



CITY OF WASHINGTON, ILLINOIS

Public Works Committee Agenda Communication

Meeting Date: April 5, 2022

Prepared By: Dennis Carr, P.E. – City Engineer

Agenda Item: Trails Edge Section 9 and 10 Alternate Typical Section

Explanation: Potential developers for the Trails Edge Section 9&10 property have recently been in contact with City Staff about drainage concerns. With the topography of this property, the existing drainage, and the increase in rainfall intensity design guidelines, the 100-year flood route was exceeding the curb line in a few low areas of the proposed roadway. The City's Stormwater ordinance allows for the 100-year flood route to be in the roadway, but it cannot exceed the height of the curb. To keep the water inside the curb, the cross slope of the roadway was reduced from 2% to 1% and the curb height was increased from 6" to 8".

Fiscal Impact: 8" curb is slightly more expensive to the developer than 6" curb.

Recommendation Summary: Staff requests the PW Committee approve of the variances in geometry.

Action Requested: Discussion and Approval



AUSTIN ENGINEERING CO., INC.

Consulting Engineers / Surveyors

Peoria, Illinois - Davenport, Iowa

austinengineeringcompany.com

March 29th, 2021
City of Washington
301 Walnut St.
Washington, IL 61571

Re: Trails Edge Sec. 9 Alternate Typ. Section Request

To City of Washington Public Works Committee:

We are requesting an alternate typical section be allowed for the connection of Debate Street and the intersection of Debates Street and Stephanie Court in order for Section 9 of Trails Edge Subdivision to be compliant with Section 53.005 (B) of the City of Washington Code of Ordinances on the maximum height of the flood waters when conveying the 100YR flood through the street.

Trails Edge Subdivision Section 9 & 10 are located on the last remaining portion of Trails Edge Subdivision that would complete the construction of Debate Street and Stephanie Court. Section 9 is a 17 Lot development located between the two existing dead-ends of Debate Street and Section 10 would connect Stephanie Court to Debate Street adding another 13 lots. The existing farm is a low-lying area, all neighboring property is fully developed, and all surrounding stormwater runoff flows to our site with the exaction of the north boundary line at the Debate Street connection.

Since all the surrounding area is fully developed, we cannot raise the road profile without pushing water into neighboring back yards and the Debate Street connection does not have enough fall to meet the minimum longitudinal slope requirements. The section of the City of Washington Code of Ordinances that is placing a hardship on our development is as follows:

- Section 53.005 (B): Existing natural waterways in subdivisions shall be preserved or improved as part of the flood route channel system. The use of streets, parking areas, permanent open spaces and utility easements may be employed as part of the flood route channel system. **Where streets are used for the lateral passage of flood waters, depth of water in the streets shall not exceed the top of curb at the one hundred (100) year rainfall event.**
 - Requiring the depth of the water during a 100YR flood to not exceed the top of the curb has caused us to request an alternate typical section.

The existing 20' storm sewer and stormwater drainage easement that abuts our eastern property boundary but is not feasible for us to use as a 100YR flood route due to the existing grades of the neighboring homes that were built in that area. The storm sewer system that currently exists on the site was constructed to divert water from these neighboring homes to the northern connection of Debates Street.

The proposed profile of Debate Street and the proposed intersection of Debate Street and Stephanie Court were designed to minimize the depth of water at the curb. This being the case, the standard typical City of Washington Typical Section would have water at a depth of 10" at the curb and by reducing the cross-slope from 2% to 1% and by increasing the curb height from 6" to 8" we can convey the 100YR flood water without exceeding the top of curb.

Sincerely,

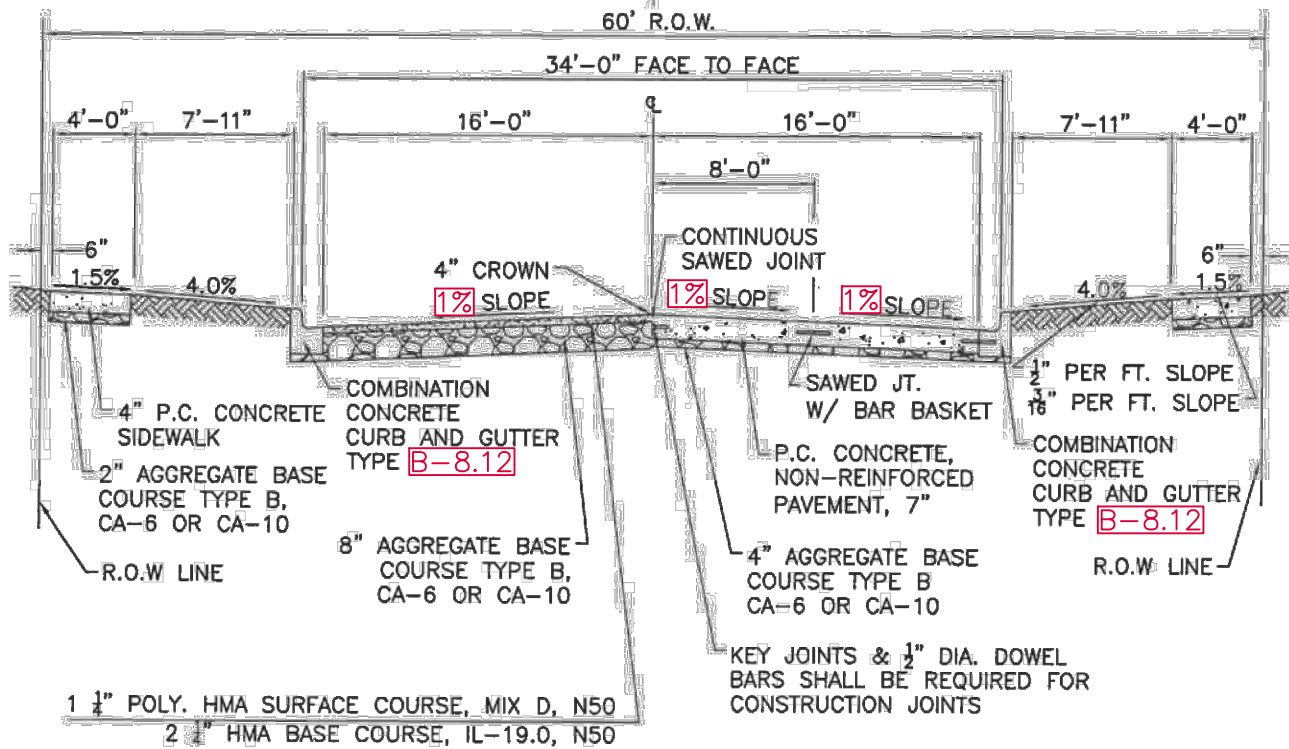
Sam LaHood, E.I.

311 SW Water St., Suite 215, Peoria, IL 61602
220 Emerson Pl., Suite 101-c, Davenport, IA 52801
P 1 (844) 691-AECI

Incorporated August 18, 1947

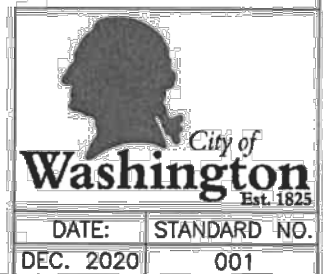
ROADWAY TYPICAL SECTION RESIDENTIAL STREET (MINOR)

ASPHALT ALTERNATIVE CONCRETE ALTERNATIVE



GENERAL NOTES:

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" CURRENT EDITION AND SUPPLEMENTAL SPECIFICATIONS, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
2. EXPANSION JOINTS SHALL BE INSTALLED IN SIDEWALKS AT ALL PROPERTY LINES.
3. PROOF-ROLL SUBGRADE AND AGGREGATE BASE COURSE IN THE PRESENCE OF THE CITY ENGINEER OR CITY ENGINEER'S DESIGNEE.
4. SIDEWALKS SHALL NOT EXCEED 2% CROSS SLOPE. ANY SIDEWALKS EXCEEDING SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF THE CONTRACTOR.
5. P.C. CONCRETE PAVEMENT JOINTS SHALL BE IN ACCORDANCE WITH IDOT STANDARD BLR 10-7.



2007 Site

A ditch drained to a 18" storm sewer located on a rear lot line of Grandyle Drive.

Legend

 SECTION 9 & 10 BOUNDARY



Google Earth

Image USDA Farm Service Agency

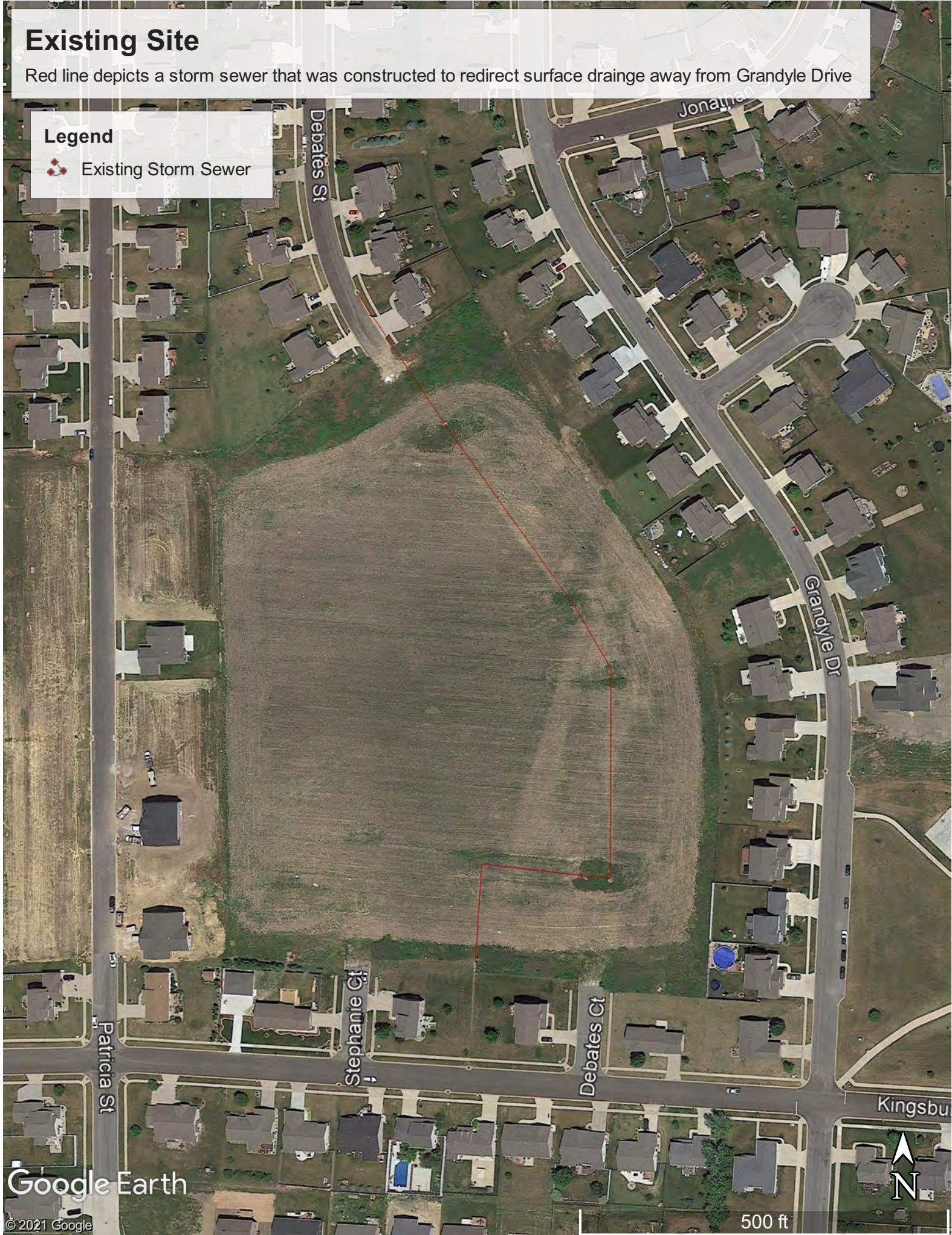
500 ft

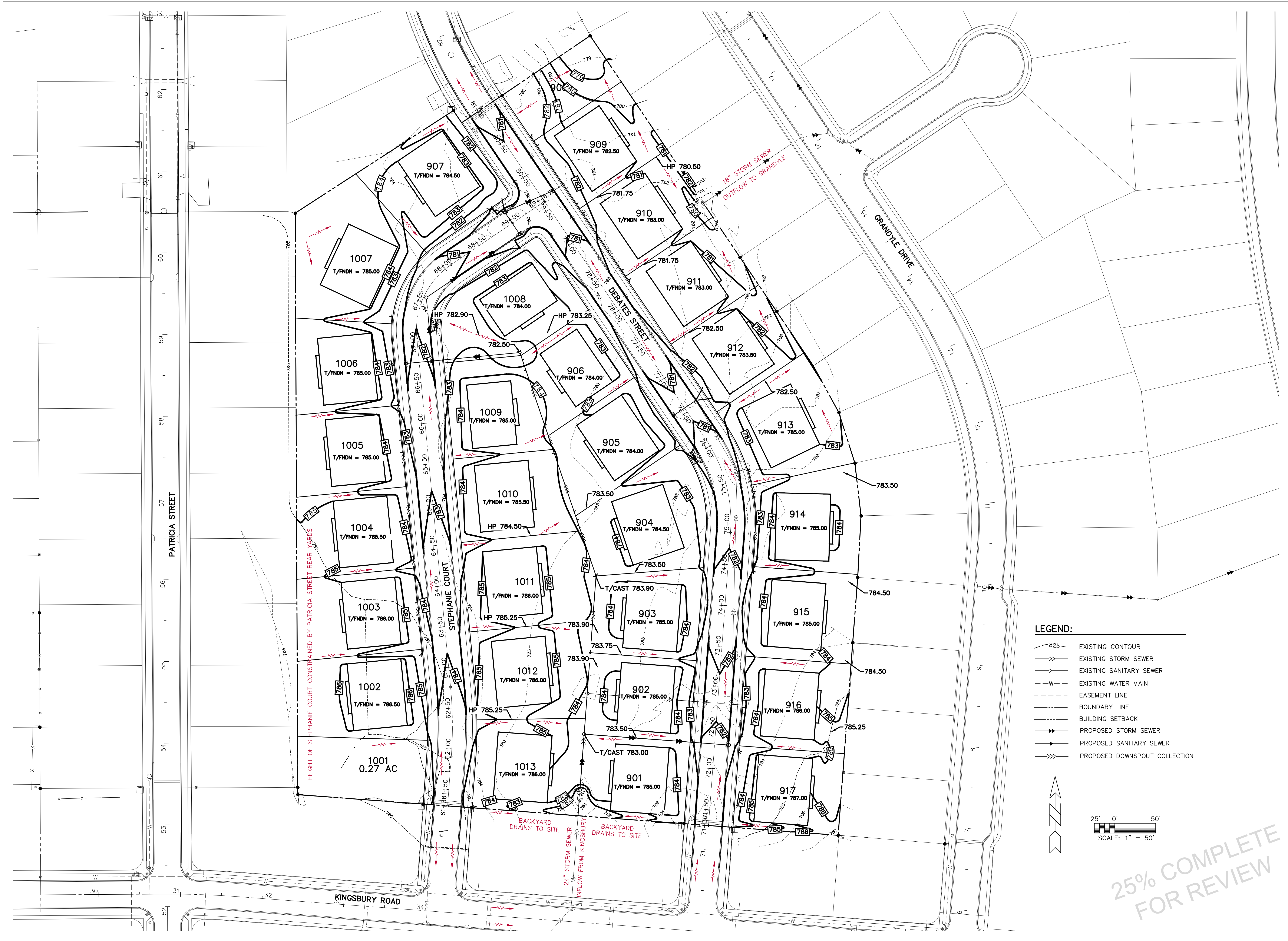
Existing Site

Red line depicts a storm sewer that was constructed to redirect surface drainage away from Grandyle Drive

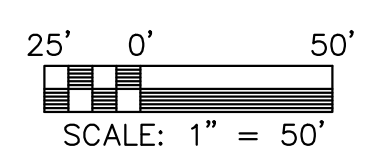
Legend

 Existing Storm Sewer





- LEGEND:**
- 825 EXISTING CONTOUR
 - EXISTING STORM SEWER
 - EXISTING SANITARY SEWER
 - EXISTING WATER MAIN
 - EASEMENT LINE
 - BOUNDARY LINE
 - BUILDING SETBACK
 - PROPOSED STORM SEWER
 - PROPOSED SANITARY SEWER
 - PROPOSED DOWNSPOUT COLLECTION



CONSTRUCTION PLANS

TRAILS EDGE SECTION 9 & 10

DEBATES ST. (SEC. 9) & STEPHANIE CT. (SEC. 10)
WASHINGTON, ILLINOIS 61571
CLIENT: TRAILS EDGE DEVELOPERS LLC

ISSUED
03-23-2021 25% COMPLETE SET
03-24-2021 REVISED TYPICAL SECTION

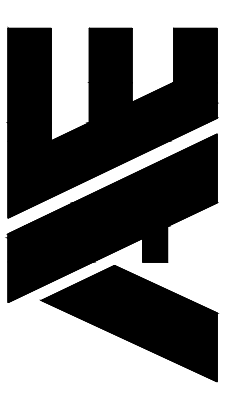
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

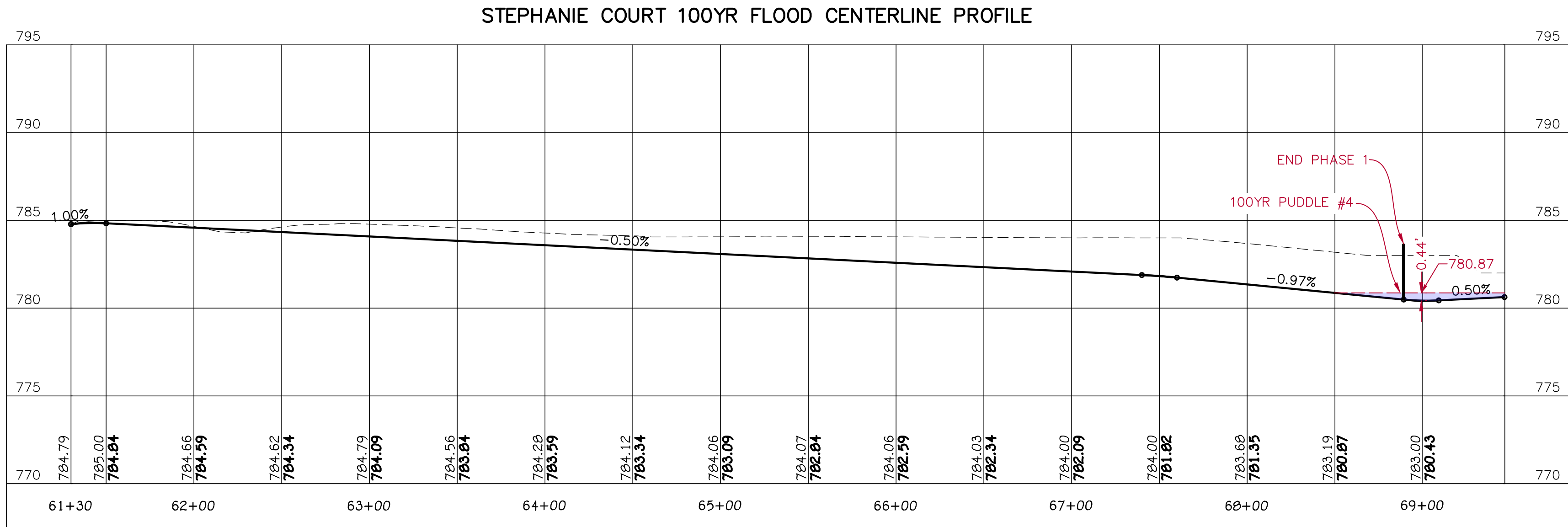
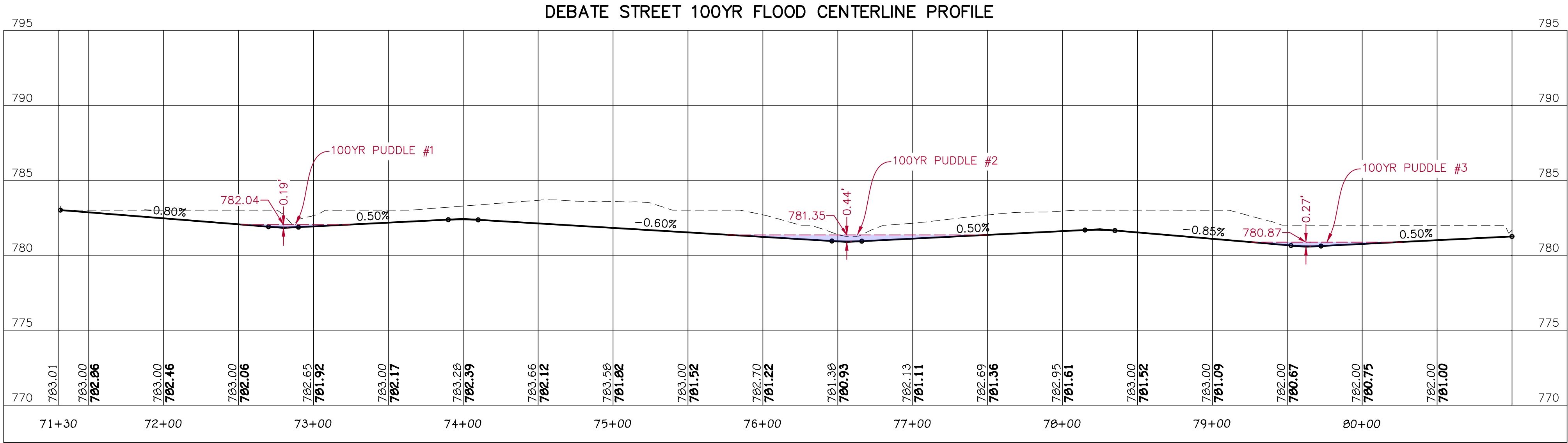
ULTIMATE GRADING PLAN

PROJECT NO.	XX-XX-XXX
DATE	03-24-2021
SURVEYED	DESIGNED
N/A	SML
DRAWN	APPROVED
SML	DLB

SHEET

AUSTIN ENGINEERING CO., INC.
Consulting Engineers / Surveyors
220 Emerson Place, Suite 101A
Davenport, Iowa 52801
Certificate No. CS131338





- 100YR FLOOD SUMMARY:
- 100YR PUDDLE #1:
TOP OF WATER ELEVATION = 782.04
DEBATE STREET CENTERLINE ELEVATION = 781.85
DEBATE STREET ELEVATION AT FLOW LINE = 781.63
HEIGHT OF WATER AT CENTERLINE = 0.19' = 2.28"
HEIGHT OF WATER AT FLOW LINE = 0.41' = 4.92"
- 100YR PUDDLE #2:
TOP OF WATER ELEVATION = 781.53
DEBATE STREET CENTERLINE ELEVATION = 781.09
DEBATE STREET ELEVATION AT FLOW LINE = 780.87
HEIGHT OF WATER AT CENTERLINE = 0.44' = 5.28"
HEIGHT OF WATER AT FLOW LINE = 0.66' = 7.92"
- 100YR PUDDLE #3:
TOP OF WATER ELEVATION = 780.87
DEBATE STREET CENTERLINE ELEVATION = 780.60
DEBATE STREET ELEVATION AT FLOW LINE = 780.38
HEIGHT OF WATER AT CENTERLINE = 0.27' = 3.24"
HEIGHT OF WATER AT FLOW LINE = 0.49' = 5.88"
- 100YR PUDDLE #4:
TOP OF WATER ELEVATION = 780.87
STEPHANIE COURT CENTERLINE ELEVATION = 780.43
STEPHANIE COURT ELEVATION AT FLOW LINE = 780.21
HEIGHT OF WATER AT CENTERLINE = 0.44' = 5.28"
HEIGHT OF WATER AT FLOW LINE = 0.66' = 7.92"

25% COMPLETE
FOR REVIEW

CONSTRUCTION PLANS

TRAILS EDGE SECTION 9 & 10

DEBATES ST. (SEC. 9) & STEPHANIE CT. (SEC. 10)
WASHINGTON, ILLINOIS 61571
CLIENT: TRAILS EDGE DEVELOPERS LLC

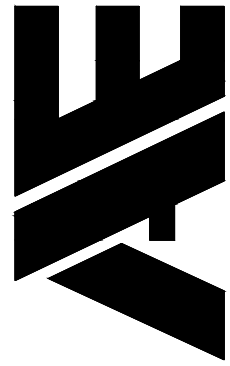
ISSUED
03-23-2021 25% COMPLETE SET
03-24-2021 REVISED TYPICAL SECTION

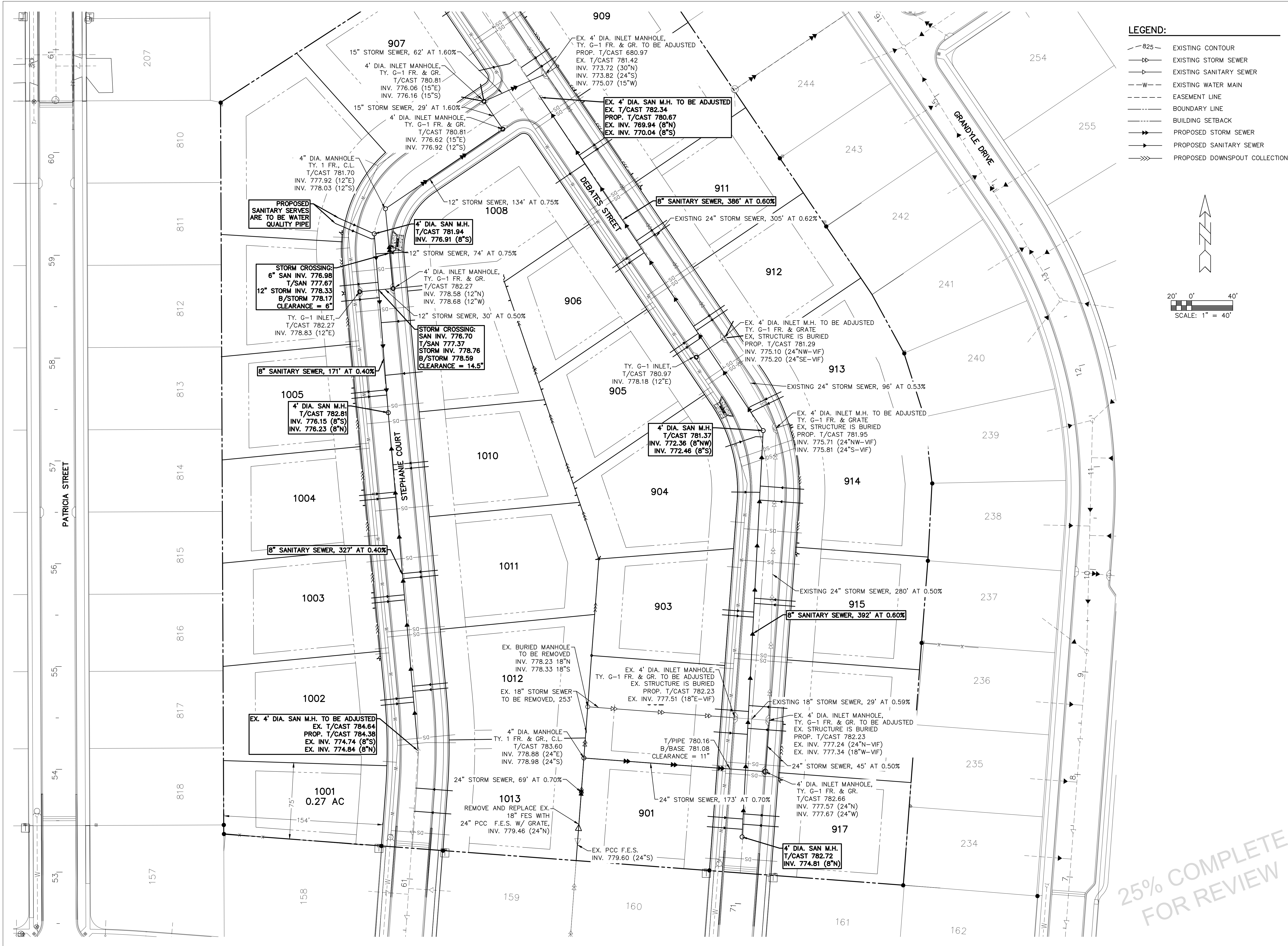
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROFILES

PROJECT NO	XX-XX-XXX
DATE	03-24-2021
SURVEYED	DESIGNED
N/A	SML
DRAWN	APPROVED
SML	DLB

SHEET

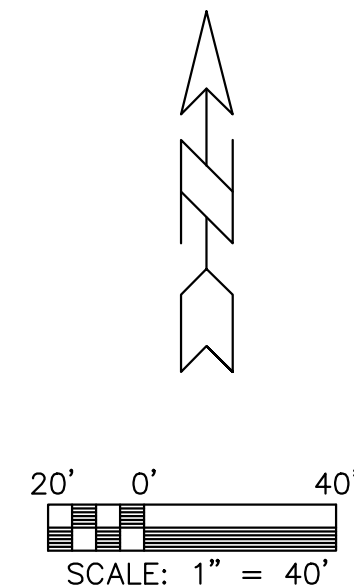




25% COMPLETE
FOR REVIEW

LEGEND:

- 825 EXISTING CONTOUR
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EASEMENT LINE
- BOUNDARY LINE
- BUILDING SETBACK
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED DOWNSPOUT COLLECTION



CONSTRUCTION PLANS

TRAILS EDGE SECTION 9 & 10

DEBATES ST. (SEC. 9) & STEPHANIE CT. (SEC. 10)
WASHINGTON, ILLINOIS 61571
CLIENT: TRAILS EDGE DEVELOPERS LLC

ISSUED	03-23-2021	25% COMPLETE SET
	03-24-2021	REVISED TYPICAL SECTION

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SANITARY AND STORM PLAN

PROJECT NO.	XX-XX-XXX
DATE	03-24-2021
SURVEYED	DESIGNED
N/A	SML
DRAWN	APPROVED
SML	DLB
SHEET	

