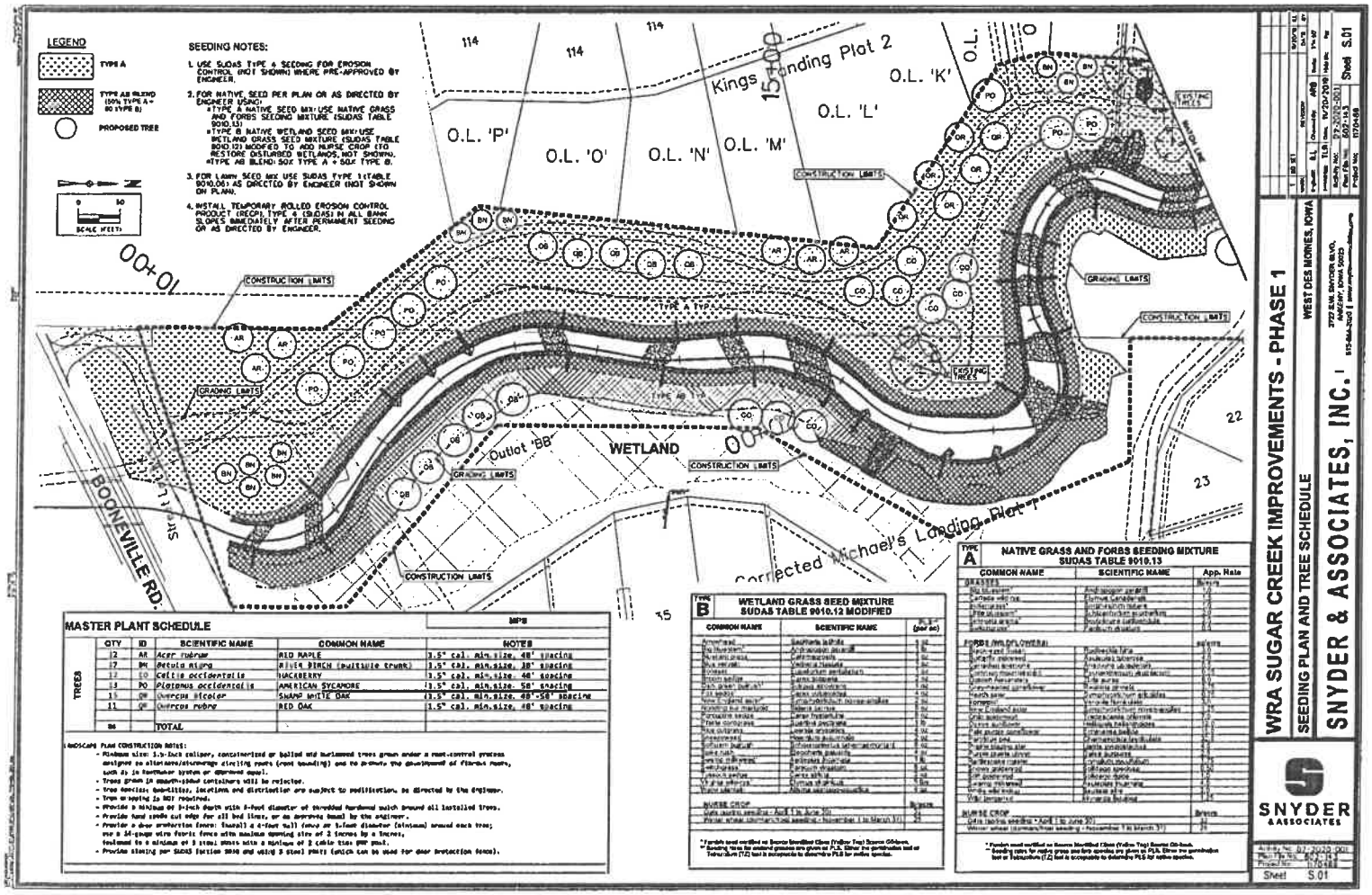

GENERAL NOTES:
A. TEMPORARY STREAM CROSSINGS SHALL COMPLY WITH IOWA ADMINISTRATION CODE 567-72.1 (6)
B. REMOVE ANY/ALL LOG JAMS WITHIN THE CONSTRUCTION AREA. DISPOSE OFFSITE.
C. EXCESS SPOIL IS TO BE REMOVED AND DISPOSED OFFSITE BY THE CONTRACTOR IN AN UPLAND, NON-WETLAND, NON-FLOODPLAIN, IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
SCALE (FEET)
Matchline Sta. 11+90
Matchline Sta. 17+50
WETLAND PROTECTION SILT FENCE (WPSF)
POTENTIAL WETLAND IMPACT
EXISTING WETLAND
POTENTIAL WETLAND IMPACT
STABILIZE ERODING GULLY
CONSTRUCTION NOTES:
1 PROTECT EXISTING FEATURES: PROTECT ALL EXISTING FEATURES NOT SHOWN FOR REMOVAL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING. SEE SHEET C.01 FOR ADDITIONAL NOTES.
A. EXISTING UTILITIES. FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. COORDINATE PROTECTION WITH UTILITY COMPANY.
B. TREES AND VEGETATION.
C. STREAM BED.
D. RIP RAP.
E. WETLAND.
2 REMOVALS AND CLEARING LIMITS:
A. CLEARING LIMITS - PRESERVE AS MANY TREES AS POSSIBLE. CLEAR ONLY THE TREES WITHIN GRADING LIMITS NEEDED TO COMPLETE CONSTRUCTION. CONFIRM TREE REMOVAL WITH ENGINEER. COORDINATE WITH ENGINEER ON GRADING ADJUSTMENTS TO PROTECT TREES.
B. REMOVE TREE (TYP.)
C. REMOVE EXISTING RIPRAP TO SHAPE PROPOSED GRADE. SALVAGE AND REUSE ROCK IN COORDINATION WITH ENGINEER.
3 GRADING AND STONE REVETMENT: SEE SHEET B.01 - B.04 FOR TYPICAL REVETMENT DETAILS.
A. CONSTRUCTION LIMITS.
B. GRADING LIMITS.
C. GRADING TRANSITION. LIMIT IMPACT. COORDINATE WITH ENGINEER.
D. KEY (TYP.)
E. DEMOBAT WEIR. REFER TO B.01 AND C.01 FOR DETAILS.
F. REVETMENT STONE TOE PROTECTION WITH BENCH. REFER TO TYPICAL DETAILS 1/B.01, OR 2/B.01 WHERE EXCAVATION IS NEEDED TO PLACE ROCK.
G. BENCH.
H. ROCK RIFFLE GRADE CONTROL. REFER TO B.03 AND C.01 FOR DETAIL.
I. STATION/REFERENCE LINE.
J. INVERSED.
K. REVETMENT STONE PROTECTION WITHOUT BENCH. REFER TO TYPICAL DETAIL 3/B.01. USE REVETMENT STONE GLASS 1 UNLESS DIRECTED BY ENGINEER.
L. OUTFALL PROTECTION. REFER TO B.02 FOR DETAIL.
4 GENERAL FEATURES:
A. FUTURE RECREATIONAL TRAIL.
Existing Water Surface
Existing Eval. Top of Bank
Thalweg Profile
855
850
845
840
835
WRA SUGAR CREEK IMPROVEMENTS - PHASE 1
GRADING PLAN & PROFILE
WEST DES MOINES, IOWA
SNYDER & ASSOCIATES, INC.
SNYDER & ASSOCIATES
Sheet D.02


Matchline Sta. 17+50
Matchline Sta. 23+10
EXISTING WETLAND
SCALE (FEET)
CONSTRUCTION NOTES:
1 PROTECT EXISTING FEATURES: PROTECT ALL EXISTING FEATURES NOT SHOWN FOR REMOVAL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING. SEE SHEET C.01 FOR ADDITIONAL NOTES.
A. EXISTING UTILITIES. FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. COORDINATE PROTECTION WITH UTILITY COMPANY.
B. TREES AND VEGETATION.
C. STREAM BED.
D. RIP RAP.
E. WETLAND.
2 REMOVALS AND CLEARING LIMITS:
A. CLEARING LIMITS - PRESERVE AS MANY TREES AS POSSIBLE. CLEAR ONLY THE TREES WITHIN GRADING LIMITS NEEDED TO COMPLETE CONSTRUCTION. DOWN TREE REMOVAL WITH ENGINEER. COORDINATE WITH ENGINEER ON GRADING ADJUSTMENTS TO PROTECT TREES.
B. REMOVE TREE (TYP.).
C. REMOVE EXISTING RIPRAP TO SHAPE PROPOSED GRADE. SALVAGE AND REUSE ROCK IN COORDINATION WITH ENGINEER.
D. REMOVE STORM CULVERT.
3 GRADING AND STONE REVETMENT: SEE SHEET 8.01 - 8.04 FOR TYPICAL REVETMENT DETAILS.
A. CONSTRUCTION LIMITS.
B. GRADING LIMITS.
C. GRADING TRANSITION. LIMIT IMPACT. COORDINATE WITH ENGINEER.
D. KEY (TYP.).
E. RENOVAY WEIR.
F. REVETMENT STONE TOE PROTECTION WITH BENCH. REFER TO TYPICAL DETAILS 1/8.01, OR 2/8.01 WHERE EXCAVATION IS NEEDED TO PLACE ROCK.
G. BENCH.
H. ROCK RIFFLE GRADE CONTROL. REFER TO 8.03 FOR DETAIL.
L. STATION/REFERENCE LINE.
J. THALWEG.
K. REVETMENT STONE PROTECTION WITHOUT BENCH. REFER TO TYPICAL DETAIL 3/8.01. USE REVETMENT STONE CLASS E UNLESS DIRECTED BY ENGINEER
4 GENERAL FEATURES:
A. FUTURE RECREATIONAL TRAIL.
GENERAL NOTES:
A. TEMPORARY STREAM CROSSINGS SHALL COMPLY WITH IOWA ADMINISTRATION CODE 567-22.1(6).
B. REMOVE ANY FALL LOG JAMS WITHIN THE CONSTRUCTION AREA. DISPOSE OFFSITE.
C. EXCESS SPOIL IS TO BE REMOVED AND DISPOSED OFFSITE BY THE CONTRACTOR IN AN UPLAND, NON-WETLAND, NON-FLOODPLAIN, IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
Existing West Top of Bank
Existing East Top of Bank
Normal Water Level (Typical, Low Water)
855
850
845
840
835
WRA SUGAR CREEK IMPROVEMENTS - PHASE 1
WEST DES MOINES, IOWA
GRADING PLAN & PROFILE
SNYDER & ASSOCIATES, INC.
SNYDER & ASSOCIATES
Sheet D.03


CONSTRUCTION NOTES:
1 PROTECT EXISTING FEATURES: PROTECT ALL EXISTING FEATURES NOT SHOWN FOR REMOVAL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING. SEE SHEET C.01 FOR ADDITIONAL NOTES.
A. EXISTING UTILITIES. FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. COORDINATE PROTECTION WITH UTILITY COMPANY.
B. TREES AND VEGETATION.
C. STREAM BED.
D. RIP RAP
E. WETLAND.
2 REMOVALS AND CLEARING LIMITS:
A. CLEARING LIMITS - PRESERVE AS MANY TREES AS POSSIBLE. CLEAR ONLY THE TREES WITHIN GRADING LIMITS NEEDED TO COMPLETE CONSTRUCTION. CONFIRM TREE REMOVAL WITH ENGINEER. COORDINATE WITH ENGINEER ON GRADING ADJUSTMENTS TO PROTECT TREES.
B. REMOVE TREE (TYP.).
C. REMOVE EXISTING RIPRAP TO SHAPE PROPOSED GRADE. SALVAGE AND REUSE ROCK IN COORDINATION WITH ENGINEER.
3 GRADING AND STONE REVETMENT: SEE SHEET 8.01 - 8.04 FOR TYPICAL REVETMENT DETAILS.
A. CONSTRUCTION LIMITS.
B. GRADING LIMITS.
C. GRADING TRANSITION. LIMIT IMPACT. COORDINATE WITH ENGINEER.
D. KEY (TYP.).
E. REMOVAL WICK. REFER TO 8.01 AND 6.01 FOR DETAILS.
F. REVETMENT STONE TOE PROTECTION WITH BENCH. REFER TO TYPICAL DETAILS 1/8.01, OR 2/8.01 WHERE EXCAVATION IS NEEDED TO PLACE ROCK.
G. BENCH.
H. ROCK RIFFLE GRADE CONTROL. REFER TO 8.03 AND 6.01 FOR DETAIL.
I. STATION/REFERENCE LINE.
J. TRIM WEED.
K. REVETMENT STONE PROTECTION WITHOUT BENCH. REFER TO TYPICAL DETAIL 3/8.01. USE REVETMENT STONE CLASS C UNLESS DIRECTED BY ENGINEER
4 GENERAL FEATURES:
A. FUTURE RECREATIONAL TRAIL.
GENERAL NOTES:
A. TEMPORARY STREAM CROSSINGS SHALL COMPLY WITH IOWA ADMINISTRATION CODE 567-72.1 (8)
B. REMOVE ANY/ALL LOG JAMS WITHIN THE CONSTRUCTION AREA DISPOSE OFFSITE.
C. EXCESS SPOIL IS TO BE REMOVED AND DISPOSED OFFSITE BY THE CONTRACTOR IN AN UPLAND, NON-WETLAND, NON-FLOODPLAIN, IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
0 20
SCALE: FEET
TEMPORARY CONSTRUCTION FENCE
EXISTING RIP RAP
Matching Sta. 23+40
Matching Sta. 28+70
Existing Crest Top of Bank
Existing Heel Top of Bank
Ordinary High Water (Approx.)
Normal Water Level (Approx. Low Water)
Thalweg Profile
Station/Reference Line Profile
860
855
850
845
840
835
WRA SUGAR CREEK IMPROVEMENTS - PHASE 1
WEST DES MOINES, IOWA
GRADING PLAN & PROFILE
SNYDER & ASSOCIATES, INC.
2727 S.W. SNYDER BLVD.
ANKENY, IOWA 50023
515-964-2020 | www.snyder-associates.com
SNYDER & ASSOCIATES
Sheet D.04


GENERAL NOTES:
A. TEMPORARY STREAM CROSSINGS SHALL COMPLY WITH IOWA ADMINISTRATION CODE 567-72.1(6)
B. REMOVE ANY/ALL LOG JAMS WITHIN THE CONSTRUCTION AREA DISPOSE OFFSITE.
C. EXCESS SPOIL IS TO BE REMOVED AND DISPOSED OFFSITE BY THE CONTRACTOR IN AN UPLAND, NON-WETLAND, NON-FLOODPLAIN, IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
CONSTRUCTION NOTES:
1 PROTECT EXISTING FEATURES: PROTECT ALL EXISTING FEATURES NOT SHOWN FOR REMOVAL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING. SEE SHEET C.01 FOR ADDITIONAL NOTES.
A. EXISTING UTILITIES. FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. COORDINATE PROTECTION WITH UTILITY COMPANY.
B. TREES AND VEGETATION.
C. STREAM BED.
D. RIP RAP.
E. WETLAND.
2 REMOVALS AND CLEARING LIMITS:
A. CLEARING LIMITS - PRESERVE AS MANY TREES AS POSSIBLE. CLEAR ONLY THE TREES WITHIN GRADING LIMITS NEEDED TO COMPLETE CONSTRUCTION. CONFIRM TREE REMOVAL WITH ENGINEER. COORDINATE WITH ENGINEER ON GRADING ADJUSTMENTS TO PROTECT TREES.
B. REMOVE TREES (TYP.)
C. REMOVE EXISTING RIPRAP TO SHAPE PROPOSED GRADE. SALVAGE AND REUSE ROCK IN COORDINATION WITH ENGINEER.
3 GRADING AND STONE REVETMENT: SEE SHEET 8.01 - 8.04 FOR TYPICAL REVETMENT DETAILS.
A. CONSTRUCTION LIMITS.
B. GRADING LIMITS.
C. GRADING TRANSITION. LIMIT IMPACT. COORDINATE WITH ENGINEER.
D. KEY (TYP.)
E. REPRAY WEIR. REFER TO 8.01 AND 8.01 FOR DETAILS.
F. REVETMENT STONE TOE PROTECTION WITH BENCH. REFER TO TYPICAL DETAILS 1/8.01, OR 2/8.01 WHERE EXCAVATION IS NEEDED TO PLACE ROCK.
G. BENCH.
H. ROCK RIFFLE GRADE CONTROL. REFER TO 8.03 FOR DETAIL.
I. STATION/REFERENCE LINE.
J. TOW BED.
N. REVETMENT STONE PROTECTION WITHOUT BENCH. REFER TO TYPICAL DETAIL 3/8.01. USE REVETMENT STONE CLASS E UNLESS DIRECTED BY ENGINEER.
4 GENERAL FEATURES:
A. FUTURE RECREATIONAL TRAIL.
TEMPORARY CONSTRUCTION FENCE
EXISTING RIP RAP
Malcolm Sta. 28+70
Malcolm Sta. 34+30
CUT, REMOVE AND DISPOSE STEEL PLATE UNCOVERED IN COORDINATION WITH ENGINEER.
SCALE (FEET)
Existing East Top of Bank
Existing West Top of Bank
Proposed Grading Line Profile
WRA SUGAR CREEK IMPROVEMENTS - PHASE 1
GRADING PLAN & PROFILE
WEST DES MOINES, IOWA
SNYDER & ASSOCIATES, INC.
SNYDER & ASSOCIATES
Sheet D.05


WRA SUGAR CREEK IMPROVEMENTS - PHASE 1
GRADING PLAN & PROFILE
WEST DES MOINES, IOWA
SNYDER & ASSOCIATES, INC.
SNYDER & ASSOCIATES
Sheet D.06
GENERAL NOTES:
CONSTRUCTION NOTES:
TEMPORARY CONSTRUCTION FENCE
MODIFIED SIDE SLOPE
VARIES
SCALE (FEET)
0
20



MASTER PLANT SCHEDULE

	QTY	ID	SCIENTIFIC NAME	COMMON NAME	NOTES
TREES	12	AR	Acer rubrum	RED MAPLE	1.5" cal. min.size, 48' spacing
	17	BN	Betula nigra	RIVER BIRCH (multiple trunk)	1.5" cal. min.size, 48' spacing
	12	CO	Celtis occidentalis	HACKBERRY	1.5" cal. min.size, 48' spacing
	13	PO	Platanus occidentalis	AMERICAN SYCAMORE	1.5" cal. min.size, 58' spacing
	15	QB	Quercus bicolor	SWAMP WHITE OAK	1.5" cal. min.size, 48'-58' spacing
	11	QR	Quercus rubra	RED OAK	1.5" cal. min.size, 48' spacing
	86		TOTAL		

LANDSCAPE PLANT CONSTRUCTION NOTES:
- Minimum size: 1.5-inch caliper, containerized or balled and burlapped trees grown under a root-control process designed to eliminate/discourage circling roots (root bounding) and to promote the development of fibrous roots, such as in fertrainer system or approved equal.
- Trees grown in smooth-walled containers will be rejected.
- Tree species, quantities, locations and distribution are subject to modification, as directed by the engineer.
- Tree wrapping is NOT required.
- Provide a minimum of 3-inch depth with 8-foot diameter of shredded hardwood mulch around all installed trees.
- Provide hand spade cut edge for all bed lines, or as approved equal by the engineer.
- Provide a deer protection fence: Install a 4-foot tall fence or 5-foot diameter (minimum) around each tree; use a 14-gauge wire fabric fence with maximum opening size of 2 inches by a inches, fastened to a minimum of 3 steel posts with a minimum of 2 cable ties per post.
- Provide staking per SUDAS Section 9030 and using 3 steel posts (which can be used for deer protection fence).

TYPE B — WETLAND GRASS SEED MIXTURE SUDAS TABLE 9010.12 MODIFIED

COMMON NAME	SCIENTIFIC NAME	(per ac)
Annual Rye	Lolium perenne	10
Big bluestem*	Andropogon gerardii	5
Bluejoint grass	Calamagrostis	0.5
Blue vervain	Verbena hastata	0.5
Boneset	Eupatorium perfoliatum	0.5
Brown sedge	Carex brunnea	0.5
Dark green bulrush*	Scirpus atrovirens	0.5
Fox sedge	Carex vulpinoidea	0.5
New England aster*	Aster novae-angliae	0.5
Northern bur marigold	Bidens cernua	0.5
Porcupine sedge	Carex hystricina	0.5
Prairie cordgrass	Spartina pectinata	5
Red osiergrass	Leersia oryzoides	0.5
Redtop grass	Agrostis gigantea	0.5
Softstem bulrush*	Schoenoplectus tabernaemontani	0.5
Swamp milkweed	Asclepias incarnata	0.5
Switchgrass	Panicum virgatum	5
Tussock sedge	Carex stricta	0.5
Wild rice	Zizania aquatica	0.5
Wool grass	Scirpus cyperinus	0.5
Total selected		25
NURSE CROP		Bushels
Oats (spring seeding - April 1 to June 30)		2.5
Winter wheat (dormant/frost seeding - November 1 to March 31)		2.5

* Species seed certified as Source Identified Class (Yellow Tag) Source Ohlsen.
** Seeding rates for native grass and forb species are given at PLS. Either the germination test or Tetrazolium (TZ) test is acceptable to determine PLS for native species.

TYPE A — NATIVE GRASS AND FORBS SEEDING MIXTURE SUDAS TABLE 9010.13

COMMON NAME	SCIENTIFIC NAME	App. Rate
GRASSES		lb/acre
Big bluestem*	Andropogon gerardii	1.0
Canada wild rye	Elymus canadensis	1.0
Indiangrass*	Sorghastrum nutans	1.0
Little bluestem*	Schizachyrium scoparium	1.0
Switchgrass*	Panicum virgatum	1.0
Sideoats grama*	Bouteloua curtipendula	1.0
Prairie dropseed	Sporobolus heterolepis	0.5
FORBS (WILDFLOWERS)		oz/acre
Blackeyed Susan	Rudbeckia hirta	2.0
Butterfly milkweed	Asclepias tuberosa	2.0
Common milkweed	Asclepias syriaca	2.0
Common ironweed	Vernonia fasciculata	2.0
Dotted Gayfeather	Liatris punctata	2.0
Grey-headed coneflower	Ratibida pinnata	2.0
Heath aster	Symphyotrichum ericoides	2.0
Ironweed	Vernonia fasciculata	2.0
New England aster	Symphyotrichum novae-angliae	2.0
Oxeye sunflower	Heliopsis helianthoides	2.0
Prairie sunflower	Helianthus maximiliani	2.0
Purple coneflower	Echinacea pallida	2.0
Purple prairie clover	Dalea purpurea	2.0
Rattlesnake master	Eryngium yuccifolium	2.0
Showy goldenrod	Solidago speciosa	2.0
Stiff goldenrod	Oligoneuron rigidum	2.0
Swamp milkweed	Asclepias incarnata	2.0
Wild bergamot	Monarda fistulosa	2.0
Wild lupine	Lupinus perennis	2.0
NURSE CROP		Bushels
Oats (spring seeding - April 1 to June 30)		2.5
Winter wheat (dormant/frost seeding - November 1 to March 31)		2.5

* Species seed certified as Source Identified Class (Yellow Tag) Source Ohlsen.
** Seeding rates for native grass and forb species are given at PLS. Either the germination test or Tetrazolium (TZ) test is acceptable to determine PLS for native species.

WRA SUGAR CREEK IMPROVEMENTS - PHASE 1

SEEDING PLAN AND TREE SCHEDULE

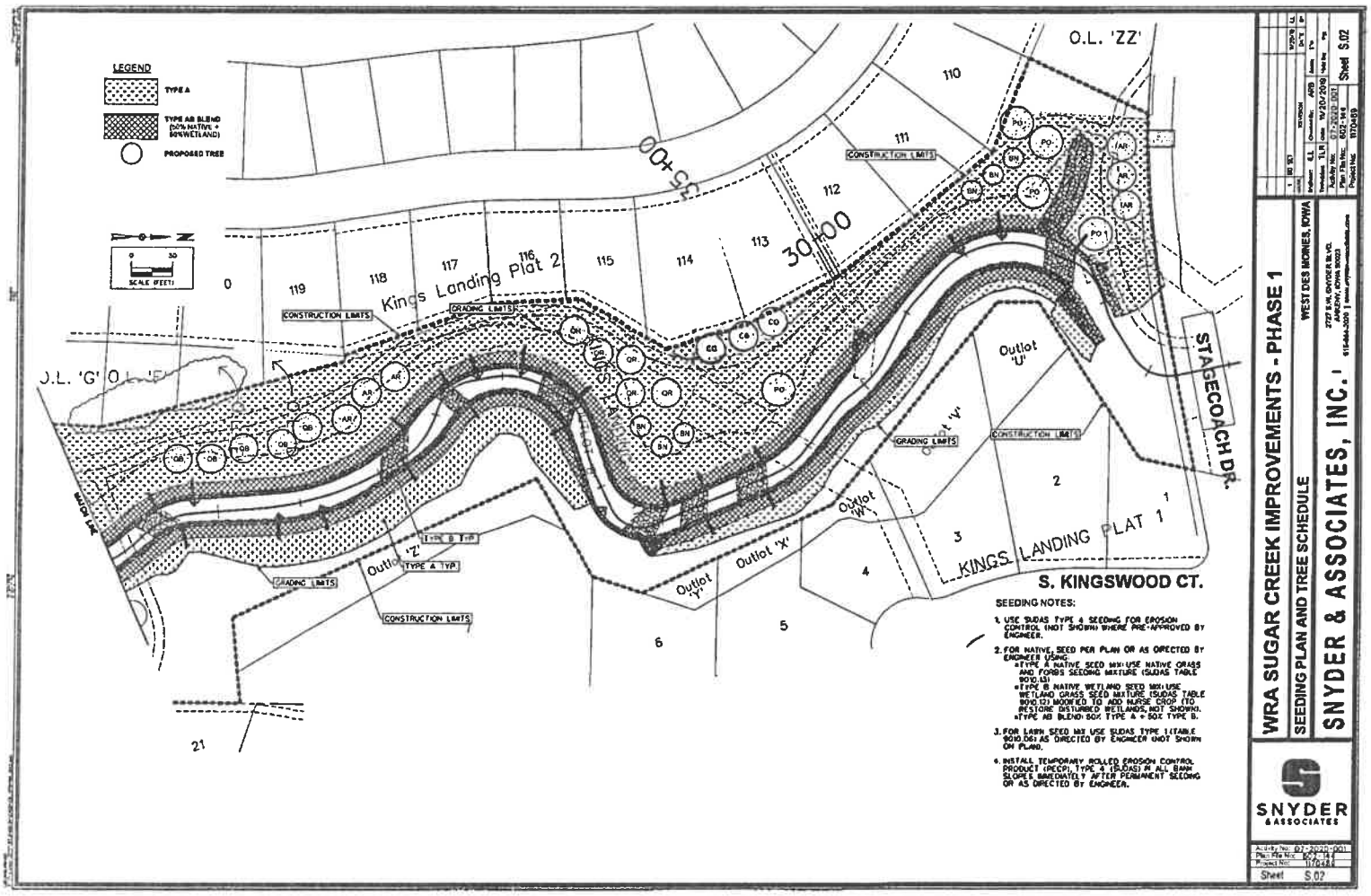
WEST DES MOINES, IOWA

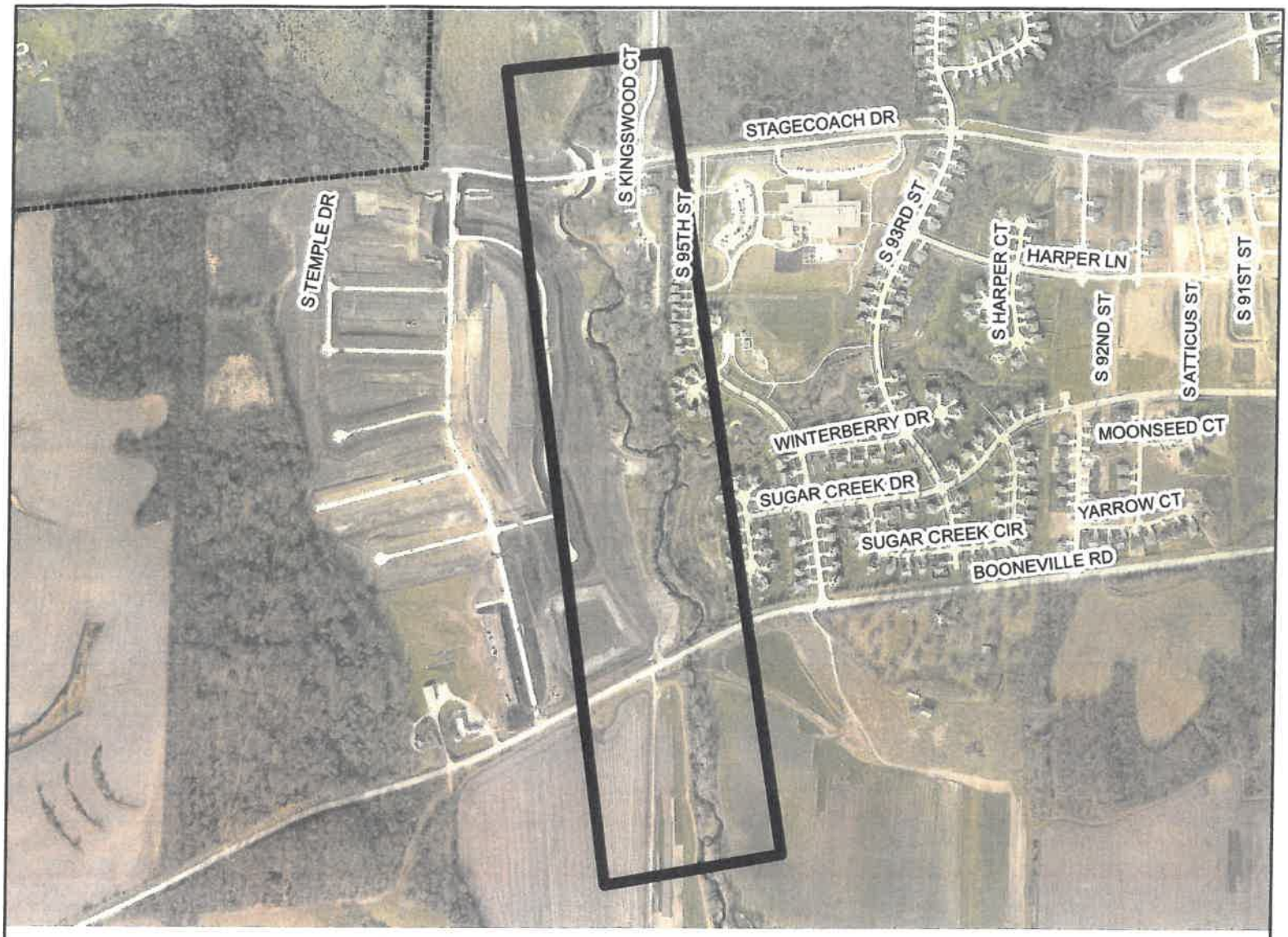
SNYDER & ASSOCIATES, INC.

SNYDER & ASSOCIATES

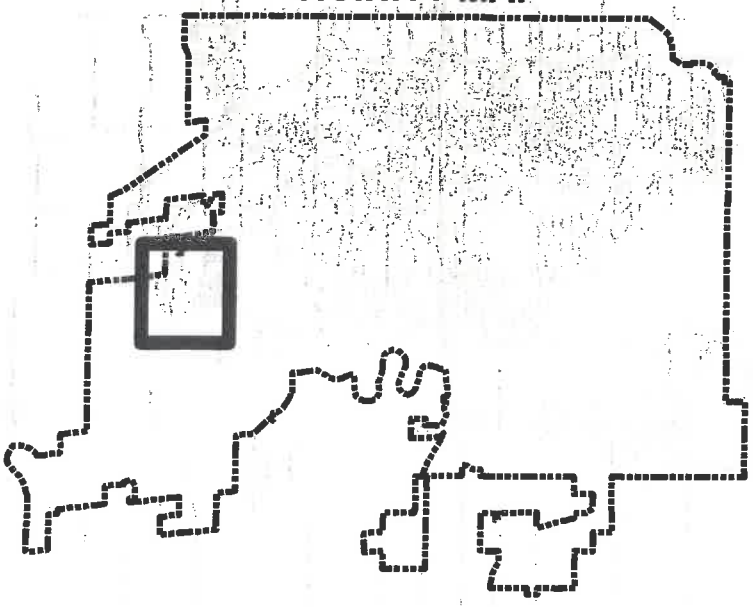
Sheet S.01

Exhibit B (2 of 2)





VICINITY MAP



LEGEND

PROJECT LOCATION

N
W E
S

THE CITY OF WEST DES MOINES

PROJECT:

Sugar Creek Bank Stabilization Phase 1

LOCATION:

Exhibit "A"

DRAWN BY: JDR	DATE: 1/7/2020	PROJECT NUMBER/NAME: 0510-055-2019	SHT. 1 of 1