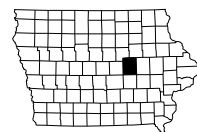


RIGHT OF WAY
 NHSN-030-6(257)--2R-86
 LETTING DATE
 8-21-2018

TAMA CO.



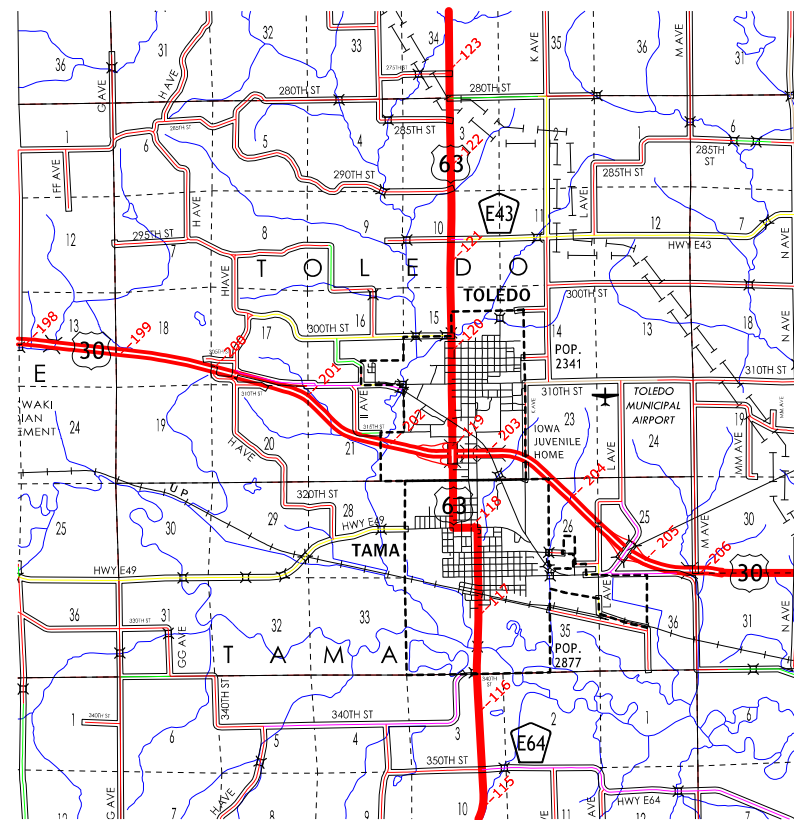
Highway Division
 PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
TAMA COUNTY
RIGHT OF WAY

L Ave Interchange E of Tama

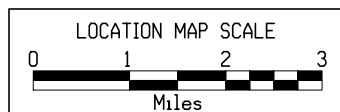
SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



Project Location



REVISIONS	TOTAL
	9
PROJECT IDENTIFICATION NUMBER	
18-86-030-010	
PROJECT NUMBER	
NHSN-030-6(257)--2R-86	
R.O.W. PROJECT NUMBER	
NHSN-030-6(258)--2R-86	

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.1	Location Map Sheet
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 30
E Sheets	Side Road Plan and Profile Sheets
* E.1	330th St (Old US 30)
V Sheets	Bridge and Culvert Situation Plans
V.1 - 6	Bridge and Culvert Situation Plans
	* Color Plan Sheets

Letting - Date: 8-21-2018
 D9 PLAN - Date: 6-5-2018

L Avenue			
DESIGN DATA RURAL			
2013	AADT	1,400	V.P.D.
20--	AADT	--	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	-- %	
Total	Design ESALs	--	

US 30			
DESIGN DATA RURAL			
2015	AADT	4,310	V.P.D.
20--	AADT	--	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	-- %	
Total	Design ESALs	--	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 3-27-2018

SURVEY SYMBOLS

- BL Topo Breakline
- BLD Building or Foundation
- C Centerline BL of Road (ML or SR)
- CON Concrete or A/C Slab
- CU Back of Curb
- D Centerline Draw or Stream (Down)
- DIK Centerline of Dike or Dam
- DU Centerline Draw or Stream (Up)
- ENP Edge Paved Entrance & Park Lot
- ENT Centerline BL of Entrance
- ENU Edge Unpaved Entrance & Parking
- EP Edge of Paved Roads (ML or SR)
- # # FCL Chain Link and Security Fence
- F0 - FO1D Fiber Optic Co. 1 - Quality D
- F02 - FO2D Fiber Optic Co. 2 - Quality D
- x FW Wire Fence
- G - GL1D Gas Line Co. 1 - Quality D
- G2 - GL2D Gas Line Co. 2 - Quality D
- G3 - GL3D Gas Line Co. 3 - Quality D
- GU Gutter In Front of Curb
- LIN Miscellaneous Line
- PIP Pipe Culvert
- SH Paved Shoulder
- SNP Unpaved Shoulder
- T1le - TIL Tile Line
- T1 - TL1D Telephone Line Co. 1 - Quality D
- TV - TV1D TV Cable Co. 1 - Quality D
- W - WL1D Water Line Co. 1 - Quality D
- CP Control Point
- WC Wild Card (Misc. Field Shot)
- OUT Tile Outlet
- GR Ground Shot
- SOP Size of Pipe or Culvert
- PRO Profile Shot
- BM Bench Mark
- WV Water Valve
- CUL Culvert
- TP TPD Telephone Pedestal
- TVP TV TV Pedestal

UTILITY LEGEND

- F0 - FO1D Fiber Optic Century Link - Quality D
- F02 - FO2D Fiber Optic Windstream - Quality D
- G - GL1D Gas Line Magellan - Quality D
- G2 - GL2D Gas Line Northern Natural Gas - Quality D
- G3 - GL3D Gas Line Alliant Energy - Quality D
- T1 - TL1D Telephone Line Windstream - Quality D
- TV - TV1D TV Cable Mediacom - Quality D
- W - WL1D Water Line Poweshiek Water - Quality D

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		
	Design Color No.	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

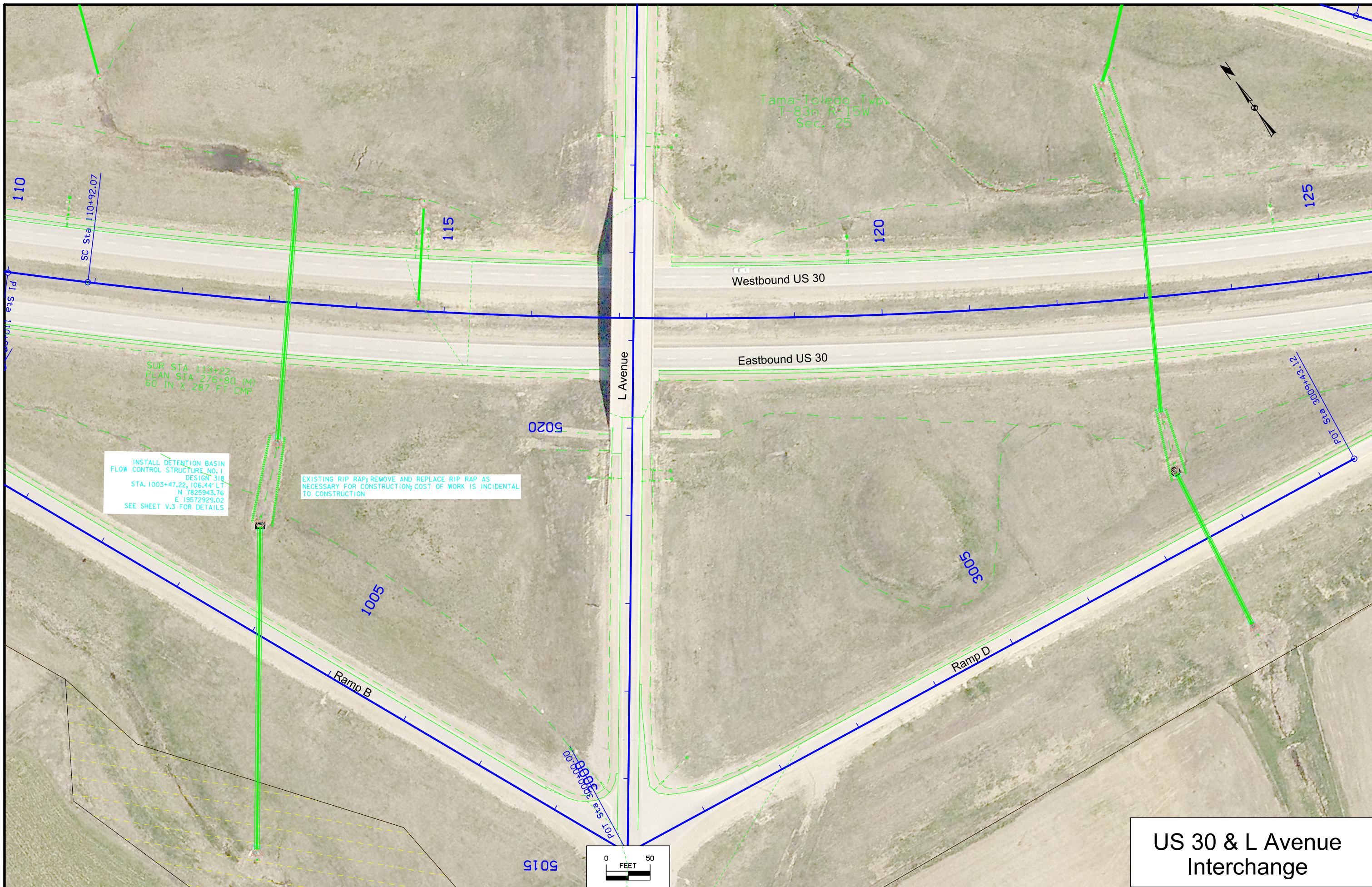
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

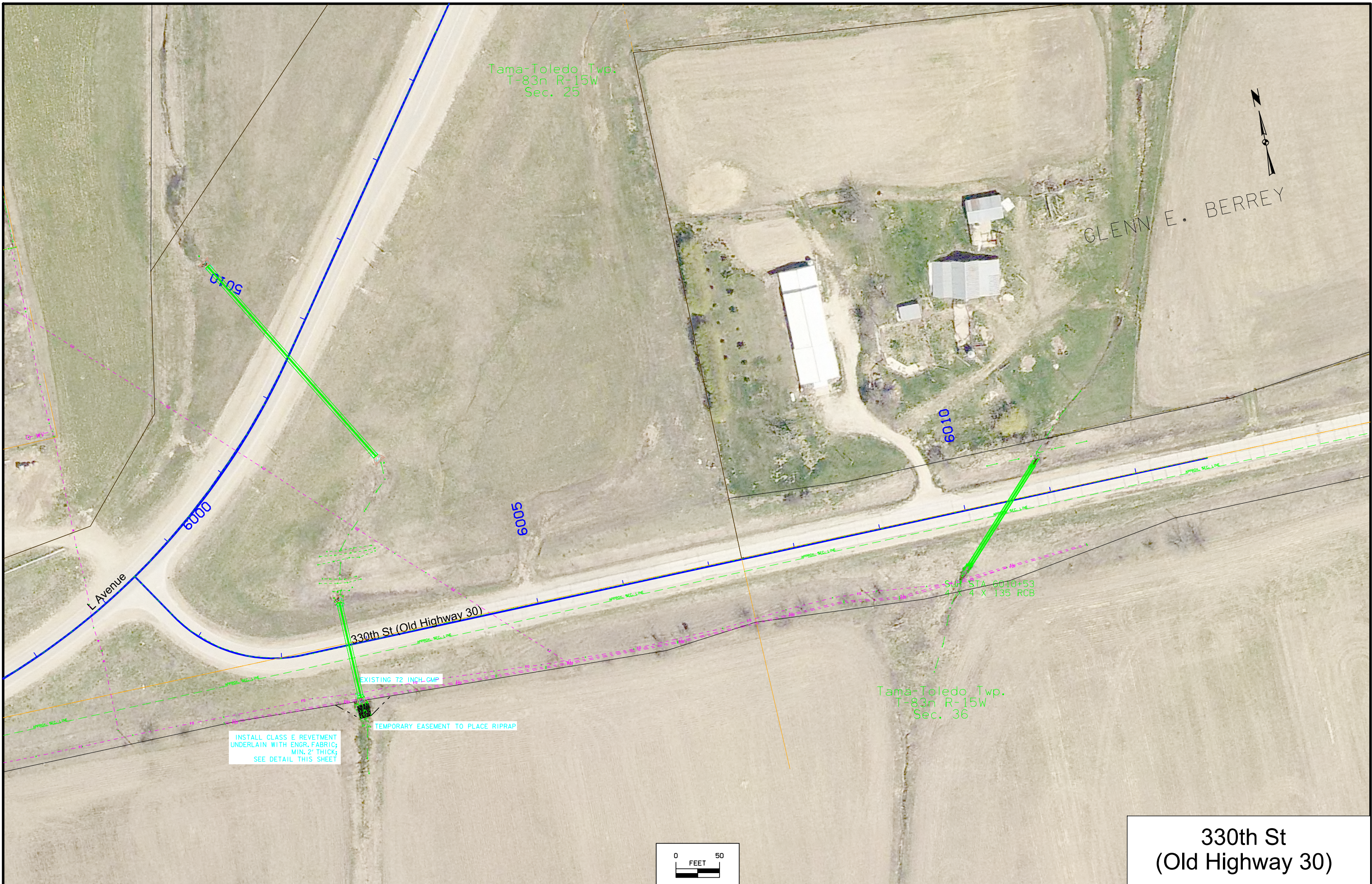
RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)





Tama-Toledo Twp.
T-83n R-15W
Sec. 25

GLENN E. BERREY



6105

6000

6005

6010

L Avenue

330th St (Old Highway 30)

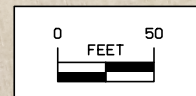
SUR STA 6010+53
4' X 4' X 135 RCB

EXISTING 72 INCH CMP

TEMPORARY EASEMENT TO PLACE RIPRAP

INSTALL CLASS E REVETMENT
UNDERLAIN WITH ENGR. FABRIC;
MIN. 2' THICK;
SEE DETAIL THIS SHEET

Tama-Toledo Twp.
T-83n R-15W
Sec. 36



330th St
(Old Highway 30)

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



FILE NO.	ENGLISH	DESIGN TEAM	GUSTAFSON\SMYTH	TAMA	COUNTY	PROJECT NUMBER	NHSN-030-6(257)--2R-86	SHEET NUMBER	H.1
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Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: ATINKEN /JLARSON
ROW #: NHSN-030-6(258)--2R-86
Plan Date: 4/3/18

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

SUR STA 6002+79
PLAN STA 26274+85 (M)
72 IN X 111 FT CMP

TEMPORARY EASEMENT TO SHAPE AND PLACE EROSION CONTROL

SUR STA
Tama-Toledo Twp.
T-83n R-15W
Sec. 36

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	14	
2	2507-3250005	ENGINEERING FABRIC	SY	31	
3	2507-6800061	REVTMENT, CLASS E	TON	23	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2104-2710020	EXCAVATION, CLASS 10, CHANNEL EXCAVATED MATERIAL WILL BECOME THE PROPERTY OF THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE DISPOSAL SITE FOR WASTE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT AREAS (INCLUDING HAUL ROADS) SELECTED FOR WASTE OR DISPOSAL NOT IMPACT 1)CULTURALLY SENSITIVE SITES OR GRAVES OR 2)WETLANDS OR "WATERS OF THE U.S.", INCLUDING STREAMS OR STREAM BANKS BELOW THE "ORDINARY HIGH WATER MARK", WITHOUT AN APPROVED U.S. ARMY CORPS OF ENGINEERS 404 PERMIT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT OF WAY.
2	2507-3250005	ENGINEERING FABRIC ENGINEERING FABRIC SHALL BE MATERIAL AS SPECIFIED FOR EMBANKMENT EROSION CONTROL IN ACCORDANCE WITH ARTICLE 4196.01,B,3, OF THE STANDARD SPECIFICATIONS.
3	2507-6800061	REVTMENT, CLASS E ESTIMATED AT 1.6 TON/CY.

GENERAL NOTES:

THIS PROJECT IS FOR THE CONSTRUCTION OF DETENTION BASIN FLOW CONTROL STRUCTURES AND CLASS E REVETMENT WITHIN THE US 30\ AVENUE INTERCHANGE AND ALONG 330TH STREET (OLD US HIGHWAY 30). PROJECT LOCATION IS APPROXIMATELY 2 MILES EAST OF THE CITY OF TAMA.

PROJECT SHALL CONSIST OF:

1. INSTALLATION OF CLASS E REVETMENT AT CULVERT ALONG 330TH STREET (OLD US HIGHWAY 30).
2. INSTALLATION OF DETENTION BASIN FLOW CONTROL STRUCTURES WITHIN THE US 30\ AVENUE INTERCHANGE.

ROADWAY QUANTITIES FOR DETENTION BASIN FLOW CONTROL STRUCTURE NO.2 SHOWN ELSEWHERE IN THESE PLANS.

STRUCTURAL QUANTITIES FOR DENTENTION BASIN FLOW CONTROL STRUCTURE NO.1 SHOWN ELSEWHERE IN THESE PLANS.

REFER TO TITLE SHEET FOR TRAFFIC DATA.

SPECIFICATIONS:

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES OF 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

HYDRAULIC DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

David J. Mulholland 2/15/2018

Signature **David J. Mulholland** Date

Printed or Typed Name

My license renewal date is December 31, 2018

Pages or sheets covered by this seal: V.1 THROUGH V.6

PRELIMINARY

DESIGN FOR

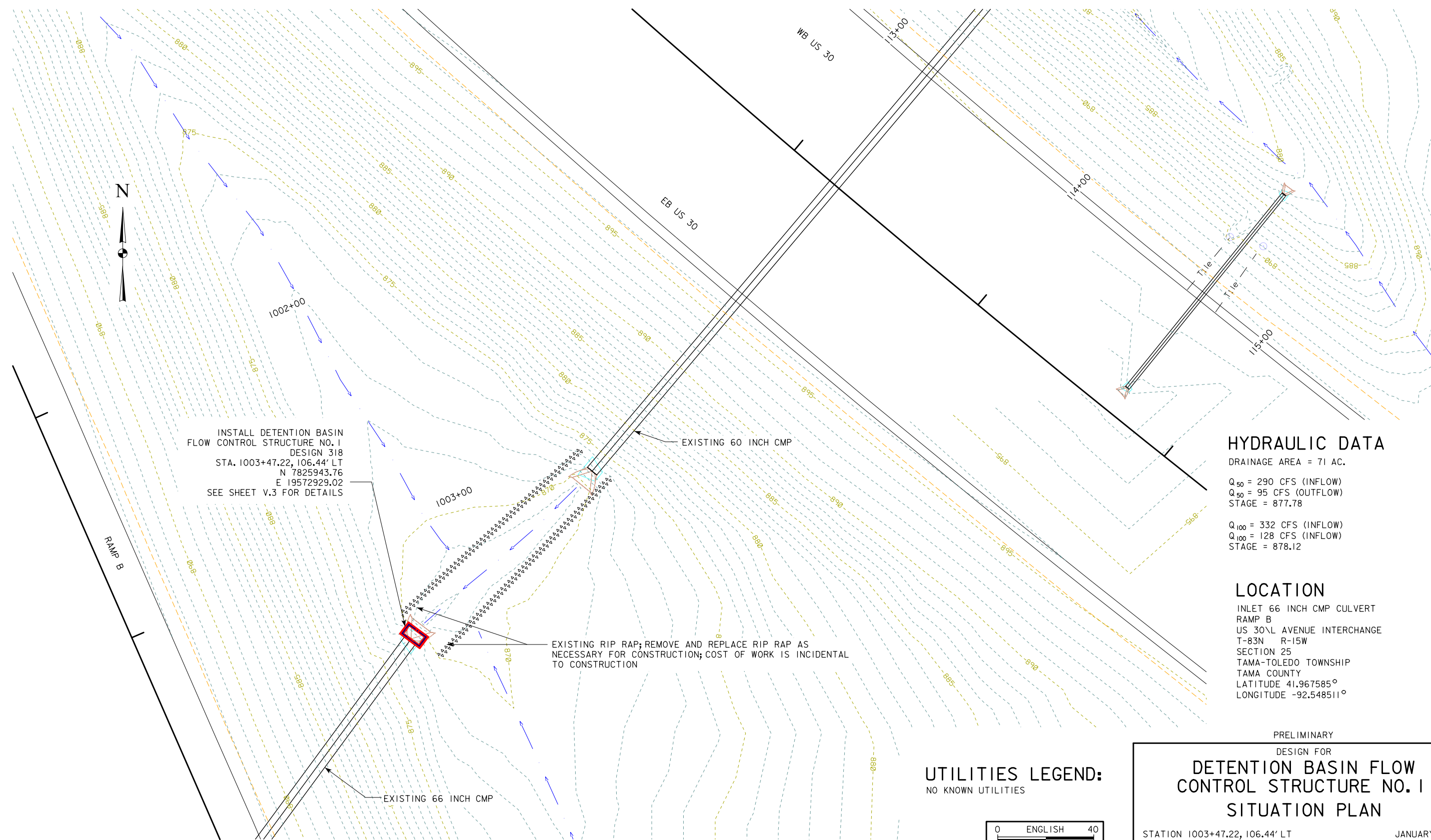
DETENTION BASIN FLOW CONTROL STRUCTURES AND CLASS E REVETMENT QUANTITIES AND GENERAL NOTES

JANUARY 2018

TAMA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 6 FILE NO. 31584 DESIGN NO. 418

BENCH MARK NO. MWF500, N 7826019.89, E 19573482.80, DOT BUTTON NW COR OF BRIDGE HAND RAIL, EL. 930.22
 CONTROL POINT NO. JRD101, N 7826285.13, E 19572932.53, SC FD 1/2 IN REBAR, EL. 892.63



INSTALL DETENTION BASIN
 FLOW CONTROL STRUCTURE NO. 1
 DESIGN 318
 STA. 1003+47.22, 106.44' LT
 N 7825943.76
 E 19572929.02
 SEE SHEET V.3 FOR DETAILS

EXISTING RIP RAP; REMOVE AND REPLACE RIP RAP AS
 NECESSARY FOR CONSTRUCTION; COST OF WORK IS INCIDENTAL
 TO CONSTRUCTION

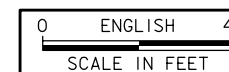
HYDRAULIC DATA

DRAINAGE AREA = 71 AC.
 Q₅₀ = 290 CFS (INFLOW)
 Q₅₀ = 95 CFS (OUTFLOW)
 STAGE = 877.78
 Q₁₀₀ = 332 CFS (INFLOW)
 Q₁₀₀ = 128 CFS (INFLOW)
 STAGE = 878.12

LOCATION

INLET 66 INCH CMP CULVERT
 RAMP B
 US 30\L AVENUE INTERCHANGE
 T-83N R-15W
 SECTION 25
 TAMA-TOLEDO TOWNSHIP
 TAMA COUNTY
 LATITUDE 41.967585°
 LONGITUDE -92.548511°

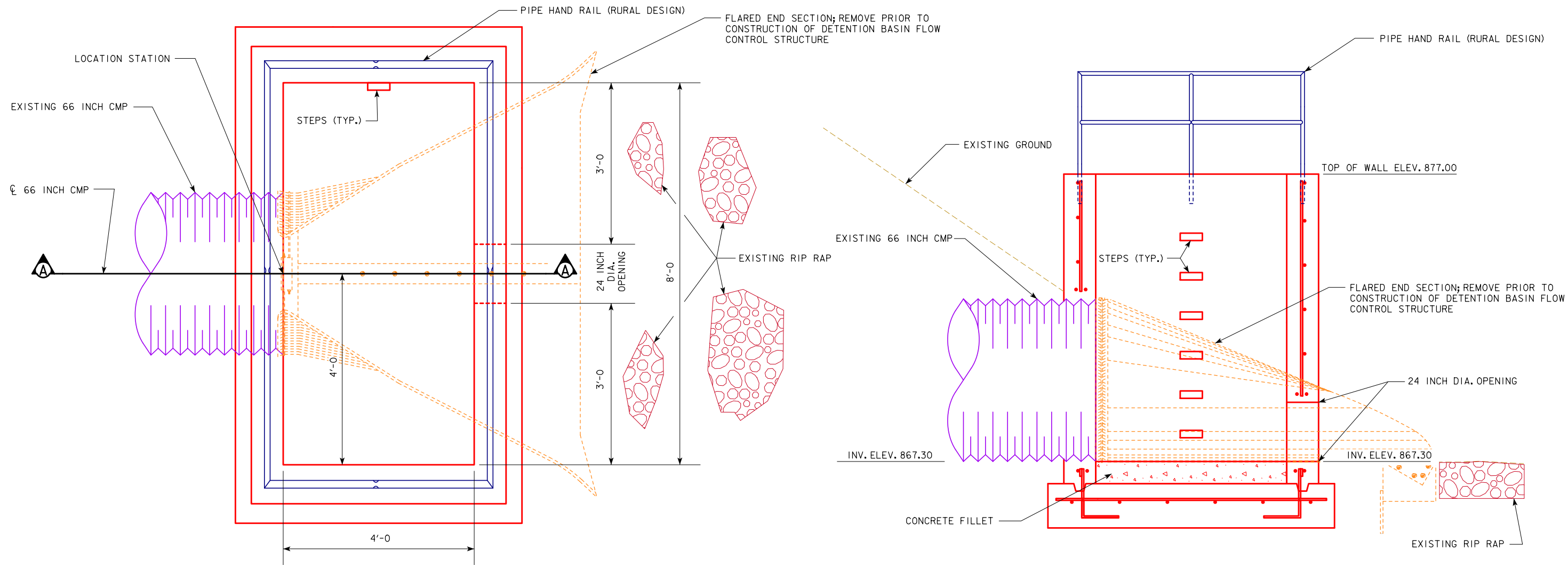
UTILITIES LEGEND:
 NO KNOWN UTILITIES



SITUATION PLAN

PRELIMINARY
 DESIGN FOR
**DETENTION BASIN FLOW
 CONTROL STRUCTURE NO. 1
 SITUATION PLAN**

STATION 1003+47.22, 106.44' LT
 TAMA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 2 OF 6 FILE NO. 31584 DESIGN NO. 318
 JANUARY 2018



PLAN
NOT TO SCALE

NOTE: SEE STRUCTURAL PLANS FOR REINFORCING DETAILS AND WALL/BASE THICKNESS DIMENSIONS.

NOTE: REMOVE AND REPLACE RIP RAP AS NECESSARY FOR CONSTRUCTION; COST OF WORK IS INCIDENTAL TO CONSTRUCTION

SECTION A-A
NOT TO SCALE

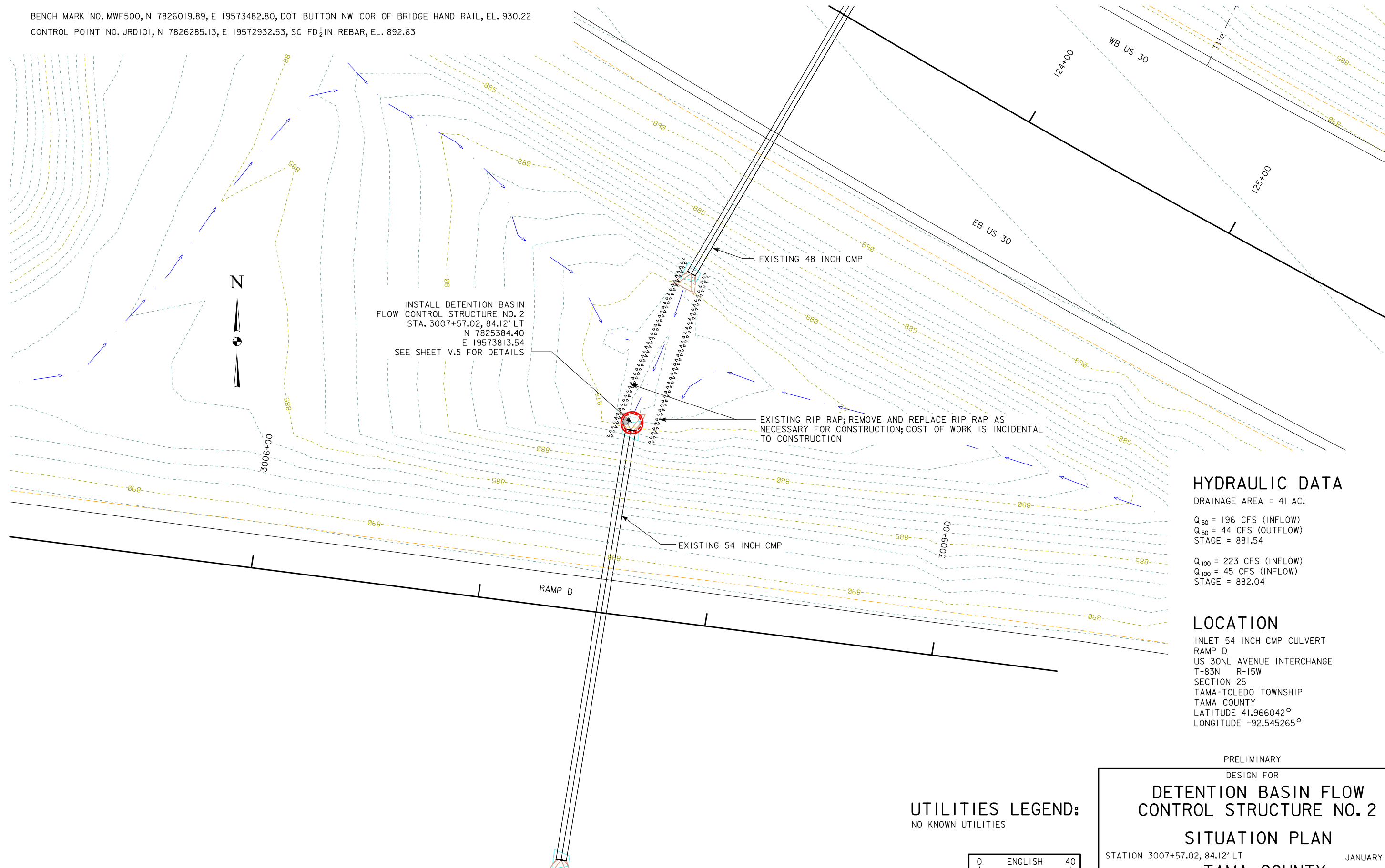
DETENTION BASIN FLOW CONTROL STRUCTURE NO. 1

PRELIMINARY
DESIGN FOR
DETENTION BASIN FLOW CONTROL STRUCTURE NO. 1
DETAILS

STATION 1003+47.22, 106.44' LT JANUARY 2018
TAMA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 6 FILE NO. 31584 DESIGN NO. 318

BENCH MARK NO. MWF500, N 7826019.89, E 19573482.80, DOT BUTTON NW COR OF BRIDGE HAND RAIL, EL. 930.22
 CONTROL POINT NO. JRD101, N 7826285.13, E 19572932.53, SC FD 1/2 IN REBAR, EL. 892.63



INSTALL DETENTION BASIN
 FLOW CONTROL STRUCTURE NO. 2
 STA. 3007+57.02, 84.12' LT
 N 7825384.40
 E 19573813.54
 SEE SHEET V.5 FOR DETAILS

EXISTING RIP RAP; REMOVE AND REPLACE RIP RAP AS
 NECESSARY FOR CONSTRUCTION; COST OF WORK IS INCIDENTAL
 TO CONSTRUCTION

HYDRAULIC DATA

DRAINAGE AREA = 41 AC.

Q₅₀ = 196 CFS (INFLOW)
 Q₅₀ = 44 CFS (OUTFLOW)
 STAGE = 881.54

Q₁₀₀ = 223 CFS (INFLOW)
 Q₁₀₀ = 45 CFS (INFLOW)
 STAGE = 882.04

LOCATION

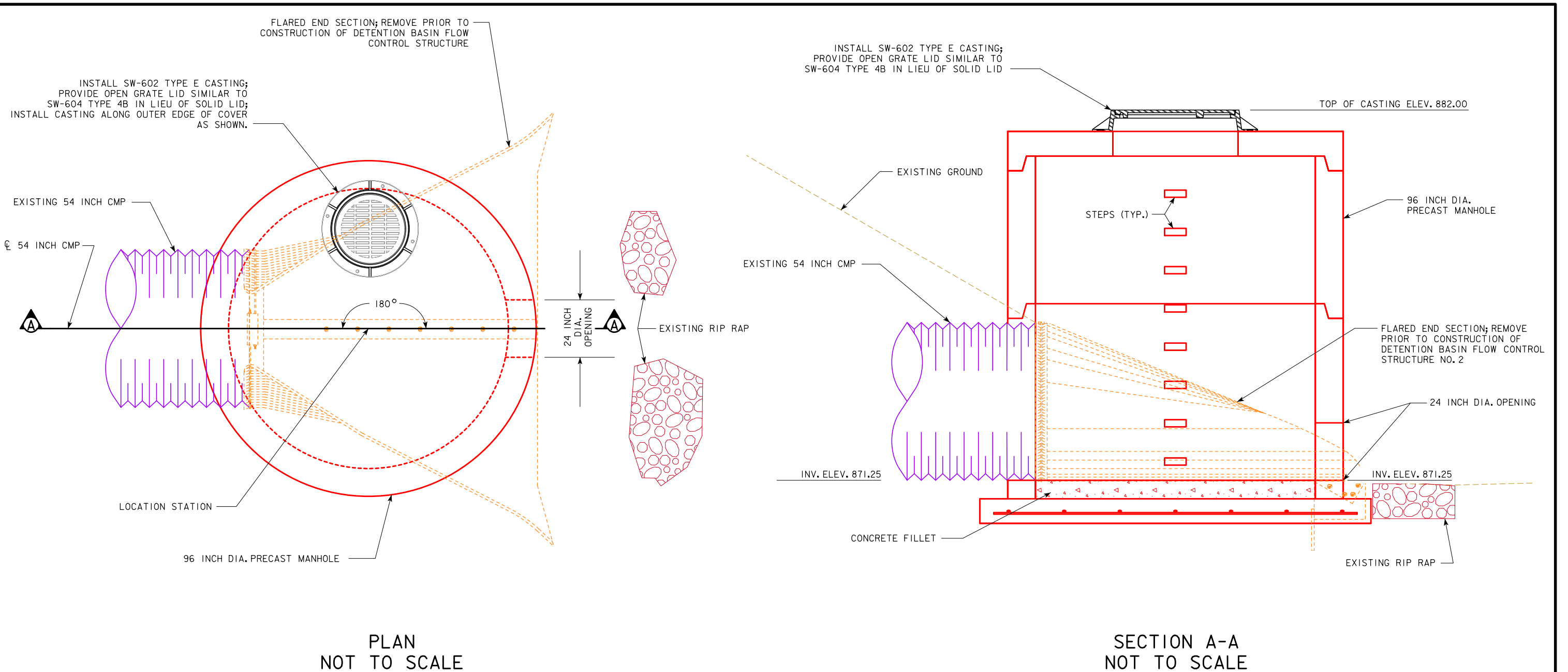
INLET 54 INCH CMP CULVERT
 RAMP D
 US 30\L AVENUE INTERCHANGE
 T-83N R-15W
 SECTION 25
 TAMA-TOLEDO TOWNSHIP
 TAMA COUNTY
 LATITUDE 41.966042°
 LONGITUDE -92.545265°

UTILITIES LEGEND:
 NO KNOWN UTILITIES



SITUATION PLAN

PRELIMINARY
 DESIGN FOR
DETENTION BASIN FLOW CONTROL STRUCTURE NO. 2
SITUATION PLAN
 STATION 3007+57.02, 84.12' LT JANUARY 2018
TAMA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 4 OF 6 FILE NO. 31584 DESIGN NO. _____



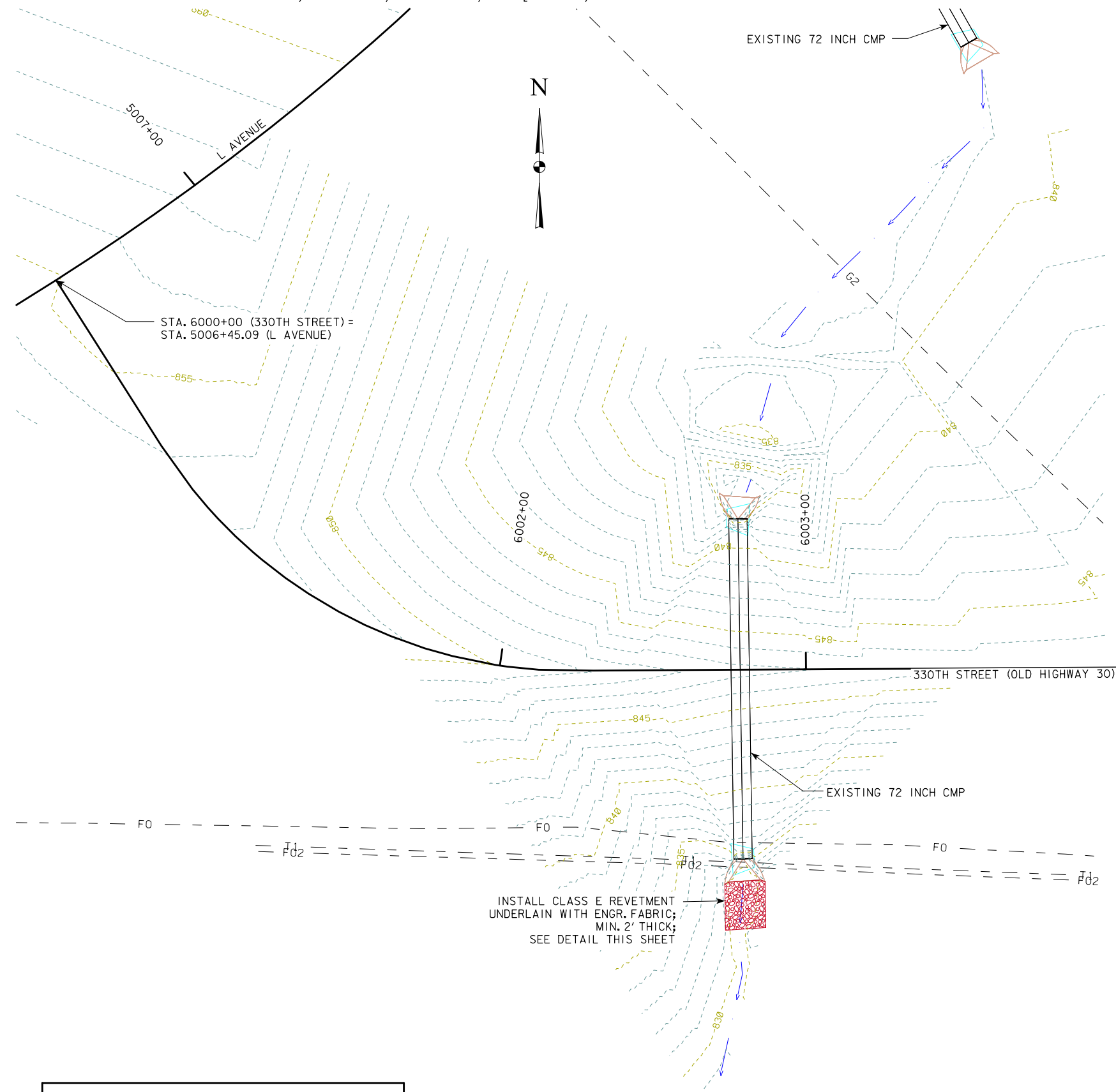
NOTE: USE SW-401 FOR MANHOLE STRUCTURE WITH MODIFICATIONS AS NOTED.

NOTE: REMOVE AND REPLACE RIP RAP AS NECESSARY FOR CONSTRUCTION; COST OF WORK IS INCIDENTAL TO CONSTRUCTION

DETENTION BASIN FLOW CONTROL STRUCTURE NO. 2

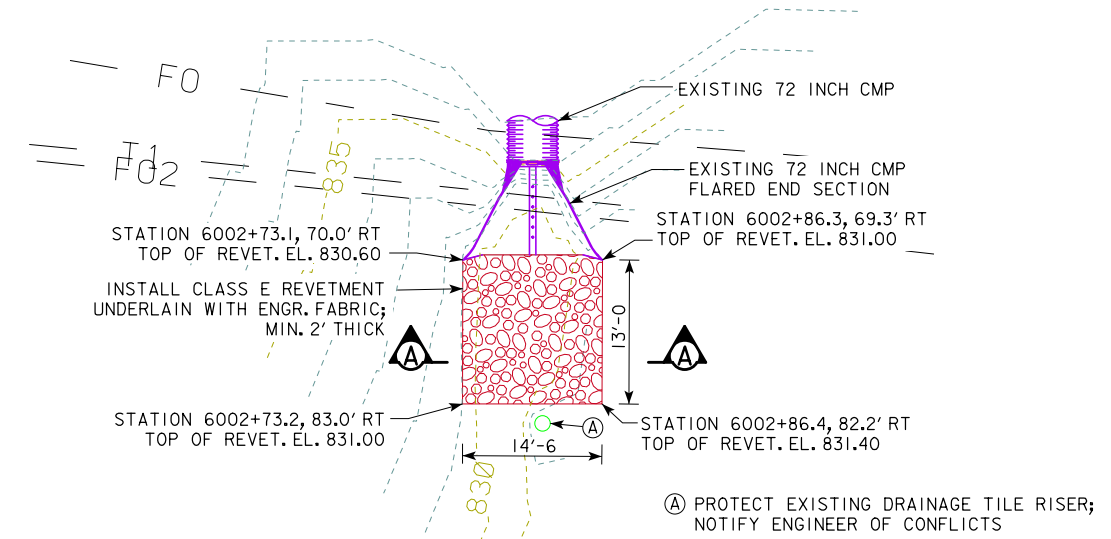
PRELIMINARY
DESIGN FOR
DETENTION BASIN FLOW CONTROL STRUCTURE NO. 2
DETAILS
STATION 3007+57.02, 84.12' LT JANUARY 2018
TAMA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 5 OF 6 FILE NO. 31584 DESIGN NO.

BENCH MARK NO. MWF500, N 7826019.89, E 19573482.80, DOT BUTTON NW COR OF BRIDGE HAND RAIL, EL. 930.22
 CONTROL POINT NO. JRD101, N 7826285.13, E 19572932.53, SC FD₂ IN REBAR, EL. 892.63



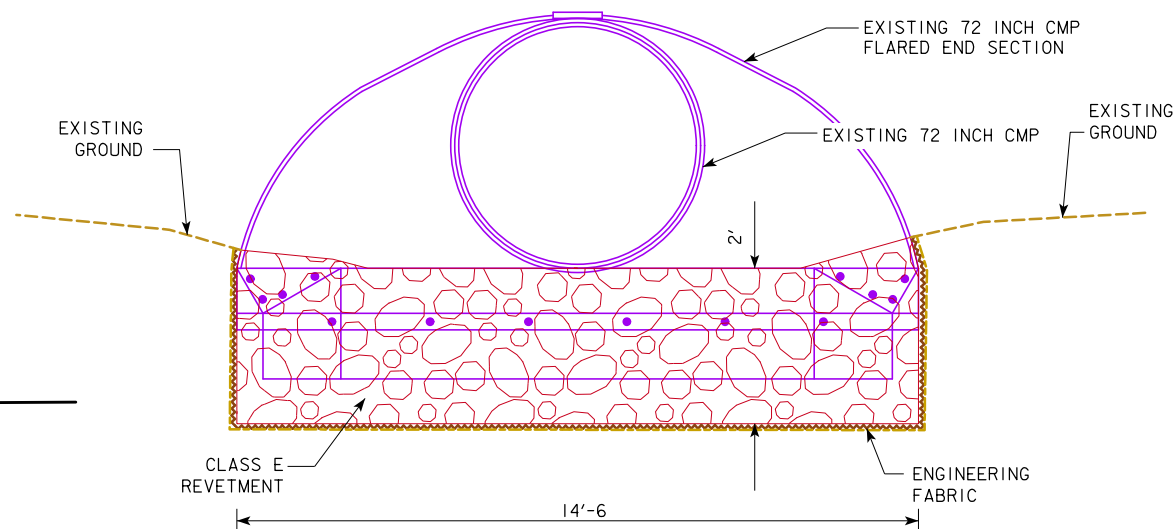
INSTALL CLASS E REVETMENT
 UNDERLAIN WITH ENGR. FABRIC;
 MIN. 2' THICK;
 SEE DETAIL THIS SHEET

SITUATION PLAN



PLAN DETAIL
 NOT TO SCALE

NOTE: TOP OF REVETMENT TO BE FLUSH WITH TOP OF ADJACENT EXISTING GROUND
 PROVIDE POSITIVE DRAINAGE AT ALL LOCATIONS



SECTION A-A
 NOT TO SCALE

LOCATION
 OUTLET 72 INCH CMP CULVERT
 330TH STREET (OLD HIGHWAY 30)
 T-83N R-15W
 SECTION 36
 TAMA-TOLEDO TOWNSHIP
 TAMA COUNTY
 LATITUDE 41.963710°
 LONGITUDE -92.549297°

UTILITIES LEGEND:
 FO - FIBER OPTIC - CENTURYLINK
 F02 - FIBER OPTIC - WINDSTREAM
 G2 - GAS - NORTHERN NATURAL GAS
 T1 - TELEPHONE - WINDSTREAM



ESTIMATED REVETMENT QUANTITIES			
LOCATION	REVTMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
OUTLET	23	31	14

PRELIMINARY
 DESIGN FOR
**CLASS E REVETMENT
 72 INCH CMP CULVERT**
 SITUATION PLAN
 STATION 6002+79.79, 77.23' RT
TAMA COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 6 OF 6 FILE NO. 31584 DESIGN NO. 418
 FEBRUARY 2018