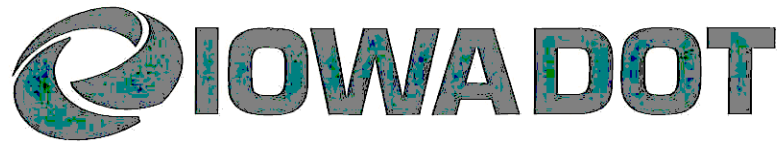


HMA RESURFACING
HSIPX-3-6(64)--3L-09

BREMER CO.

LETTING DATE
1/18/17

MILEAGE SUMMARY			
			105-1 09-27-94
Div.	Location	Lin. Ft.	Miles
1	STA 22+92.0 to STA 270+03.3 STA EQ	24,771.3	4.68
	STA 270+03.3 BK = STA 270+00.0 AH STA 270+00.0 to STA 676+92.0	40692.0	7.71
	Bridge at 174+50.0	(167.5)	0.03
	Bridge at 410+53.6	(40.0)	0.01
	Bridge at 436+76.1	(427.0)	0.08
	Bridge at 454+00.1	(135.0)	0.03
	Bridge at 560+69.7	(121.3)	0.02
Total length of Project		64,512.5	12.2



Highway Division

PLANS OF IMPROVEMENT ON THE

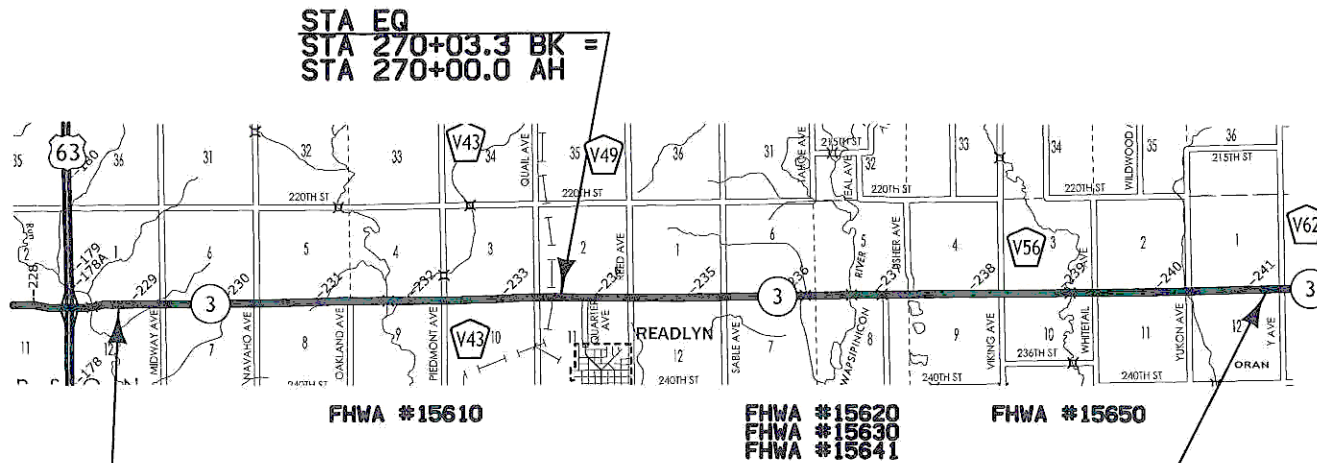
PRIMARY ROAD SYSTEM BREMER COUNTY HMA RESURFACING

IA 3 from US 63 east to the Fayette County Line

SCALES: As Noted

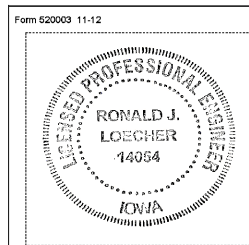
Refer to the Proposal Form for list of applicable specifications.

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



STA 22+92.0
BEGIN PROJECT
MP 228.95

STA 676+92.0
END PROJECT
MP 241.35



I hereby certify that this project was constructed in accordance with the contract documents, the "as-built" plans were prepared under my supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Project Engineer Ronald J. Locher Date 1/28/2020
My license renewal date is December 31, 2020
2017 Mathy Construction Company Glenn D. Uglum
Year Contractor Project Inspector

DESIGN DATA RURAL

2017 AADT 2,400 V.P.D.
2037 AADT 2,500 V.P.D.
20-- DHV -- V.P.H.
TRUCKS 9 %
Total
Design ESALs 657,000

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Mark Callahan	Primary Signature Block
A.1	David Little	PPP, Survey



I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Signature Mark Callahan Date 11-16-16
MARK R. CALLAHAN
My license renewal date is December 31, 2017.

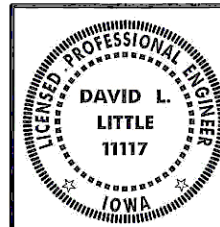
Pages or sheets covered by this seal: A.1, B.1-B.7, C.1-C.5, C.8-C.32, D.1-D.24, J.1, L.1-L.3, U.1-U.3, W.1-W.23

REVISIONS

TOTAL
97
PROJECT IDENTIFICATION NUMBER
15-09-003-020
PROJECT NUMBER
HSIPX-3-6(64)--3L-09
R.O.W. PROJECT NUMBER
NHSX-3-6(64)--3H-09
NHSX-3-6(64)--3H-09
NHSX-3-6(64)--3H-09

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.1	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - B.7	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1 - C.2 J.1	Project Quantities
C.2 - C.4	Reference Information
C.5	Standard Road Plans
C.5	Index of Tabulations
C.6 - C.7	Pollution Prevention Plan
C.9	General Notes
C.8 - C.32	Tabulations
D Sheets	Mainline Plan and Profile Sheets
D.1 - D.24	Existing Plan & Profile Sheets
G Sheets	Survey Sheets
G.1 - G.2	Reference Ties and Bench Marks
G.3	Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan Project Quantities
J.1	Staging Notes Stage Contract Modifications
J.1	Tabulation of Special Events
L Sheets	Geometric, Staking and Jointing Sheets
L.1 - L.3	Geometric & Staking Side Roads
U Sheets	Detail Sheets
U.1 - U.3	Intersection Pavement Marking Sheets
W Sheets	Mainline Cross Sections
W.1 - W.23	Mainline Cross Sections



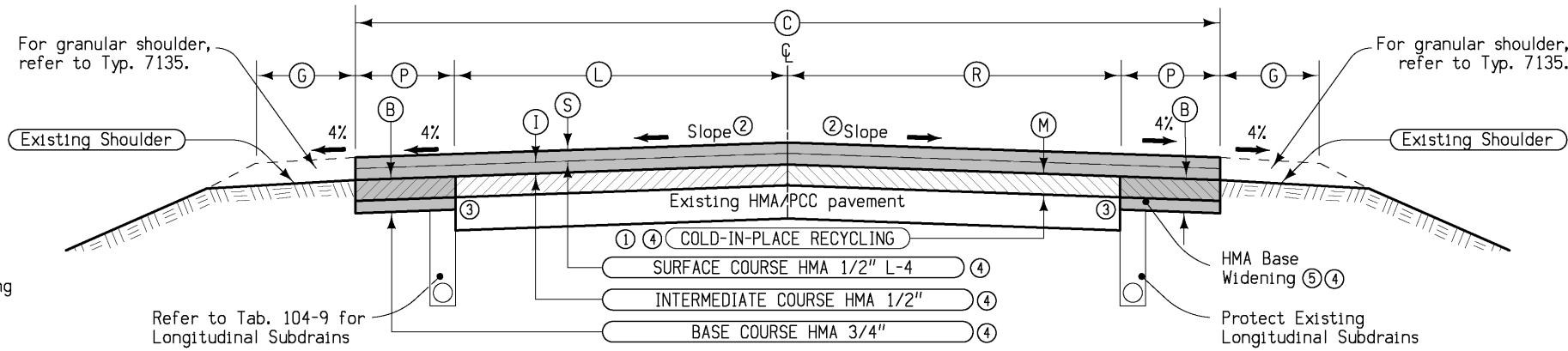
I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Signature David L. Little Date 11-16-16
DAVID L. LITTLE
My license renewal date is December 31, 2016.

Pages or sheets covered by this seal: C.6-C.7, G.1-G.3

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

For granular shoulder,
refer to Typ. 7135.



Notes:

- ① HMA base widening shall be performed prior to cold-in-place recycling. The top 4" of the newly placed base widening unit shall be cold-in-place recycled. Maintain C-I-P-R width limits at 32' through paved intersections unless noted otherwise.
- ② Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of special shaping.
- ③ Provide a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
- ④ Asphalt binder for surface, intermediate and base courses shall be PG 58-34S. Foamed asphalt binder for C-I-P-R shall be PG 52-34S.
- ⑤ Depth of (B) is equal to the depth of Class 13 Excavation used in Tabulation 112-9.
- ⑥ Base widening to be extended through mainline taper section. Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.
- ⑦ Suspend C-I-P-R at continuously reinforced PC patches and other PC patches deemed necessary by the Engineer.

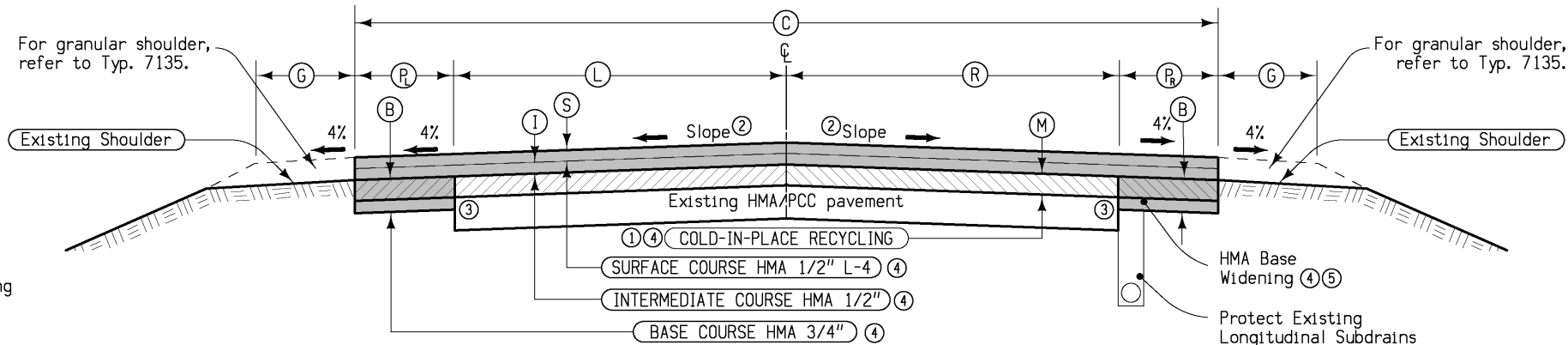
[illegible]

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH BASE WIDENING

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving

For granular shoulder, refer to Typ. 7135.



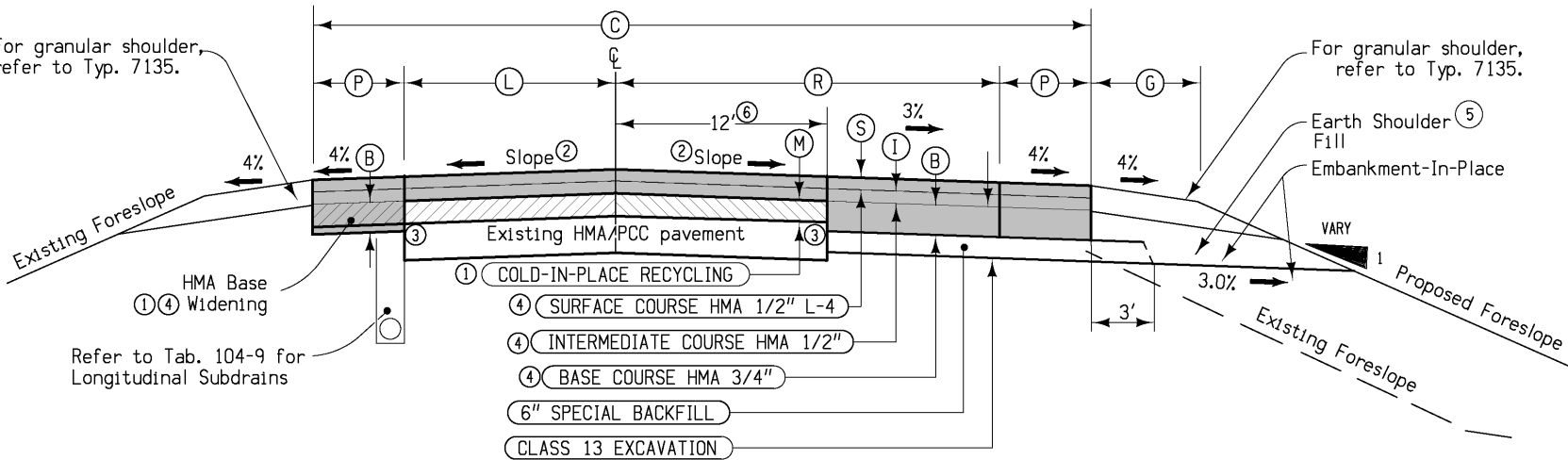
- Notes:
- HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC.
 - Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
 - Provide a a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - Asphalt binder for surface, intermediate and base courses shall be PG 58-34S. Foamed asphalt binder for C-I-P-R shall be PG 52-34S.
 - Depth of (B) is equal to the depth of Class 13 Excavation used in Tabulation 112-9.
 - Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING
 HMA RESURFACING WITH BASE WIDENING
 AT V43/PIEDMONT INTERSECTION

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving

For granular shoulder, refer to Typ. 7135.



- Notes:
- HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC and in the area of new turn lane construction.
 - Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
 - Provide a a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - Asphalt Binder for Surface, Intermediate and Base Courses shall be PG 58-34S. Asphalt Binder for C-I-P-R shall be PG 52-34S.
 - Material to be included in the price bid for "Embankment-in-Place" and shaping to be bid as "Earth Shoulder Finishing".
 - Existing pavement width varies on the right from 12 feet at station 281+99.7 to 39 feet at station 284+86.9.
 - Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

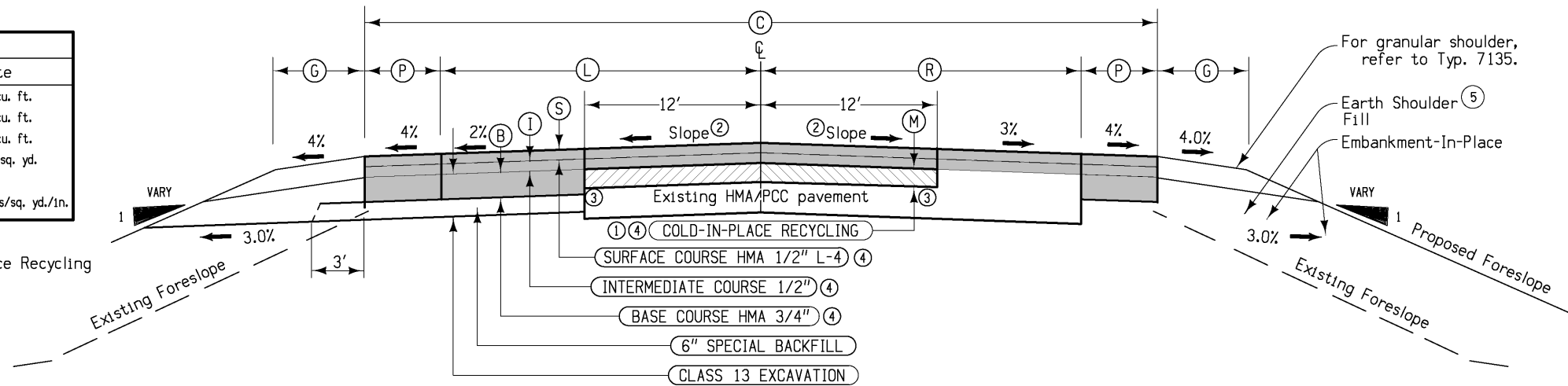
TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING
 HMA RESURFACING WITH BASE WIDENING AND OFFSET
 RIGHT TURN LANE CONSTRUCTION AT QUARTER AVENUE

Location		(S)	(I)	(C)	(L)	(R)	(P)	(P _B)	(B)	(G)	(M)	Remarks
Station To Station		(S) Inches	(I) Inches	(C) Feet	(L) Feet	(R) Feet	(P) Feet	(P _B) Feet	(B) Inches	(G) Feet	(M) Inches	
205+60.0	205+75.0	1.5	2	32-40	16-24	12	0	4	7	4	4	
205+75.0	208+63.0	1.5	2	40	24	12	0	4	7	4	4	V43/Piedmont intersection & turn lane
208+63.0	209+83.0	1.5	2	40-32	24-16	12	0	4	7	4	4	Taper to turn lane

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		(S) Inches	(I) Inches	(C) Feet	(L) Feet	(R) Feet	(P) Feet	(B) Inches	(G) Feet	(M) Inches	
277+17.1	281+99.7	1.5	2	32-50.5	12	12-30.5	4	7	4	4	New turn lane construction
281+99.7	284+86.9	1.5	2	50.5-59	12	30.5-39	4	7	4	4	⑥ Addition turn lane construction
284+86.9	285+92.0	1.5	2	59	12	39	4	7	4	4	Quarter Ave. intersection
285+92.0	286+37.5	1.5	2	59-32	12	39-12	4	7	4	4	Sideroad transition

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

 Cold-In-Place Recycling
 HMA Paving



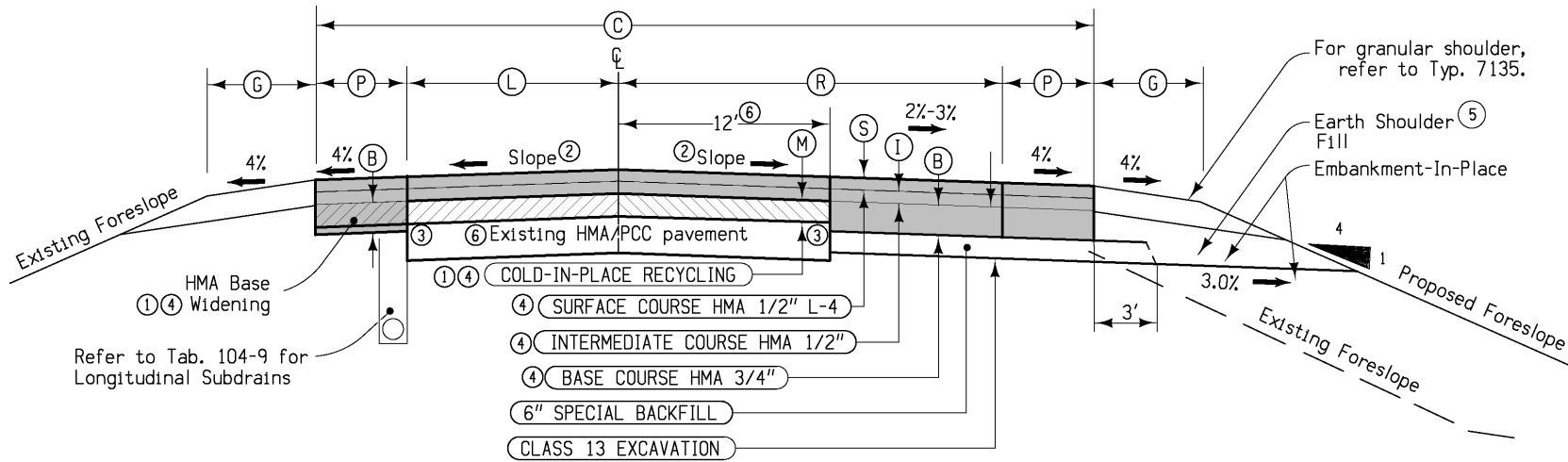
- Notes:
- HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC and in the area of new turn lane construction.
 - Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
 - Provide a a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - Asphalt Binder for Surface, Intermediate and Base Courses shall be PG 58-34S. Asphalt Binder for C-I-P-R shall be PG 52-34S.
 - Material to be included in the price bid for "Embankment-In-Place" and shaping to be bid as "Earth Shoulder Finishing".
 - Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		(4)	(4)	Feet	Feet	Feet	Feet	(4)	Feet	(1)	
298+90.2	307+66.4	1.5	2	32-48	12-28	12	4	7	4	4	Base widening right, lane transition construction left
307+66.4	309+08.5	1.5	2	48-60	28	12-24	4	7	4	4	Turn lane taper right, lane construction left
309+08.5	310+93.5	1.5	2	60	28	24	4	7	4	4	Turn lane right, lane construction left
310+93.5	312+11.7	1.5	2	60	28	24	4	7	4	4	Intersection V49/Reed
312+11.7	313+27.5	1.5	2	60-48	28	24-12	4	7	4	4	Intersection taper right, lane construction left
313+27.5	314+36.7	1.5	2	48	28	12	4	7	4	4	Base widening right, lane construction left
314+36.7	323+12.9	1.5	2	48-32	28-12	12	4	7	4	4	Base widening right, lane transition construction left

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH LEFT AND RIGHT LANE CONSTRUCTION AT V49/REED

Design Rates	
Item	Rate
Surface Course	147 lbs./cu. ft.
Intermediate Course	147 lbs./cu. ft.
Base Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.
Binder Content	6.0%
Foam Asphalt Agent	.0011 tons/sq. yd./in.

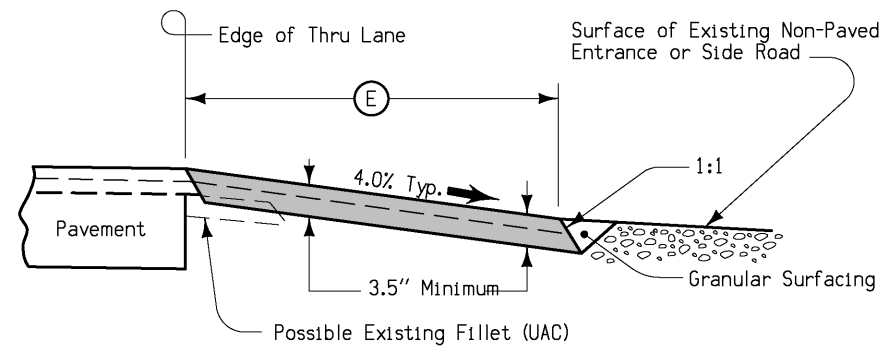
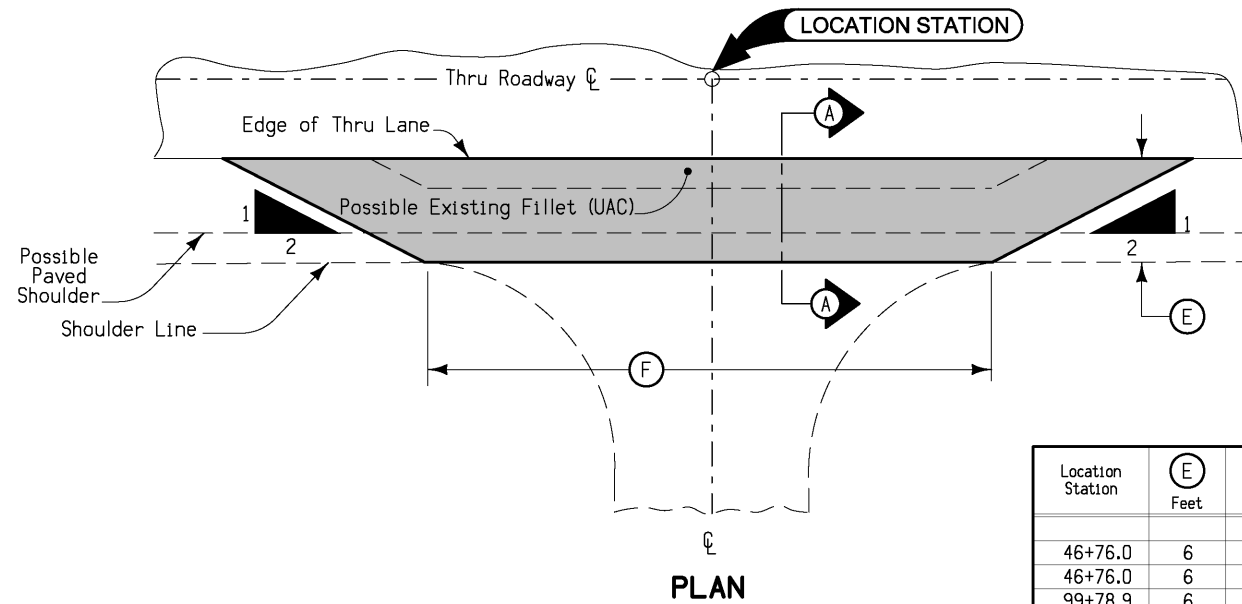
 Cold-In-Place Recycling
 HMA Paving



- Notes:
- HMA base widening shall be performed prior to Cold-In-Place recycling (C-I-P-R). The top 4 inches of the newly placed base widening unit and/or existing pavement shall be C-I-P-R. The width of C-I-P-R shall be maintained at 32 feet through the intersection. Reduce the C-I-P-R width accordingly if side road or turn lane pavement is PCC and in the area of new turn lane construction.
 - Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the Engineer through areas of wider existing pavement.
 - Provide a a clean vertical edge similar to what can be achieved with a milling machine. Incidental to "Class 13 Excavation for Widening".
 - Asphalt Binder for Surface, Intermediate and Base Courses shall be PG 58-34S. Asphalt Binder for C-I-P-R shall be PG 52-34S.
 - Material to be included in the price bid for "Embankment-In-Place" and shaping to be bid as "Earth Shoulder Finishing".
 - Existing pavement width varies in areas of existing right turn lanes, station 518+23.5 to station 525+57.0.
 - Discontinue base widening at existing paved intersections. Refer to Typical 7154A and 7154B for additional information.

Location		(S)	(I)	(C)	(L)	(R)	(P)	(B)	(G)	(M)	Remarks
Station To Station		(4)	(4)	Feet	Feet	Feet	Feet	(4)	Feet	(1)	
509+47.3	518+23.5	1.5	2	32-48	12	12-28	4	7	4	4	Lane transition construction right, base widening left
518+23.5	519+43.5	1.5	2	48-60	12	28-40	4	7	4	4	Lane construction and turn lane taper right, widening left
519+43.5	521+28.5	1.5	2	60	12	40	4	7	4	4	Lane construction and turn lane right, base widening left
521+28.5	522+51.9	1.5	2	60	12-24	40-28	4	7	4	4	Intersection V56/Viking
522+51.9	524+37.0	1.5	2	60	24	28	4	7	4	4	Lane construction right, existing turn lane left
524+37.0	525+57.0	1.5	2	60-48	24-12	28	4	7	4	4	Lane construction right, existing turn lane taper left
525+57.0	534+33.1	1.5	2	48-32	12	28-12	4	7	4	4	Lane construction right, base widening left

TYPICAL CROSS SECTION COLD-IN-PLACE RECYCLING HMA RESURFACING WITH BASE WIDENING WITH LEFT AND RIGHT LANE CONSTRUCTION AT V56/VIKING



Special shaping of existing surface prior to placement of fillet may be required by the Engineer and is incidental to other work on the project.

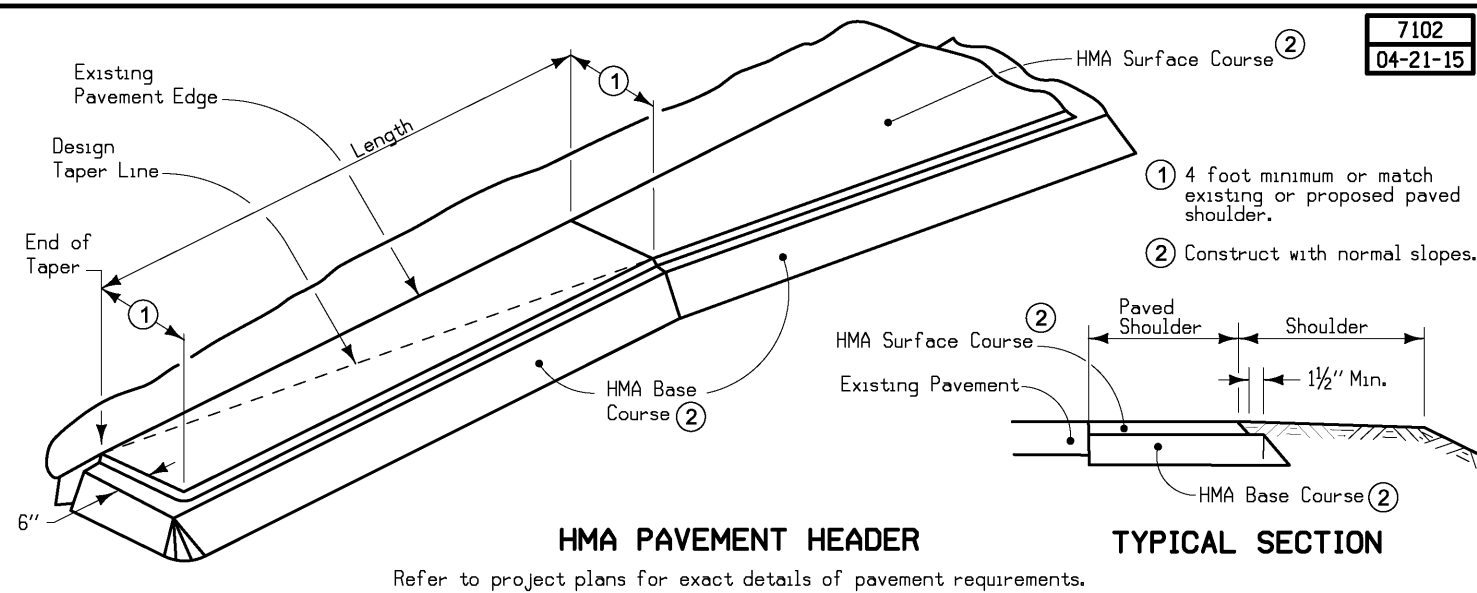
Quantities included with mainline quantities.

SECTION A-A

Location Station	(E) Feet	(F) Feet
46+76.0	6	96
46+76.0	6	94
99+78.9	6	94
99+78.9	6	94
152+89.0	6	94
206+10.0	6	94
258+64.7	6	96
258+64.7	6	94
311+53.0	6	100

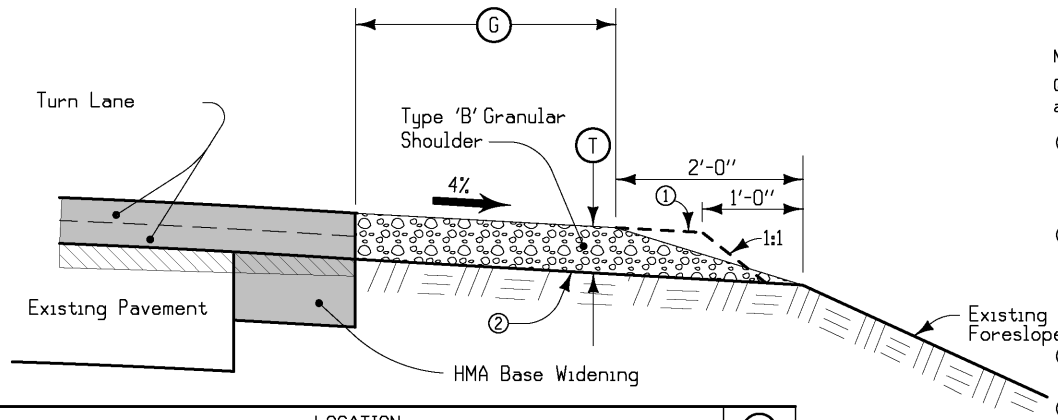
Location Station	(E) Feet	(F) Feet
364+39.5	6	94
364+39.5	6	94
456+10.0	6	94
470+10.0	6	94
574+85.0	6	94
574+85.0	6	94
627+89.0	6	94
627+89.0	6	94

FILLET FOR NON-PAVED SIDE ROADS



7102
04-21-15

7135
Modified

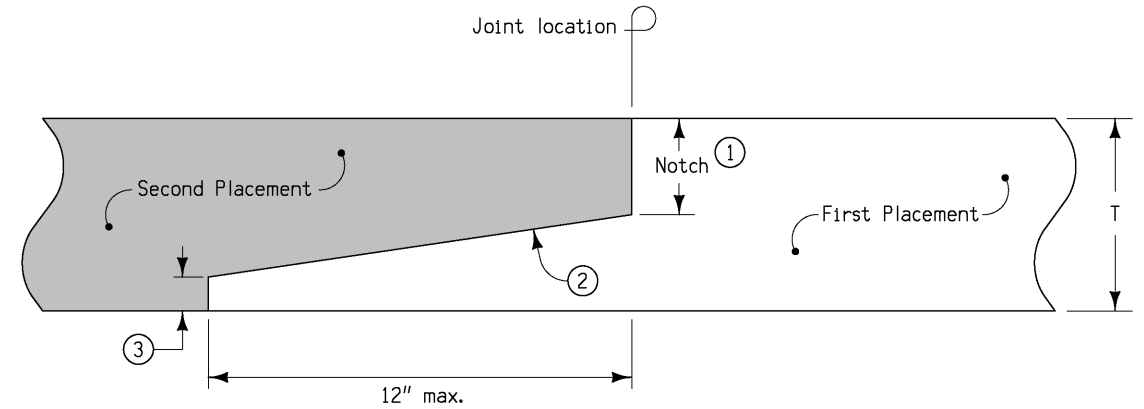


- Notes:
- Quantities have been determined on the basis of a design weight of 140 lbs. per cubic foot.
- ① Place and compact material to the dashed lines; then blade and shape to foreslope that portion above the solid line in the outer 2' and roll with loaded truck tire.
 - ② Existing shoulder surface to be shaped to a uniform cross slope prior to placing granular shoulder material. Shape to ensure the thickness of the granular shoulder material is not less than the thickness of the resurfacing. Shaping shall be incidental to Type 'B' Granular Shoulder
 - ④ Nominal thickness adjusted to account for existing slopes.
 - ⑤ See Tabulation 112-9 for ⑥ and Quantities.

**TYPICAL SECTION
FOR TYPE 'B'
GRANULAR SHOULDER**

LOCATION				③ Inches
SECTION IDENTIFICATION	STATION TO STATION		SIDE	
STA EQ	22+92.0	270+03.3	BOTH	6
	270+00.0	676+92.0	BOTH	6

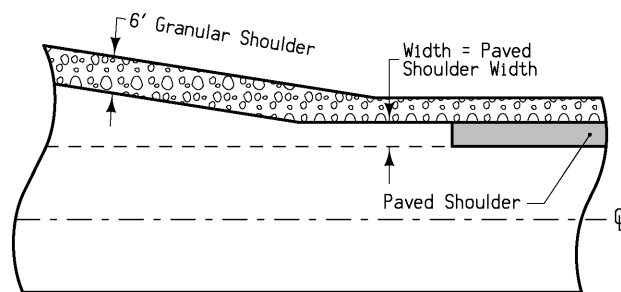
7315
10-20-09



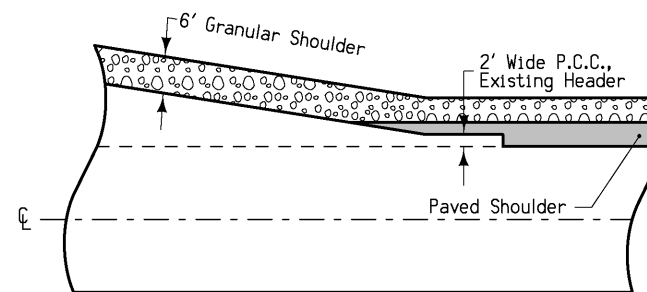
- Notes:
- ① Notch: Min = nominal maximum aggregate size + 1/4". Max = T/2.
 - ② 12:1 Slope
 - ③ Optional step at toe of slope: Max = 1".

**LONGITUDINAL HMA
NOTCHED WEDGE JOINT
T = 2" OR GREATER**

7154A
10-20-09



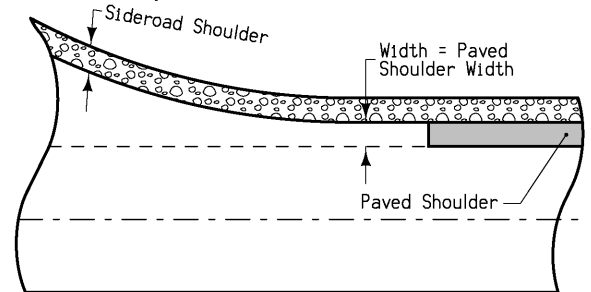
With Newly Constructed Turn Lanes



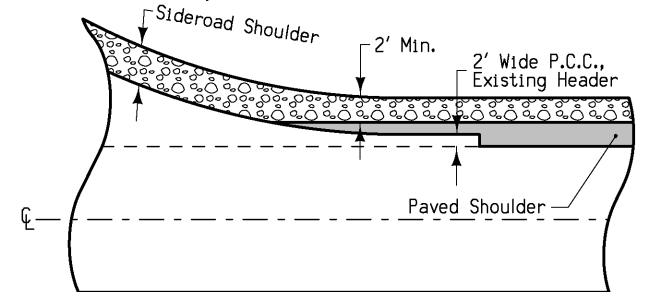
At UAC Turn Lanes

**PAVED SHOULDER
DETAIL AT
TURN LANES**

7154B
10-20-09

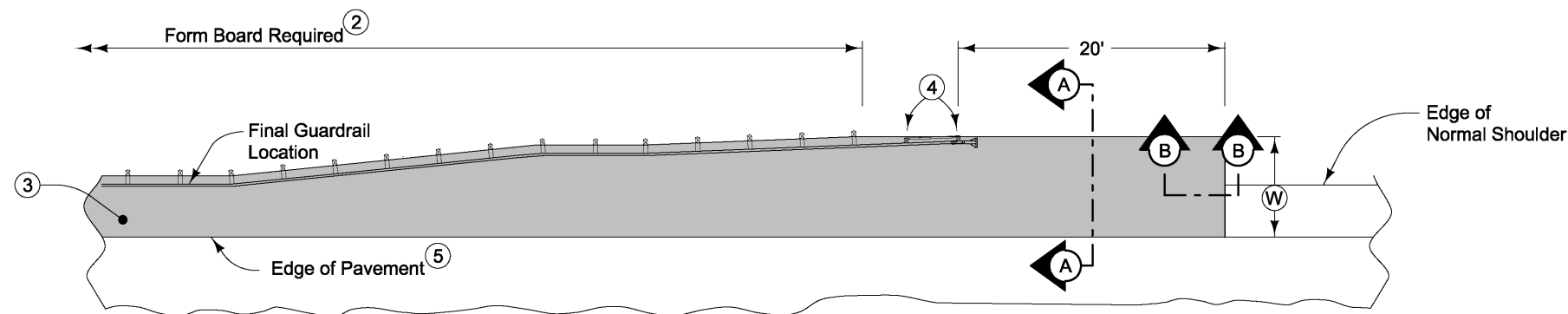


With Newly Constructed Returns



At UAC Returns

**PAVED SHOULDER
DETAIL AT RETURNS**

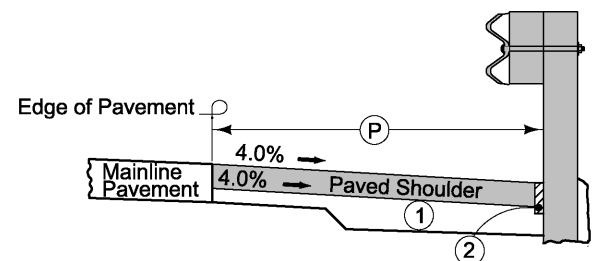


6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

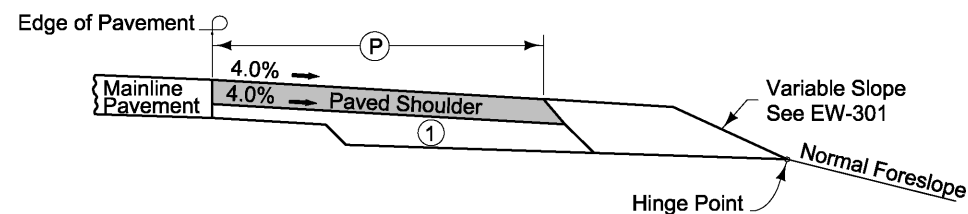
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at W/2 from edge of mainline pavement when W is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal & reinstallation of guardrail will be allowed with no additional payment.

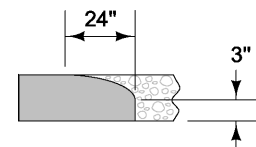
Refer to Shoulder tabulation (112-9) for quantities.



Typical Section with Form Board



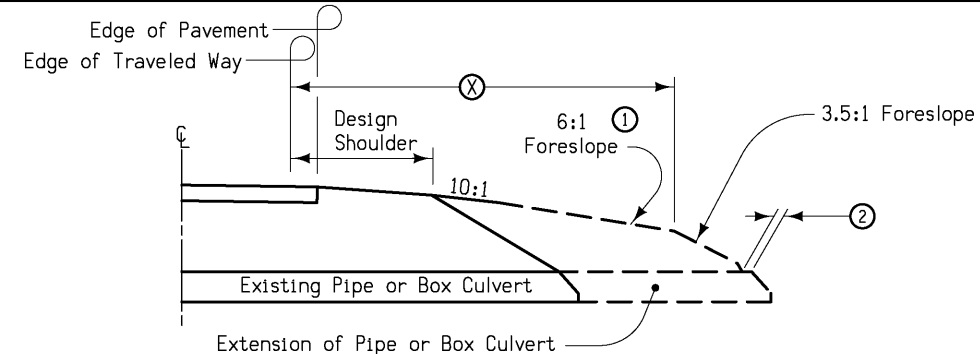
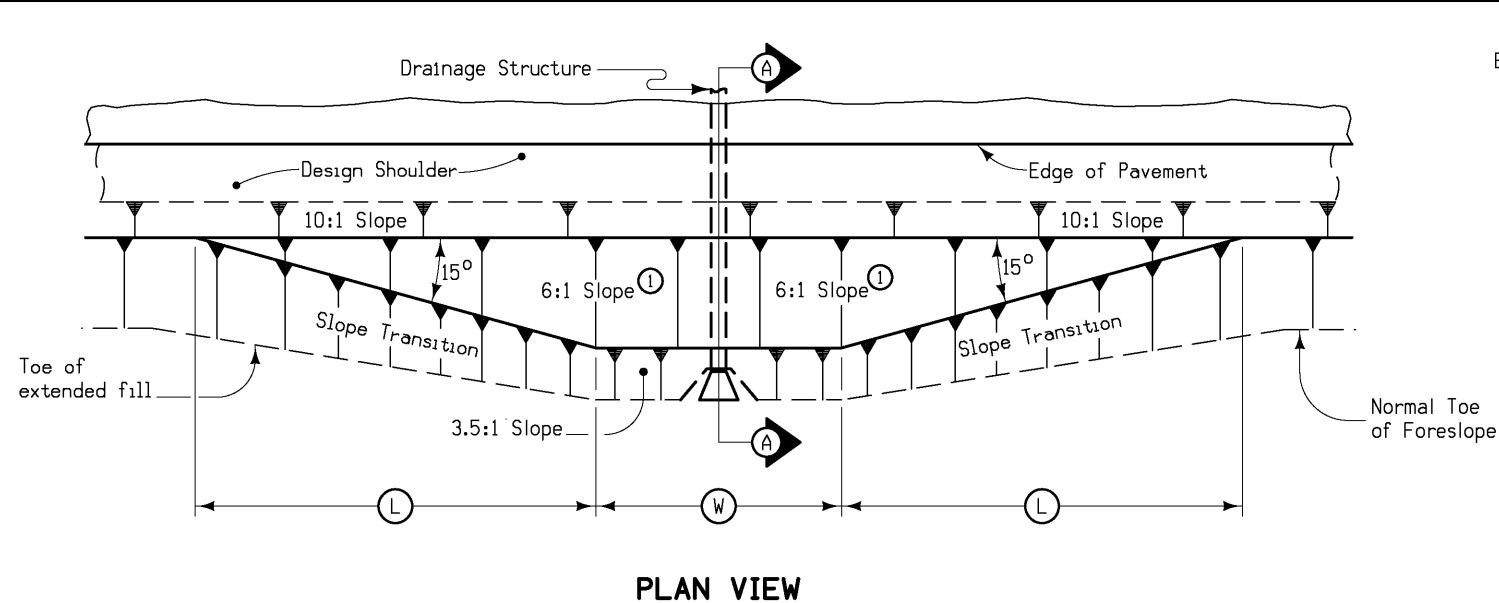
Section A-A



Section B-B
Roll down at granular shoulder or earth.

- ① 6" subgrade treatment.
- ② When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.
- ⑤ 'KT-1' joint for PCC shoulder.
'B' joint for HMA shoulder.

PAVED SHOULDER AT GUARDRAIL

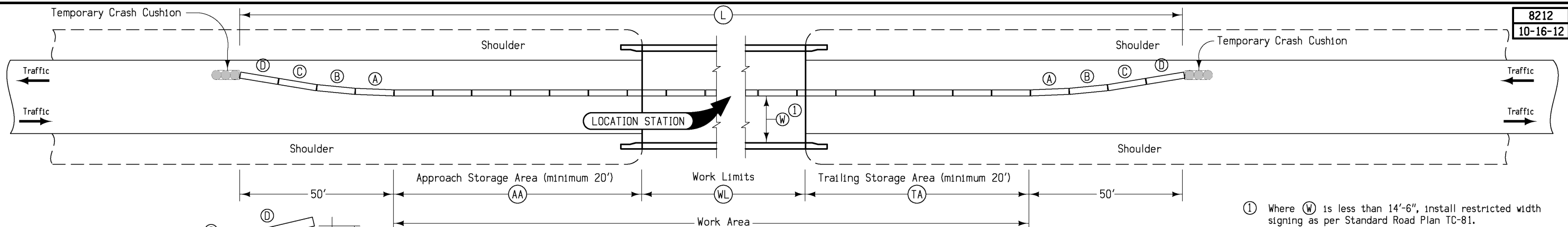


- Notes:
- At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, the foreslope shall be flattened as indicated so as to cover the structure. Minimum earth cover is 6'.
- ① 6:1 Maximum - Slope may be flatter.
- ② 6" Minimum for pipe installations or to top of headwall on R.C.B.
- Ⓦ = Pipe or R.C.B. width plus 20 feet each side.

SECTION A-A

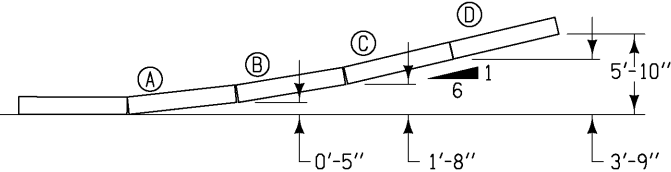
STRUCTURE LOCATION		Ⓦ	Ⓛ	ⓧ
STATION	SIDE	Feet	Feet	Feet
312+31.0	RT	45	VAR	40.5
312+31.0	LT	45	VAR	12.5
347+02.0	B	42.5	40	18.0

DETAILS OF
BARNROOF FORESLOPE
AT DRAINAGE STRUCTURE



- ① Where Ⓦ is less than 14'-6", install restricted width signing as per Standard Road Plan TC-81.

BARRIER OFFSETS FOR FLARE SECTIONS



Station	Side	ⓐⓐ	ⓌⓁ	Ⓣⓐ	Ⓛ	Anchored X	Ⓦ①	Remarks
		Feet	Feet	Feet	Feet		Ft-Inches	
410+53.6	LT	60	205	60	425		17'-4"	
410+53.6	RT	60	205	60	425		17'-4"	

TEMPORARY CONCRETE BARRIER LAYOUT
for Two-Way Traffic

100-1D
10-18-05

PROJECT DESCRIPTION

This project includes cold-in-place recycling and resurfacing of IA 3 in Bremer County from just east of the intersection with US 63 to the intersection with County Road V62 at the Fayette County Line. The existing 24 foot average width HMA pavement will be widened 4 feet on each side, have 4.0 inches of cold-in-place recycling, and be resurfaced with 3.5 inches of HMA. Existing pipes will be extended, guardrail will be updated at four of the five bridges, and left turn lanes will be added at the V-49 and V-56 intersections. A major offset right turn lane will be installed at Quarter Avenue.

262-6
10-18-05

UTILITIES
(NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

ESTIMATED PROJECT QUANTITIES
(UP TO A 5 DIVISION PROJECT)

Division 1: DOT, Resurfacing
Division 2: HSIP Eligible Items

Item No.	Item Code	Item	Unit	Quantities										
				Estimated					As Built					
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5
1	2101-0850002	CLEARING AND GRUBBING	UNIT	142						142	142			
2	2102-0425070	SPECIAL BACKFILL	TON		4,703.5					4,703.5		4199.61		
3	2102-2625000	EMBANKMENT-IN-PLACE	CY	6,329.0						6,329.0	5821.6			
4	2102-4560000	LOCATING TILE LINES	STA	47.00						47.00	0.0			
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	3,677.9						3,677.9	3583.8			
6	2105-8425004	MODIFIED SUBBASE	CY	377.6						377.6				
7	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	22,201.0						22,201.0	25245.02			
8	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN)	SY	333.4						333.4	225.8			
9	2122-5500060	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.	SY	0.0	2,278.5					2,278.5	0.0	2146.0		
10	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN.	SY	286.9						286.9	183.4			
11	2123-7450020	SHOULDER FINISHING, EARTH	STA		54.70					54.70		59.1		
12	2125-2225050	RESHAPING DITCHES	STA	30.40						30.40	33.49			
13	2212-5070310	PATCHES, FULL-DEPTH REPAIR	SY	1,972.6						1,972.6	1798.1			
14	2212-5070377	PATCHES, PARTIAL-DEPTH REPAIR, HOT MIX ASPHALT	SY	433.9						433.9				
15	2212-5070330	PATCHES BY COUNT (REPAIR)	EACH	293						293	291			
16	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING	CY		19,520.0					19,520.0	18708.9			
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH	0	2					2	0			
18	2214-5145150	PAVEMENT SCARIFICATION	SY	4,833.1						4,833.1	4783.0			
19	2301-0690205	BRIDGE APPROACH, BR-205	SY	366.6						366.6	266.6			
20	2303-1031750	HOT MIX ASPHALT STANDARD TRAFFIC, BASE COURSE, 3/4 IN. MIX	TON	0.00	24,952.00					24,952.00	21504.46			
21	2303-1032500	HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	25,447.00	1,420.00					26,867.00	24189.59			
22	2303-1033504	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	19,556.00	1,065.00					20,621.00	21612.34			
23	2303-1258343	ASPHALT BINDER, PG 58-34S, STANDARD TRAFFIC	TON	2,700.00	1,646.00					4,346.00	4282.97			
24	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1.00						1.00	1.0			
25	2303-7000610	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE LABORATORY VOIDS (FORMULA - BY PAY FACTOR)	EACH	36667						36667				
26	2303-7000620	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE FIELD VOIDS (FORMULA - BY PAY FACTOR)	EACH	36667						36667				
27	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	830.0						830.0				
28	2316-0000120	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	57000						57000	164113.05			
29	2318-1001100	COLD IN-PLACE RECYCLED ASPHALT PAVEMENT	SY	215,539.0						215,539.0	215786.0			
30	2318-1001220	ASPHALT STABILIZING AGENT (FOAMED ASPHALT)	TON	948.0						948.0	642.99			
31	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1.00						1.00	1.0			
32	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	226.5						226.5	226.5			
33	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	4						4	9			
34	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	4						4	4			
35	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	3						3	2			
36	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	1						1	1			
37	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	2						2	2			
38	2416-0101036	REMOVE AND REINSTALL CONCRETE PIPE APRONS LESS THAN OR EQUAL TO 36 IN.	EACH	1						1	2			
39	2416-0101136	REMOVE AND REINSTALL CONCRETE PIPE APRONS GREATER THAN 36 IN.	EACH	5						5	6			
40	2416-1160048	CULVERT, CONCRETE ENTRANCE PIPE, 48 IN. DIA.	LF	18						18	16			
41	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	12						12	0.0			
42	2416-1190284	CULVERT, LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT DIAMETER 84 IN.	LF	12						12	12			
425	2416-1541036	✗ REMOVE + REINSTALL RIGID PIPE CULVERT LE 36"	LF	32						32	0.0			
43	2416-1541136	REMOVE AND REINSTALL RIGID PIPE CULVERT GREATER THAN 36 IN.	LF	6						6	6			
44	2417-0225018	APRONS, METAL, 18 IN. DIA.	EACH	98						98	99			
45	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	22						22	12			
46	2417-0225030	APRONS, METAL, 30 IN. DIA.	EACH	2						2	0			
47	2417-0225036	APRONS, METAL, 36 IN. DIA.	EACH	8						8	6			
48	2417-0225042	APRONS, METAL, 42 IN. DIA.	EACH	2						2	0			
49	2417-0225048	APRONS, METAL, 48 IN. DIA.	EACH	8						8	8			
50	2417-0341036	REMOVE AND REINSTALL METAL APRONS LESS THAN OR EQUAL TO 36 IN.	EACH	2						2	2			
51	2417-1040024	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 24 IN. DIA.	LF	45						45	85.0			
52	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	29,750.0						29,750.0	25118.0			
53	2502-8212110	SUBDRAIN, PLASTIC PIPE, 10 IN.	LF	60						60	120			
54	2502-8221304	SUBDRAIN OUTLET, DR-304	EACH	195						195	188			
55	2502-8221305	SUBDRAIN OUTLET, DR-305	EACH	1						1	1			
56	2503-0500401	BRIDGE END DRAIN, DR-401	EACH	16						16	14			
57	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF		1,237.5					1,237.5		1277.5		
58	2505-4008300	STEEL BEAM GUARDRAIL	LF		450.0					450.0		450.0		
59	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH		16					16		16		

100-1C
04-17-12

~~ESTIMATE~~ PROJECT QUANTITIES
(UP TO A 5 DIVISION PROJECT)

Division 1: DOT, Resurfacing
Division 2: HSIP Eligible Items

Item No.	Item Code	Item	Unit	Quantities										
				Estimated						As Built				
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5
60	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH		16				16		16			
61	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH		16				16		16			
62	2507-3250005	ENGINEERING FABRIC	SY	194.2					194.2	126.7				
63	2507-8029000	EROSION STONE	TON	107.0					107.0	121.59				
64	2510-6745850	REMOVAL OF PAVEMENT	SY	821.4					821.4	1612.5				
65	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.	LF	160.0					160.0	36.0				
66	2519-3300600	FENCE, SAFETY	LF	1,240.0					1,240.0	1265.0				
67	2520-3350010	FIELD LABORATORY	EACH	1					1	1				
68	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	18					18	18.5				
69	2524-9275222	WOOD POSTS FOR TYPE A OR B SIGNS, 4 IN. X 6 IN.	LF	320.0					320.0	339.0				
70	2526-8285000	CONSTRUCTION SURVEY	LS	1.00					1.00	0.9				
71	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	7,549.67					7,549.67	5669.93				
72	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	43.94					43.94	55.16				
73	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	22					22	22				
74	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	9.56					9.56	18.59				
75	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS	STA	1,887.42					1,887.42	7.44				
76	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	EACH	22					22	22				
77	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	850.0					850.0	850.0				
78	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	2					2	1.0				
79	2528-8445110	TRAFFIC CONTROL	LS	1.00					1.00	0.9				
80	2528-8445113	FLAGGERS	EACH						See Proposal	439.5				
81	2528-8445115	PILOT CARS	EACH						See Proposal	95.5				
82	2529-8174010	SUBBASE (PATCHES)	SY	1,591.1					1,591.1	1739.4				
83	2529-8174050	PATCH SUBDRAIN	EACH	35					35	0				
84	2533-4980005	MOBILIZATION	LS	1.00					1.00	1.0				
85	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA		1,307.1				1,307.1	1307.1				
86	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL		1,416.0				1,416.0	1416.0				
87	2551-0000110	TEMP CRASH CUSHION	EACH	4					4	4				
88	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS	1.00					1.00	1.0				
89	2601-2634100	MULCHING	ACRE	12.3					12.3	12.3				
90	2601-2636015	NATIVE GRASS SEEDING	ACRE	4.6					4.6	4.6				
91	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	5.5					5.5	3.22				
92	2601-2636044	SEEDING AND FERTILIZING (URBAN)	ACRE	2.2					2.2	0.49				
93	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	10.1					10.1	4.79				
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	2.2					2.2	1.49				
95	2602-0000020	SILT FENCE	LF	10,186.0					10,186.0	5632.0				
96	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	1,100.0					1,100.0	329.0				
97	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	10,260.0					10,260.0	5632.0				
98	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	1,026.0					1,026.0	80.0				
99	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	9,080.0					9,080.0	3449.0				
100	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	9,080.0					9,080.0	0				
101	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1					1	9				
102	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1					1	0				
103	2102-2713090	EXCAVTION, CLASS 13 WASTE	CY	143					143	143				
104	2105-8425005	TOPSOIL,FURNISH & SPREAD	CY	24					24	24				
105	2115-0100000	MODIFIED SUBBASE	CY	45.6					45.6	0				
106	2121-7425020	GRANULAR SHOULDER,TYPE B	TON	854.6					854.6	1241.33				
107	2122-5190501	PAVED SHOULDER,PCC(PANEL-BRIDGE END DRAIN)	SY	125					125.0	125.0				
108	2122-5500060	PAVED SHOULDER,HMA 6"	SY	273.2					273.2	273.2				
109	2212-5070310	PATCH, FULL DEPTH REPAIR	SY	453.3					453.3	589.9				
110	2212-5070330	PATCH BY COUNT (REPAIR)	EACH	55					55	65				
111	2214-5145150	PAVEMENT SCARIFICATION	SY	9163.6					9163.6	9163.6				
112	2303-1042500	HMA HT INTERMEDIATE, 1/2"	TON	752.8					752.8	813.73				

100-4A
10-29-02

~~ESTIMATE~~ REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850002	CLEARING AND GRUBBING Refer to Tabulation 110-17 for additional information.
-	-	-
2	2102-0425070	SPECIAL BACKFILL Refer to Typicals MC-3, MC-4 and MC-5 and Tabulation 106-5 and 112-9 for additional information.
-	-	-
3	2102-2625000	EMBANKMENT-IN-PLACE Refer to Typicals MC-3, MC-4 and MC-5 and Tabulations 100-25, 104-13, 104-13A and 107-23 for additional information. Quantity is for fill for turn lane construction, pipe extensions and guardrail blisters. The Contractor shall supply all fill material needed. Any removal of small brush or debris in these areas shall be incidental to this bid item.
		Material obtained from item "Excavation, Class 13, for Widening" may be used for this work.
		Overhaul will not be paid for this item.
-	-	-

100-4A
10-29-02

~~ESTIMATE~~ REFERENCE INFORMATION

Item No.	Item Code	Description
4	2102-4560000	LOCATING TILE LINES To be performed from STA 298+90 to STA 323+13 on the left and from STA 509+47 to STA 534+33 on the right, less intersections.
-	-	-
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD Refer to Tabulation 103-4 for additional information. All disturbed areas not covered by concrete, asphalt or gravel shall have a minimum of 4 inches of topsoil. The Contractor shall provide all the required topsoil. Topsoil from stripping and approved by the Engineer for placement, may also be used. Stripping of topsoil for placement of fill is considered incidental to this bid item.
-	-	-
6	2115-0100000	MODIFIED SUBBASE Refer to Typical 7156 and Tabulation 112-9 for additional information.
-	-	-
7	2121-7425020	GRANULAR SHOULDERS, TYPE B Refer to Typicals 7135, 7154A and 7154B and Tabulation 112-9 for additional information.
-	-	-
8	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN) Refer to Tabulation 104-8A for additional information.
-	-	-

100-4A 10-29-02			100-4A 10-29-02		
ESTIMATE REFERENCE INFORMATION			ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description	Item No.	Item Code	Description
71	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	95	2602-0000020	SILT FENCE
72	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS			Refer to Tabulation 100-17 for additional information. This item is for grading at guardrail blisters and turn lanes. Verify specific locations with the Engineer prior to placement. Estimated quantity includes an additional 10% for other areas as directed by the Engineer.
73	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	-	-	-
74	2527-9263180	PAVEMENT MARKINGS REMOVED	96	2602-0000030	SILT FENCE FOR DITCH CHECKS
75	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS			Refer to Tabulation 100-18 for additional information. This item includes estimated locations for placement of Silt Fence for Ditch Checks to address possible erosion encountered during construction. Verify the specific locations with the Engineer prior to placement. Bid item includes 10% additional quantity for field adjustments and replacements.
76	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	-	-	-
		Refer to Tabulations 108-22 and 108-29 and U Sheets for additional information. Grooving depth shall be 0.08 inches to 0.10 inches. Grooving and final pavement markings shall be placed a minimum of 30 days after final HMA lift placement.	97	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS
-	-	-			This item is included for silt fence and silt fence for ditch check removal, including removal to allow for replacement (replacement to be paid separately), when slopes have been mulched and the Engineer has determined that fencing is no longer needed or for areas that have achieved 70% permanent growth.
77	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	-	-	-
		Refer to Typical 8212 and Tabulation 108-33 for additional information.	98	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK
-	-	-			This item is included for clean-out and repair of the silt fence and silt fence for ditch checks installed for the project. Estimated at 10% of silt fence and silt fence for ditch check quantities.
78	2528-8400256	TEMPORARY TRAFFIC SIGNALS	-	-	-
		Refer to Tabulation 108-28 for additional information.	99	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.
-	-	-			Refer to Tabulation 100-19 to be used in conjunction with silt fence to control sediment.
79	2528-8445110	TRAFFIC CONTROL	-	-	-
		Refer to Sheet J.1 for additional information.	100	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE
-	-	-	-	-	-
80	2528-8445113	FLAGGERS	101	2602-0010010	MOBILIZATIONS, EROSION CONTROL
		- -	-	-	-
-	-	-	102	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL
81	2528-8445115	PILOT CARS	-	-	-
		- -	-	-	-
-	-	-			
82	2529-8174010	SUBBASE (PATCHES)			
83	2529-8174050	PATCH SUBDRAIN			
		Refer to Tabulations 102-6C and 102-11 for additional information.			
-	-	-			
84	2533-4980005	MOBILIZATION			
		- -			
-	-	-			
85	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE			
86	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)			
		Refer to Tabulation 112-10.			
-	-	-			
87	2551-0000110	TEMP CRASH CUSHION			
		Refer to Typical 8212 and Tabulation 108-30 for additional information.			
-	-	-			
88	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS			
		Refer to Tabulation 110-13 for additional information.			
-	-	-			
89	2601-2634100	MULCHING			
		Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.			
		This item includes areas requiring reshaping and seedbed preparation. Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.			
		Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.			
-	-	-			
90	2601-2636015	NATIVE GRASS SEEDING			
		All areas outside eight feet adjacent to shoulder shall be seeded with "Native Grass Seeding".			
		All seed for "Native Grass Seeding" will be supplied and mixed by the Contractor according to Article 2601.03, B, 4, c and installed according to Article 2601.03, C, 5.			
		All forb seed will be applied through the native grass drill wildflower or small seed box. Forb seed will not be allowed to be mixed and applied with the native grass seed.			
		Cover crop will be required to be applied through the cool season or cover crop seed box. The cover crop seed will not be allowed to be mixed and applied with the native grass seed.			
		Drill shall be calibrated prior to operation at the project site to the specified seeding rate for the project and witnessed by the Contracting authority.			
		The Engineer will review the limits prior to seeding with the Contractor.			
-	-	-			
91	2601-2636043	SEEDING AND FERTILIZING (RURAL)			
92	2601-2636044	SEEDING AND FERTILIZING (URBAN)			
		Refer to Tabulations 103-4, 104-13, 104-13A, 107-23 and 300-1 for additional information. Included for all areas designated by the Engineer.			
		All disturbed areas shall be seeded and fertilized per Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.			
-	-	-			
93	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING			
94	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)			
		This item includes disturbed areas as directed by the Engineer.			
		All rural disturbed areas shall be seeded and fertilized per Article 2601.03, C, 1.			
-	-	-			

100-1D Modified			
UTILITIES			
Alliant Energy 4902 N Biltmore Box 77007 Madison, WI 53707-1007 Jason A Hogan 608-458-4871 jasonhogan@alliantenergy.com	Black Hills Energy 1102 E First Street Papillion, NE 68046-7641 Brad Fleming 402-221-2714 brad.fleming@blackhillscorp.com	Butler-Bremer Communications 715 Main Street, Box 99 Plainfield, IA 50666 Stuart Dietz 319-276-4458 stuart@butler-bremer.com	Central Iowa Water Association 1351 Iowa Speedway Drive Newton, IA 50208-8245 Jim LaPlant 641-792-7011 jlaplant@ciawa.com
CenturyLink 2103 E University Ave, 1st Floor Des Moines, IA 50317 Steven Parker 515-265-0968 steven.parker4@centurylink.com	ITC Midwest LLC 20789 780th Avenue Albert Lea, MN 56007 David Gross 507-320-2422 dgross@itctransco.com	MediaCom 4010 Alexandra Drive Waterloo, IA 50702 Kevin Parker 319-235-2197 kparker@mediacomcc.com	Northern Natural Gas 1120 Centre Point Dr/Suite 400 Mendota Heights, MN 55120 Tom Dickson 651-456-1777 tom.dickson@nngco.com
Oran Mutal Telephone Company 5038 Main Street, Box 7 Oran, IA 50664-0007 Dan Lundt 319-638-6006 manger@ornitelcom.com	Readlyn Telephone Company 121 Main Street Readlyn, IA 50668 Sharon Huck 319-279-3374 readlyn@netins.net	Aureon Network Services 7760 Office Plaza Drive South West Des Moines, IA 50266 Jeff Klocko 515-830-0445 jeff.klocko@aureon.com	

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER COUNTY	PROJECT NUMBER	HSIPX-3-6(64) - -3L-09	SHEET NUMBER	C.4
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110-12A
10-18-16

POLLUTION PREVENTION PLAN

fieldbook entries made by the inspector.

- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Printed or Typed Name

Signature

Printed or Typed Name

281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide 14 Permit No. 2016-1459. A copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

100-18
10-18-16

* Volume equation: $[0.5 \cdot \text{Spacing} \cdot (0.5 \cdot H^2 \cdot FS + DW \cdot H + 0.5 \cdot H^2 \cdot BS)]$

100-23
04-21-15

ROCK EROSION CONTROL														
Refer to EC-301														
Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side Lt./Rt.			Type 1	Type 2	Type 3	Type 4	Type 5	Erosion Stone	Class E Revetment	Eng. Fabric	
						Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	TON	TON	SY	
IA 3														
Mainline pipes	42+40.00		RT	16	18				x		34.5		53.7	
Mainline pipes	218+68.00		RT	12.5	15				x		22.5		38.9	
Mainline pipes	272+49.00		RT	12.5	15				x		22.5		38.9	
Mainline pipes	369+33.00		RT	12	15				x		21.5		37.8	
Mainline pipes	667+44.00		LT	11	9		x				6.0		24.9	
											107.0		194.2	TOTALS

100-34
04-19-16

100-17
04-20-10

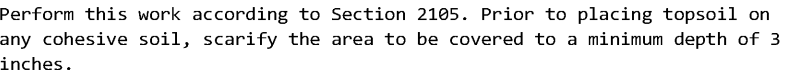
Location			Length	Remarks
Begin Station	End Station	Side		
			LF	
171+10.00	173+65.00	RT	275.0	SW Corner
171+10.00	173+65.00	LT	275.0	NW Corner
175+35.00	177+90.00	RT	275.0	SE Corner
175+35.00	177+90.00	LT	275.0	NE Corner
277+20.00	286+00.00	RT	960.0	SW Corner-Quarter
300+00.00	310+90.00	LT	1190.0	NW Corner-V49
307+69.00	310+94.00	RT	345.0	SW Corner-V49
312+00.00	323+10.00	LT	1210.0	NE Corner-V49
408+25.00	410+30.00	RT	225.0	SW Corner
408+50.00	410+30.00	LT	180.0	NW Corner
410+75.00	412+60.00	RT	185.0	SE Corner
410+75.00	412+85.00	LT	230.0	NE Corner
431+90.00	434+60.00	RT	290.0	SW Corner
432+25.00	434+60.00	LT	255.0	NW Corner
438+92.00	441+27.00	RT	255.0	SE Corner
438+92.00	441+62.00	LT	290.0	NE Corner
			0.0	
451+32.00	453+27.00	RT	195.0	SW Corner
451+72.00	453+27.00	LT	155.0	NW Corner
454+69.00	456+24.00	RT	155.0	SE Corner
454+69.00	456+64.00	LT	195.0	NE Corner
513+89.00	521+29.00	RT	800.0	SW Corner-V56
522+50.00	531+95.00	RT	1045.0	SE Corner-V56
			9260.0	TOTAL

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE							100-19 04-19-16
Possible Standards: EC-204							
Location			Length of Installation			Remarks	
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia		
			LF	LF	LF		
171+80.00	173+65.00	RT		185.0		SW Corner	
171+10.00	173+65.00	LT		255.0		NW Corner	
175+35.00	177+90.00	RT		255.0		SE Corner	
175+35.00	177+90.00	LT		255.0		NE Corner	
				0.0			
277+17.00	284+87.00	RT		770.0		SW Corner- Quarter	
				0.0			
300+00.00	310+90.00	LT		1090.0		NW Corner-V-49	
307+69.00	310+94.00	RT		325.0		SW Corner-V-49	
312+17.00	323+12.00	LT		1095.0		NE Corner-V-49	
				0.0			
408+25.00	410+30.00	RT		205.0		SW Corner	
408+50.00	410+30.00	LT		180.0		NW Corner	
410+75.00	412+60.00	RT		185.0		SE Corner	
410+75.00	412+85.00	LT		210.0		NE Corner	
				0.0			
431+90.00	434+60.00	RT		270.0		SW Corner	
432+25.00	434+60.00	LT		235.0		NW Corner	
438+92.00	441+27.00	RT		235.0		SE Corner	
438+92.00	441+62.00	LT		270.0		NE Corner	
				0.0			
451+32.00	453+27.00	RT		195.0		SW Corner	
451+72.00	453+27.00	LT		155.0		NW Corner	
454+69.00	456+24.00	RT		155.0		SE Corner	
454+69.00	456+64.00	LT		195.0		NE Corner	
				0.0			
509+49.00	521+29.00	RT		1180.0		SW Corner V-56	
522+52.00	534+32.00	RT		1180.0		SE Corner V-56	
				9080.0		TOTAL	

SUMMARY OF STORMWATER STORAGE					100-35 04-19-16
Basin No.	Item	Total Storage Volume Provided	Total Storage Volume Required	Remarks	
		CF	CF		
1	SW guardrail blister grading	2946	313		
2	NW guardrail blister grading	1706	313		
3	SE guardrail blister grading	8223	313		
4	NE guardrail blister grading	10338	313		
5	Quarter Ave turn lane grading	2275	539		
5a	Quarter Ave turn lane grading	2946	734		
6	V49/Reed turn lane grading	8223	1800		
7	V49/Reed turn lane grading	9280	625		
8	V49/Reed turn lane grading	4046	2160		
9	SW guardrail blister grading	8223	360		
10	NW guardrail blister grading	9280	360		
11	SE guardrail blister grading	9280	360		
12	NE guardrail blister grading	10338	360		
13	SW guardrail blister grading	9280	387		
14	NW guardrail blister grading	8223	460		
15	SE guardrail blister grading	10338	460		
16	NE guardrail blister grading	10338	387		
17	SW guardrail blister grading	10338	360		
18	NW guardrail blister grading	10338	360		
19	SE guardrail blister grading	7165	360		
20	NE guardrail blister grading	10338	360		
21	V56/Viking turn lane grading	821	2033		
22	V56/Viking turn lane grading	1261	2035		
		165546	15438	TOTALS	

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN													104-8A 04-21-15
Refer to Standard Road Plan DR-401 and DR-402													
Location			Bid Items		PCC Paved Shoulder			Scour Protection (DR-401)		Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	PCC Paved Shoulder	Bridge End Drain	Panels Required	Polymer Grid	Modified Subbase	Outlet or Channel Scour Protection	Turf Reinforced Mat (TRM), Type 2	Macadam Stone Base	Engineering Fabric	Erosion Stone	
		FT	SY	TYPE	A B C or D	SY	TONS	SF	SQ	TONS	SY	TONS	
174+50.00	SE	32.5	11.1	DR-401	A	11.1	10.500	32.0	2.0				
174+50.00	NE	32.5	11.1	DR-401	B	11.1	10.500	32.0	2.0				
410+53.60	SW	31.7	24.4	DR-401	B	24.4	23.100	32.0	1.6				
410+53.60	NW	31.7	24.4	DR-401	A	24.4	23.100	32.0	1.6				
410+53.60	SE	31.7	24.4	DR-401	A	24.4	23.100	32.0	1.6				
410+53.60	NE	31.7	24.4	DR-401	B	24.4	23.100	32.0	1.6				
436+76.00	SW	32.5	26.7	DR-401	B	26.7	25.200	32.0	1.6				
436+76.00	NW	32.5	26.7	DR-401	A	26.7	25.200	32.0	1.6				
436+76.00	SE	32.5	26.7	DR-401	A	26.7	26.700	32.0	1.6				
436+76.00	NE	32.5	26.7	DR-401	B	26.7	26.700	32.0	1.6				
454+00.00	SW	33.5	26.7	DR-401	B	26.7	25.200	32.0	1.6				
454+00.00	NW	33.5	26.7	DR-401	A	26.7	25.200	32.0	1.6				
454+00.00	SE	33.5	26.7	DR-401	A	26.7	25.200	32.0	1.6				
454+00.00	NE	33.5	26.7	DR-401	B	26.7	25.200	32.0	1.6				
			333.4	16									TOTALS

RESTRICTED STREAM ACCESS		282-1 10-19-10
A low water crossing for the Contractor's convenience is not allowed on this project. Stream bank disturbance and access to Wapsipicon River is not allowed unless specifically designated in the plans. No other access will be allowed.		



Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

EXISTING PAVEMENT

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

PAVEMENT SMOOTHNESS + PCC TEXTURE

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins
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LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE															104-9 04-21-15		
Refer to Soils Sheets															300-1 Modified		
① Refer to EW-203, EW-204, or EW-211. *Not a bid item															Refer to EW-105		
Line No.	Road or Lane Ident.	Location		Side	Depth D	Longitudinal Subdrain (DR-303)						Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks	
						Shoulder		Backslope		Bridge Berm ①		DR-303, DR-304, or DR-305					
		Size	Length			Size	Length	Size	Type	Length	Station	Standard Road Plan and Type	CY	CY			
IN	FT	IN	FT	IN		FT											
	EBL	42+40.00	56	46+40.00	05	RT	48.0	4.0	20.0	15			42+40.00	56	2.2	0.2	UAC sta change
	EBL	46+40.00	47+46	50+00.00	03	RT	48.0	4.0	15	20.0	15		46+40.00	05	2.2	0.2	Add outlet only
	EBL	47+46	50+00.00	03	54+00.00	05	RT	36.0	4.0	15	20.0	7	50+00.00	03	1.5	0.2	Add outlet only
	EBL	54+00.00	05	58+00.00	05	RT	36.0	4.0	7	40.0	8		54+00.00	05	3.1	0.2	Add outlet only
	EBL	58+00.00	05	60+00.00	00	RT	36.0	4.0	8	20.0			58+00.00	05	1.5	0.2	Add outlet only
	EBL	60+00.00	00	64+00.00	00	RT	36.0	4.0	20.0				60+00.00	07	1.5	0.2	Add outlet only
	EBL	64+00.00	67+60	00.00	95	RT	36.0	4.0	40.0	10			64+00.00	00	3.1	0.2	Add outlet only
	EBL	67+95	60+00.00	70+00.00	03	RT	36.0	4.0	10	20.0			60+00.00	67+95	1.5	0.2	Add outlet only
	EBL	70+00.00	03	75+74	00.00	30	RT	36.0	4.0	20.0	8		70+00.00	03	1.5	0.2	Add outlet only
	EBL	75+30	74+00.00	79+60	00.00	56	RT	36.0	4.0	8	20.0		74+00.00	75+30	1.5	0.2	Add outlet only
	EBL	79+65	00.00	74	83+80.00	00	RT	36.0	4.0	20.0	8		79+65	00.00	1.5	0.2	Add outlet only
	EBL	83+80.00	00	88+00.00	00	RT	36.0	4.0	8	20.0			83+80.00	00	1.5	0.2	Add outlet only
1	EBL	88+00.00	10	92+00.00	04	RT	36.0	4.0	7	440.0	394-7		88+00.00	10	34.0	0.2	UAC
2	EBL	92+00.00	04	95+96	00.00	96	RT	36.0	4.0	7	440.0	392-9	92+00.00	04	34.0	0.2	UAC
3	EBL	95+96	96+00.00	98+100	00.00	96	RT	36.0	4.0	9	440.0	300-8	96+00.00	95+96	34.0	0.2	UAC
4	EBL	100+54	100+00.00	103+104	00.00	95	RT	36.0	4.0	10	440.0	341-7	100+00.00	98+96	34.0	0.2	UAC
5	EBL	103+95	104+00.00	107+100	00.00	96	RT	36.0	4.0	7	440.0	401-7	104+00.00	103+95	34.0	0.2	UAC
6	EBL	107+96	108+00.00	112+00.00	15	RT	36.0	4.0	7	440.0	419-8		108+00.00	107+96	34.0	0.2	UAC
	EBL	112+00.00	18	118+10	00.00	02	RT	36.0	4.0	20.0			112+00.00	15	1.5	0.2	UAC
	EBL	118+15	00.00	25	121+00.00	00	RT	30.0	4.0	0.0			118+15	00.00			UAC
	EBL	140+10	139+00.00	144+143	00.00	20	RT	36.0	4.0	20.0	8		139+00.00	140+10	1.5	0.2	UAC
	EBL	144+20	143+00.00	148+00.00	22	RT	36.0	4.0	8	20.0			143+00.00	144+20	1.5	0.2	UAC
	EBL	148+22	148+00.00	153+154	00.00	85	RT	36.0	4.0	0.0			148+00.00	22			UAC
	EBL	153+85	154+00.00	160+00.00	00	RT	36.0	4.0	0.0				154+00.00	153+85			UAC
	EBL	176+50.00	00	181+00.00	00	RT	48.0	4.0	0.0				160+00.00	00			UAC
	EBL	181+00.00	00	185+00.00	00	RT	48.0	4.0	20.0	9			176+50.00	00	2.2	0.2	UAC
	EBL	185+00.00	00	187+180	00.00	92	RT	48.0	4.0	9	20.0		181+00.00	00	2.2	0.2	UAC
	EBL	187+92	188+00.00	191+192	00.00	52	RT	36.0	4.0	20.0	9		185+00.00	00	1.5	0.2	UAC
	EBL	191+52	192+00.00	195+00.00	00	RT	36.0	4.0	9	20.0			188+00.00	187+92	1.5	0.2	UAC
	EBL	195+00.00	00	200+10.00	00	RT	36.0	4.0	0.0				192+00.00	191+52	1.5	0.2	UAC
	EBL	211+92	212+00.00	218+60	00.00	56	RT	30.0	4.0	0.0			195+00.00	00			UAC
	EBL	218+65	00.00	80	225+00.00	00	RT	30.0	4.0	0.0			200+10.00	00			UAC
7	EBL	225+00.00	00	229+00.00	00	RT	30.0	4.0	8	440.0	400-8		212+00.00	211+92			UAC
8	EBL	229+00.00	00	233+00.00	00	RT	30.0	4.0	8	440.0	400-7		218+60	00.00			UAC
9	EBL	233+00.00	00	238+00.00	00	RT	30.0	4.0	7	540.0	500-7		225+00.00	00	27.2	0.2	UAC
	EBL	237+96	230+00.00	241+50.00	00	RT	36.0	4.0	20.0	7			229+00.00	00	27.2	0.2	UAC
	EBL	241+50.00	00	245+00.00	00	RT	36.0	4.0	7	20.0	7		233+00.00	00	33.3	0.2	UAC
	EBL	245+00.00	00	247+248	00.00	95	RT	30.0	4.0	20.0	10		238+00.00	00	1.5	0.2	UAC
	EBL	247+95	240+00.00	251+00.00	00	RT	30.0	4.0	10	20.0			241+50.00	00	1.5	0.2	UAC
													245+00.00	00	1.2	0.2	UAC
													240+00.00	247+95	1.2	0.2	Add outlet only
													240+00.00	247+95	1.2	0.2	Add outlet only

DITCH RESHAPING					300-1 Modified	
Refer to EW-105						
Station	Side	Sta	STA-Sta	Side	Sta	
Mainline						
339+82.00	Rt	0.20	99+78	Lt	1.08	
339+82.00	Lt	0.59	511+62	Rt	1.00	
339+82.00	Rt	0.12	667+44	Lt	0.36	
339+82.00	Lt	0.70	470+10	Rt	0.40	
339+82.00	Rt	0.10	311+82	Lt	0.65	
339+82.00	Lt	0.60	311+82	Rt	1.30	
339+82.00	Rt	0.26	46+24	Lt	0.26	
339+82.00	Lt	0.40	47+00	Rt	0.50	
339+82.00	Rt	3.19	61+88	Lt	0.56	
339+82.00	Lt	0.18	583+56	Rt	0.43	
339+82.00	Rt	0.22	200+10	Lt	0.15	
339+82.00	Lt	0.10	200+26	Rt	0.22	
339+82.00	Rt	0.20	455+55	Lt	0.25	
339+82.00	Lt	0.46		Rt	1.0	
339+82.00	Rt	0.75		Lt	1.0	
339+82.00	Lt	0.75		Rt	1.0	
339+82.00	Rt	0.89		Lt	0.8	
339+82.00	Lt	0.27		Rt	0.5	
339+82.00	Rt	1.06		Lt	0.5	
339+82.00	Lt	0.51		Rt	0.5	
339+82.00	Rt	0.13		Lt	1.0	
339+82.00	Lt	0.60		Rt		
339+82.00	Rt	0.12		Lt		
339+82.00	Lt	0.56		Rt		
339+82.00	Rt	0.68		Lt		
339+82.00	Lt	0.60		Rt		
339+82.00	Rt	0.45		Lt		
339+82.00	Lt	1.14		Rt		
339+82.00	Rt	0.43		Lt		
339+82.00	Lt	0.36		Rt		
339+82.00	Rt	0.20		Lt		
339+82.00	Lt	0.26		Rt		
339+82.00	Rt	0.36		Lt		
339+82.00	Lt	0.43		Rt		
339+82.00	Rt	0.95		Lt		
339+82.00	Lt	0.29		Rt		
339+82.00	Rt	0.30		Lt		
339+82.00	Lt	1.40		Rt		
339+82.00	Rt	0.62		Lt		
339+82.00	Lt	0.35		Rt		
339+82.00	Rt	0.76		Lt		
339+82.00	Lt	0.18		Rt		
339+82.00	Rt	0.46		Lt		
339+82.00	Lt	0.56		Rt		
339+82.00	Rt	0.06		Lt		
339+82.00	Lt	0.75		Rt		
339+82.00	Rt	0.16		Lt		
339+82.00	Lt	0.12		Rt		
339+82.00	Rt	0.54		Lt		
339+82.00	Lt	0.28		Rt		
339+82.00	Rt	0.47		Lt		
339+82.00	Lt	0.12		Rt		
339+82.00	Rt			Lt		
339+82.00	Lt			Rt		
339+82.00	Rt			Lt		
339+82.00	Lt			Rt		
339+82.00	Rt			Lt		
339+82.00	Lt			Rt		
339+82.00	Rt			Lt		
339+82.00	Lt			Rt		
339+82.00	Rt			Lt		
339+82.00	Lt			Rt		
339+82.00	Rt			Lt		
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339+82.00	Rt	</				

DITCH RESHAPING						300-1 Modified	
Refer to EW-105							
Station	Side	Sta	STA	Sta	Side	Sta	
364+39.5	Rt	0.20	99+78		Lt	1.08	
364+39.5	Lt	0.59	511+62		Rt	1.00	
323+84	Rt	0.12	667+44		Lt	0.36	
339+61	Rt	0.70	470+10		Rt	0.40	
344+36	Lt	0.10	311+82		Lt	0.65	
295+29	Rt	0.60	311+82		Rt	1.30	
285+76	Lt	0.26	46+24		Rt	0.26	
284+90	Lt	0.40	47+00		Rt	0.50	
282+87	Lt	3.19	61+88		Rt	0.56	
282+10	Rt	0.18	583+56		Lt	0.43	
266+63	Lt	0.22	200+10		Lt	0.15	
265+22	Lt	0.10	200+26		Rt	0.22	
252+70	Rt	0.20	455+55		Rt	0.25	
242+66	Lt	0.46					
232+41	Lt	0.75					
208+51	Rt	0.75					
203+34	Rt	0.89					
142+93	Rt	0.27					
133+35	Lt	1.06					
90+90	Lt	0.51					
69+05	Lt	0.13					
65+34	Lt	0.60					
53+39	Lt	0.12					
65+65	Lt	0.56					
638+04	Lt	0.68					
633+02	Rt	0.60					
597+54	Lt	0.45					
583+56	Rt	1.14					
583+56	Lt	0.43					
568+06	Rt	0.36					
563+53	Lt	0.20					
525+36	Lt	0.26					
520+14	Lt	0.36					
492+29	Rt	0.43					
482+25	Rt	0.95					
206+10	Rt	0.29					
627+89	Lt	0.30					
575+14	Rt	1.40					
511+62	Lt	0.62					
218+68	Rt	0.35					
118+13	Rt	0.76					
79+62	Rt	0.18					
674+73	Lt	0.46					
497+40	Lt	0.56					
494+20	Lt	0.06					
374+84	Rt	0.75					
339+61	Rt	0.16					
323+84	Lt	0.12					
308+55	Rt	0.28					
298+54	Lt	0.47					
295+28	Rt	0.12					

① Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Line No.	Road or Lane Ident.	Location			Side	Depth (D)	Longitudinal Subdrain (DR-303)						Subdrain Outlet		Porous* Backfill CY	Class "A" Crushed Stone CY	Remarks
							Shoulder		Backslope		Bridge Berm ①		DR-303, DR-304, or DR-305				
		Size	Length	Size			Length	Size	Type	Length	Station	Standard Road Plan and Type					
		IN	FT	IN			FT	IN		FT							
	EBL	251+00.00	254+50.00	RT	30.0	4.0	20.0 6					251+00.00 251+00.00 254+50.00 254+50.00 258+35.00		1.2		UAC UAC Add outlet only Add outlet only UAC	
	EBL	254+50.00	258+35.00	RT	30.0	4.0	6 20.0					254+50.00 254+50.00 258+35.00	DR-304 DR-304	1.2	0.2 0.2	Add outlet only Add outlet only UAC	
10	EBL	259+50 259+50	258+35.00 263+15.00	RT	30.0	4.0	11 520.0	365-9				258+35.00 259+50 259+50 263+15.00 263+15.00 268+00.00	DR-304 DR-304 DR-304 DR-304	32.1	0.2 0.2 0.2 0.2	Add outlet only Add outlet only Add outlet only Add outlet only	
11	EBL	263+15.00	268+00.00 268+00.00	RT	30.0	4.0	9 525.0	508-9				263+15.00 263+15.00 268+00.00 268+00.00	DR-304 DR-304 DR-304	32.4	0.2 0.2 0.2	Add outlet only Add outlet only Add outlet only	
	EBL	268+00.00 262	272+45.00 272+45.00	RT	30.0	4.0	0.0					268+00.00 268+00.00 272+45.00 272+45.00 272+50.00				UAC UAC UAC UAC UAC	
	EBL	272+50.00 262	277+70.00 277+70.00	RT	48.0	4.0	20.0 12					272+50.00 272+50.00 277+70.00 277+70.00 282+90.00		2.2		Add outlet only Add outlet only Add outlet only Add outlet only Add outlet only	
	EBL	277+70.00 281+60	282+90.00 282+90.00	RT	48.0	4.0	12 20.0					277+70.00 277+70.00 282+90.00 283+00.00 284+50.00	DR-304 DR-304 DR-304 DR-304	2.2	0.2 0.2 0.2	Add outlet only Add outlet only Extend for turn lane not located Extend for turn lane not located	
	EBL	283+00.00	284+50.00	RT	36.0	4.0	40.0					283+00.00 284+50.00 297+00.00 301+00.00 301+00.00	DR-304 DR-304 DR-304 DR-304	3.1	0.2 0.2 0.2	Extend for turn lane not located Extend for turn lane not located Extend for turn lane not located	
12	EBL	297+00.00	301+00.00	RT	30.0	4.0	10 440.0	400-10				297+00.00 301+00.00 301+00.00 306+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
13	EBL	301+00.00	305+30.00 305+30.00	RT	30.0	4.0	10 540.0	497-11				301+00.00 301+00.00 306+00.00 306+00.00	DR-304 DR-304 DR-304 DR-304	33.3	0.2 0.2 0.2		
14	EBL	305+97 305+97	306+00.00 311+00.00	RT	30.0	4.0	11 540.0	503-6				306+00.00 306+00.00 311+00.00 313+00.00	DR-304 DR-304 DR-304 DR-304	33.3	0.2 0.2 0.2	Turn lane construction	
15	EBL	313+00.00 34	317+00.00	RT	30.0	4.0	9 440.0	366-7				313+00.00 317+00.00 317+00.00 321+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
16	EBL	317+00.00	321+00.00	RT	30.0	4.0	7 440.0	400-8				317+00.00 317+00.00 321+00.00 321+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
17	EBL	321+00.00	325+00.00	RT	30.0	4.0	8 440.0	400-11				321+00.00 321+00.00 325+00.00 325+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
18	EBL	325+00.00	329+00.00	RT	30.0	4.0	11 440.0	400-7				325+00.00 329+00.00 329+00.00 333+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
19	EBL	329+00.00	333+00.00	RT	30.0	4.0	7 440.0	400-8				329+00.00 329+00.00 333+00.00 333+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
20	EBL	333+00.00	335+337.00 335+337.00	RT	30.0	4.0	8 440.0	295-6				333+00.00 333+00.00 337+00.00 337+00.00	DR-304 DR-304 DR-304 DR-304	27.2	0.2 0.2 0.2		
20a	EBL	335+95	339+21	RT	30	4	6-326-9	ADDED LINE			335+95	337+00.00 337+00.00	339+21 339+21	DR-304 DR-304	0.2 0.2	ADD OUTLET ADD OUTLET	
21	EBL	340+04 340+04	343+342.00 343+342.00	RT	30.0	4.0	7 540.0	387-8			340+04	342+00.00 342+00.00 342+00.00 346+95.00	343+91 343+91 343+91 346+95.00	DR-304 DR-304 DR-304	33.3 0.2 0.2	ADD OUTLET ADD OUTLET ADD OUTLET	
22	EBL	343+91 343+91	342+00.00 346+95.00	RT	30.0	4.0	8 535.0	304-6				342+00.00 342+00.00 346+95.00 347+05.00	DR-304 DR-304 DR-304 DR-304	33.0 0.2 0.2			
	EBL	347+05.00	352+05.00	RT	36.0	4.0	20.0 10					347+05.00 352+05.00 352+05.00 357+00.00	DR-304 DR-304 DR-304	1.5 1.5	0.2 0.2	UAC Add outlet only Add outlet only	
	EBL	352+05.00	357+00.00 357+00.00	RT	36.0	4.0	10 20.0					352+05.00 357+00.00 357+00.00 360+00.00	DR-304 DR-304 DR-304	1.5	0.2	UAC sta change UAC sta change	
	EBL	357+00.00 357+00.00	360+00.00 360+00.00	RT	36.0	4.0	0.0					357+00.00 357+00.00 360+00.00 364+00.00	DR-304 DR-304 DR-304			UAC sta change UAC sta change	
	EBL	383+12 383+12	384+00.00 390+00.00	RT	48.0	4.0	0.0					384+00.00 390+00.00 390+00.00 390+00.00	383+12 383+12			UAC sta change UAC sta change	
23	EBL	390+00.00 390+00.00	394+00.00	RT	42.0	4.0	10 440.0	395-10				390+00.00 390+00.00 394+00.00 394+00.00	DR-304 DR-304 DR-304	40.7	0.2 0.2		
24	EBL	394+00.00	395+390.00 395+390.00	RT	42.0	4.0	10 440.0	137-9				394+00.00 394+00.00 398+00.00 398+00.00	395+37 395+37 399+00 399+00	DR-304 DR-304 DR-304	40.7 0.2 0.2	ADD OUTLET ADD OUTLET ADD OUTLET	
24a	EBL	395+68	399+00	RT	42	4	8-332-10	ADDED LINE			395+68	398+00.00 398+00.00	399+00 399+00	DR-304 DR-304	0.2 0.2	ADD OUTLET ADD OUTLET	
25	EBL	399+00 399+00	403+402.00 403+402.00	RT	42.0	4.0	10 440.0	450-6			399+00	402+00.00 402+00.00 402+00.00 406+00.00	403+50 403+50 406+00.00	DR-304 DR-304 DR-304	40.7 0.2 0.2		
26	EBL	402+00.00 402+00.00	406+00.00 406+00.00	RT	42.0	4.0	440.0					402+00.00 402+00.00 406+00.00 406+00.00	403+50 403+50 406+00.00 406+00.00	DR-304 DR-304 DR-304	40.7 0.2 0.2		
27	EBL	404+42 404+42	406+00.00 408+10.00	RT	42.0	4.0	6 250.0	366-9				406+00.00 406+00.00 408+10.00 458+60.00	404+42 404+42 408+10.00	DR-304 DR-304 DR-304	23.1 0.2 0.2		
	EBL	458+60.00	462+00.00	RT	48.0	4.0	0.0					458+60.00 462+00.00 462+00.00 466+50.00				UAC UAC UAC UAC	
	EBL	462+00.00	466+50.00	RT	48.0	4.0	0.0					462+00.00 462+00.00 466+50.00 466+50.00				UAC UAC UAC UAC	
	EBL	466+50.00	470+75.00	RT	48.0	4.0	20.0 9					466+50.00 466+50.00 470+75.00 470+75.00	DR-304 DR-304	2.2	0.2 0.2	Add outlet only Add outlet only	
	EBL	470+75.00	474+475.00 474+475.00	RT	48.0	4.0	9 20.0					470+75.00 470+75.00 475+00.00 475+00.00	DR-304 DR-304 474+70 474+70	2.2	0.2 0.2	UAC sta change UAC sta change	
	EBL	474+70 474+70	475+00.00 481+00.00	RT	48.0	4.0	0.0					475+00.00 475+00.00 481+00.00 481+00.00	474+70 474+70 481+00.00 481+00.00			UAC sta change UAC sta change	
	EBL	481+00.00 06	485+00.00	RT	48.0	4.0	20.0 10					481+00.00 481+00.00 485+00.00 485+00.00	481+00.00 481+00.00 DR-304 DR-304	2.2	0.2 0.2	UAC sta change Add outlet only Add outlet only	
	EBL	485+00.00	490+00.00	RT	48.0	4.0	10 20.0					485+00.00 485+00.00 490+00.00 530+00.00	DR-304 DR-304	2.2	0.2	UAC UAC	
	EBL	530+00.00	535+00.00	RT	48.0	4.0	20.0 8					530+00.00 535+00.00 535+00.00 540+00.00	DR-304 DR-304	2.2	0.2 0.2	Add outlet only Add outlet only	
	EBL	535+00.00	540+00.00	RT	48.0	4.0	8 20.0					535+00.00 535+00.00 540+00.00 540+00.00	DR-304 DR-304	2.2	0.2 0.2	Add outlet only Add outlet only	
28	EBL	540+00.00 07	544+00.00	RT	42.0	4.0	12 440.0	393-9				540+00.00 540+00.00 544+00.00 544+00.00	DR-304 DR-304 DR-304	40.7	0.2 0.2	UAC UAC	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE																	104-9 04-21-15
Refer to Soils Sheets																	
① Refer to EW-203, EW-204, or EW-211. *Not a bid item																	
Line No.	Road or Lane Ident.	Location		Side	Depth	Longitudinal Subdrain (DR-303)						Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks	
					Shoulder		Backslope		Bridge Berm ①		DR-303, DR-304, or DR-305						
		Size	Length		Size	Length	Size	Type	Length	Station	Standard Road Plan and Type	CY	CY				
IN	FT	IN	FT	IN		FT											
29	EBL	544+00.00	548+00.00	RT	42.0	4.0	9 440-0	400-12				544+00.00	DR-304	40.7	0.2		
30	EBL	548+00.00	552+00.00	RT	42.0	4.0	12 440-0	400-10				548+00.00	DR-304	40.7	0.2		
31	EBL	552+00.00	556+00.00	RT	42.0	4.0	10 440-0	400-9				552+00.00	DR-304	40.7	0.2		
32	EBL	556+00.00	559+50-00 40	RT	42.0	4.0	9 390-0	340-8				556+00.00	DR-304	36.1	0.2		
33	EBL	562+07 561+75-00	564+00.00	RT	42.0	4.0	11 265-0	193-10				559+50-00 40	DR-304	24.5	0.2		
34	EBL	564+00.00	567+569-00-00 60	RT	42.0	4.0	10 440-0	360-8				564+00.00	DR-304	40.7	0.2		
35	EBL	567+60 560+00-00	572+00.00	RT	42.0	4.0	8 440-0	440-10				566+00-00	DR-304	40.7	0.2		
36	EBL	572+00.00	574+576-00-00 23	RT	42.0	4.0	10 440-0	223-6				568+00-00	DR-304	40.7	0.2		
37	EBL	575+48 576-00-00	580+00.00	RT	42.0	4.0	13 440-0	452-6				572+00.00	DR-304	40.7	0.2		
38	EBL	580+00.00	584+00.00	RT	42.0	4.0	6 440-0	400-4				576+00-00	DR-304	40.7	0.2		
39	EBL	584+00.00	588+00.00	RT	42.0	4.0	4 440-0	400-7				580+00.00	DR-304	40.7	0.2		
40	EBL	588+00.00	592+00.00	RT	42.0	4.0	7 440-0	400-7				588+00.00	DR-304	40.7	0.2		
41	EBL	592+00.00	594+595-00-00 96	RT	42.0	4.0	7 340-0	296-11				592+00.00	DR-304	31.5	0.2		
	EBL	595+00.00	600+00.00	RT	36.0	4.0	20-0 9					595+00-00	DR-304	1.5	0.2	UAC	
	EBL	600+00.00	605+00.00	RT	36.0	4.0	9 20-0					600+00.00	DR-304	1.5	0.2	Add outlet only	
	EBL	605+00.00	609+00.00	RT	36.0	4.0	20-0 9					600+00.00	DR-304	1.5	0.2	Add outlet only	
	EBL	609+00.00	614+00.00	RT	36.0	4.0	9 20-0					605+00.00	DR-304	1.5	0.2	UAC	
42	EBL	614+00-00 04	618+00.00	RT	42.0	4.0	9 440-0	396-9				609+00.00	DR-304	1.5	0.2	Add outlet only	
41 42a	EBL	618+00.00	622+00.00	RT	42.0	4.0	9 440-0	400-9				614+00.00	DR-304	40.7	0.2		
43	EBL	622+00.00	625+626-00-00 68	RT	42.0	4.0	9 440-0	368-16				618+00.00	DR-304	40.7	0.2		
	EBL	626+00.00	630+20.00	RT	48.0	4.0	20.0					622+00.00	DR-304	40.7	0.2		
	EBL	630+20.00	632+00.00	RT	48.0	4.0	20-0 9					626+00-00	DR-304	2.2	0.2	UAC	
	EBL	632+00.00	636+00.00	RT	48.0	4.0	9 20-0					626+00.00	DR-304	2.2	0.2	Add outlet only	
44	EBL	636+00.00	640+00.00	RT	42.0	4.0	10 440-0	400-8				630+20.00	DR-304	2.2	0.2	Add outlet only	
45	EBL	640+00.00	644+00.00	RT	42.0	4.0	8 440-0	400-9				632+00.00	DR-304	2.2	0.2	Add outlet only	
	EBL	644+00.00	649+50.00	RT	48.0	4.0	20-0 11					632+00.00	DR-304	2.2	0.2	Add outlet only	
	EBL	649+50.00	653+00.00	RT	48.0	4.0	11 20-0					636+00.00	DR-304	2.2	0.2	UAC	
	EBL	653+00.00	657+00.00	RT	48.0	4.0	20-0 12					636+00.00	DR-304	2.2	0.2	Add outlet only	
	EBL	657+00.00	661+00.00	RT	48.0	4.0	12 20-0					640+00.00	DR-304	2.2	0.2	Add outlet only	
	EBL	661+00.00	667+40.00	RT	48.0	4.0	0.0					644+00.00	DR-304	2.2	0.2	UAC	
	EBL	667+40.00	671+20.00	RT	48.0	4.0	20-0 10					644+00.00	DR-304	2.2	0.2	Add outlet only	
	EBL	671+20.00	675+00.00	RT	48.0	4.0	10 20-0					649+50.00	DR-304	2.2	0.2	Add outlet only	
	EBL	675+00.00	679+00.00	RT	48.0	4.0	0.0					653+00.00	DR-304	2.2	0.2	UAC	
46	WBL	529+85 530+00-00	526+00-00 04	LT	42.0	4.0	9 440-0	381-6				653+00.00	DR-304	40.7	0.2		
47	WBL	526+04 526+00-00	522+521+50-00 59	LT	42.0	4.0	6 400-0	345-5				529+85	DR-304	45.4	0.2		
48	WBL	520+74 521+50-00	516+517+00-00 96	LT	42.0	4.0	8 400-0	378-5				526+00-00 04	DR-304	45.4	0.2		
49	WBL	516+96 517+00-00	511+512+50-00 74	LT	42.0	4.0	5 400-0	522-12				526+00-00 04	DR-304	45.4	0.2		
50	WBL	511+58 512+50-00	508+00.00	LT	42.0	4.0	13 400-0	358-4				521+50-00	DR-304	45.4	0.2		
51	WBL	508+00.00	503+50.00	LT	42.0	4.0	4 400-0	450-10				521+50-00	DR-304	45.4	0.2		
												517+00-00	DR-304	45.4	0.2		
												512+50-00	DR-304	45.4	0.2		
												511+74	DR-304	45.4	0.2		
												511+58	DR-304	45.4	0.2		
												508+00.00	DR-304	45.4	0.2		
												508+00.00	DR-304	45.4	0.2		
FILE NO.		ENGLISH	DESIGN TEAM Callahan\Meise\Coggins				BREMER COUNTY				PROJECT NUMBER		HSIPX-3-6(64)				

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE																	104-9 04-21-15	
① Refer to EW-203, EW-204, or EW-211. *Not a bid item																		
Refer to Soils Sheets																		
Line No.	Road or Lane Ident.	Location		Side	Depth	Longitudinal Subdrain (DR-303)						Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks		
						Shoulder		Backslope		Bridge Berm ①		DR-303, DR-304, or DR-305						
		Station to Station			Size	Length	Size	Length	Size	Type	Length	Station	Standard Road Plan and Type					
		IN	FT		IN	FT	IN		FT									
52	WBL	503+50.00	497+499+00.00 75	LT	42.0	4.0	10 490.0	575-6					503+50.00 503+50.00	DR-304 DR-304	45.4	0.2		
53	WBL	497+07	499+00.00 493+494+50.00 13	LT	42.0	4.0	10 490.0	394-10					499+00.00 499+00.00 499+00.00	497+75 DR-304 497+07 DR-304	45.4	0.2		
54	WBL	493+13	494+50.00 490+00.00	LT	42.0	4.0	8 490.0	313-9					494+50.00 494+50.00	493+13 DR-304 493+13 DR-304	45.4	0.2		
55	WBL	458+00	458+50.00 456+455+00.00 80	LT	42.0	4.0	6 390.0	120-8					490+00.00 458+50.00 00	DR-304 DR-304	36.1	0.2		
56	WBL	452+37	453+00.00 449+00.00	LT	42.0	4.0	17 440.0	337-4					455+00.00 453+00.00	456+80 DR-304 452+37 DR-304	40.7	0.2		
57	WBL	449+00.00	445+00.00 02	LT	42.0	4.0	4 440.0	398-7					449+00.00 449+00.00	DR-304 DR-304	40.7	0.2		
58	WBL	445+00.00 02	441+00.00	LT	42.0	4.0	7 440.0	402-8					445+00.00 02 445+00.00 02	DR-304 DR-304	40.7	0.2		
59	WBL	441+00.00	437+00.00	LT	42.0	4.0	440.0						441+00.00 441+00.00	DR-304 DR-304	40.7	0.2		
60	WBL	437+00.00	434+00.00	LT	42.0	4.0	340.0						437+00.00 437+00.00	DR-304 DR-304	31.5	0.2		
	WBL	434+00.00	429+00.00	LT	48.0	4.0	0.0						434+00.00 429+00.00	DR-304		0.2	UAC	
	WBL	429+00.00	425+00.00	LT	48.0	4.0	0.0						429+00.00 425+00.00				UAC	
	WBL	425+00.00	421+00.00	LT	48.0	4.0	20.0 12						425+00.00 425+00.00		2.2		UAC	
	WBL	421+00.00	417+00.00	LT	48.0	4.0	12 20.0						421+00.00 421+00.00	DR-304 DR-304	2.2	0.2	Add outlet only	
	WBL	417+00.00	411+00.00	LT	48.0	4.0	0.0						417+00.00 411+00.00				UAC	
	WBL	383+00.00	379+00.00	LT	36.0	4.0	20.0 7						383+00.00 379+00.00		1.5		UAC	
	WBL	379+00.00	375+00.00	LT	36.0	4.0	7 20.0						379+00.00 375+00.00	DR-304 DR-304	1.5	0.2	Add outlet only	
	WBL	375+00.00	371+50.00	LT	36.0	4.0	20.0 13						375+00.00 371+50.00		1.5		UAC	
	WBL	371+50.00	368+00.00	LT	36.0	4.0	13 20.0						371+50.00 368+00.00	DR-304 DR-304	1.5	0.2	Add outlet only	
61	WBL	368+06	368+00.00 365+364+00.00 15	LT	36.0	4.0	10 440.0	291-8					368+00.00 06 364+00.00 365+15	DR-304 DR-304	34.0	0.2	UAC	
62	WBL	363+65	364+00.00 360+00.00	LT	36.0	4.0	7 440.0	365-10					364+00.00 364+00.00	DR-304 DR-304	34.0	0.2		
	WBL	297+00.00	292+10.00	LT	36.0	4.0	20.0 9						360+00.00 297+00.00	DR-304		0.2		
	WBL	292+10.00	287+25.00	LT	36.0	4.0	9 20.0						292+10.00 287+25.00	DR-304 DR-304	1.5	0.2	Add outlet only	
63	WBL	287+25.00	284+50.00	LT	36.0	4.0	315.0						287+25.00 284+50.00	DR-304 DR-304	24.3	0.2	UAC	
	WBL	212+00.00	206+80.00	LT	30.0	4.0	0.0						212+00.00 206+80.00				UAC	
	WBL	204+35.00	200+20.00	LT	36.0	4.0	0.0						204+35.00 200+20.00				UAC	
	WBL	173+50.00	168+50.00	LT	48.0	4.0	0.0						173+50.00 168+50.00				UAC	
	WBL	168+50.00	164+00.00	LT	30.0	4.0	20.0 8						168+50.00 164+00.00		1.2		UAC	
	WBL	164+00.00	160+00.00	LT	30.0	4.0	8 20.0						164+00.00 160+00.00	DR-304 DR-304	1.2	0.2	Add outlet only	
	WBL	139+80.00	135+00.00	LT	36.0	4.0	0.0						139+80.00 135+00.00				UAC	
	WBL	135+00.00	129+00.00	LT	36.0	4.0	0.0						135+00.00 129+00.00				UAC	
	WBL	129+00.00	125+00.00	LT	30.0	4.0	20.0 9						129+00.00 125+00.00		1.2		UAC	
	WBL	125+00.00	121+00.00	LT	30.0	4.0	9 20.0						125+00.00 121+00.00	DR-304 DR-304	1.2	0.2	Add outlet only	
	WBL	42+30.00	36+00.00	LT	36.0	4.0	0.0						42+30.00 36+00.00				UAC	
	WBL	36+00.00	32+00.00	LT	36.0	4.0	20.0 11						36+00.00 32+00.00		1.5		UAC	
	WBL	32+00.00	28+00.00	LT	36.0	4.0	11 20.0						32+00.00 32+00.00	DR-304 DR-304	1.5	0.2	Add outlet only	
	WBL	28+00.00	20+00.00	LT	36.0	4.0	0.0						28+00.00 20+00.00				UAC	
																	UAC	
	Totals:						29750.0							DR-304 = 195	2448.3	39.0		

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER COUNTY	PROJECT NUMBER	HSIPX-3-6(64
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ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

- 1 Refer to MI-210
 - 2 Refer to EW-501.
 - 3 Refer to EW-501 or EW-502.
- *Predetermined for access point not constructed with this project.

Location		Type	Length of Opening 1			W	12PR	2SR	Pipe Culvert 3					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
23+27.00	LT																10.0	#2157
25+44.00	RT																10.0	#2160
38+19.00	RT																10.0	field
38+19.00	LT																10.0	#2179
53+50.00	LT																10.0	#2211
54+39.00	LT																10.0	#2229
61+88.00	RT																	ditch dike
64+40.00	RT																10.0	#2232
65+34.00	LT																10.0	#2231
69+05.00	LT																10.0	#2237
77+36.00	RT																10.0	#2256
90+90.00	LT																10.0	field
126+82.00	RT																10.0	field
126+82.00	LT																10.0	#2351
133+35.00	LT																10.0	#2361
142+79.00	LT																10.0	field
142+93.00	RT																10.0	#2380
142+93.00	LT																10.0	field
152+89.00	RT	Safety Ramp																
157+91.00	LT																10.0	#2413
170+06.00	RT																10.0	field
180+52.00	RT																10.0	field
200+10.00	LT																	ditch dike pipe removed
200+26.00	RT																	ditch dike pipe removed
203+34.00	RT																10.0	#2306/2308
280+45.00	RT																	#2504
215+47.00	RT																10.0	#2520
222+44.00	LT																10.0	#2531
232+41.00	RT																10.0	field
242+66.00	LT																10.0	field
252+26.00	RT																10.0	#2587
265+22.00	LT																10.0	#2607
266+63.00	LT																10.0	field
280+45.00	RT																10.0	#2636
282+10.00	RT																	#2640/2646, See Tab 100-25
282+87.00	LT																10.0	cemetary
285+38.00	RT	Safety Ramp																
285+76.00	LT																10.0	#2643/2649, See Tab 100-25
286+05.00	LT																10.0	#2649
295+28.00	RT																10.0	field
295+44.00	LT																10.0	field
295+52.00	RT																10.0	field
295+56.00	RT																10.0	field
296+69.00	LT																10.0	field
298+54.00	LT																10.0	field
308+94.00	RT																10.0	field
321+15.00	LT																10.0	field
323+84.00	RT																10.0	field
324+84.00	LT																10.0	#2721
338+50.00	LT																10.0	field
339+61.00	RT																10.0	#2758
344+36.00	LT																10.0	#2769
352+69.00	LT																10.0	field
374+84.00	RT																10.0	#2824
378+41.00	LT																10.0	#2827
380+66.00	LT																10.0	field
390+26.00																	10.0	field
403+85.00	RT																10.0	#2880
416+21.00	LT																10.0	field
416+25.00	RT																10.0	field
419+61.00	LT																10.0	#2915
421+69.00	RT																10.0	#2920
431+00.00	LT																10.0	field
441+51.00	LT																10.0	field
442+87.00	RT																10.0	field
455+95.00	LT																10.0	field
456+10.00	LT	Safety Ramp																
470+10.00	RT	Safety Ramp																
482+25.00	RT																10.0	#3032
492+29.00	RT																10.0	#3050
494+72.00	LT																10.0	#3051

102-3

10-15-13

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

1 Refer to MI-210

2 Refer to EW-501.

3 Refer to EW-501 or EW-502.

*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening ①			W	① PR	② SR	Pipe Culvert ③					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF										FT	IN	LF	
497+40.00	LT																10.0	#3061
508+25.00	LT																10.0	cemetary
520+72.00	LT																10.0	drive
525+36.00	LT																10.0	#3109
541+41.00	LT																10.0	#3141
541+42.00	RT																10.0	field
553+68.00	RT																10.0	field
563+53.00	LT																10.0	field
568+28.00	RT																10.0	#3190
583+56.00	RT																10.0	#3210
583+56.00	LT																10.0	field
597+54.00	LT																10.0	#3231
597+85.00	LT																10.0	#3231
605+11.00	LT																10.0	#3243
614+66.00	RT																10.0	field
633+02.00	RT																10.0	#3310
638+04.00	LT																10.0	#3315
654+57.00	RT																10.0	#3350
654+65.00	LT																10.0	field
654+58.00	LT																10.0	field
674+73.00	LT																10.0	#3385
																	830.0	TOTAL

102-6C 10-18-16																			
FULL-DEPTH PATCHES																			
Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.																			
Location			Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
Count	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
		L, R, or B	FT	FT	IN	PR-103	PR-102	PR-104	PR-105										
			SY	SY	SY	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.		
1	35+67	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
2	39+12	Both	6.0	12.0	10.0					16.0		16.6							
2	42+26	Both	4.0	12.0	10.0					10.6	10.7	11.0							
2	44+32	Both	6.0	12.0	10.0					16.0		16.6							
1	47+93	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
2	53+67	Both	5.1	4.0	12.0					13.6	10.7	11.0							
1	57+82	Rt	6.0	12.0	10.0					8.0	5.3	5.7							
1	57+82	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	61+97	Rt	8.0	12.0	10.0					10.7		11.4							
1	61+97	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	66+20	Both	6.0	12.0	10.0					16.0		16.6							
1	72+45	Rt	4.0	12.0	10.0					5.3		5.7							
1	73+30	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	75+50	Both	4.0	12.0	10.0					10.6	10.7	11.0							
2	80+08	Both	4.0	12.0	10.0					10.6	10.7	11.0							
1	80+86	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	84+48	Lt	8.0	12.0	10.0					10.7		10.7		PR-140					
1	86+35	Rt	4.0	12.0	10.0					5.3		5.7							
1	86+35	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	87+60	Rt	4.0	12.0	10.0					5.3		5.7							
1	89+65	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	90+45	Both	4.0	12.0	10.0					10.6	10.7	11.0							
1	91+03	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	92+09	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	93+91	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	98+13	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	99+54	Both	4.0	12.0	10.0					10.6	10.7	11.0							
2	103+30	Both	4.0	12.0	10.0					10.6	10.7	11.0							
1	104+30	Rt	4.0	12.0	10.0					5.3		5.7							
2	105+41	Both	4.4	4.0	12.0					11.8	10.7	11.0							
1	107+24	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	108+61	Rt	6.0	12.0	10.0					8.0		8.6							
2	112+71	Both	4.4	4.0	12.0					11.8	10.7	11.0							
2	115+40	Both	4.0	12.0	10.0					10.7		11.0							

FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.

Location		Dimension				PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain No.	'CD' Joints No.	'CT' Joints No.	'EF' Joints No.	Anchor Lugs Removal No.	Remarks
Count	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
						PR-103 SY	PR-102 SY	PR-104 SY	PR-105 SY										
		L, R, or B	FT	FT	IN					SY	TON	SY	SY						
1	118+92	Rt	4.0	12.0	10.0					5.3		5.7							
1	118+92	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	119+93	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	126+10	Rt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	135+91	Both	4.0	12.0	10.0					10.7		11.0							
1	144+09	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	146+08	Rt Both	Extra 4.0x4.5	4.0	12.0	10.0				12.7	10.7	11.0							Extra 4.0 x 4.5 = 2.0 + 10.7 = 12.7 SY total
2	160+77	Both	4.0	12.0	10.0					10.7		11.0							
1	163+47	Lt	4.0	12.0	10.0					5.3		5.7							
2	165+86	Both	4.0	12.0	10.0					10.7		11.0							
1	166+85	Lt	6.0	12.0	10.0					8.0		8.6							
2	167+45	Both	4.0	12.0	10.0					10.7		11.0							
1	167+65	Lt	4.0	12.0	10.0					5.3		5.7							
1	167+85	Lt	4.0	12.0	10.0					5.3		5.7							
1	168+05	Lt	4.0	12.0	10.0					5.3		5.7							
1	168+25	Lt	4.0	12.0	10.0					5.3		5.7							
1	171+37	Rt	4.0	12.0	10.0					5.3		5.3		PR-140					
	Bridge	174+50																	Bridge
2	176+85	Both	4.0	12.0	10.0					10.7		11.0							
1	180+77	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	180+97	Both	4.0	12.0	10.0					10.7		11.0							
2	181+57	Both	4.0	12.0	10.0					10.7		11.0							
1	181+77	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	181+97	Both	4.0	12.0	10.0					10.7		11.0							
2	182+17	Both	4.0	12.0	10.0					10.7		11.0							
2	182+55	Both	4.0	12.0	10.0					10.7		11.0							
1	183+56	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	172+26	Both	6.0	13.0	12.0					17.4		0.0		PR-140					Patches to remove EF joints Extra width
2	187+60	Lt Both	4.0	12.0	10.0					5.3	10.7	5.3	11.0						
2	188+37	Both	4.0	12.0	10.0					10.7		11.0							
2	188+57	Both	4.0	12.0	10.0					10.7		11.0							
2	188+77	Both	4.0	12.0	10.0					10.7		11.0							
1	188+97	Rt	4.0	12.0	10.0					5.3		5.7							
2	189+16	Both	6.0	12.0	10.0					16.0		16.6							
1	192+71	Rt	4.0	12.0	10.0					5.3		5.7							
1	195+42	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
1	195+86	Rt	4.0	12.0	10.0					5.3		5.7							
1	197+93	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
2	200+28	Both	6.0	12.0	10.0					16.0		16.6							
2	201+73	Both	4.0	12.0	10.0					10.7		11.0							
1	223+14	Rt	4.0	12.0	10.0					5.3		5.7							
1	223+55	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	227+87	Both	4.0	12.0	10.0					10.7		11.0							
2	232+04	Both	4.0	12.0	10.0					10.7		11.0							
2	233+52	Both	4.0	12.0	10.0					10.7		11.0							
2	176+53	Both	7.0	13.0	12.0					20.2		0.0							Patches to remove EF joints Extra width & length
2	236+60	Both	4.0	12.0	10.0					10.7		11.0							Patches not done
2	239+69	Both	6.0	12.0	10.0					16.0		16.6							
2	243+98	Both	6.0	12.0	10.0					16.0		16.6							
2	247+80	Both	4.0	12.0	10.0					10.7		11.0							
1	252+82	Rt	4.0	12.0	10.0					5.3		5.7							
2	255+48	Both	4.0	12.0	10.0					10.7		11.0							
2	262+62	Both	4.0	12.0	10.0					10.7		11.0							
2	269+78	Both	4.0	12.0	10.0					10.7		11.0							
1	271+46	Rt	6.0	12.0	10.0					8.0		8.6							
1	272+10	Rt	4.0	12.0	10.0					5.3		5.7							
2	273+89	Both	4.0	12.0	10.0					10.7		11.0							
2	276+38	Both	4.0	12.0	10.0					10.7		11.0							
2	279+25	Both	4.0	12.0	10.0					10.7		11.0							
2	280+98	Both	6.0	12.0	10.0					16.0		16.6							
2	286+98	Both	4.0	12.0	10.0					10.7		11.0							
2	289+41	Both	4.0	12.0	10.0					10.7		11.0							
2	291+51	Both	4.0	12.0	10.0					10.7		11.0							
2	294+48	Both	6.0	12.0	10.0					16.0		16.6							
1	298+62	Rt	4.0	12.0	10.0					5.3		5.7							
1	298+62	Lt	6.0	12.0	10.0					8.0		8.0		PR-140					
1	299+45	Lt	4.0	12.0	10.0					5.3		5.3		PR-140					
2	301+53	Both	6.0	12.0	10.0					16.0		16.6							
2	305+07	Both	4.0	12.0	10.0					10.7		11.0							
2	307+48	Both	4.0	12.0	10.0					10.7		11.0							
2	312+22	Both	4.0	12.0	10.0					10.7		11.0							
2	315+75	Both	4.0	12.0	10.0					10.7		11.0							
2	317+64	Both	4.0	12.0	10.0					10.7		11.0							
2	319+95	Both	4.0	12.0	10.0					10.7		11.0							
2	320+21	Both	6.0	12.0	10.0					16.0		16.6							
2	321+69	Both	4.0	12.0	10.0					10.7		11.0							
2	323+47	Both	6.0	12.0	10.0					16.0		16.6							
2	325+17	Both	4.0	12.0	10.0					10.7		11.0							
2	326+17	Both	4.0	12.0	10.0					10.7		11.0							

Changed by addendum 21FEB151A02

FULL-DEPTH PATCHES																			102-6C 10-18-16
Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.																			
Location			Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
Count	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
						PR-103	PR-102	PR-104	PR-105										
		L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	PR-101	PR-101 or PR-140	No.	No.	PR-101	No.	
1	118+18	Rt	6.0	12.0	10					8.0		8.0							
1	187+75	Lt	4.0	12.0	10					5.3		5.3							
2	417+75	Both	6.0	12.0	10					16.0		16.6							
2	424+76	Both	6.0	12.0	10					16.0		16.6							
2	427+30	Both	4.0	12.0	10					10.7		11.0							
2	566+00	Both	6.0	12.0	10					16.0		16.6							
2	590+93	Both	6.0	12.0	10					16.0		16.6							
1	600+60	Rt	4.0	12.0	10					5.3		5.3							
2	621+37	Both	6.0	12.0	10					16.0		16.6							
2	635+61	Both	6.0	12.0	10					16.0		16.6							
2	643+25	Both	4.0	12.0	10					10.7		11.0							
1	646+38	Rt	8.0	12.0	10					10.7		11.4							
2	650+29	Both	6.0	12.0	10					16.0		16.6							
1	411+61	Lt	6.0	12.0	12					8.0		0.0						Patch to replace existing EF joint	
2	452+70	Both	6.0	12.0	12					16.0		0.0						Patches to replace existing EF joints	
2	455+30	Both	6.0	12.0	12					16.0		0.0						Patches to replace existing EF joints	
291										1798.1		1739.4						TOTALS	

102-11
08-01-08

TABULATION OF PARTIAL DEPTH REGULAR HMA FINISH PATCHES							
Location			Dimension Of Patch		Estimated Quantities		Remarks
No.	Station or Milepost	Lane	Length x Width		SY	TON	
			FT				
1	281+22.00		1-4	x 75.0	20.8		In radius
1	282+18.00		9.0	x 5.0	5.0		In radius
1	282+47.00		9.0	x 6.0	6.0		In radius
1	283+11.00		10.0	x 9.5	10.6		In radius
1	283+57.00		6.0	x 12.0	8.0		In radius
1	284+27.00		6.0	x 15.0	10.0		In radius
1	284+45.00		6.0	x 17.0	11.3		In radius
1	284+62.00		6.0	x 17.0	11.3		In radius
1	284+74.00		58.0	x 3.0	19.3		In radius
1	284+75.00		6.0	x 7.0	4.7		In radius
1			6.0	x 9.0	6.0		In radius
1	284+87.00		6.0	x 8.0	5.3		In radius
1			6.0	x 6.0	4.0		In radius
1	284+97.00		6.0	x 9.0	6.0		In radius
1	285+00.00		9.0	x 10.0	10.0		In radius
1	285+15.00		4-12	x 22.0	19.6		In radius
1	285+17.00		6.0	x 15.0	10.0		In radius
1	285+34.00		6.0	x 12.0	8.0		In radius
1			14.0	x 6.0	9.3		In radius
1			6.0	x 12.0	8.0		In radius
1	285+42.00		6.0	x 15.0	10.0		In radius
1	285+55.00		6.0	x 13.0	8.7		In radius
1	285+60.00		4-23	x 24.0	36.0		In radius
1			6-17	x 18.0	23.0		In radius
1	285+78.00		24.0	x 6.0	16.0		In radius
1	285+95.00		6.0	x 6.0	4.0		In radius
1	286+00.00		19-23	x 3.0	70.0		In radius
1	286+00.00		6.0	x 12.0	8.0		In radius
1	286+10.00		6.0	x 6.0	4.0		In radius
1	286+16.00		32.0	x 6.0	21.3		In radius
1	286+20.00		6.0	x 35.0	23.3		In radius
1	286+22.00		9.0	x 9.0	9.0		In radius
1	286+99.00		4-2	x 22.0	7.3		In radius
33					433.9		TOTALS

110-1 04-16-13						
REMOVAL OF PAVEMENT						
Refer to Tabulation 102-5						
* Not a Bid Item						
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
171+63.8	173+44.8	RT	HMA	60.3 44.0		Remove existing shoulder strengthening
175+55.2	177+37.2	RT	HMA	60.7 43.7		Remove existing shoulder strengthening
173+44.80	173+54.80	RT	PCC	2.8		Remove for curb installation
175+45	175+66	RT	PCC	5.8 2.0		Remove for curb installation
280+34.00	280+53.10	RT	PCC	49.0		Remove existing PCC drive for turn lane construction
400+90.20	410+12.40	RT	HMA	54.3		Remove shoulder strengthening Not done
400+15.20	410+12.40	RT	HMA	42.2		Remove shoulder strengthening Not done
432+57.1	434+40.1	RT	HMA	61.0 40.7		Remove existing shoulder strengthening
434+40.10	434+50.10	RT	PCC	2.8		Remove for curb installation
439+02.10	439+12.10	RT	PCC	2.8		Remove for curb installation
439+12.1	440+95.1	RT	HMA	61.0 40.7		Remove existing shoulder strengthening
454+86	454+99.7	RT	PCC	3.8 2.0		Remove for curb installation
454+85.6	455+00	RT	PCC	4.0 2.0		Remove for curb installation
282+00	285+60	Rt		775.0		Rt turn lane removal Quarter Ave
171+63.80	173+44.8	LT	HMA	60.3 43.7		Remove existing shoulder strengthening
173+44.80	173+54.80	LT	PCC	2.8		Remove for curb installation
175+45.20	175+55.20	LT	PCC	2.8		Remove for curb installation
175+55.2	177+37.2	LT	HMA	60.7 43.7		Remove existing shoulder strengthening
285+47.10	286+07.10	LT	PCC	36.3		Remove existing PCC drive for shoulder construction
432+60.10	433+82.10	LT	HMA	60.7 40.7		Remove existing shoulder strengthening
434+40.10	434+50.10	LT	PCC	2.8		Remove for curb installation
439+02.10	439+12.10	LT	PCC	2.8		Remove for curb installation
439+12.1	440+95.1	LT	HMA	61.0 40.7		Remove existing shoulder strengthening
453+00.6	453+14.2	LT	PCC	3.8 2.0		Remove for curb installation
452+87.4	453+00.6	LT	PCC	3.7 2.0		Remove for curb installation
Bridge	Approaches		PCC	266.8 266.7		Remove for new approach install
				1612.5		TOTAL

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
53+50.0 LT	Railroad ties	Remove ties
142+89.0 RT	24" x 24' CMP	Pipe installed backwards Removed & relaid with concrete aprons
142+93.0 LT	18" x 42' CMP	Remove 2' outlet side for apron attachment No existing pipe
157+91.0 LT	18" x 42' CMP	Remove 2' outlet and 4' inlet side for apron attachment 1' outlet
200+10.0 LT	24" x 24' CMP	Remove 3' outlet and 1' inlet side for apron attachment
200+26.0 RT	24" x 16' CMP	Remove failed pipe
203+34.0 RT	24" x 46' CMP	Removed
215+47.0 RT	18" x 36' CMP	Remove 4' outlet and 2' inlet side for apron attachment
222+44.0 LT	18" x 40' CMP	Remove 3' inlet side for apron attachment
232+41.0 RT	18" x 42' CMP	Remove 2' outlet and 1' inlet side for apron attachment
242+66.0 LT	18" x 42' CMP	Remove 1' inlet side for apron attachment
252+26.0 RT 252+70	18" x 40' CMP	Remove 1' outlet side for apron attachment
265+22.0 LT	18" x 42' CMP	Remove 2' inlet side for apron attachment
266+63.0 LT	18" x 42' CMP	Remove 2' outlet and 2' inlet side for apron attachment
298+54.0 LT	18" x 44' CMP	Remove 2' outlet and 1' inlet side for apron attachment
308+34.0 RT 308+55	18" x 32' CMP	Remove 1' inlet side for apron attachment
		Remove 3' outlet side for apron attachment

112-4
10-21-14

CURBS AND RAISED ISLANDS

Refer to PV-20, PV-102, and 6000s Detail Series.

① Bid Item							
Corner	Station	Station	Island Interior Area SY	Curb and Gutter			Remarks
				Curb Type	Gutter Width FT	Length ① LF	
	173+31.30			4" Sloped PCC	2.5	10.0	Not tabbed to be done
	173+31.30			4" Sloped PCC	2.5	10.0	Not tabbed to be done
NE	175+44	175+66		4" Sloped PCC	2.5	22.0	
SE	175+45	175+66		4" Sloped PCC	2.5	21.0	
SW	410+12.3	410+21.3		4" Sloped PCC	2.5	9.0	
SE	410+85.8	410+94.8		4" Sloped PCC	2.5	9.0	
NW	410+23.3	410+32.3		4" Sloped PCC	2.5	9.0	
NE	410+74.85	410+83.85		4" Sloped PCC	2.5	9.0	
NE	434+40.1	434+50.1		4" Sloped PCC	2.5	10.0	
NW	434+40.1	434+50.1		4" Sloped PCC	2.5	10.0	
SE	439+02.1	439+12.1		4" Sloped PCC	2.5	10.0	
SW	439+02.1	439+12.1		4" Sloped PCC	2.5	10.0	
NW	453+00.6	453+13.8		4" Sloped PCC	2.5	13.2	
SW	453+00.6	453+14.2		4" Sloped PCC	2.5	13.6	
NE	454+85.6	455+00		4" Sloped PCC	2.5	14.4	
SE	454+86	454+99.7		4" Sloped PCC	2.5	13.7	
						173.9	TOTAL

110-17
04-15-14

CLEARING AND GRUBBING

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters														All Other Materials		Estimated Quantities			Remarks
Station to Station or Milepost to Milepost or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area	Herbicide Application		
																FT	FT	Units	Acres	Each		
523+74 to 534+00	EB	Stumps - Grubbing		20	5													80.0				
523+74 to 534+00	EB	Field Fence - Clearing														1026.0		62.0				
																		142.0				

FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (MAINLINE PIPES)

Refer to Standard Road Plans DR-121, DR-122, and DR-213.

* Not a bid item

Existing Information		New Information		Length of New Const.	Flow Line Elevations		Dimensions				Removal and Reinstallation of Culvert Aprons and Pipes								New Apron No.		Apron Guard (DR-213)	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	Embank.- In-Place	Class 20		Remarks
Location	Size and Type of Culvert	Size	Type of Culvert				Total (LF)		Extensions (LF)		Aprons		Culvert Sections															
		IN					LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT	NO.*	FT										
				LF	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT	NO.*	FT	IN	OUT	NO.	TYPE	NO.	TYPE	CY	CY				
29+04.0	3' x 2' RCB																								UAC			
42+40.0	8' x 4' RCB																						15.0		(A)			
79+62.0	30" RCP																								UAC			
118+13.0	60" RCP																								UAC			
139+82.0	8'x 4' RCB																						15.0		(A, B)			
218+68.0	42" RCP																								(B)			
258+40.0	30" RCP																						5.0		(A, B)			
258+97.0	30" RCP																						5.0		(A, B)			
272+49.0	42" RCP	42"	RCP									1			1	6				C-2	2		3.0		29.0	(A, B)		
312+31.0	102" x 62" CAP	84"	CAP	12					6	6	1	1											15.0		(A, B)			
347+02.0	2' x 2' RCB	30"	RCP	12					8	8							1	1		C-2	2		5.0		Contractor elected not to cut off 2' of pipe & was paid for it			
369+33.0	36" RCP	36"	RCP								1							1		C-1	2		3.0			(B)		
458+52.0	3'x 3' RCB																								UAC			
511+62.0	2' x 2' RCB	30"	RCP														1			C-2	1		1.0		5.0	(A, B)		
575+14.0	2' x 2' RCB																							4.0	(A, B)			
625+86.0	12' x 5' RCB																								(B)			
627+89.0	72" x 43" UAP																								UAC			
667+44.0	3' x 2' RCB																						4.0		(A, B)			
																					7		12.0	115.0	TOTALS			
																									(A) Clean apron(s)			
																									(B) See Tab 300-1			

FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (SIDE ROAD & ENTRANCE PIPES)

Refer to Standard Road Plans DR-121, DR-122, and DR-213.

* Not a bid item

Existing Information		New Information		Length of New Const.	Flow Line Elevations		Dimensions				Removal and Reinstallation of Culvert Aprons and Pipes				New Apron No.		Apron Guard (DR-213)	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	Embank.- In-Place	Class 20		Remarks	
Location	Size and Type of Culvert	Size	Type of Culvert				Total (LF)		Extensions (LF)		Aprons		Culvert Sections												
		IN					LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT											NO.*
				LF	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT	NO.*	FT	IN	OUT	NO.	TYPE	NO.	TYPE	CY	CY	
38+19.0 RT	18" x 32' CMP	18	CMP														1	1					1.0		
38+19.0 LT	18" x 42' RCP	18	CMP														1	1			Type 3		1.0		
46+76.0 RT	24" x 40' CMP	24	CMP														1	1							Aprons damaged Added new
53+39.0 LT	18" x 58' CMP	18	CMP														1	1					1.0		
61+00.0 RT	10" x 10' CMP	10	CMP														1	1					1.0		Pipe removed
64+40.0 RT	18" x 42' CMP	18	CMP														1	1					1.0		
65+34.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		
69+05.0 LT	18" x 38' CMP	18	CMP														1	1					1.0		(A)
77+36.0 RT	18" x 42' CMP	18	CMP														1	1					1.0		
90+90.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		
99+78.0 RT	24" x 40.26' CMP	24	CMP														1	1					1.5	11.0	(A)
99+82.0 LT	24" x 36.26 CMP	24	CMP														1	1					1.5	11.0	(A)
133+35.0 LT	18" x 36' CMP	18	CMP														1	1					1.0		(A)
142+70.0 LT	10" x 14' RCP	10	RCP														1	1					1.0		No existing pipe
142+09.0 RT	24" x 16' CMP	24	CMP	5					5								1	1			Type 3		1.0		(B) No existing pipe
142+93.0 RT	18" x 42' CMP	18	CMP														1	1					1.0		(B)
142+93.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		(A)
157+91.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		(B)
200+10.0 LT	24" x 24' CMP	24	CMP	30			15	15									1	1					10.5		(A, B) Pipe removed
200+26.0 RT	24" x 16' CMP	24	CMP														1	1					1.5		(A, B) Pipe removed
203+34.0 RT	24 30 x 46' CMP	24	30 CMP														1	1					1.5		(A, B)
206+10.0 RT	24" x 40.26' CMP	24	CMP	10					5	5	1	1					1	1				Type 3		18.5	
206+10.0 LT	24" x 51.26' RCP																						2.0		(A) Clean apron
208+51.0 RT	18" x 46' CMP	18	CMP														1	1					1.0		(A)
215+47.0 RT	18" x 36' CMP	18	CMP														1	1					1.0		(B)
222+44.0 LT	18" x 40' CMP	18	CMP														1	1					1.0		(A, B)
232+41.0 RT	18" x 42' CMP	18	CMP														1	1					1.0		(A, B)
242+66.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		(A, B)
252+70 RT	18" x 40' CMP	18	CMP														1	1					1.0		(B) Pipe tabbed as 252+26
265+22.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		(B)
266+63.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		(A, B)
280+45.0 RT	18" x 66' RCP	18	RCP														1	1					1.0		(A)
282+10.0 RT	18" x 60 CMP	18	CMP										3	30	4	30	1	1					1.0		(A)
282+87.0 LT	18" x 42' CMP	18	CMP														1	1					1.0		(A)
285+76.0 LT	18" x 38' CMP	18	CMP														1	1					1.0		(A)
286+05.0 LT	10" x 32' CMP	10	CMP														1	1					1.0		(A) No existing pipe
295+28.0 RT	18" x 44' CMP	18	CMP														1	1					1.0		(A)
298+54.0 LT	18" x 44' CMP	18	CMP														1	1					1.0		

* Not a bid item

	104-5C
	04-21-15

* Not a bid item

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER COUNTY	PROJECT NUMBER	HSHIPX-3-6(64)--3L-09	SHEET NUMBER	C.22
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108-33

04-19-16

TEMPORARY BARRIER RAIL

Possible Standards: BA-400, BA-401

* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

No.	Station to Station		Length	(Select One)		Anchored*	Modular Glare Screen System	Remarks
				Steel	Concrete			
			LF	BA-400	BA-401	(Y/N)	(Y/N)	
	410+53.60	408+55 - 412+80	425.0		X	No	No	Bridge approach work
	410+53.60	408+55 - 412+80	425.0		X	No	No	Bridge approach work
			850.0					TOTAL

108-30 04-16-13																				
CRASH CUSHIONS																				
* Bid Item																				
① Lane(s) to which the installation is adjacent.																				
② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500																				
No.	① Direction of Traffic	Location Station	Side	Obstacle Width	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use		
										Length	Length	Length	Length	Length						
				FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT		
	EB	410+53.60			2													TBR for approach work		
	WB	410+53.60			2													TBR for approach work		
					4													TOTAL		

110-13 04-20-10						
DELIVERY AND STOCKPILING						
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks	
Guardrail (No posts)	1528	2100	LF	Along US 63	Russ Frisch, 319-224-7763	See Tab 110-7A

BRIDGE APPROACH SECTION																				112-6 10-20-15	
Refer to the BR Series.																					
* Not a bid item																					
Location				Approach Pavement					Standard Road Plans BR Series			Subdrain								Remarks	
Bridge Station	End	Skew Ahead		T Thickness	Pay Length	Non-Reinf. Pavement Area	Single- Reinf. Pavement Area	Double- Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4"	Subdrain Outlet		Porous Backfill	Class 'A' Crushed Stone Backfill	Modified Subbase	Polymer Grid			
		Degrees																			
		LEFT	RIGHT										Inches	FT					SY		SY
410+53.6	W	0	0	10.0	50.0	80.0	53.3	UAC	BR-201	Movable	BR-211	72.0			12.0		130.3	149.3			
410+53.6	E	0	0	10.0	50.0	80.0	53.3	UAC	BR-201	Movable	BR-211	72.0			12.0		130.3	149.3			
					100.0	160.0	106.6					144.0			24.0		260.6	298.6	TOTALS		

110-7A 04-17-12						
REMOVAL OF STEEL BEAM GUARDRAIL						
① Lane(s) to which the installation is adjacent.						
② Includes length of End Terminals and End Anchors.						
Location					Removal of Guardrail ②	
No.	① Direction of Traffic	Station to Station		Side		
					LF	
		173+64.80		EB	287.5	443.0
		175+35.20		WB	288.0	443.0
		410+32.40		EB	62.5x2=125.0	250.0
		410+74.90		WB	62.5+62=124.5	250.0
		434+60.10		SW	56.5	56.3
		434+60.10		NW	56.5	56.3
		438+92.10		SE	57.0	56.3
		438+92.10		NE	56.5	56.3
		453+31.10		SW	56.5	56.3
		453+31.10		NW	56.5	56.3
		454+69.10		SE	56.5	56.3
		454+69.10		NE	56.5	56.3
				TOTAL		1237.5
					1277.5	1375.0

Refer to EW-301

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

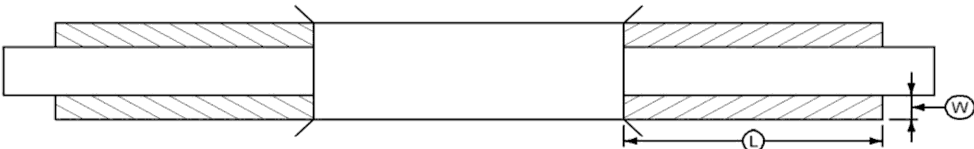
② Not a bid item. Incidental to guardrail installation.

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER	COUNTY	PROJECT NUMBER	HSIPX-3-6(64)--3L-09	SHEET NUMBER	C.24	REVISED 04-07-17
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106-5
10-21-14

AREAS FOR PAVEMENT OR BASE WIDENING

Refer to Standard Road Plans PV-105 or PV-203



① Bid Item

② Estimated for two applications to achieve lifts and one application of 0.10 Gal/SY adjacent to existing pavement. Priming of subgrade or finished base is not required. Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Tack Coat unit weight (gal/sy) of 0.05.

Station to Station	Side	Pavement Type	L	W	T	HMA Base Widening	HMA Base Widening	PCC Base Widening	PCC Pavement Widening	Tack Coat		Tack Coat	Asphalt Binder	Class 13 Excavation, Widening	Special Backfill	Remarks
			Length	Width	Thickness	①	①	①	①	Lifts	Vertical Edge	②	①	①	①	
			FT	FT	IN	TONS	SY	SY	SY	GAL	GAL	GAL	TONS	CY	TONS	
Shoulder	Strength															
408+06.1	410+12.3	RT	HMA	206.2	4	8				9.2	1.5	10.7		35.6	28.9	For bridge approach const.
408+06.1	409+15.1	LT	HMA	109.0	4	8				4.8	0.8	5.7		18.8	15.3	For bridge approach const.
410+94.8	413+01.1	RT	HMA	206.3	4	8				9.2	1.5	10.7		35.7	28.9	For bridge approach const.
412+17.0	413+01.1	LT	HMA	84.1	4	8				3.7	0.6	4.4		14.5	11.8	For bridge approach const.
							269.2			26.9	4.5	31.4		104.7	84.8	TOTALS

112-9
Modified

SHOULDERS

① Lane(s) to which the shoulder is adjacent.

② Bid Item

③ Applies only for Paved Shoulders constructed on project with existing granular shoulders.

④ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	① Direction Of Traffic	Location			Side	P	G	L	Quantities														Remarks				
		Station to Station				Width	Width	Length	Class 13 Excavation	Base HMA		Base Binder	Paved Shoulder	Class 10 Excavation	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates					
						FT	FT	FT	CY	TON	TON/STA	TONS	SY	CY	HMA Alternate		Embankment-in-place		CY	TON	TON/STA	STA	HMA	PCC			
									②	②		②	②	②	TON	TON/STA	CY	CY/STA	CY	②	②		④	④			
IA 3	EB	22+96.00	23+42.00	RT		4.0	4.0	46.0	3.4				20.4							8.1	17.5						
	EB	23+42.00	171+92.80	RT		4.0	4.0	14850.8	1283.4	2512.3		158.3								2598.9	17.5						
Bridge	EB	177+07.20	270+03.30	RT		4.0	4.0	9296.1	803.4	1572.6		99.1								1626.8	17.5						
STA EQ	EB	270+00.00	282+00	RT		4.0	4.0	1200.0	103.7	203.0		12.8								210.0	17.5						
Quarter turn	EB	282+00	286+37.50	RT		4.0	4.0	437.5	217.0	347.0		21.9			187.3					76.6	17.5	4.4					
	EB	286+37.50	307+66.40	RT		4.0	4.0	2128.9	184.0	360.1		22.7								372.6	17.5						
V49 Turn	EB	307+66.40	313+27.50	RT		4.0	4.0	561.1												98.2	17.5	5.6					
	EB	313+27.50	408+90.20	RT		4.0	4.0	9562.7	826.4	1617.7		101.9								1673.5	17.5						
Bridge	EB	411+92.00	433+06.40	RT		4.0	4.0	2114.4	182.7	357.7		22.5								370.0	17.5						
Bridge	EB	440+08.40	451+78.20	RT		4.0	4.0	1169.8	101.1	197.9		12.5								204.7	17.5						
Bridge	EB	455+84.60	509+47.30	RT		4.0	4.0	5362.7	463.4	907.2		57.2								938.5	17.5						
V56 turn	EB	509+47.30	534+33.10	RT		4.0	4.0	2485.8	5373.4	1474.7		92.9			1630.3					435.0	17.5	24.9					
	EB	534+33.10	557+20.00	RT		4.0	4.0	2286.9	197.6	386.9		24.4								400.2	17.5						
Bridge	EB	566+65.00	675+47.20	RT		4.0	4.0	10882.2	940.4	1840.9		116.0								1904.4	17.5						
	WB	22+92.00	23+42.00	LT		4.0	4.0	50.0	3.7				22.2							8.8	17.5						
	WB	23+42.00	171+92.80	LT		4.0	4.0	14850.8	1283.4	2512.3		158.3								2598.9	17.5						
Bridge	WB	177+07.20	204+57.60	LT		4.0	4.0	2750.4	237.7	465.3		29.3								481.3	17.5						
Piedmont turn	WB	205+60.00	209+83.00	LT		0.0	4.0	423.0	0.0											74.0	17.5						
	WB	209+83.00	270+03.30	LT		4.0	4.0	6020.3	520.3	1018.4		64.2								1053.6	17.5						
STA EQ	WB	270+00.00	298+90.20	LT		4.0	4.0	2890.2	249.8	488.9		30.8								505.8	17.5						
V49 turn	WB	298+90.20	323+12.90	LT		4.0	4.0	2422.7	2106.0	1484.8		93.5			1513.3					424.0	17.5	24.2					
	WB	323+12.90	409+15.10	LT		4.0	4.0	8602.2	743.4	1455.2		91.7								1505.4	17.5						
Bridge	WB	412+17.00	433+43.80	LT		4.0	4.0	2126.8	183.8	359.8		22.7								372.2	17.5						
Bridge																											

FILE NO.

ENGLISH

DESIGN TEAM Callahan\Meise\Coggins

BREMER COUNTY

PROJECT NUMBER HSIPX-3-6(64) -- 3L-09

SHEET NUMBER C.25

REVISED 04-14-17

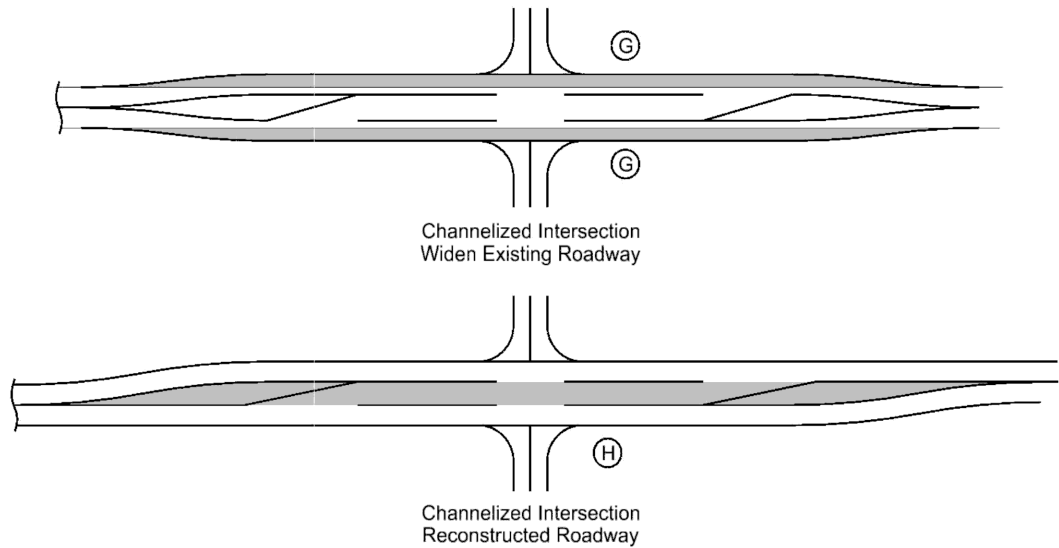
1/5/2017 12:31:16 PM tmeise c:\pw_work\pmain\tmeise\d0601460\09003064_c02.xlsm

SHOULDERS

- ① Lane(s) to which the shoulder is adjacent.
- ② Bid Item
- ③ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ④ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

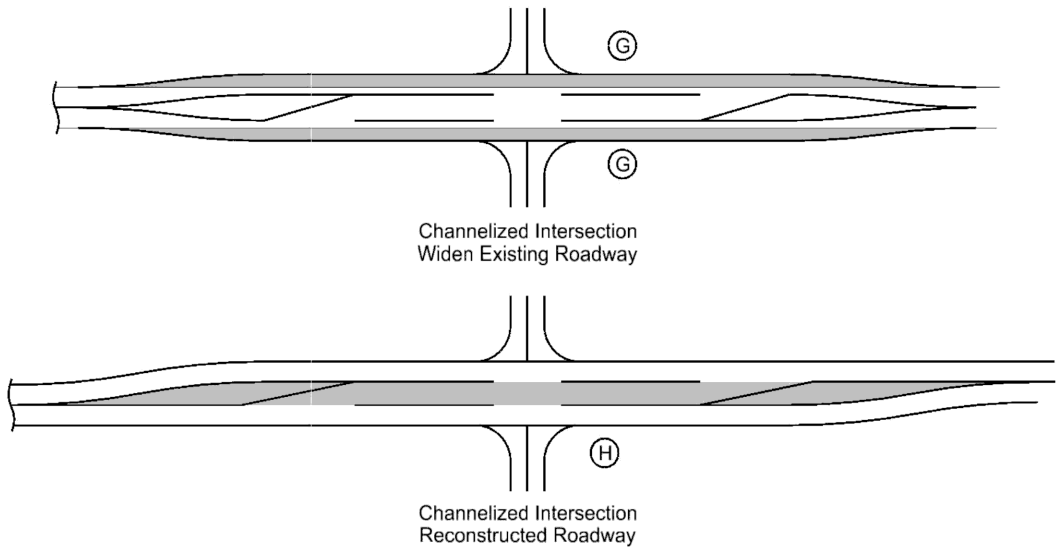
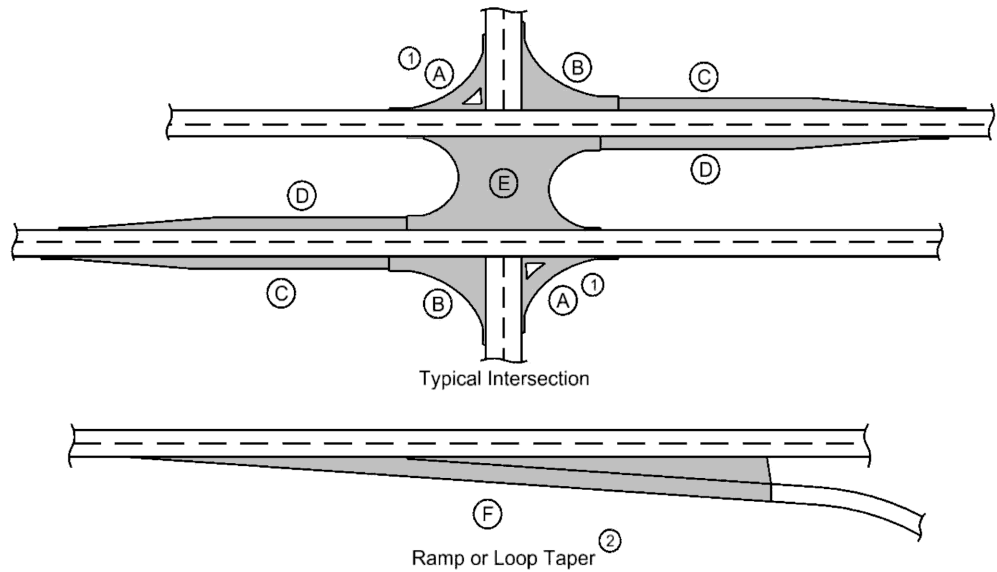
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- Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER	COUNTY	PROJECT NUMBER	HSIPX-3-6(64)--3L-09	SHEET NUMBER	C.27
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HMA PAVEMENT



- ① Does not include raised island area or curb.
Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
Quantity includes Pavement Header.

Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

Location				Mainline			Area								Bid Items												Remarks	
Road Identification	Direction of Travel	Station to Station		Width	Length	Area									Hot Mix Asphalt Pavement						Binder			Special Backfill	Embankment In Place	Granular Subbase		Pavement Scarification
							Surface		Intermediate		Cold in Place		Surface	Intermediate	Foam Asphalt													
		FT	FT	SY	SY	SY	SY	SY	SY	TONS	SY	TONS	SY	TONS	SY	TONS	SY	TONS	TONS	TONS	TONS	TONS	CY					
		413+43.60	431+92.60	32.0	1849.0	6574.2									544	6574.2	725	6574.2			34	46						
Runout		431+92.60	433+92.60	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
BRIDGE																												
Runout		439+59.60	441+59.60	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
		441+59.60	450+62.60	32.0	903.0	3210.7									265	3210.7	354	3210.7			17	22						
Runout		450+62.60	452+62.60	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
BRIDGE																												
Runout		455+37.60	457+37.60	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
		457+37.60	509+47.30	32.0	5209.7	18523.4									1532	18523.4	2042	18523.4			96	129						
V56 turns		509+47.30	534+33.10	Var	2485.8	7733.6			4733.2						1031	12466.8	1374	12466.8			65	87		2668.4				
		534+33.10	557+20.00	32.0	2286.9	8131.2									672	8131.2	896	8131.2			42	56						
Runout		557+20.00	559+20.00	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
BRIDGE																												
Runout		564+65.00	566+65.00	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
		566+65.00	674+92.00	32.0	10827.0	38496.0									3183	38496.0	4244	38496.0			201	267						
Runout		674+92.00	676+92.00	32.0	200.0	711.1									59	711.1	39	711.1			4	2					355.6	
Sideroads																												
Midway	RT	46+76.00			6.0	72.8									6	72.8	4	72.8			0	0						
Midway	LT	46+76.00			6.0	70.7									6	70.7	4	70.7			0	0						
V35/Navaho	RT	99+78.90			6.0	70.7									6	70.7	4	70.7			0	0						
V35/Navaho	LT	99+78.90			6.0	70.7									6	70.7	4	70.7			0	0						
Oakland	RT	152+89.00			6.0	70.7									6	70.7	4	70.7			0	0						
V43/Piedmont	RT	206+10.00		45.0	249.4										21	249.4	14	249.4			1	1				73.6		
Quail	RT	258+64.70			6.0	72.8									6	72.8	4	72.8			0	0						
Quail	LT	258+64.70			6.0	70.7									6	70.7	4	70.7			0	0						
Quarter	RT	285+38.10		90.0	293.3										24	293.3	16	293.3			2	1				195.5		
V49/Reed	RT	311+53.30		56.0	70.7										6	70.7	4	70.7			0	0				101.4		
V49/Reed	LT	311+53.30			6.0	79.6									7	79.6	4	79.6			0	0						
Sable	RT	364+39.50			6.0	70.7									6	70.7	4	70.7			0	0						
Sable	LT	364+39.50			6.0	70.7									6	70.7	4	70.7			0	0						
Timber	RT	456+10.00			6.0	70.7									6	70.7	4	70.7			0	0						
Usher	LT	470+10.00			6.0	70.7									6	70.7	4	70.7			0	0						
V56/Viking	RT	521+90.30		58.0	281.1										23	281.1	15	281.1			1	1				92.4		
V56/Viking	LT	521+90.30		46.0	221.7										18	221.7	12	221.7			1	1				75.7		
Whitetail	RT	574+85.00			6.0	70.7									6	70.7	4	70.7			0	0						
Whitetail	LT	574+85.00			6.0	70.7									6	70.7	4	70.7			0	0						
Yukon	RT	627+89.00			6.0	70.7									6	70.7	4	70.7			0	0						
Yukon	LT	627+89.00			6.0	70.7									6	70.7	4	70.7			0	0						
Drive	RT	280+43.40		24.0	10.0	26.7									2	26.7	1	26.7			0	0				13.3		
Drive	LT	285+77.10		26.0	10.0	28.9									2	28.9	2	28.9			0	0				14.4		
Division 1															18624	225239.0	24235	225239.0		215538.9	1173	1527	948.4			4833.1		
Division 2															1014	12259.1	1352	12259.1			64	85		5694.5				

***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

ELW4: Edge Line Right (White) @ 1.00

SLW4: Solid Lane Line (White) @ 1.00

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER COUNTY	PROJECT NUMBER	HSIPX-3-6(64)-3L-09	SHEET NUMBER	C.29
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PAVEMENT MARKING SYMBOLS AND LEGENDS																												108-29 04-21-15
Road Identification		Location		Refer to PM-111																				Groove Cuts	Remarks			
		Station	Side															SCHOOL	XING	STOP	AHEAD	ONLY	BIKE			LANE	EXIT	
																												STAW
IA 3-Final	206+99.00	LT		1																					1	Piedmont Ave		
	207+74.00	LT		1																					1	Piedmont Ave		
283+95	203+87.00	RT		1																					1	Quarter Ave		
284+70	204+62.00	RT		1																					1	Quarter Ave		
	309+93.50	RT		1																					1	V49/Reed Ave		
	310+68.50	RT		1																					1	V49/Reed Ave		
	310+41.30	RT			1																				1	V49/Reed Ave		
	310+78.80	RT																		1					1	V49/Reed Ave		
	311+16.30	RT			1																				1	V49/Reed Ave		
	311+90.60	LT			1																				1	V49/Reed Ave		
	312+28.10	LT																			1				1	V49/Reed Ave		
	312+65.60	LT			1																				1	V49/Reed Ave		
	520+28.50	RT		1																					1	V56/Viking		
	521+03.50	RT		1																					1	V56/Viking		
	520+78.00	RT			1																				1	V56/Viking		
	521+15.50	RT																			1				1	V56/Viking		
	521+53.00	RT			1																				1	V56/Viking		
	522+27.00	LT			1																				1	V56/Viking		
	522+64.50	LT																			1				1	V56/Viking		
	523+02.00	LT			1																				1	V56/Viking		
	522+77.00	LT		1																					1	V56/Viking		
	523+52.00	LT		1																					1	V56/Viking		
				10	8																				22	TOTALS		

MILLED RUMBLE STRIPS

[illegible]

EXISTING SIGNS TO BE REINSTALLED

FILE NO.	ENGLISH	DESIGN TEAM	Callahan\Meise\Coggins	BREMER	COUNTY	PROJECT NUMBER	HSIPX-3-6(64)--3L-09	SHEET NUMBER	C.31
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Property Owners:
A - Herman H. Oltrogge
B - ~~Waldo J. Meier~~ Herman H. Oltrogge
C - ~~Waldo J. Meier~~
Waldo J.

PURCHASED FROM HERMAN H. OLTROGGE, 1.68 ACRES
ACQUIRED JUNE 18, 1964
CONSIDERATION \$5745.00
TITLE BY WARRANTY DEED
RECORDED IN BOOK 139 PAGE 630-31
COUNTY RECORDED BREMER

PURCHASED FROM WALDO J. MEIER, 2.07 AC.
ACQUIRED JUNE 19, 1964
CONSIDERATION \$1776.00
TITLE BY WARRANTY DEED
RECORDED IN BOOK 139 PAGE 628-29
COUNTY RECORDED BREMER

ACCESS CONTROL ACQUIRED - From Station 93+69± Lt. & Rt. P.L. To Station 46+76± S.R. Lt. & Rt.

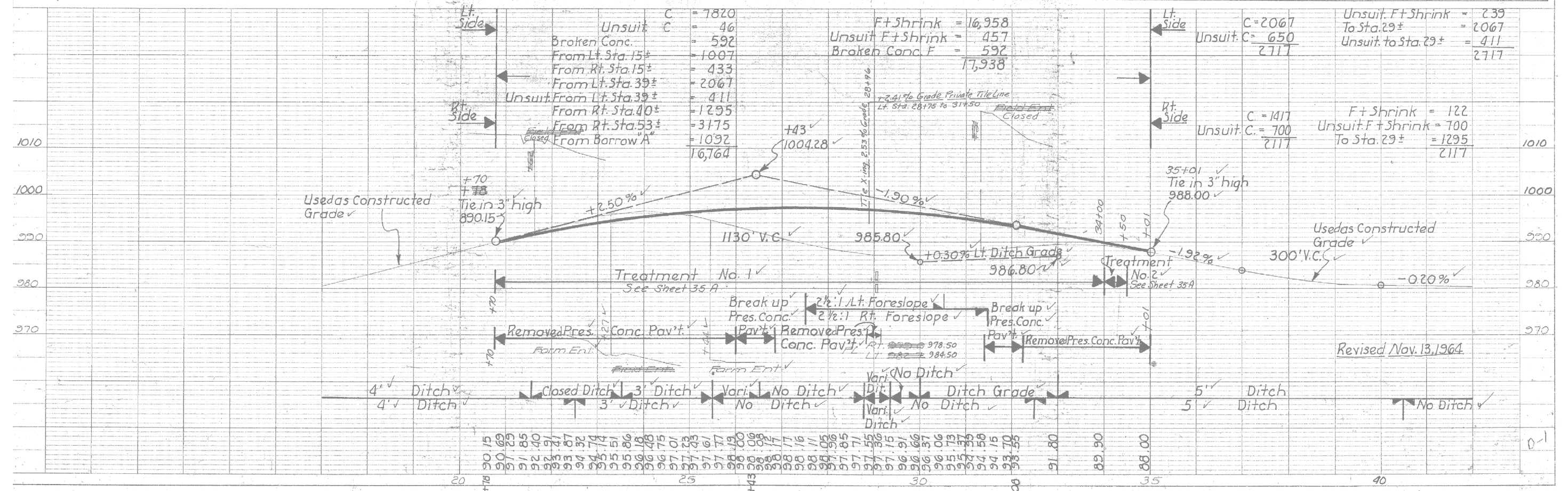
LEGEND:
• N.W. Bell Tel. Co.
• Interstate Power Co.

STA 22+92.0
BEGIN PROJECT

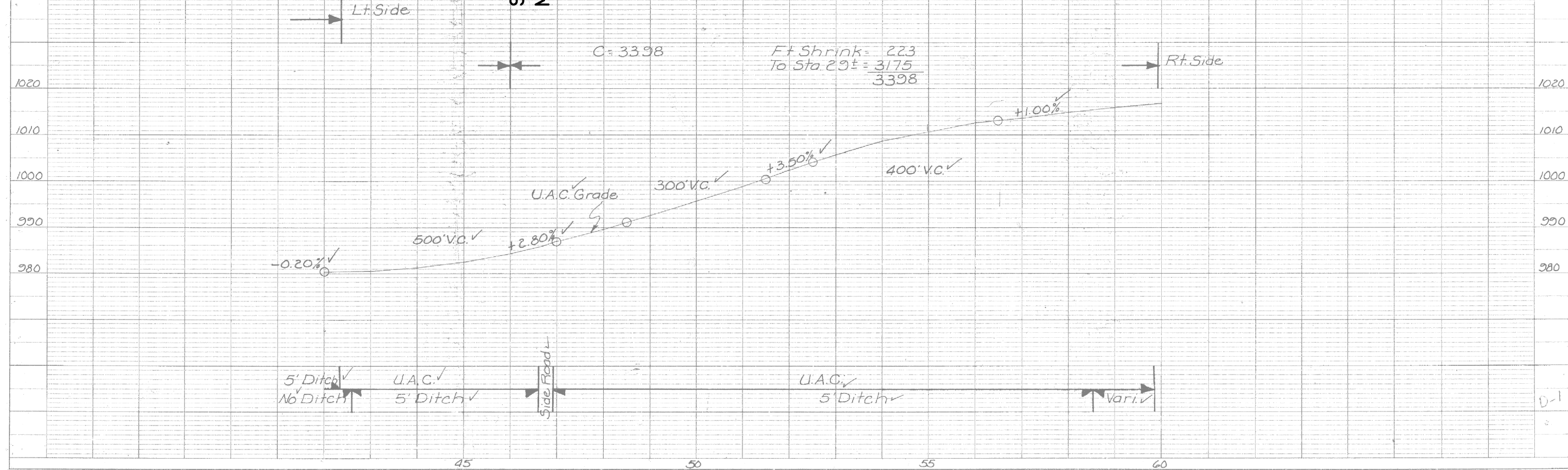
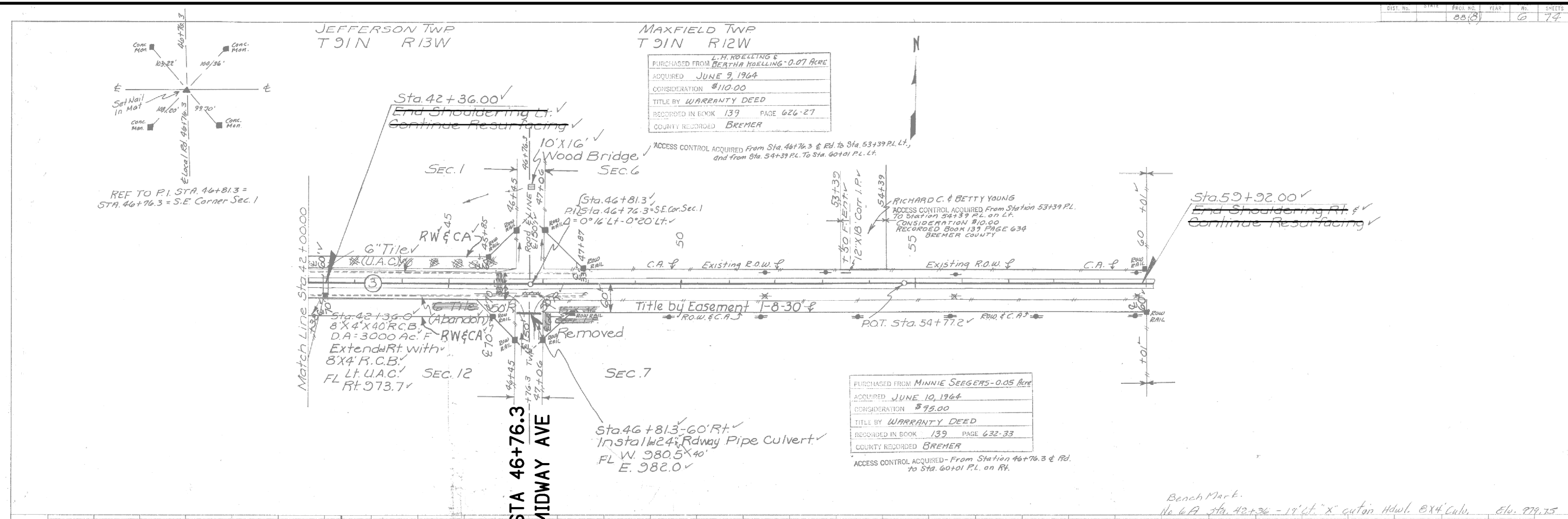
Scale
0 50 100

JEFFERSON TWP.
T21N R11W
SEC. 1

SEC. 12



AS-BUILT PLANS, FOR INFORMATION ONLY



AS-BUILT PLANS, FOR INFORMATION ONLY



ESTABLISHED WIDTH OF
RIGHT OF WAY _____ FT.

MAXFIELD TWP.
T. 91N. R. 12W.
SEC. 5

FED. ROAD DIST. No. STATE FED. AID PROJ. No. FISCAL YEAR SHEET No. TOTAL SHEETS

1930 PAVING

F.N. 884 64 8

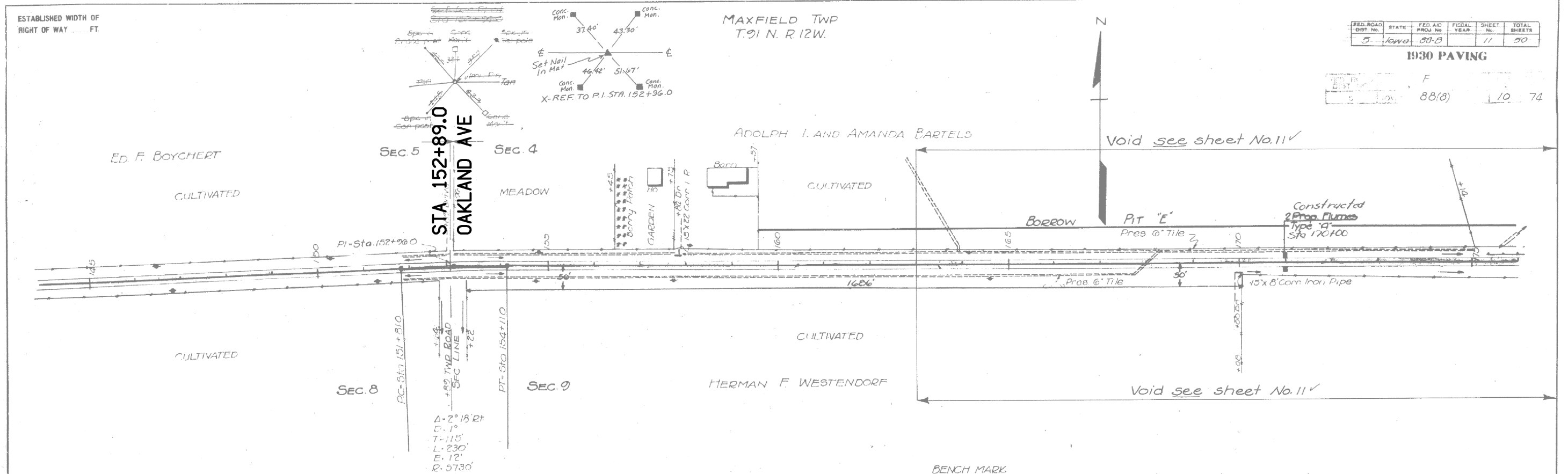
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F 88(8) 9 74

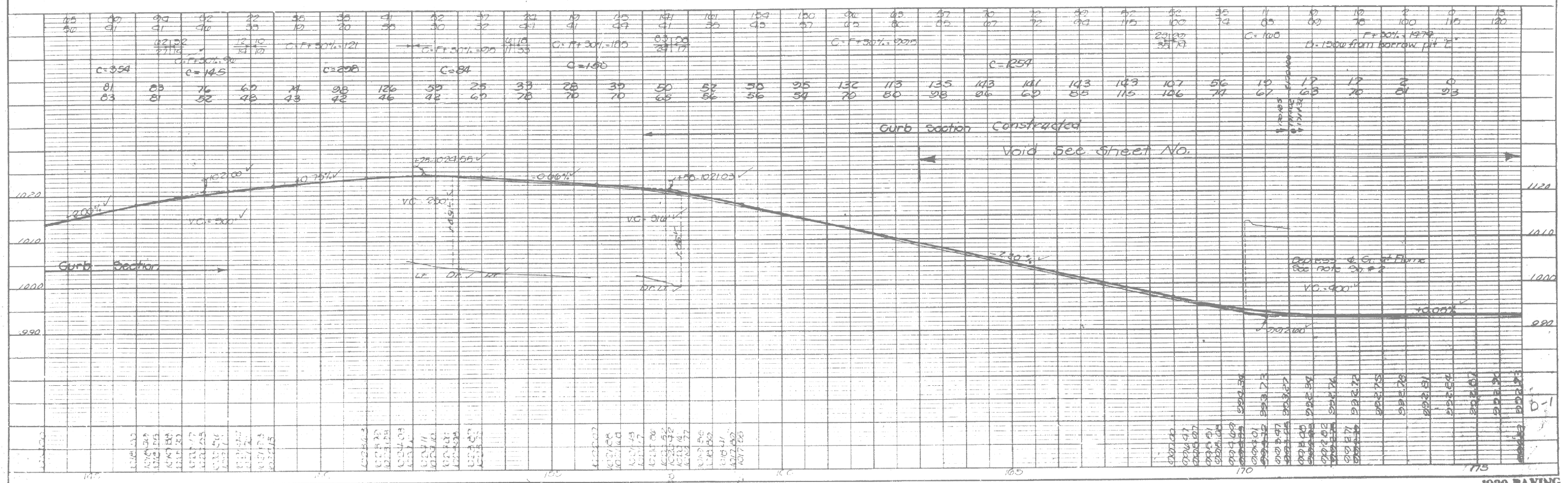
BENCH MARKS:
*10 Sta. 118+10 (X) on Lt. Hdwy of 4'x3' Conc. Box 14' Lt. Elev. 1020.46
*11 Sta. 127+68 (W) on S. side conc. foundation for flagpole in front of School Ho. 47' Lt. Elev. 1023.74
*12 Sta. 133+82 (X) on Lt. Hdwy of 8'x4' Conc. Box 13' Lt. Elev. 1021.14

AS-BUILT PLANS, FOR INFORMATION ONLY

5 NOV 74
 88(8) 10 74



BENCH MARK
#13 Sta 157+36 'X' on conc. foundation on E side of steps 140' Lt. El. 1025.23



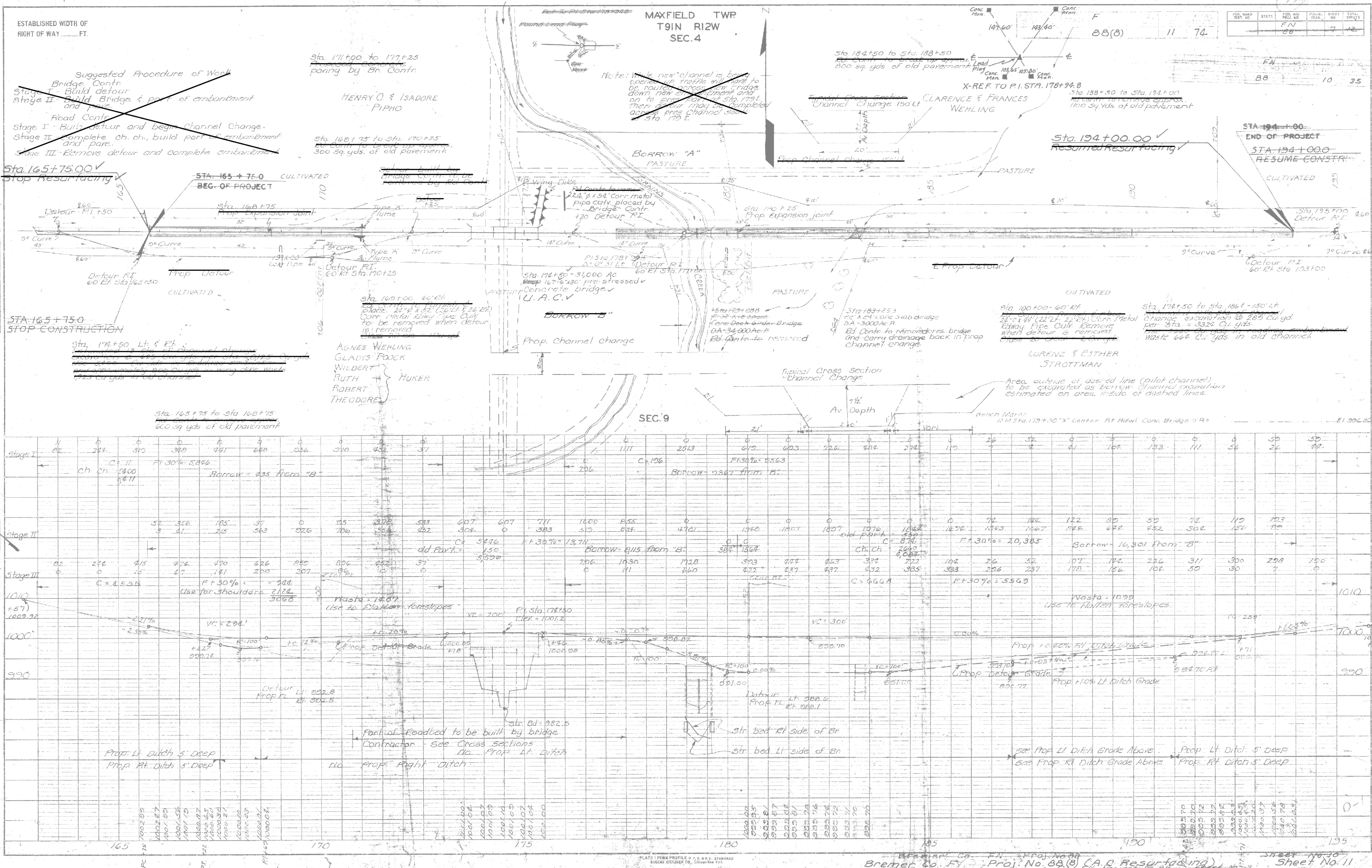
Bremer Co. F Proj. No. 88(8) (A.C. Resurf.)

1030 PAVING
Sheet No. 10

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER HSIPX-3-6(64)--3L-09	SHEET NUMBER D.6	
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AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	BREMER COUNTY	PROJECT NUMBER	SHEET NUMBER
		Callahan \ Meise \ Coggins		HSIPX-3-6(64)--3L-09	D.7

ESTABLISHED WIDTH OF
RIGHT OF WAY _____ FT.

N.W. Cor. N.W. Wing

RI. Sta 178+29.8

S.W. Cor. S.W. Wing

Void See Sheet No. 11

MAXFIELD TWP
T.91N. R.12W.
SEC. 4

F.H. WERLING

CULTIVATED

BORROW

RT "F"

MEADOW

PASTURE

8c

ORCHARD

HERMANN
KUHLMANN

ANNA KUHLMANN

SEC. 9

Void See Sheet No. 11

BENCH MARKS

* 14 Sta 175+30 X center Rt Handrail conc Bridge 9' Rt. El 996.26
* 15 Sta 183+20 X center Rt Handrail Conc Slab Bridge 9' Rt. El 995.89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	88(B)		12	50

1930 PAVING

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	88(B)		12	74

ADOLPH LAND
AMANDA BARTELS

PASTURE
8c
TIMBER

PASTURE

PASTURE

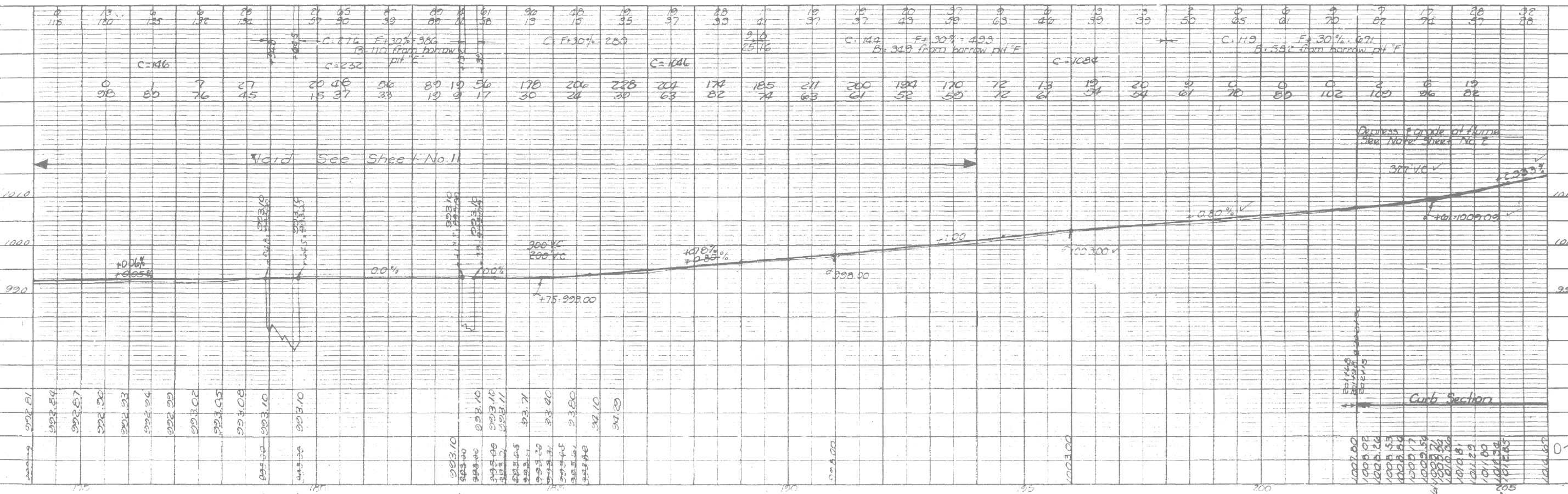
HERMAN WESTENDORF

See bridge schedule
sheet No. 2. Constructed

Sta 179+29.4
2-32' x 18' Spans
Deck Girder
Bridge, Conc
Floor
DA=31000A.F.
Resurfacing of
bridge floor to be
built as shown on
sheet No. 5

Sta 183+20.1
22' x 18' Conc Slab Br
DA=3000 Ac F.
width to 64' roadway
Omit 25.0 lin. ft. of paving
for bridge with wearing surface.
Yardage of extra width of
pavement at bridge included
in estimate = 200 Sq Yds.
See bridge schedule sheet
No. 2. Constructed

2' PREP FLUMES
TYPE "A"
Sta 202+00

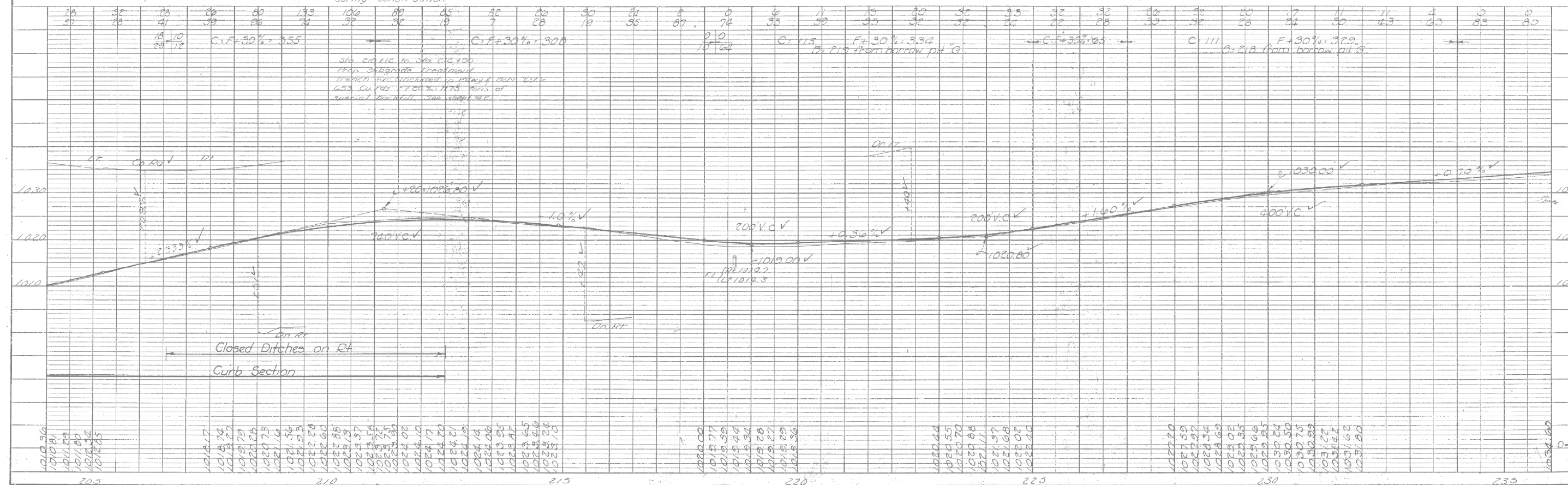
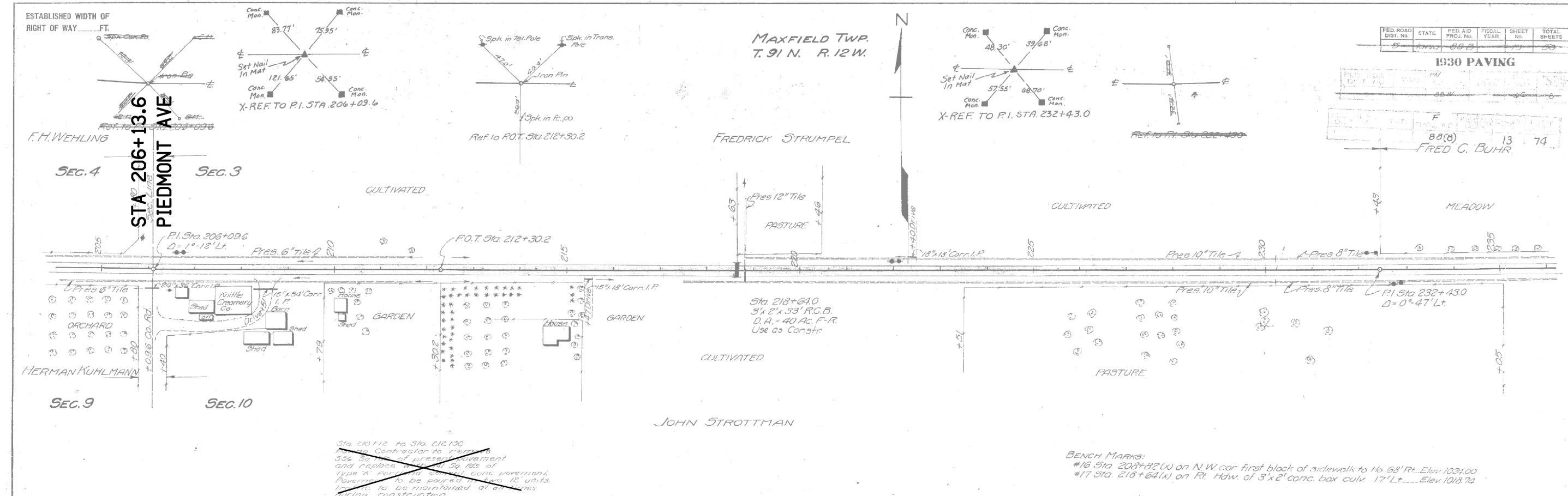


Bremer Co. F Proj. No 88(B) (A.C. Resurf.)

Sheet No. 12

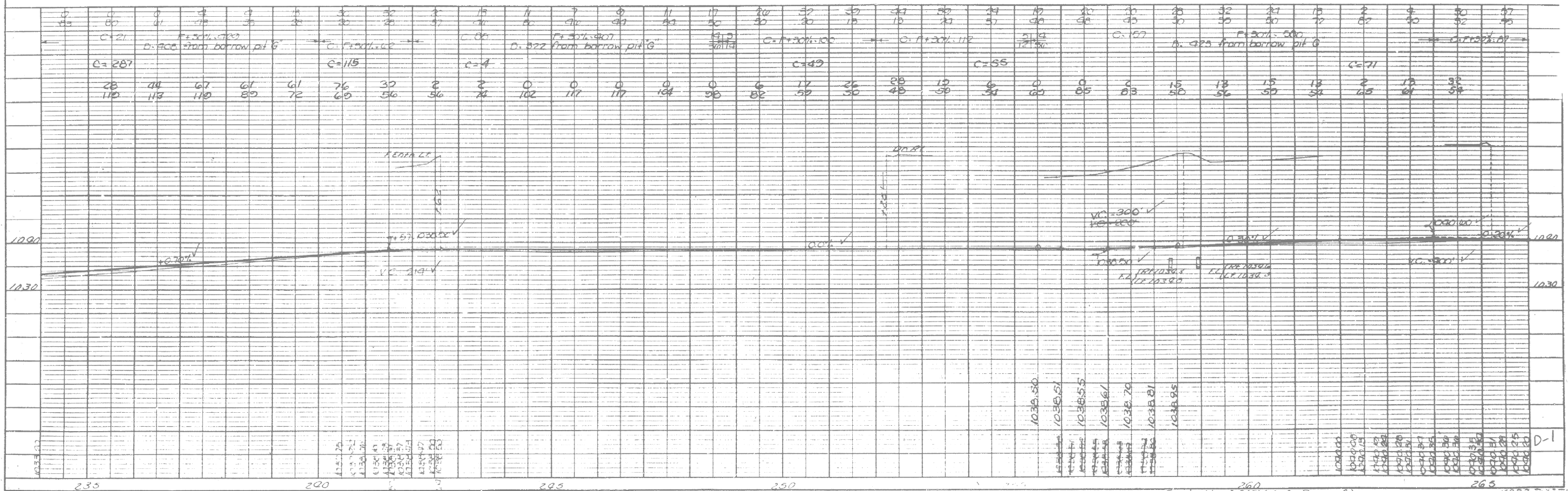
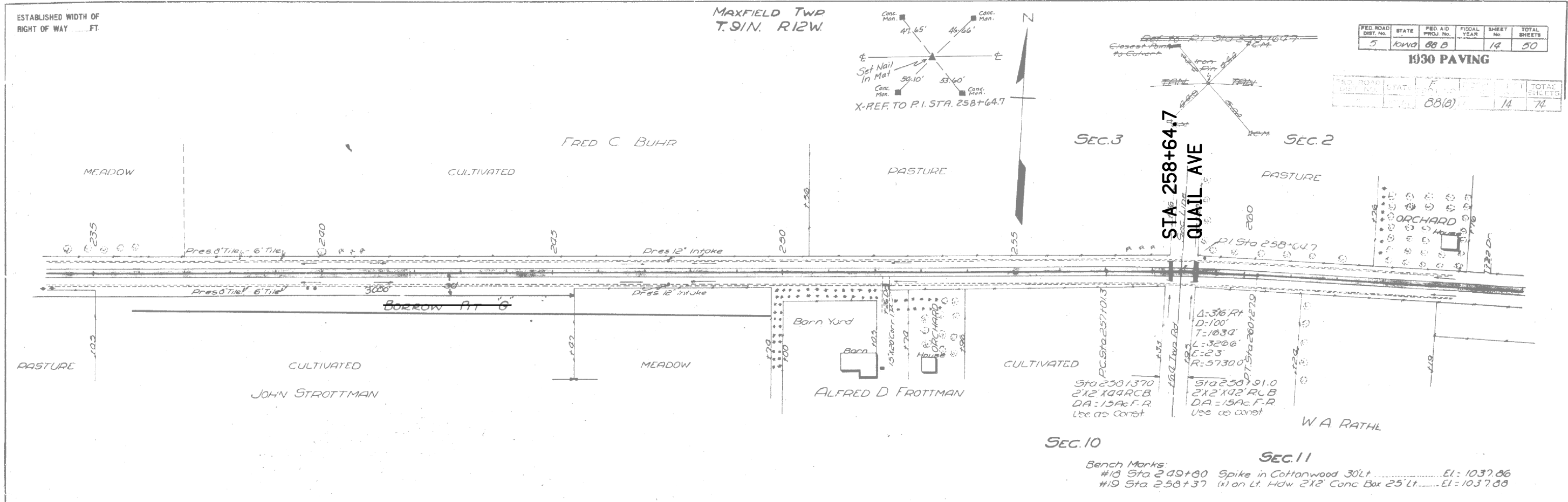
AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER	HSIPX-3-6(64)--3L-09	SHEET NUMBER	D.8
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1930 PAVING
BREMER Co. F. Proj. No. 88(8)
COUNTY, PROJ. NO. 169-8 SHEET NO. 13
A.C. RESURF.

AS-BUILT PLANS, FOR INFORMATION ONLY



Bremer Co. F Proj. No. 88(8)(A.C. Resurf) Sheet No. 14

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	BREMER COUNTY	PROJECT NUMBER	SHEET NUMBER
		Callahan \ Meise \ Coggins		HSIPX-3-6(64)--3L-09	D.10

ESTABLISHED WIDTH OF
RIGHT OF WAY.....FT.

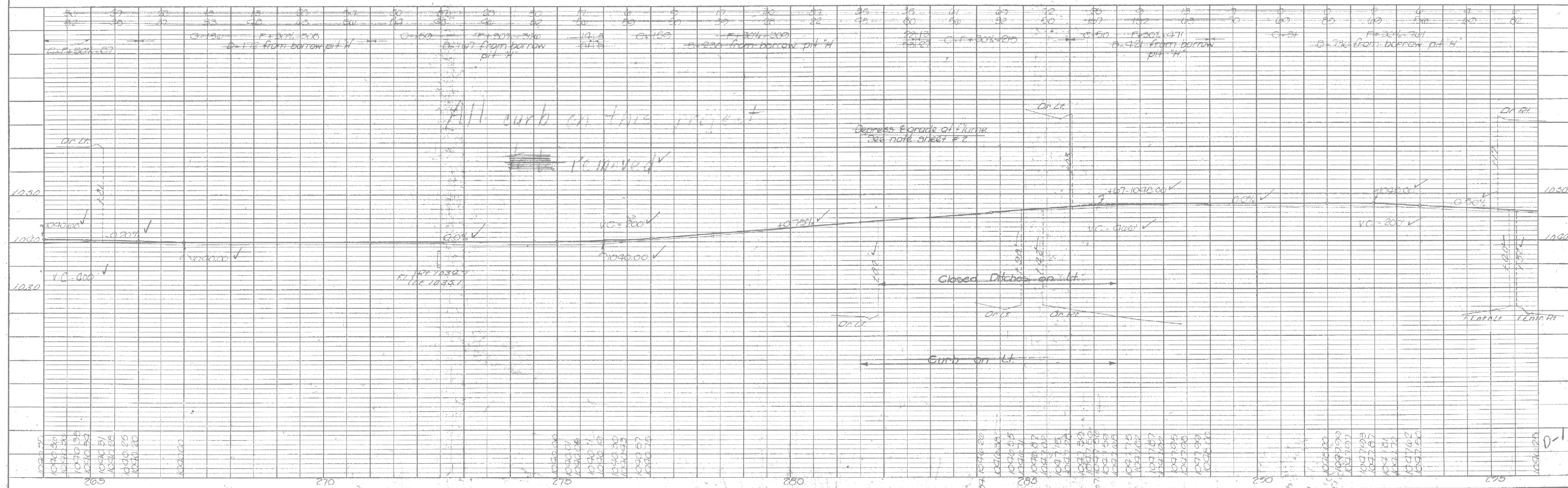
MAXFIELD TWP.
T.91N. R.12W.
SEC. 2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	INDO	88		15	59

1930 PAVING

STA EQ 270+03.3 BK=
270+00.0 AH

STA 285+38.1
QUARTER AVE



Bremer Co. F Proj. No. 88(8) (A.C. Result) Sheet No. 15 Bremer COUNTY PROJ. NO. 54-88 SHEET NO. 15

AS-BUILT PLANS, FOR INFORMATION ONLY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)		4	113

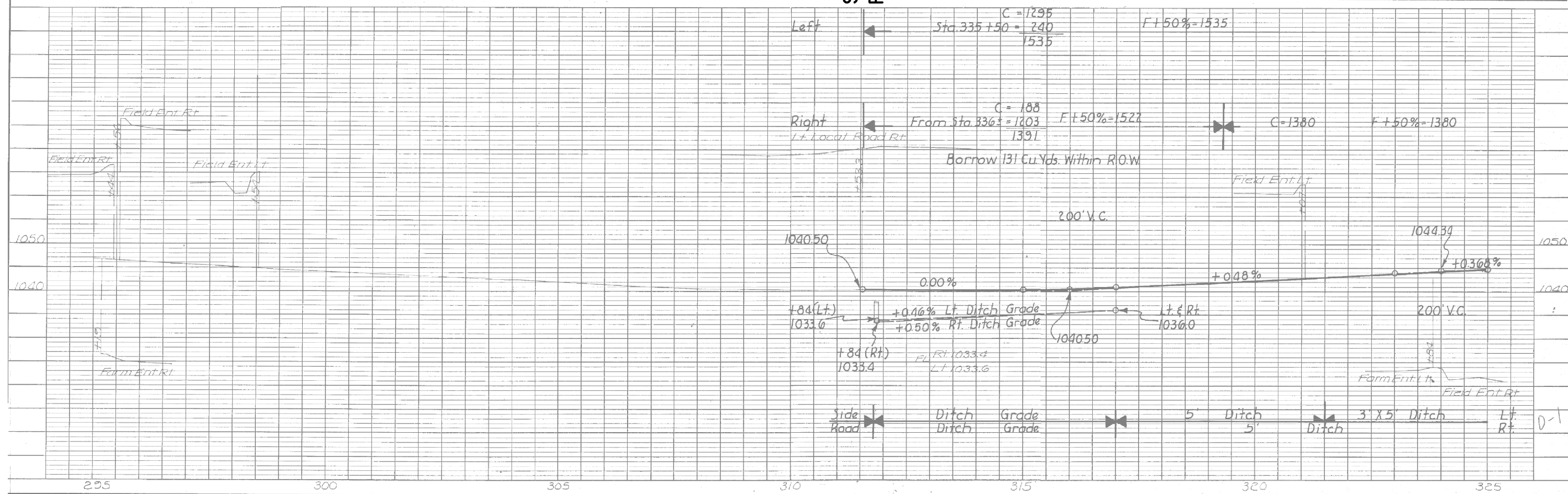
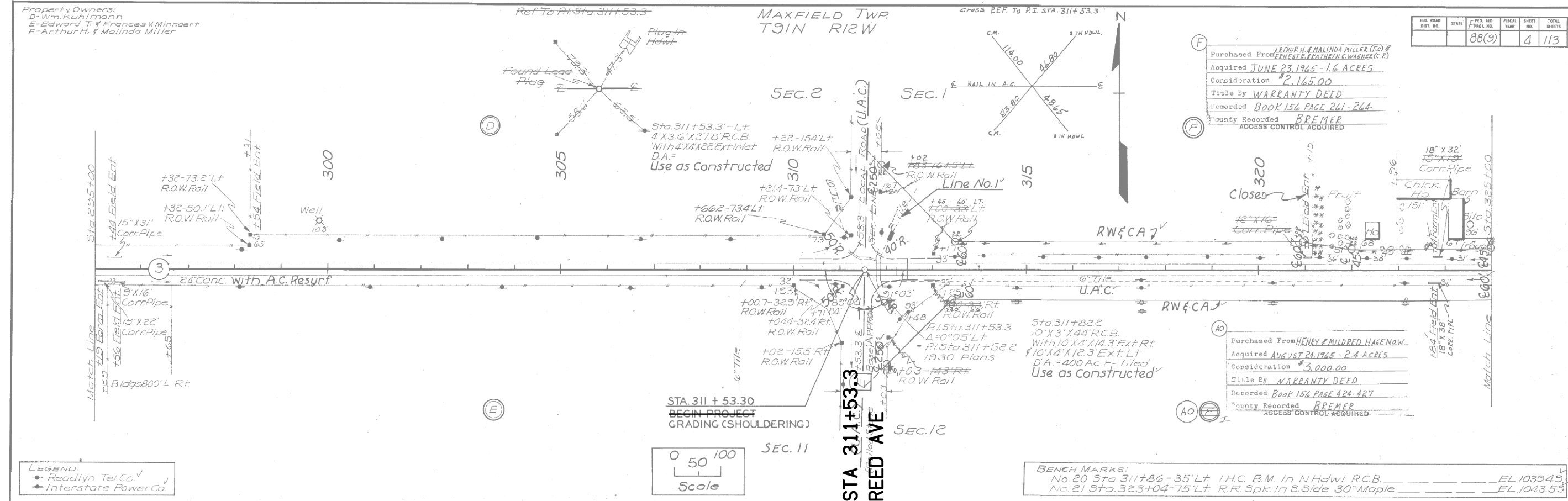


PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDAR
NO. 131 ARKWRIGHT MADE AND PRINTED IN U. S. A.

Bremer Co. F Proj. No. 88(9)

Sheet No.4

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins
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BREMER	COUNTY	PROJECT NUMBER
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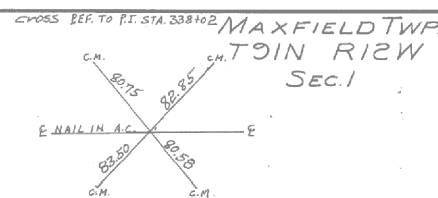
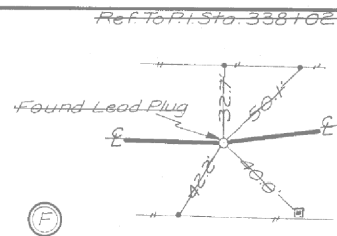
HSIPX-3-6(64)--3L-09

SHEET NUMBER	D.12
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Property Owners:
F-Arthur H. & Mollinda Miller
G-Reinhardt & Lauretta Boevers
H-Bertha Hagelow
AO HENRY & MILDRED HAGENOW

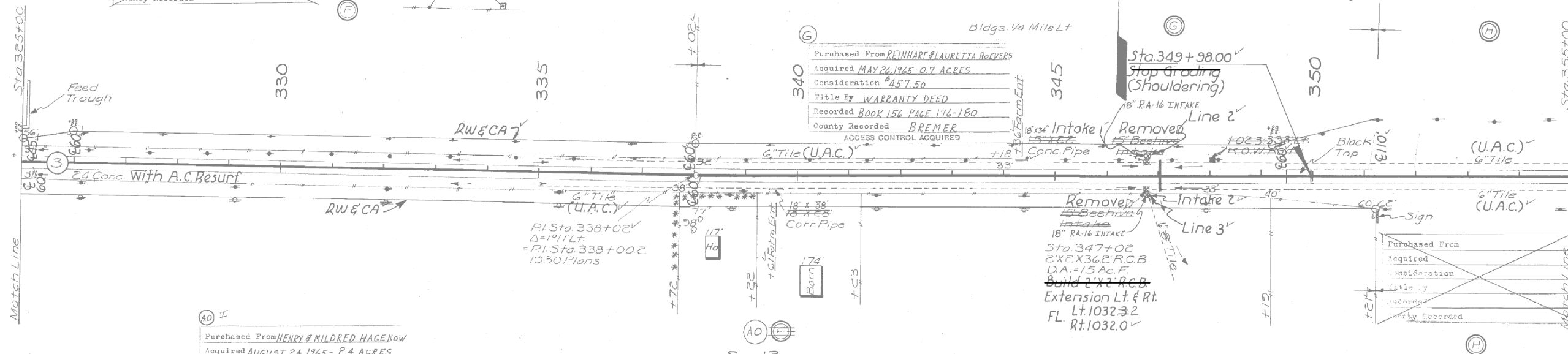
Purchased From
Acquired
Consideration
Title By
Recorded
County Recorded



MAXFIELD TWP.
T9IN R12W
SEC. 1

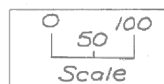
Purchased From
Acquired
Consideration
Title By
Recorded
County Recorded

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	88(9)		5	113



Purchased From HENRY & MILDRED HAGENOW
Acquired AUGUST 24, 1965 - 2.4 ACRES
Consideration \$3,000.00
Title By WARRANTY DEED
Recorded BOOK 156 PAGE 424-427
County Recorded BREMER
ACCESS CONTROL ACQUIRED

LEGEND:
• Readlyn Tel. Co.
• Interstate Po. Co.



BENCH MARKS:
Datum
No. 28 Sta. 347+02 22' Lt Found I.H.C.
= Datum B.M. # 22-19-58 Survey

EL. 1035.64
EL. 1035.96

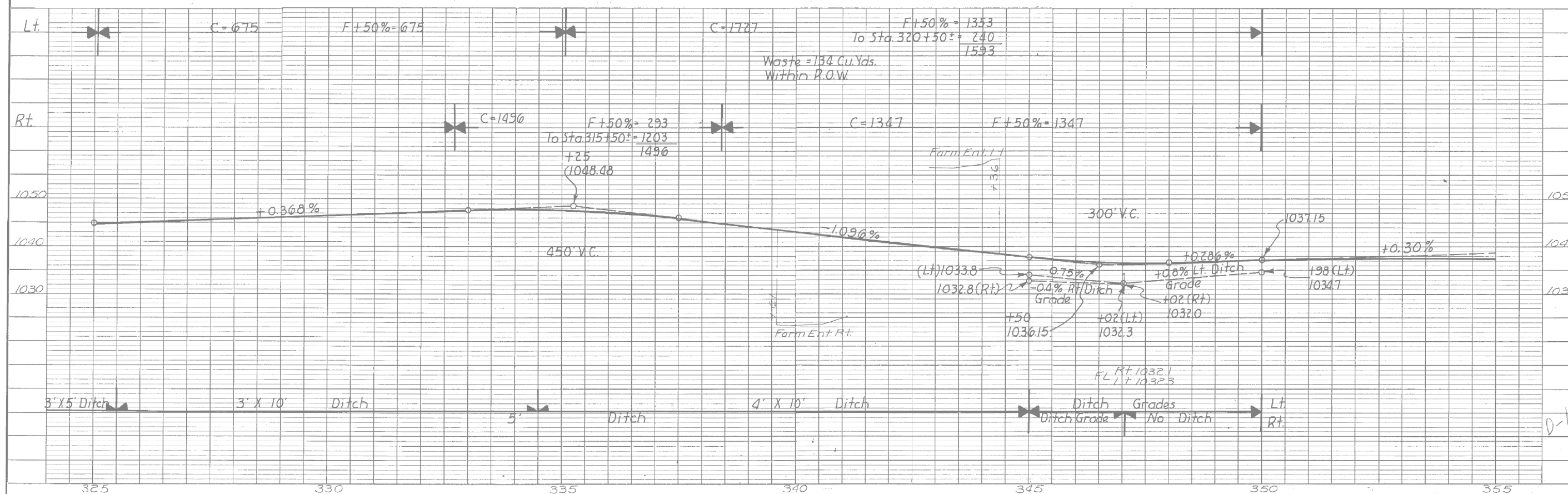


PLATE 1—PLAN-PROFILE OF P. R. & E. STANDARD
NO. 131 JENKINS MADE AND PRINTED IN U. S. A.
EUGENE SHETZGEN CO., CHICAGO

Bremer Co. F Proj. No. 88 (9) Sheet No. 5

AS-BUILT PLANS, FOR INFORMATION ONLY

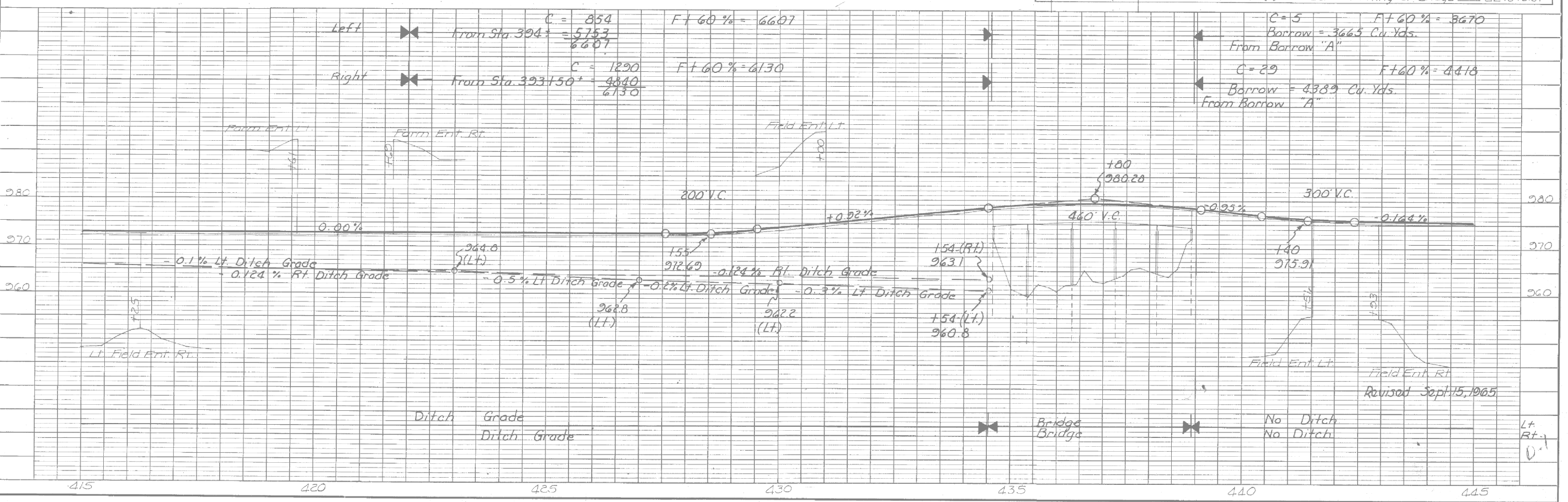
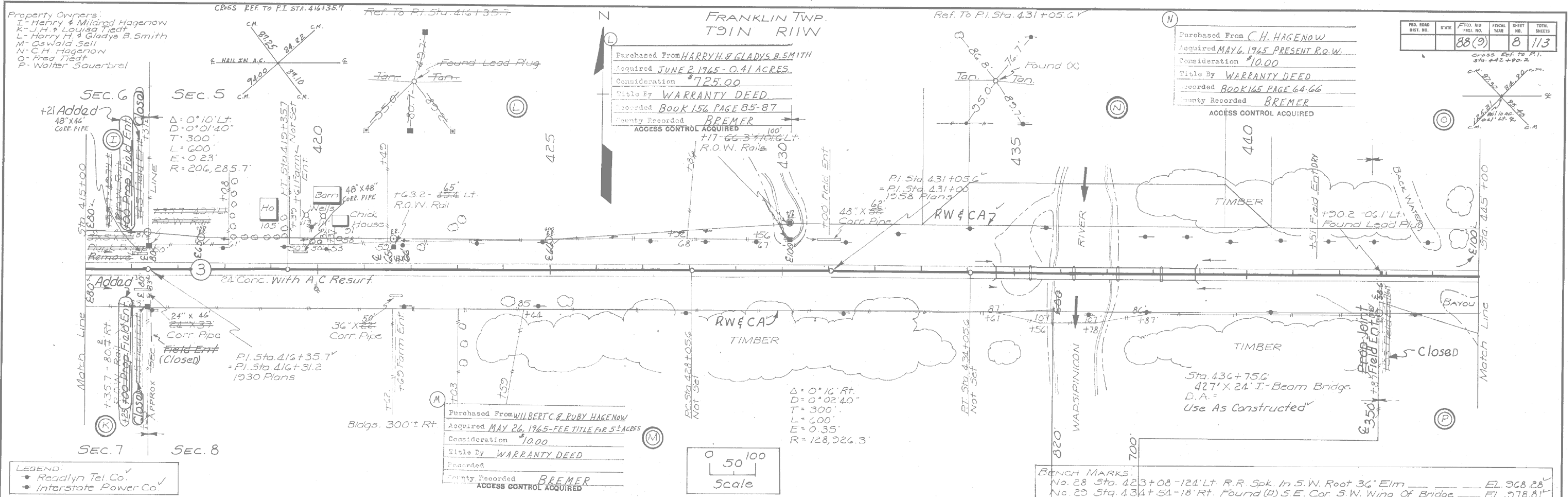


PLATE 1—PLAN PROFILE OF P. R. & R. E. STANDARD
 NO. 131 ARK. WRIGHT MADE AND PRINTED IN U. S. A.
 EUGENE DIETZEN CO., CHICAGO

Bremer Co. F Proj. No. 88(9) Sheet No. 8

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
O-Fred Tiedt
P-Walter Sauerbrel
S-Michael J. Roester
R-Jack Ohl
S-H.F. Meier
T-Otto & Clara Bast
U-Burman Knight

Purchased From **HARRY TIEDT**
Acquired **MAY 6, 1965** PRESENT R.O.W.
Consideration **10.00**
Title By **WARRANTY DEED**
Recorded **BOOK 156 PAGE 88-90**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

FRANKLIN TWP.
T91N R11W
Purchased From **OTTO AND CLARA BAST**
Acquired **MAY 13, 1965** 1.60 ACRES R.O.W.
Consideration **2,202.50**
Title By **WARRANTY DEED (P.O.W.)**
Recorded **BOOK 156 PAGE 87-88** WARRANTY DEED
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		88(9)	9	113	

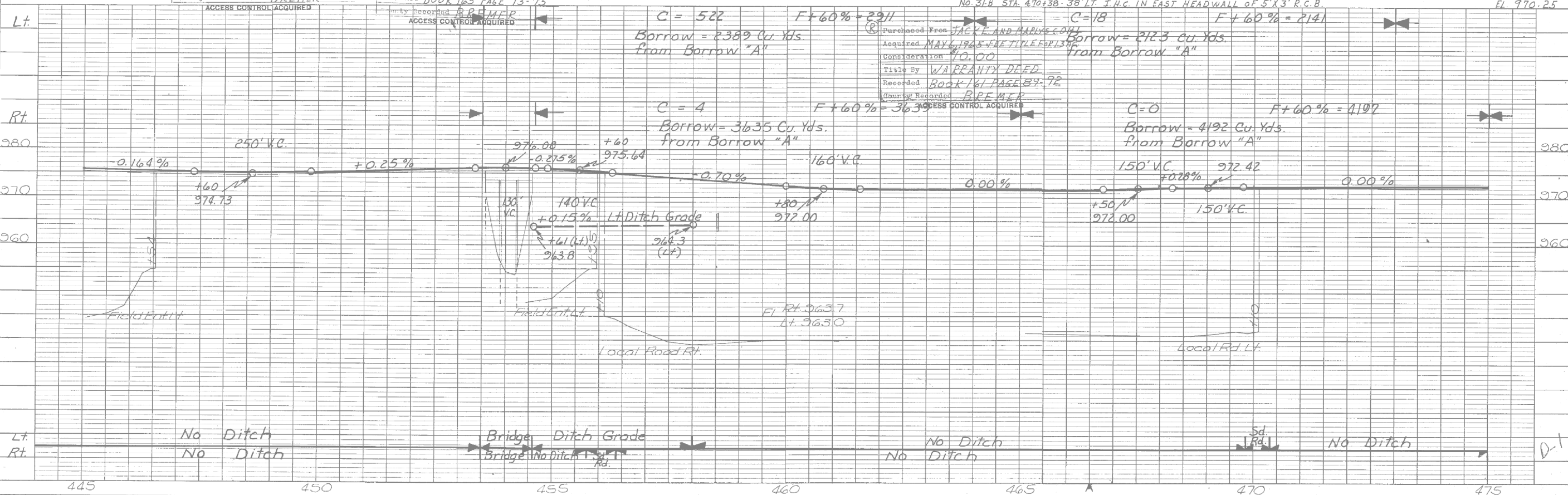
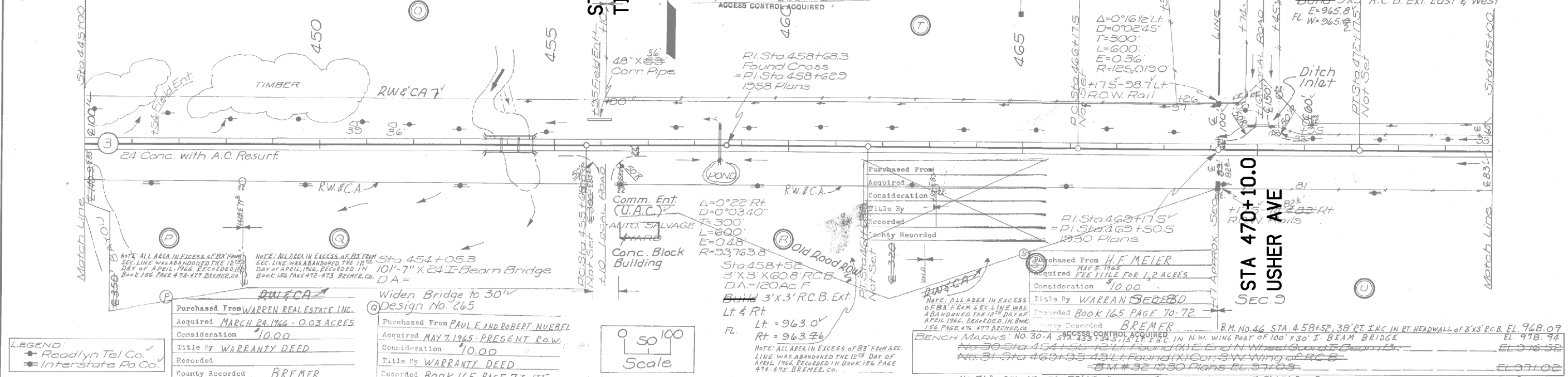


PLATE 1-PLAN-PROFILE O. P. R. & R. E. STANDARD
NO. 131 ARK. MICH. MADE AND PRINTED IN U. S. A.
EUREKA DISTRICT CO., CHICAGO

Bremer Co. F Proj. No. 88(9) Sheet No. 9

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	BREMER COUNTY	PROJECT NUMBER	SHEET NUMBER
9:25:50 AM 11/9/2016	tmeise	Callahan \ Meise \ Coggins		HSIPX-3-6(64)--3L-09	D.17

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Property Owners:
T-Otto & Clara Bast
U-Burman Knight
V-Arnold Platte
W-Arlen R. & Donna M. Brickman
X-Martha B. Rervoldt

Purchased From OTTO AND CLARA BAST
Acquired MAY 13, 1965 1.40 ACRES (R.O.W.)
Consideration \$202.50
Title By WARRANTY DEED (P.O.W.)
Recorded Book 156 PAGE 159-161 WARRANTY DEED
County Recorded BREMER
ACCESS CONTROL ACQUIRED

Purchased From ARLEN R. & DONNA M. BRICKMAN
Acquired MAY 5, 1965 0.7 ACRES
Consideration \$275.00
Title By WARRANTY DEED
Recorded Book 151 PAGE 526-530
County Recorded BREMER
ACCESS CONTROL ACQUIRED

Purchased From BURMAN KNIGHT
Acquired MAY 6, 1965 PRESENT R.O.W.
Consideration \$0.00
Title By WARRANTY DEED
Recorded Book 165 PAGE 67-69
County Recorded BREMER
ACCESS CONTROL ACQUIRED

Purchased From ARNOLD & ERNA PLATTE
Acquired MAY 13, 1965 0.84 ACRES
Consideration \$1,891.00
Title By WARRANTY DEED
Recorded Book 156 PAGE 82-84
County Recorded BREMER
ACCESS CONTROL ACQUIRED

LEGEND:
• Ready Int'l. Co.
• Interstate P.O. Co.

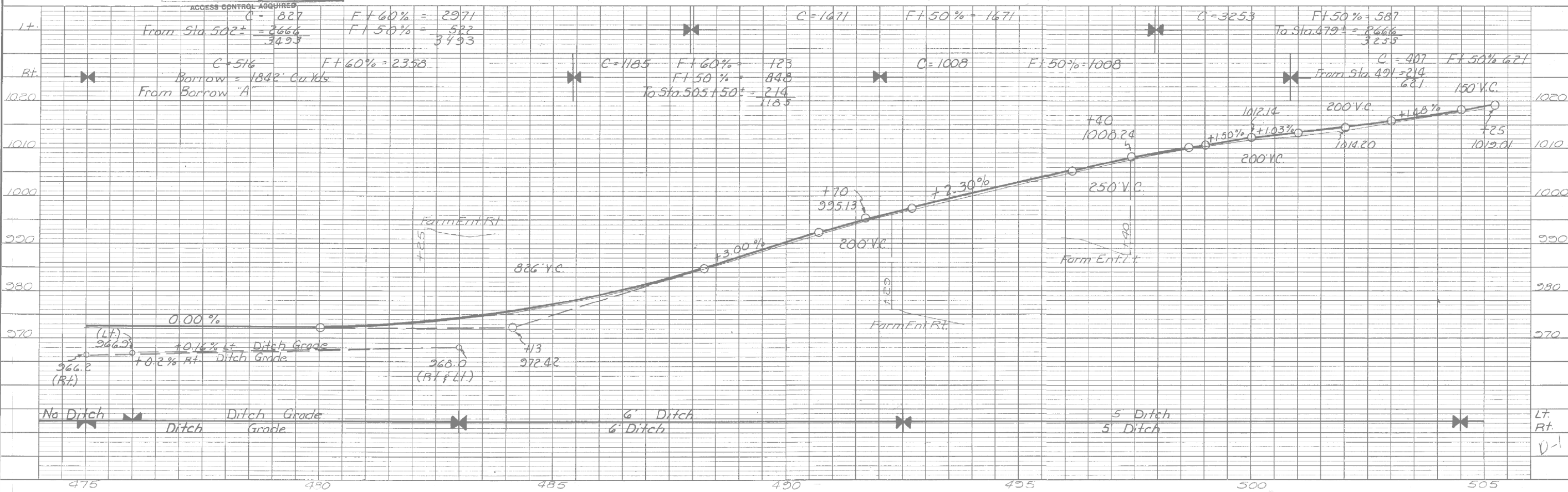


PLATE 1—PLAN—PROFILE O. P. & R. E. STANDARD
NO. 131 ARK. WRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIEHLER CO., CHICAGO

Bremer Co. F Proj. No. 88(9)

Sheet No. 10

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Callahan \ Meise \ Coggins	BREMER COUNTY	PROJECT NUMBER	HSIPX-3-6(64)--3L-09	SHEET NUMBER	D.18
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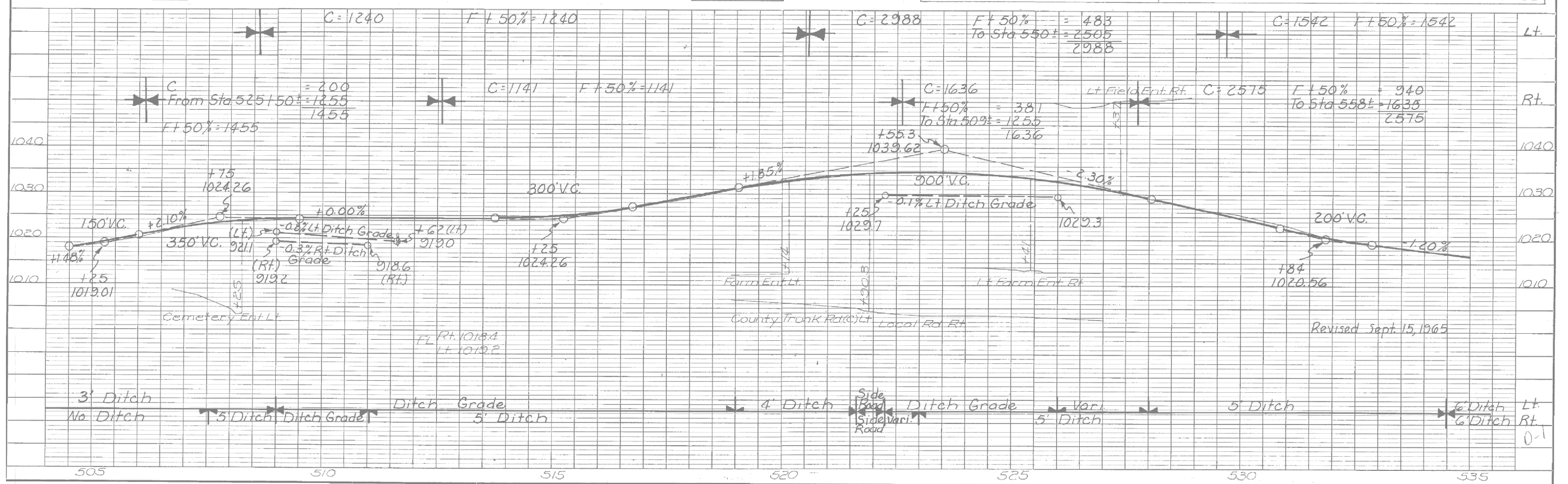
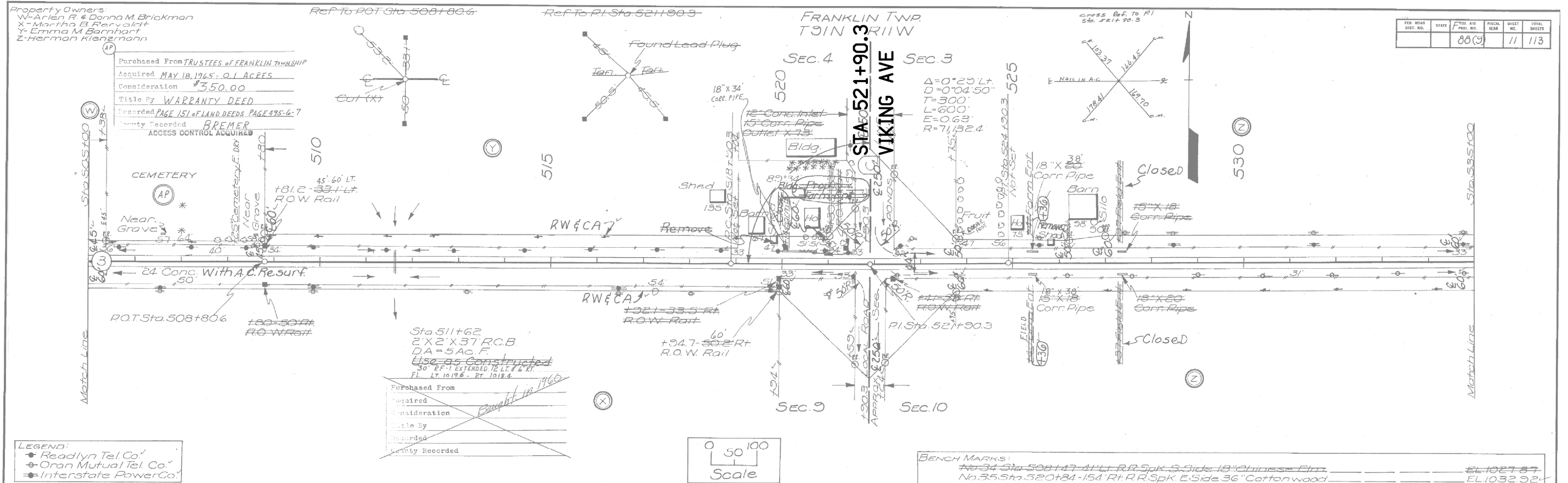


PLATE 1--PLAN PROFILE OF P. R. & R. L. STANDARD
NO. 131 ARKOWRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIEZEL CO., CHICAGO

Bremer Co. F Proj. No. 88(9)

Sheet No. 11

AS-BUILT PLANS, FOR INFORMATION ONLY

Property Owners:
Z-Herman Klenzmann
AA-Fritz W. & Nannie M. Diers
AB-Esther & Wilbert Wedemeyer
AC-William Bau

Purchased From FRITZ W. AND NANNIE M. DIERS
Acquired MAY 20, 1965 - 0.05 ACRES
Consideration \$78.00
Title By WARRANTY DEED (UNSIGNED)
Recorded Book 170 PAGE 538-539
County Recorded BREMER
ACCESS CONTROL ACQUIRED

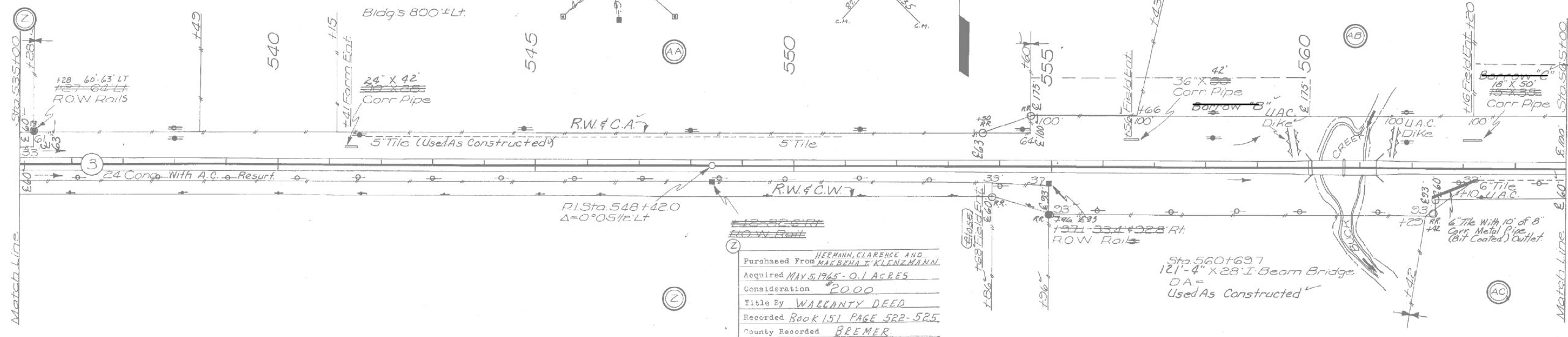
Ref. To P.I. Sta. 548+42.0

FRANKLIN TWP.
T9IN RIW

SEC. 3
CROSS REF. TO P.I. STA. 548+42.0
CM. 32.10 35.47
CM. 97.05 21.35

Purchased From ESTHER & WILBERT WEDEMEYER
Acquired MAY 26, 1965 - 1.6 ACRES (BORROW)
Consideration \$2,124.50
Title By WARRANTY DEED (B-BOR)
Recorded Book 156 PAGE 194-195 (WARRANTY DEED)
County Recorded BREMER
ACCESS CONTROL ACQUIRED

FILE NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
88(9)			12	113



LEGEND:
-o- Oran Mutual Tel. Co.
-x- Interstate Po. Co.

0 50 100
Scale

SEC. 10

BENCH MARKS:
No. 36 Sta. 541+30-64 Lt. R.R. Spk. S. Side Po. Pole EL 1006.54'
No. 37 Sta. 560+07-16 Lt. Found (X) N.W. Wing Br. EL 1004.82'

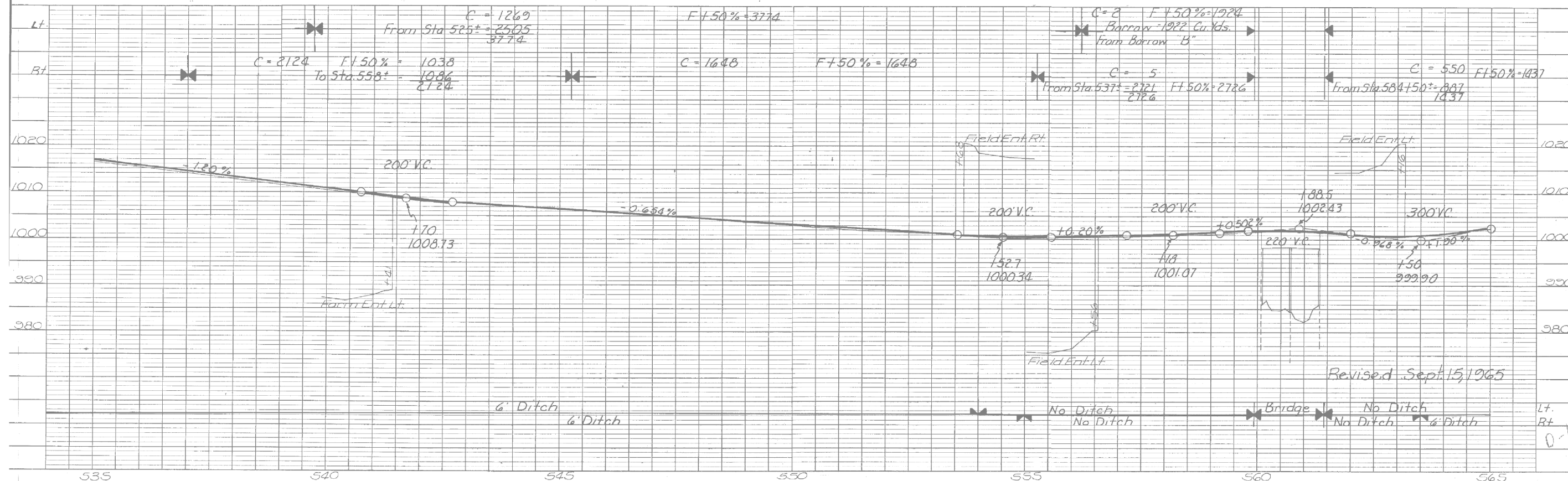


PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD
NO. 131 ARK. WRIGHT MADE AND PRINTED IN U. S. A.
PUBLISHED BY THE ARK. WRIGHT CO.

Bremer Co. F Proj. No. 88(9)

Sheet No. 12

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	BREMER COUNTY	PROJECT NUMBER	SHEET NUMBER
		Callahan \ Meise \ Coggins		NHSX-3-6(64)--3H-09	D.20

Property Owners:
AB-Esther & Wilbert Wedemeier
AC-William Beu
AD-Kenneth R. & Carlene C. Werner

Cross Ref To PI Sta. 574+85.2

Ref To PI Sta. 574+85.2

FRANKLIN TWP
TOWN R/W

Ref To PI Sta. 587+87.8

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
88(9)	13	113		

Purchased From KENNETH R. AND CARLENE C. WERNER
Acquired JUNE 14, 1965 - 1.16 ACRES
Consideration \$906.50
Title By WARRANTY DEED
Recorded Book 156 PAGE 252-257
County Recorded BREMER
ADDRESS CONTROL ACQUIRED

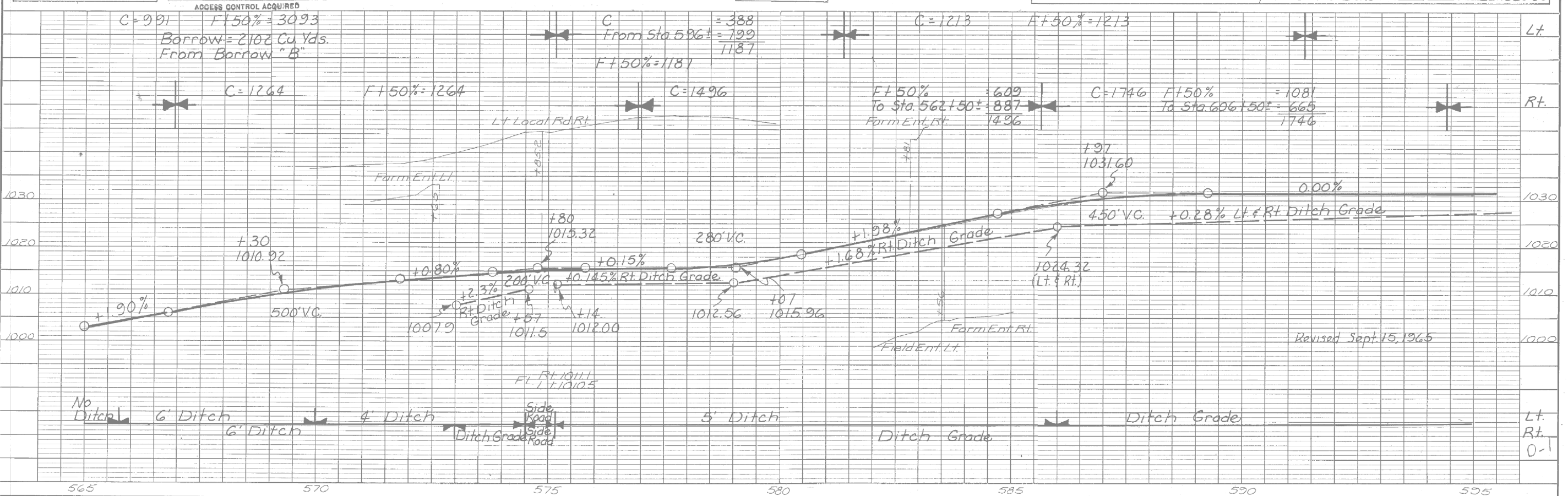
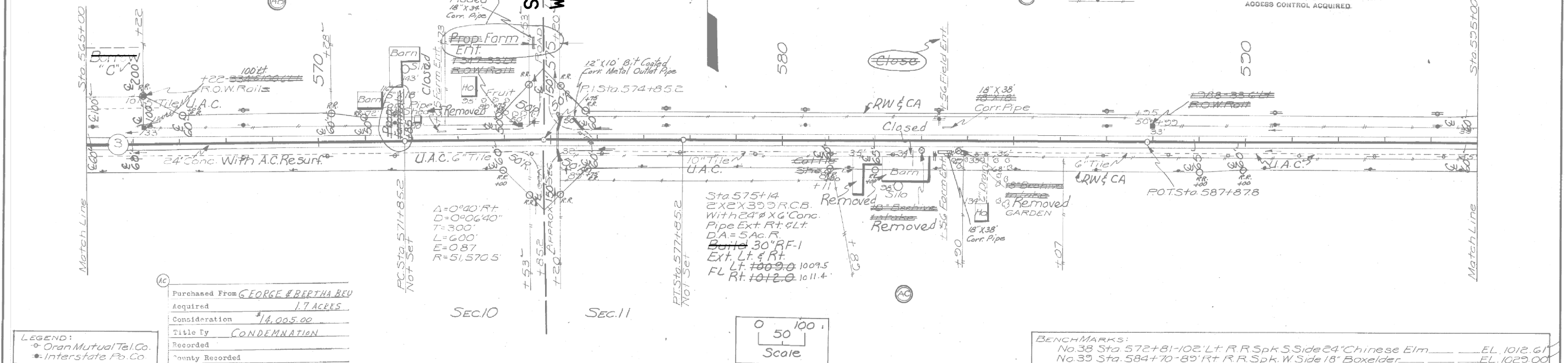


PLATE 1—PLAN—PROFILE D. P. R. & R. E. STANDARD
NO. 131 AIRWRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIETZEN CO., CHICAGO

Bremer Co. F Proj. No. 88(9)

Sheet No. 13

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	BREMER COUNTY	PROJECT NUMBER	SHEET NUMBER
9:26:05 AM 11/9/2016	tmeise	Callahan \ Meise \ Coggins		NHSX-3-6(64)--3H-09	D.21

Property Owners:
AC-William Beu
AD-Kenneth R. & Carlene
AE-Fred Westendorff
AF-A.D. Donnell
AG-Leo & Anna Heineman
AH-Emil C. & Elsie Krieb

GROSS REF. TO P.I. STA. 601+28.6

Ref. To P.I. Sta. 601+28.6

FRANKLIN TWP
T9IN RIW
SEC. 2

Ref. To P.O.T. Sta. 614+65.5

FILE NO.	STATE	FED. AID	FISCAL	SHEET	TOTAL
88(9)				14	113

Purchased From **LEO AND ANNA HEINEMAN**
Acquired **MAY 20, 1965 - 0.8 ACRES**
Consideration **\$450.00**
Title By **WARRANTY DEED**
Recorded **Book 151 of LAND DEEDS, PAGE 472-3-4**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

Purchased From **FRED WESTENDORFF (F.O.) AND DARELE & ALICE SEEDORFF (C.P.)**
Acquired **JUNE 9, 1965 - 0.7 ACRES**
Consideration **\$2,000.00**
Title By **WARRANTY DEED**
Recorded **Book 156 PAGE 193-195**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

Purchased From **A.D. DONNELL (F.O.) AND HARVEY L. & JANET L. PRICE (C.P.)**
Acquired **JUNE 14, 1965 - 0.82 ACRES**
Consideration **\$451.50**
Title By **WARRANTY DEED**
Recorded **Book 156 PAGE 156-158**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

Purchased From **EMIL C. AND ELSIE KRIEB**
Acquired **JUNE 15, 1965 - 1.4 ACRES (2.0 ACRES)**
Consideration **\$3,764.00**
Title By **WARRANTY DEED**
Recorded **Book 156 PAGE 145-147**
County Recorded **BREMER**
ACCESS CONTROL ACQUIRED

LEGEND:
-Oran Mutual Tel. Co.
-Interstate Power Co.

0 50 100
Scale

BENCH MARKS:
No. 40 Sta. 604+45-62 Lt. R.R. Spk. in S. Root 32" Maple EL 1036.87

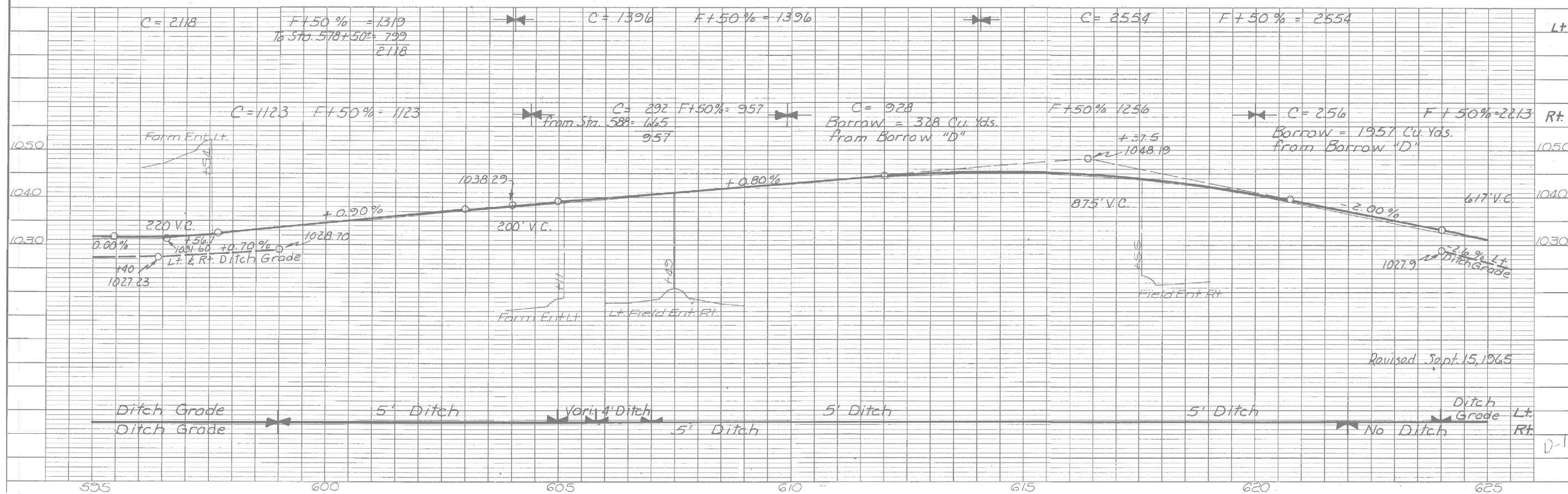


PLATE 1-PLAN PROFILE O. P. R. & R. E. STANDARD
NO. 131 APPROVED AND PRINTED IN U. S. A.

Bremer Co. F Proj. No. 88 (9)

Sheet No. 14

AS-BUILT PLANS, FOR INFORMATION ONLY

Survey Information

Bremer County
HSIPX-003-6(064)—3L-09
IA 3 near Readlyn
PIN 15-09-003-020
Sap-848.1

Party Personnel

Miranda Eilders- Party Chief
Chuck Scholl- Assistant Construction Tech

Date(s) of Survey

Begin Date 12/07/2015
End Date 05/17/2016

General Information

Measurement units for this survey are US survey feet. This survey is for proposed turn lanes at 3 locations. Project datum and control information is provided by Design Survey Office. This project is a Full DTM. This survey request was for the IA 3 corridor only.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pt. Base20 by averaging a minimum of five observations with appropriate time spans between from nearby Iowa RTN reference at 95% confidence level (2 sigma). Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pt. Base20. A minimum of three observations with appropriate time spans between were collected. The vertical standard deviation of these observations was less than 0.08 ft. at 95% confidence level (2 sigma).

Horizontal Control

The project coordinate system is IaRCS Zone 5 (U.S. Survey Feet) scaled around Pt. 20 at 8923672.614 N, 15512425.043 E, 1034.556 EL. Horizontal datum is NAD83 (2011) for Epoch 2010.00. Coordinates were determined by averaging a minimum of five IaRTN observations with appropriate time spans between. The horizontal standard deviation of these observations was less than 0.058 ft. at 95% confidence level (2 sigma). Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 20 A minimum of three observations with appropriate time spans between were averaged. The horizontal standard deviation of these observations was less than 0.034 ft. at 95% confidence level (2 sigma).

Alignment Information

The horizontal alignment ML3 for this survey is a retrace of Grading (Shouldering) F-3-6(1)—20-9 & Proj. No 88(9). Survey stationing was equated to the plan PI at STA. 285+38.1 and run ahead and back without equation.

Survey stationing relates to Grading plan stationing as follows:

PI Sta. 258+67.85 Grading (Shouldering) F-3-6(1)—20-9 NOTE: EQ. on plan @ 270+03.3 = 270+00

Survey PI Sta. 258+63.92

PI Sta. 285+38.1 Grading (Shouldering) F-3-6(1)—20-9
Survey PI Sta. 285+38.1

PI Sta. 311+53.3 Grading (Shouldering) F-3-6(1)—20-9
Survey PI Sta. 311+53.88

PI Sta. 338+02 Grading (Shouldering) Proj. No. 88(9)
Survey PI Sta.338+01.47

ML3A for this survey is a retrace of Grading (Shouldering) Proj. No. F-88(9). Survey stationing was equated to the plan PI at STA 521+90.3 and run back and ahead without equation throughout the survey.

Survey stationing relates to Grading plan stationing as follows:

PI Sta. 495+67.2 Grading (Shouldering) Proj. No. 88(9)
Survey PI Sta. 495+68.12

PI Sta. 521+90.30 Grading (Shouldering) Proj. No. 88(9)
Survey PI STA 521+90.30

PI STA 548+42.0 Grading (Shouldering) Proj. No. 88(9)
Survey PI STA 548+41.9

Utility Information

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark abbreviations

QLA – Quality Level A Highest guideline quality level

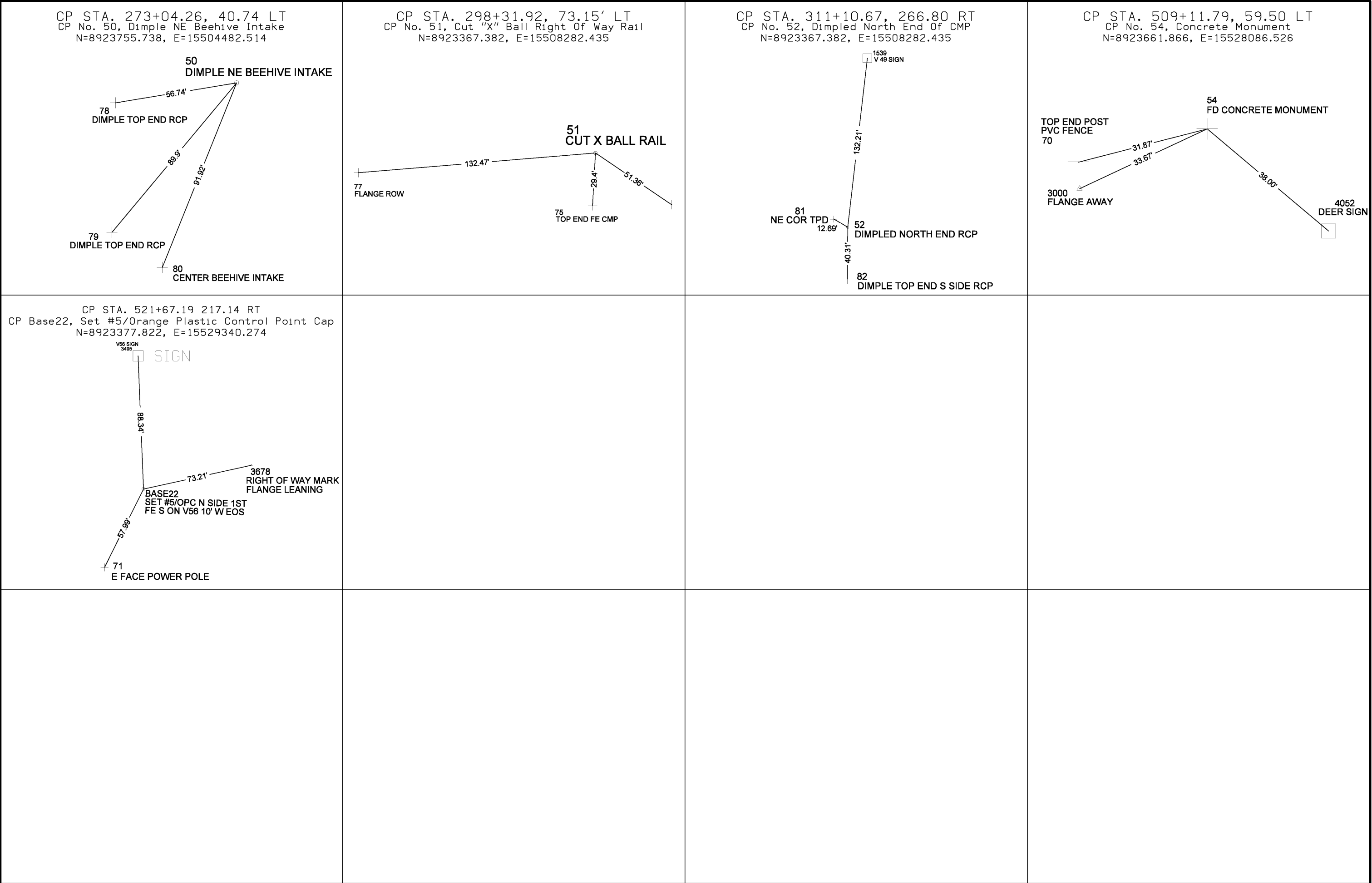
QLD – Quality Level D Lowest guideline quality level

A One-call utility locate request (Ticket# 161050311) was made April 14th,2016. A One-call utility locate request (Ticket # 161050481) on April 14th, 2016. A One-call utility locate request (Ticket # 161050270) was made April 14th, 2016. The following Companies were listed:

Company (Quality)	Symbol	Remark
Alliant (QLD)	PPA	Power Poles both sides of IA 3
Alliant Energy (QLD)	EL1D	Buried Electrical Line
Black Hills Energy (QLD)	GL1D	Underground Gas Line
Readlyn Tel. Comp (QLD)	TL1D	Buried Communication
Mediacom (QLD)	FOA	Buried Telephone Line
Oran Mutual Tel. (QLD)	TL2D	Buried Telephone
Central Iowa Water (QLD)	WL1D	Buried Water Line

VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
BASE20	8923672.614	15512425.044	1034.556	Off Chain	Off Chain	BASE	NAIL SET E SIDE FE CALC USING 7 RTN SHOTS
BASE22	8923377.822	15529340.274	1031.215	521+67.19	217.142	CP	SET #5/OPC N SIDE 1ST FE S ON V56 10' W EOS



[illegible]

108-23A 08-01-08 TRAFFIC CONTROL PLAN
1) Traffic shall be maintained on the project at all times.

108-26A 08-01-08 STAGING NOTES
Quantities reflect shoulder strengthening and bridge approach work beginning prior to pavement widening.

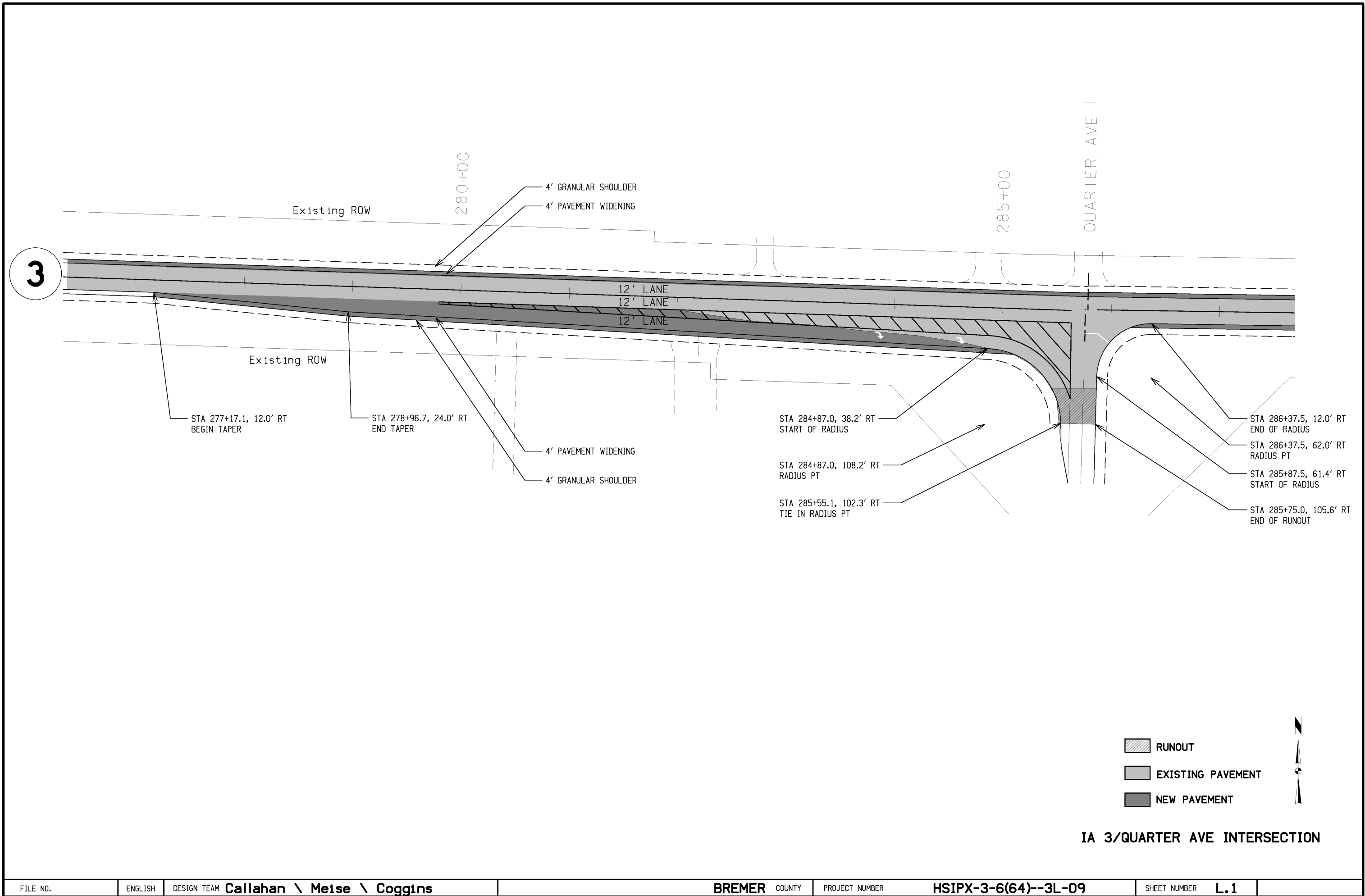
111-01
04-17-12

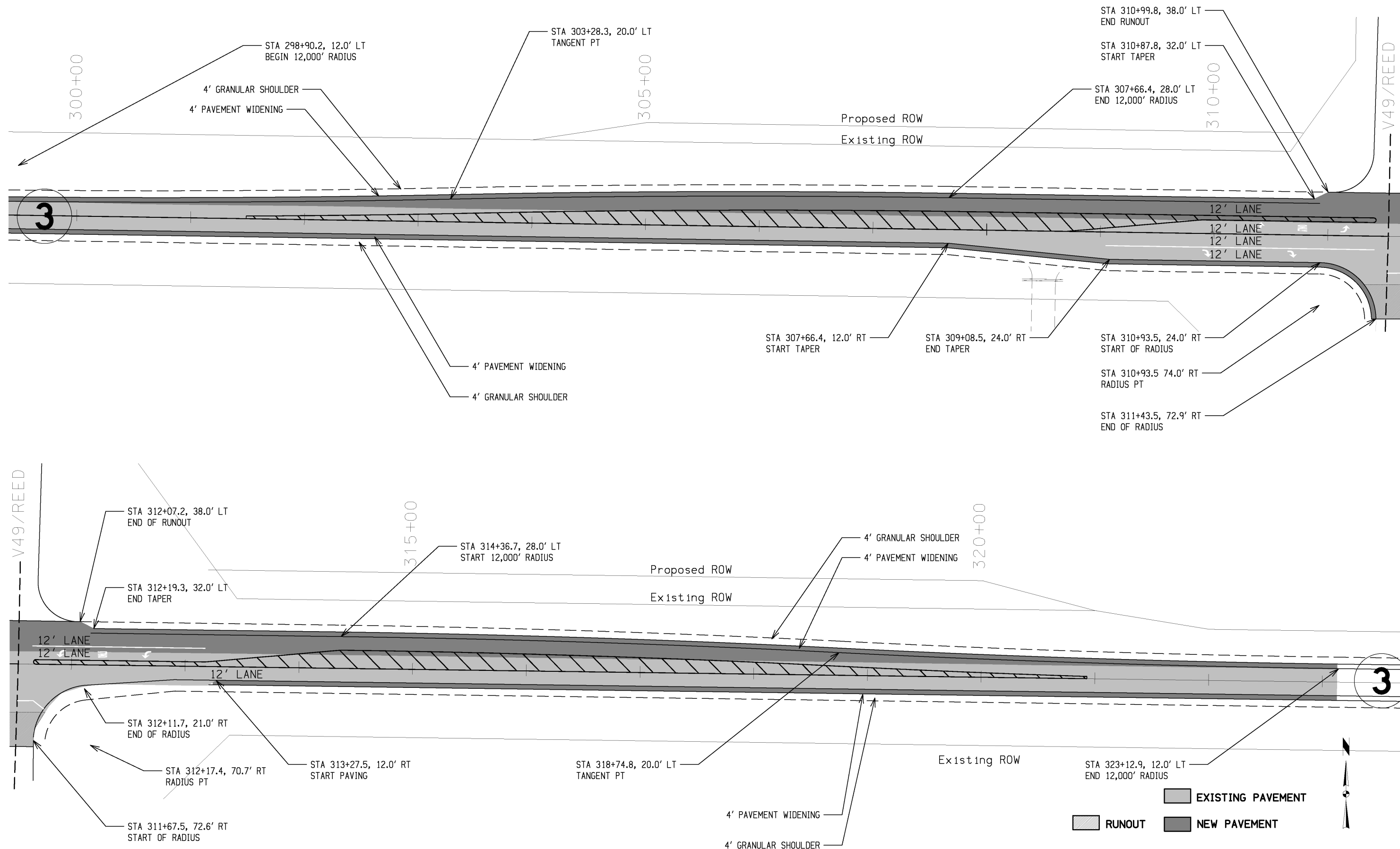
COORDINATED OPERATIONS	
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.	
Project	Type of Work
To be discussed at Precon.	
MP-63-2(709)177-76-99	HMA Milling and Resurfacing

108-25 10-21-14												
511 TRAVEL RESTRICTIONS												
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 3	EB	Bremer	At maintenance bridge No. 0936.25003		Traffic Control Device	N/A	Horizontal	N/A		N/A	N/A	
IA 3	EB	Bremer	At maintenance bridge No. 0937.15003		Traffic Control Device	N/A	Horizontal	N/A		N/A	N/A	

NO.	Description	Project Quantities	Unit	Total
113	HMA HT Surface, 1/2" Friction HL-4	2303-1043504	Tons	751.8
114	Asphalt Binder, PG58-28H	2303-1258284	Tons	93.07
115	Bridge End Drain, DR-401	2503-0500401	Each	3
116	Removal of Steel Beam Guardrail	2505-4008120	Linear Feet	250.5
117	Steel Beam Guardrail	2505-4008300	Linear Feet	25
118	Steel Beam Guardrail Bar Transition Section, BA-201	2505-4008410	Each	2
119	Steel Beam Guardrail End Anchor, Bolted	2505-4021010	Each	2
120	Steel Beam Guardrail Tightened End Terminal, BA-205	2505-4021720	Each	2
121	Removal of Pavement	2510-6745850	Square Yards	60
122	Construction Survey	2526-8285000	Lump Sum	0
123	Painted Pavement Markings, Waterborne/Solvent	2527-9263109	Stations	230.46
124	Traffic Control	2528-8445110	Lump Sum	1.0
125	Patch,Full Depth Finish,By Area	2529-5070110	Square Yards	53.4
126	Patch,Full Depth Finish,By Count	2529-5070120	Each	4.0
127	Subbase Patch W/EF Joint	2529-8174020	Square Yards	53.4
128	Patch Subdrain	2529-8174050	Each	0
129	Joint Assembly,EF	2529-8201000	Each	4
130	Mobilization	2533-4980005	Lump Sum	1.0
131	Silt Fence	2602-0000020	Linear Feet	0
132	Removal of Silt Fence/Silt Fence-Ditch Checks	2602-0000071	Linear Feet	0
				1

NO.	Description	Contract Modifications	Unit	Total
1325	Culvert Corrugated Metal Pipe, 48" (64)	2417-1040048	Linear Feet	64.0
1330	Price Adjustment\Non-Complying Traffic Control	6200-5000081	Each	11500.00
1335	Dust Control Surface Treatment (64)	2314-8237000	Stations	42.5
1350	EWOTraffic Control Patches (64)	6100-2528035	Each	1320.00
1355	EWOMobilization,Additional Patches (64)	6100-2533010	Each	4180.00
1360	(Lump Sum Item) Milling Expenses Incurred	2599-9999010	Lump Sum	1
1365	HMA ST Intermediate 1/2" (Used as Base Mix)	2303-1032500	Tons	2505.72
1370	Flowable Mortar (64)	2506-4984000	Cubic Yards	2.0
1375	Flowable Mortar (709)	2506-4984000	Cubic Yards	14.0
1380	(Lump Sum Item) Drilling Holes (709)	2599-9999010	Lump Sum	1
1385	EWOMobilization, Additional Flowable Mortar (709)	6100-2533010	Each	1
1390	Milled Centerline Rumble Strip HMA Surface (64)	2548-0000310	Stations	674.0
1395	EWOTraffic Control Centerline Rumble Strips (64)	6100-2528035	Each	3520.0
1400	EWOMobilization, Additional Centerline Rumble Strips (64)	6100-2533010	Each	3300.0
1405	(Lump Sum Item) Dewatering Pipe Cost (64)	2599-9999010	Lump Sum	1
				1





IA 3/V49/REED AVE INTERSECTION

