LETTING DATE 4/19/2022

HMA Resurfacing

Allamakee COUNTY STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03

IOWA DOT

REVISIONS

TOTAL 61
PROJECT IDENTIFICATION NUMBER
21-03-076-030
PROJECT NUMBER
STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03
R.O.W. PROJECT NUMBER

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

Allamakee COUNTY

HMA Resurfacing

Clayton County Line north to 0.2 miles west of the east junction of Co Rd X32

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL 1-800-292-8989 811 www.iowaonecall.com

MILEAGE SUMMARY

105-1
09-27-94

Div.	Location	Lin. Ft.	Miles
	** Section A Sta. 202+35.36 to 397+03.0	19,467.64	3.69
	Sta. Eq. 223+96.40 Bk = 221+72.00 Ah	224.40	0.04
	Bridge at Sta. 223+56.5	-527.04	0.10
	Sta. Eq. 253+81.3 Bk = 253+67.20 Ah	14.10	0.00
	Sta. Eq. 326+85.20 Bk = 326+99.00 Ah	- 13.8	0.00
	Sta. Eq. 346+73.50 Bk = 348+36.90 Ah	-163.40	-0.03
	Sta. Eq. 387+64.6 Bk. = 388+31.7 Ah.	- 67.1	-0.01
	** Section B Sta. 835+00.0 to 376+50.0	45,850.0	8.68
	Sta. Eq. 397+03.0 Bk = 835+00.0 Ah	0.00	0.00
	Sta. Eq. 699+68.38 Bk = 699+72.76 Ah	- 4.38	0.00
	Sta. Eq. 604+37.07 Bk = 605+01.60 Ah	- 64.5	-0.01
	Sta. Eq. 456+22.53 Bk = 456+14.61 Ah	7.92	0.00
	Total	63,732.8	12.26

** In Section A, stationing increases northbound. In Section B the stationing reverses decreasing northbound. Right and left will go with stationing.

INDEX OF SHEETS

A.1-A.2	Title Sheet and Location Map
* B.1-6	Typical Cross Sections and Details
C.1-9	Estimate of Quantities and General Notes
C.10	Index of Tabulations
C.10-22	Tabulations
* D.1-25	As-Built Information Sheets
J.1	Traffic Control Sheet
* U.1- U.5	500 Series and Detail Sheets

* Denotes Color Sheets

DESIGN DATA RURAL

2022	AADT	2100 V.P.D.
2042	AADT	2400 V.P.D.
20 --	DHV	-- V.P.H.
TRUCKS		17 %
Total Design ESALs		1,042,440

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Mary K. Kelly	Primary Signature Block

LICENSED PROFESSIONAL ENGINEER
MARY K. KELLY
17552
IOWA

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

Mary K Kelly 1/31/2022
Signature Date

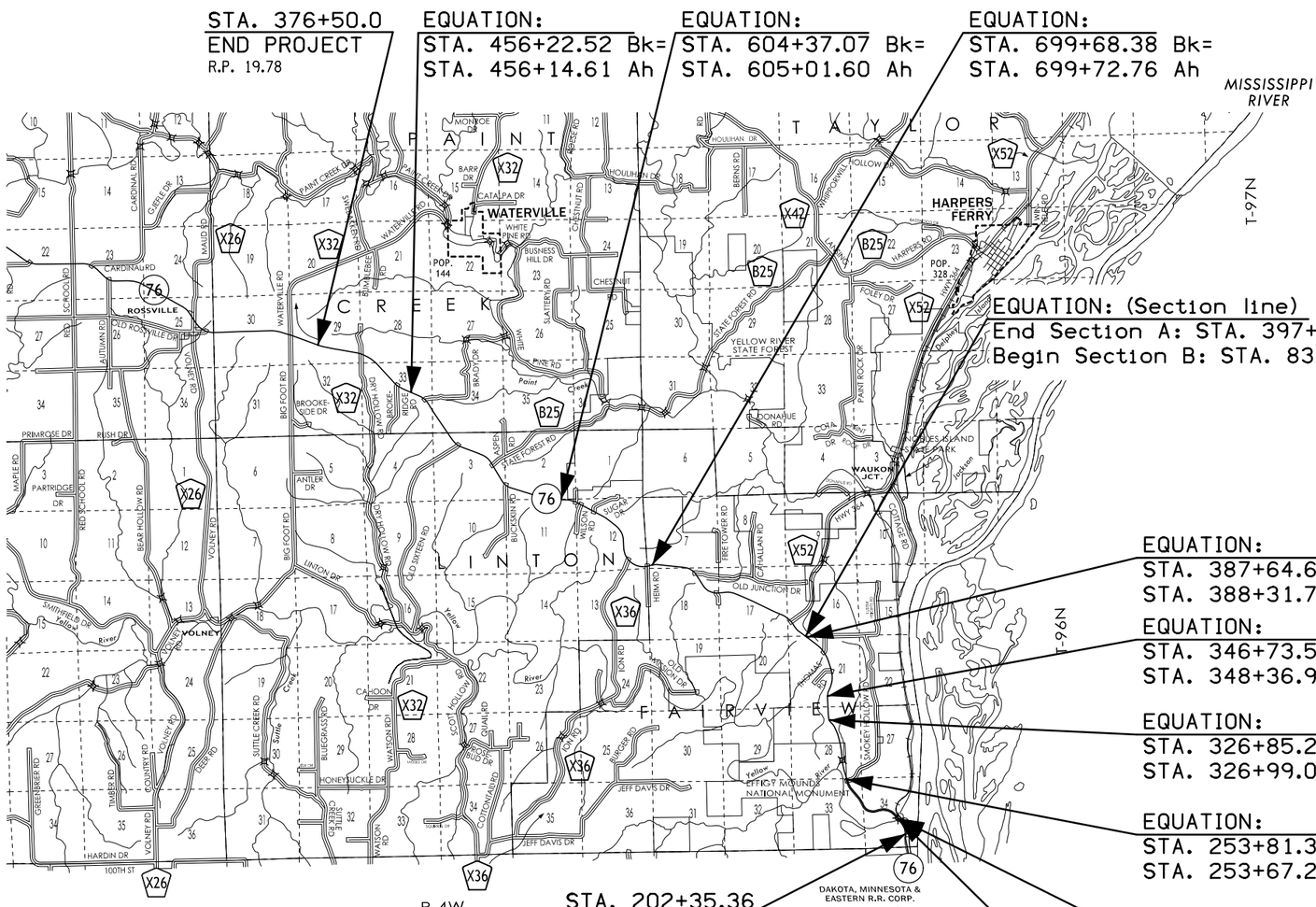
Mary K Kelly
Printed or Typed Name

My license renewal date is December 31, 20 22

Pages or sheets covered by this seal: A.1-A.2, B.1-B.6 C.1-C.22, D.1-D.25, J.1, U.1-U.5

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Nie\Meise	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER A.1

10:47:40 AM 1/28/2022 dnie pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0307603021\DistrictDesign\03076063_A.dgn



STA. 376+50.0
END PROJECT
R.P. 19.78

EQUATION:
STA. 456+22.52 Bk=
STA. 456+14.61 Ah

EQUATION:
STA. 604+37.07 Bk=
STA. 605+01.60 Ah

EQUATION:
STA. 699+68.38 Bk=
STA. 699+72.76 Ah

EQUATION: (Section line)
End Section A: STA. 397+03.00 (NB Stations)
Begin Section B: STA. 835+00.00 (SB Stations)

EQUATION:
STA. 387+64.60 Bk=
STA. 388+31.70 Ah

EQUATION:
STA. 346+73.50 Bk=
STA. 348+36.90 Ah

EQUATION:
STA. 326+85.20 Bk=
STA. 326+99.00 Ah

EQUATION:
STA. 253+81.30 Bk=
STA. 253+67.20 Ah

STA. 223+56.50
Bridge FWHA: 13611
Maint# 0307.9S076

EQUATION:
STA. 223+96.40 Bk=
STA. 221+72.00 Ah

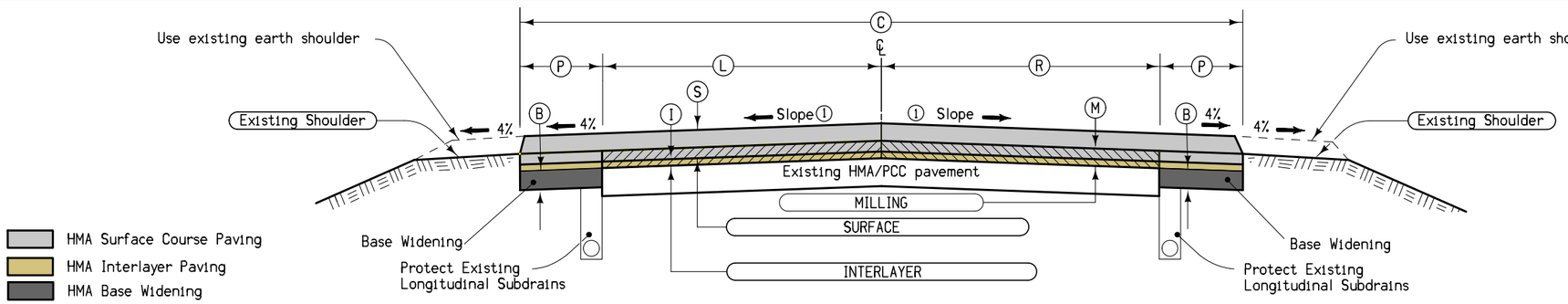
STA. 202+35.36
BEGIN PROJECT
BEGIN SECTION A (NB Stations)
Clayton/Allamakee County line
R.P. 7.54

LOCATION MAP SCALE
0 1 2 3
Miles

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Nie\Meise	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER A.2	X

3:00:46 PM 1/13/2022 dnie pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0307603021\DistrictDesign\03076063_A.dgn

MK-1

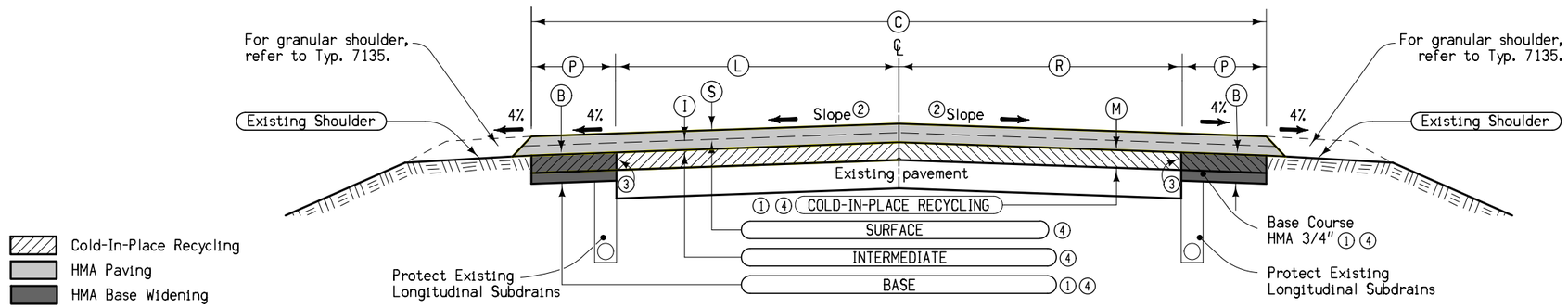


Notes:

① 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.

Location		Ⓜ	Ⓘ	Ⓢ	Ⓑ	Ⓛ	Ⓡ	Ⓒ	Ⓟ	Remarks
Station To Station		Inches	Inches	Inches	Inches	Feet	Feet	Feet	Feet	
202+35.36	220+92.98	2	1	2	5	12	12	28	2	BOP
										Bridge
226+20.02	387+64.6	2	1	2	5	12	12	28	2	
388+31.7	397+03.0	2	1	2	5	12	12	28	2	Equation
										Note: Equation Stations not shown. See Tabs. 100-25 and 112-9.

TYPICAL CROSS SECTION
MILLING AND HMA RESURFACING



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.

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 Foamed asphalt binder for C-I-P-R shall be PG 52-34S.

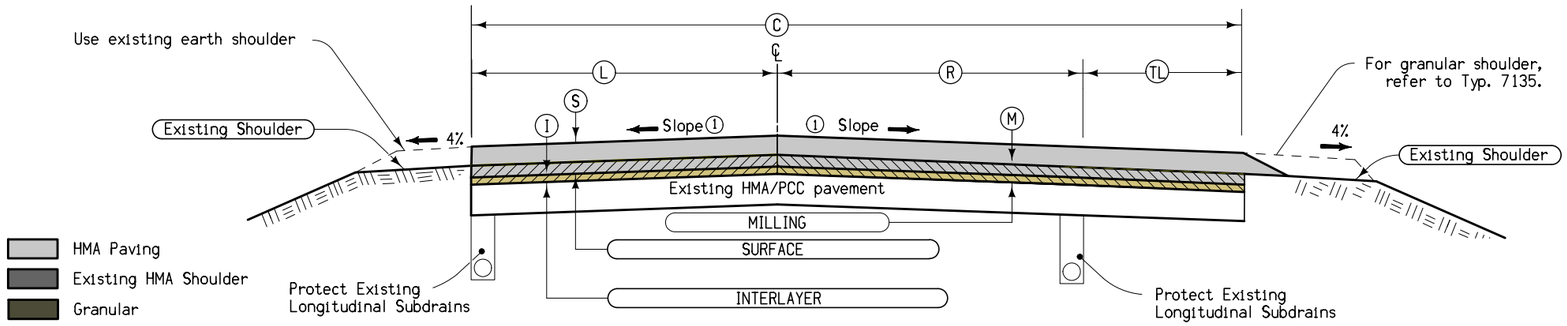
⑤ Discountinue base widening at existing paved intersections; refer to Typical 7154B for addional information. Base widening to be extended through current unpaved sideroad intersections; see Typical 7149 for additional information.

⑥ Suspend C-I-P-R at continuously reinforced PC patches and other PC patches as directed by the Engineer.

Location		M	I	S	B	L	R	C	P	Remarks
Station To Station		Inches	Inches	Inches	Inches	Feet	Feet	Feet	Feet	
835+00.0	833+50.0	4	0-1.5	1.5	7	12	12	32	4	Equation
833+50.0	378+00.0	4	1.5	1.5	7	12	12	32	4	
378+00.0	376+50.0	4	1.5-0	1.5	7	12	12	32	4	EOP
										Note: Equation Stations not shown. See Tabs. 100-25 and 112-9.

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

MK-3



Location		Ⓢ	Ⓘ	Ⓒ	Ⓛ	Ⓡ	Ⓜ	Ⓣ	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Inches	Feet	
232+40.0	233+40.0	2	1	24-36	12	12	2	0-12	SB Passing Lane taper.
233+40.0	243+40.0	2	1	36	12	12	2	12	SB passing lane
243+40.0	245+00.0	2	1	36-24	12	12	2	12-0	SB passing lane taper
233+40.0	235+00.0	2	1	24-36	12	12	2	0-12	NB turn lane taper
235+00.0	239+60.0	2	1	36	12	12	2	12	NB turn lane & through Effigy Mounds Ent.

Notes: Discontinue Base Widening at turn lanes.

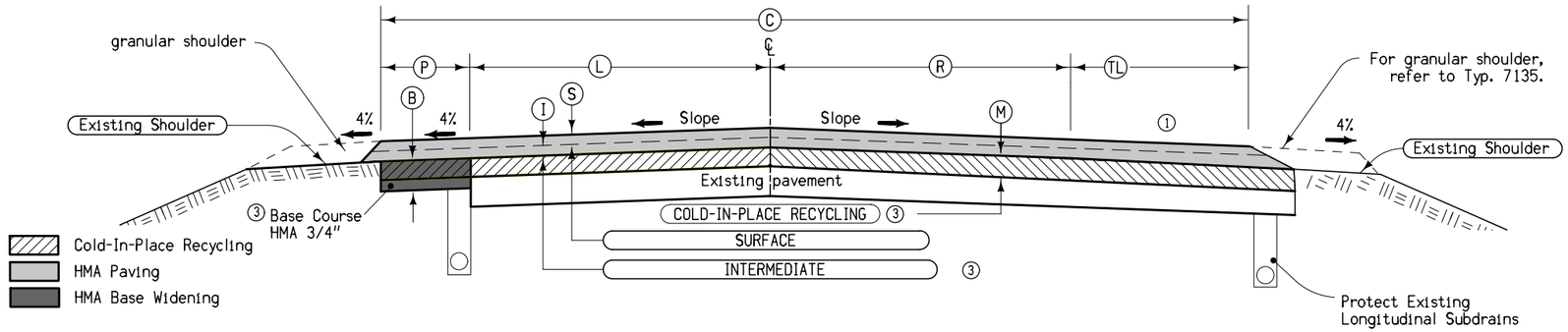
Cold in Place Recycle existing turn lane pavement except for taper areas. Taper areas shall be scarified 1/2" prior to resurfacing. Scarification of turn lane tapers is incidental to Cold in Place Recycling.

① 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.

See Typ. MK-2 for mainline information.

TYPICAL CROSS SECTION
EXISTING TURN LANE
MILLING AND HMA RESURFACING

MK-4



Location		Ⓢ	Ⓘ	Ⓒ	Ⓛ	Ⓡ	Ⓟ	Ⓜ	Ⓣ	Ⓑ	Remarks
Station To Station		Inches	Inches	Feet	Feet	Feet	Feet	Inches	Feet	Inches	
823+76.0	822+76.0	1.5	1.5	28-40	12	12	4	4	0-12	7	NB Right turn lane taper, X52 Taper, no CIPR
822+76.0	820+00.0	1.5	1.5	40	12	12	4	4	12	7	NB Right turn lane, X52

Notes:

Discontinue Base Widening at turn lanes.

① 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 See Typ. MK-1 for mainline information.

TYPICAL CROSS SECTION
EXISTING TURN LANE
COLD-IN-PLACE RECYCLING WITH HMA RESURFACING

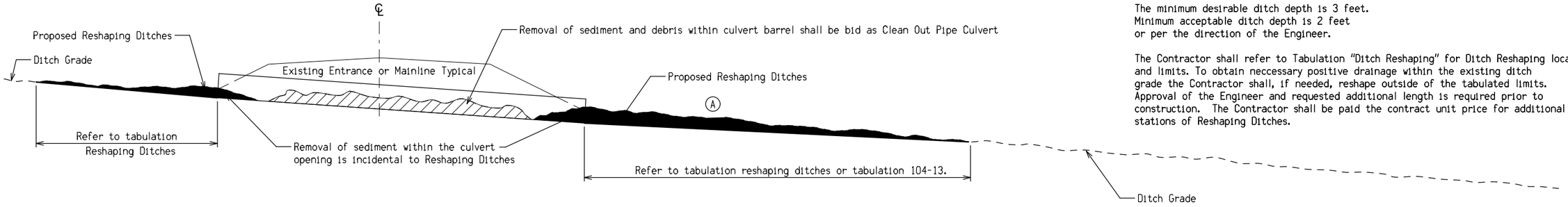
MK-7

Ⓐ Contractor to reshape ditch from culvert outlet as follows:

Minimum acceptable ditch grades range from 0.2% to 1.0%.
Desirable ditch grades range from 1.0% to 3.0%.

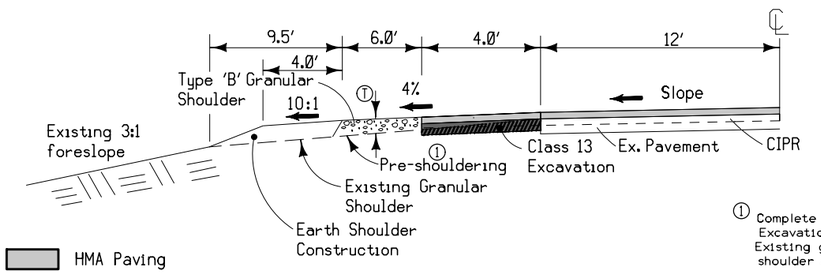
The minimum desirable ditch depth is 3 feet.
Minimum acceptable ditch depth is 2 feet
or per the direction of the Engineer.

The Contractor shall refer to Tabulation "Ditch Reshaping" for Ditch Reshaping locations and limits. To obtain neccessary positive drainage within the existing ditch grade the Contractor shall, if needed, reshape outside of the tabulated limits. Approval of the Engineer and requested additional length is required prior to construction. The Contractor shall be paid the contract unit price for additional stations of Reshaping Ditches.



RESHAPING DITCHES TYPICAL

7135
Modified



Ⓘ Complete granular pre-shouldering prior to Class 13 Excavation to provide for a trench for base widening. Existing granular shoulder material from the outer shoulder area may be used as designated by the Engineer.

② See Tabulation 112-9

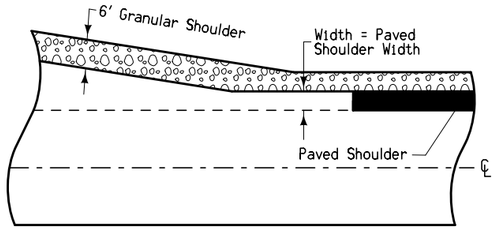
6" thickness was assumed to account for low shoulders.

LOCATION				Ⓣ
ROAD	STATION TO STATION ②		SIDE	Inches
IA 76	835+00.0	376+50.0	BOTH	6

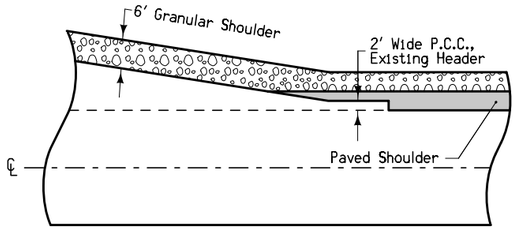
TYPICAL SECTION FOR TYPE 'B' GRANULAR SHOULDER

ADJACENT TO HOT MIX ASPHALT RESURFACING

7154A
10-20-09



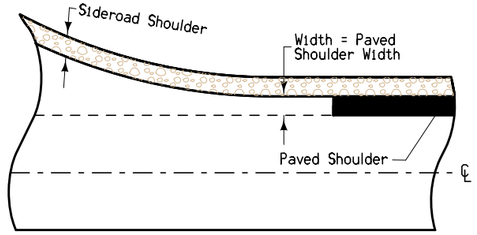
With Newly Constructed Turn Lanes



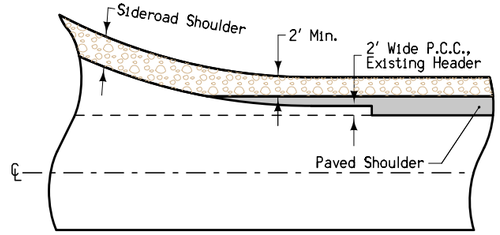
At UAC Turn Lanes

PAVED SHOULDER DETAIL AT TURN LANES

7154B
10-20-09



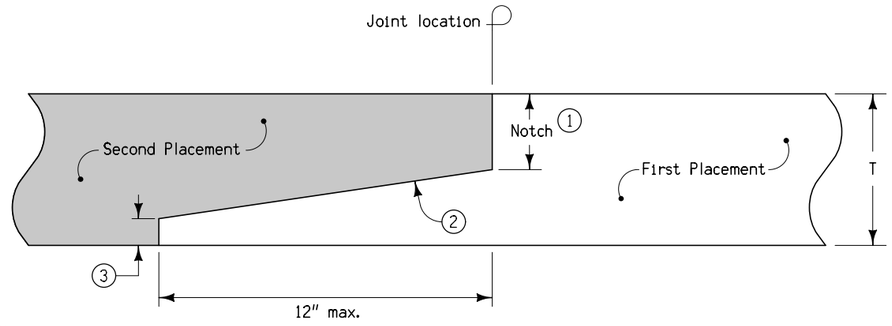
With Newly Constructed Returns



At UAC Returns

PAVED SHOULDER DETAIL AT RETURNS

7315
10-20-09



Notes:

(1) Notch: Min = nominal maximum aggregate size + ¼". Max = T/2.

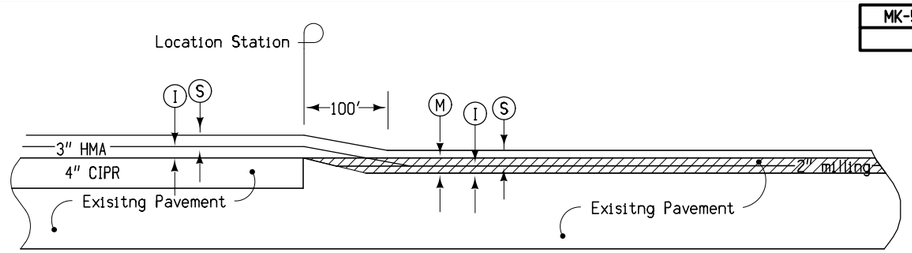
(2) 12:1 Slope

(3) Optional step at toe of slope: Max = 1".

LONGITUDINAL HMA NOTCHED WEDGE JOINT T = 2" OR GREATER

Posted Speed Limit (mph)	Runout Ratio (ft per inch)
45 or More	50
20 to 45	25
Under 20	10 *

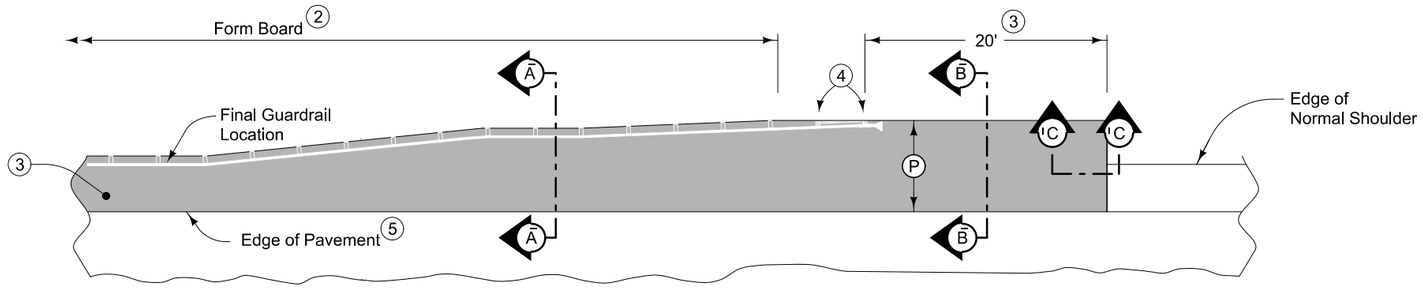
MK-5



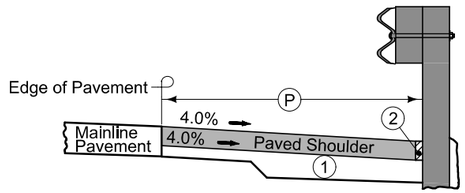
** See Typicals MK-1 and MK-2 and Tabulation 102-16 for more information.

Location Station	(S) Inches	(I) Inches	(M) Inches		Scarifaction S.Y.	Remarks
397+03.0	**	**	**		300	Equation

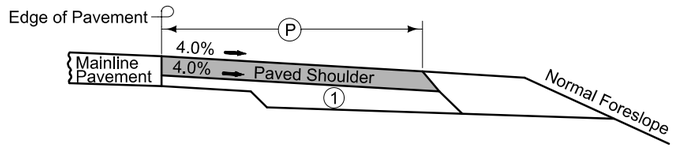
RUNOUT FOR TRIPLE COURSE RESURFACING



PLAN VIEW

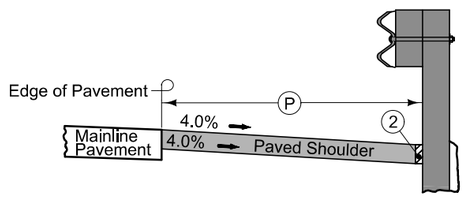


Section A-A

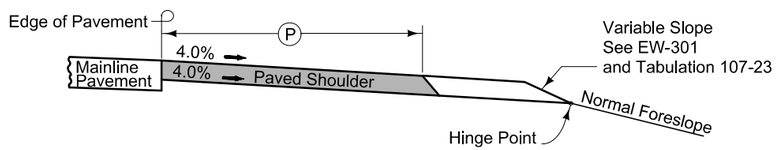


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

DESIGNER INFO

7156
04-18-17

9" HMA Paved Shoulder at guardrail. 8" 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 P/2 from edge of mainline pavement when P 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 and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

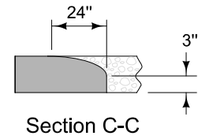
(1) For subgrade treatment, refer to other details in the plan.

(2) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(5) 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.



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

PAVED SHOULDER AT GUARDRAIL

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Division 1 : Federal Aid Eligible
Division 2 : Non-Participating

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	4.3		4.3	Refer to Tab. 110-17 for more information. All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. All wood material must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com.
2	2101-0850002	CLEARING AND GRUBBING	UNIT	42.2		42.2	See Tab. 110-17 for more information. "All wood material generated as a result of Clearing and Grubbing must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com." Tree clearing is not restricted to the winter months and trees may be cleared/trimmed at anytime.
3	2102-2625000	EMBANKMENT-IN-PLACE	CY	236		236	See Tab. 104-13 and 107-23 for more information. Material shall be provided by the Contractor.
4	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	1,975.4		1,975.4	See Tab. 112-9, Typ. MK-1, MK-2, and MK-4 for more information. Removal of existing sideroad fillets shall be incidental to Class 13 excavation. Removal of existing widening shall be incidental to Class 13 excavation. Class 13 excavation shall become the property of the Contractor.
5	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN)	SY	88.1		88.1	See Tab. 104-8A for more information.
6	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	463		463	Refer to Tab. 112-9 for more information.
7	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	1,086.7		1,086.7	See Tab. 112-9 and Typ. 7135 for more information. Includes 1086.7 stations of nominal 9.5 ft. wide shoulder.
8	2125-2225050	RESHAPING DITCHES	STA	0.4		0.4	Refer to typical MK-7 and Tab 104-13 for additional information. Item is to reshape ditch areas that can't be removed during normal handwork operations as found during culvert work (adding aprons) within project limits. Contractor shall supply all equipment and labor needed to reshape ditches. Sediment and debris to remain property of the contractor. Any damage to culverts shall be repaired by the Contractor. Verify method, prior to cleaning, with the Engineer. Contractor to prevent sediment from leaving the project in accordance with the Pollution Prevention Plan. A quantity length of 40LF has been applied to the contract for a ditch running south of Thomas Road at approximate station 363+05 left. Additional length shall be approved by the Engineer. Method of measurement and basis of payment is per LF of satisfactorily cleaned out culvert.
9	2212-5070310	PATCHES, FULL-DEPTH REPAIR	SY	191.6		191.6	Refer to Tab. 102-6C for more information.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
10	2212-5070330	PATCHES BY COUNT (REPAIR)	EACH	6		6	
11	2214-5145150	PAVEMENT SCARIFICATION	SY	57,671.4		57,671.4	See Tab. 100-25 for more information.
12	2303-0002380	HOT MIX ASPHALT MIXTURE INTERLAYER BASE COURSE, 3/8 IN. MIX	TON	3,368.7		3,368.7	Refer to Tab. 100-25 for more information.
13	2303-1032500	HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	10,159		10,159	
14	2303-1033504	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	16,761.7		16,761.7	
15	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	1,796.5		1,796.5	
16	2303-1258346	ASPHALT BINDER, PG 58-34E, EXTREMELY HIGH TRAFFIC	TON	269.5		269.5	
17	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1		1	
18	2303-7000610	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE LABORATORY VOIDS (FORMULA - BY PAY FACTOR)	EACH	13,460		13,460	
19	2303-7000620	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE FIELD VOIDS (FORMULA - BY PAY FACTOR)	EACH	13,460		13,460	
20	2317-7000120	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	86,310		86,310	
21	2318-1001100	COLD IN-PLACE RECYCLED ASPHALT PAVEMENT	SY	122,810.2		122,810.2	
22	2318-1001220	ASPHALT STABILIZING AGENT (FOAMED ASPHALT)	TON	540.4		540.4	
23	2401-6750001	REMOVALS, AS PER PLAN	LS	1		1	Includes all work for removal and off-site disposal. See tab. 110-2. Removal of scheduled items shall be in accordance with Section 2401, of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the state.
24	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	146		146	Refer to Tab. 104-13 for more inmormation.
25	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	9		9	Refer to Tab. 104-13 for more information.
26	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	1		1	Refer to Tab. 104-13 for more information.
27	2416-0101036	REMOVE AND REINSTALL CONCRETE PIPE APRONS LESS THAN OR EQUAL TO 36 IN.	EACH	3		3	
28	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	18		18	
29	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	2		2	See Tab. 104-13 for more information.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
30	2499-4000036	SLIPLINING EXISTING CULVERTS, LESS THAN OR EQUAL TO 36 IN. DIA. OR HEIGHT	LF	136		136	Liner shall be a nominal size to fit the existing 24 in RCP at Sta 378+00 in Section A and 384+90 in Section B. The liner shall be furnished and installed per DS-15090. Refer to Tab. 104-13. Estimate 3.4 CY and 3.6 CY of grouting, respectively.
31	2499-4000136	SLIPLINING EXISTING CULVERTS, GREATER THAN 36 IN. DIA. OR HEIGHT	LF	244		244	The liner shall be a nominal size of 66 inches and shall have an outside diameter small enough to accommodate the existing 6' x 6 ' RCB at Sta 774+88. The liner shall be furnished and installed as specified in DS-15090. Refer to Tab 104-13. The estimated quantity of flowable mortar is 111 CY and shall be incidental to this bid item.
32	2499-6000100	CLEAN OUT PIPE CULVERT	LF	40		40	Refer to typical MK-7 for additional information. Item is to remove sediment and debris from within culvert barrels that can't be removed during normal handwork operations as found during culvert work (adding aprons) within project limits. Contractor shall supply all equipment and labor needed to remove sediment and debris. Sediment and debris to remain property of the contractor. Any damage to culvert shall be repaired by the Contractor. Verify method, prior to cleaning, with the Engineer. Contractor to prevent sediment from leaving the project in accordance with the Pollution Prevention Plan. A quantity length of 40 LF has been applied to the contract per Tab 104-13. Additional length shall be approved by the Engineer. Method of measurement and basis of payment is per LF of satisfactorily cleaned out culvert.
33	2503-0500402	BRIDGE END DRAIN, DR-402	EACH	2		2	Refer to Tab. 104-8A for more information.
34	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	238		238	Refer to Tab. 110-7A for more information.
35	2505-4008300	STEEL BEAM GUARDRAIL	LF	25		25	Refer to Tab. 108-8A for more information.
36	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	2		2	
37	2505-4008420	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-221	EACH	2		2	
38	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4		4	
39	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	2		2	
40	2505-4021722	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-225	EACH	2		2	
41	2507-3250005	ENGINEERING FABRIC	SY	189.7		189.7	Refer to Tab. 100-23 for more information.
42	2507-6800061	REVETMENT, CLASS E	TON	117.6		117.6	Refer to Tab. 100-23 for more information.
43	2510-6745850	REMOVAL OF PAVEMENT	SY	77.3		77.3	Refer to Tab.110-1 for more information.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
44	2520-3350010	FIELD LABORATORY	EACH	1		1	
45	2524-9089300	DELINEATOR, RIGID - TYPE III	EACH	98		98	Refer to Tabulation 190-25 for more information. Removal of existing delineator posts shall be incidental and become property of the contractor.
46	2524-9100020	OBJECT MARKER, TYPE 2	EACH	2		2	Refer to Tabulation 190-25 for locations and details. Object marker shall be installed at a height of 4' measured from the bottom of the object marker to the elevation of the near edge of traveled way. Each will be measured for payment. Payment is full compensation for removing existing object markers and furnishing all labor equipment and materials to erect new.
47	2526-8285000	CONSTRUCTION SURVEY	LS	1		1	DOT will be responsible for preservation of section corners including Public Land Survey Corner Certificates and shall not be included in this bid item. All other construction survey requirements shall apply.
48	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	5,115		5,115	Refer to Tab. 108-22 for more information.
49	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS	STA	1,278.01		1,278.01	Refer to Tab. 108-22 for more information.
50	2528-8445110	TRAFFIC CONTROL	LS	1		1	
51	2528-8445113	FLAGGERS	EACH	0		0	See Proposal.
52	2528-8445115	PILOT CARS	EACH	0		0	
53	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	53.4		53.4	Refer to Tab. 102-6C for more information.
54	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	2		2	
55	2533-4980005	MOBILIZATION	LS	1		1	--
56	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	378.67		378.67	See Tab. 112-10 for more information.
57	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL	410.4		410.4	
58	2548-0000310	MILLED CENTERLINE RUMBLE STRIPS, HMA SURFACE	STA	189.34		189.34	
59	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS		1	1	Refer to Tab. 110-13.
60	2595-0005125	RAILROAD PROTECTIVE LIABILITY INSURANCE FOR DAKOTA, MINNESOTA, AND EASTERN RAILROAD CORP.	LS	1		1	DS-15088 shall apply to this project.
61	2599-9999005	('EACH' ITEM) Type C Connection	EACH	13		13	See tab. 104-13. Each Type "C" Connection will be measured for payment. Payment is full compensation for repair or replacement of existing joint. It will include all cost of furnishing all materials, labor, and equipment to construct Type "C" connection.
62	2601-2632110	FERTILIZING	ACRE	20		20	

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
63	2601-2634100	MULCHING	ACRE	20		20	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. Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
64	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	20		20	Seeding and fertilizing shall be placed along the granular shoulder in the area being disturbed with the earth shoulder finishing. Includes guardrail blisters and pipe construction areas.
65	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	20		20	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding. If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period.
66	2601-3000201	HERBICIDE APPLICATION, CUT STUMP	EACH	6		6	Coordinate with the “Clearing” (Item Code 2101-0850002). Furnish and apply herbicide to cut stumps of cleared trees. Includes locating stumps, furnishing and applying herbicide and related activities with no extra compensation allowed. See Standard Note 231-2. TREATMENT No. 1: Only for use on stumps that will be treated with herbicide immediately after cutting and temperatures are above freezing. Cut stumps to less than 2 inches prior to herbicide application and brush away sawdust from the cut surface. Within 5 minutes of the stump cut, apply triclopyr herbicide. Leave stumps without any additional cutting or grinding for 6 weeks after herbicide treatment to allow for the herbicide to translocate. Use a water-based triethylamine or quaternary ammonium salt formation to triclopyr herbicide, labeled for use in and around standing water. Mix the herbicide at 3 pounds per gallon acid equivalent (ae) of triclopyr (For example, for products containing 3 pounds per gallon ae of triclopyr, apply undiluted.) Apply the herbicide according to label directions for cut surface treatments, using a brush or directed spray, wetting the outer 2 inches of sapwood and the cambium (the tissue just inside the bark) including the entire circumference and any torn bark areas. It is not necessary to treat the bark on the sides of the stump or exposed roots. TREATMENT No. 2: Use if stumps are not treated with herbicide immediately after cutting or if directed

by the Engineer to be used during below freezing conditions.

Cut stumps initially to a height of not less than 6 inches and flag to relocated for herbicide treatment. Apply triclopyr herbicide within 7 days of the stump cut. After treating with herbicide, leave stumps without further cutting for not less than 6 weeks to allow time for the herbicide application to translocate, then cut or grind stumps to less than 2 inches. The cost for cutting and grinding stumps will not be paid for directly, but will be incidental to the price for Herbicide Application, Cut Stump.

Use an oil-soluble formulation of triclopyr, labeled for use on non-irrigation ditch banks and seasonally dry wetlands. Mix the herbicide with an oil carrier to a concentration of 1.0 pound per gallon ae of triclopyr (For example, for products containing 4 pounds per gallon ae of triclopyr, mix 1 quart herbicide with 3 quarts oil carrier, for a 25% solution.) For the oil carrier, use a penetrating oil labeled for basal or cut stump treatments. Diesel fuel and kerosene-based products will not be accepted. “Ready to Use” products containing 0.75 pounds per gallon ae of triclopyr and non-petroleum carrier may be approved.

Apply the herbicide mixture according to label directions for cut stump treatment to the outer 2 inches of the cut surface, wetting the sapwood and cambium (the tissues just inside the bark layer) around the entire tree circumference, also wetting the sides of the stump to ground line and any exposed roots.

Cautions: This herbicide is volatile and may cause off-target damage if used when temperatures exceed 85 degrees F during the three days following the application. It is a violation of federal law to apply this herbicide in areas with standing or flowing water. If soil is saturated or there is standing water in the spray area, do not use this treatment.

Preapproved products:
Triclopyr herbicide in a water-based formulation:
Garlon 3A
NuFarm Tahoe 3A
Ecotriclopyr
Vastlan (4 pounds per gallon ae)

Triclopyr herbicide in oil-soluble formulation:
Garlon 4 Ultra
NuFarm Tahoe 4E
Triclopyr 4EC
Pathfinder II (Ready-to-Use)
Custom Blended per-mixes must be approved by the Engineer

Oil Carrier:
Bark Oil Blue LT
Diluent Blue
Proprietary oil contained in Pathfinder II

Dye:
Hi-Light Blue
Red River Mark

Method of Measurement: The quantity of “Herbicide Application, Cut Stump” for which payment is made will be measured per each stump treated with herbicide and cut to ground line.

Basis of Payment:

Contractor will be paid the contract unit price per each. Payment is full compensation for furnishing all materials, equipment and labor and for performing all work necessary according to the contract documents.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
67	2601-3000206	HERBICIDE APPLICATION, CUT STUMP	LS	1		1	2601-3000206 Herbicide Application, Cut Stump Coordinate with the “Clearing” (Item Code 2101-0850001). Furnish and apply herbicide to cut stumps of cleared trees. Includes locating stumps, furnishing and applying herbicide and related activities with no extra compensation allowed. See Standard Note 231-2. See note for Item Code 2601-3000201 “Herbicide Application, Cut Stump” for treatment and products. Method of Measurement: The quantity of “Herbicide Application, Cut Stump” for which payment is made will be a lump sum for the stumps treated with herbicide and cut to ground line. Basis of Payment: Contractor will be paid the contract unit price lump sum. Payment is full compensation for furnishing all materials, equipment and labor and for performing all work necessary according to the contract documents.
68	2602-0000020	SILT FENCE	LF	375		375	Refer to Tab. 100-17 for more information. The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
69	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	72		72	Refer to Tab 100-18 for more information. The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
70	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	447		447	See Tab. 100-18 and 100-17. Included 50%. This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. This item is included for silt fence and silt fence for ditch check removal. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Division 1	Division 2	Total	
71	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	447		447	See Tabs. 100-18 and 100-17 for more information. This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project. Bid item includes 50% additional quantity for field adjustments and replacements.
72	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	3,640		3,640	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.
73	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	5,480		5,480	Refer to Tab. 100-19 for more information.
74	2602-0000362	DITCH CHECK SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	1,840		1,840	Refer to Tab. 100-19 for more information.
75	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1		1	

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	9,377.4	See Tab. 112-9, Typ. MK-1, MK-2, and MK-4 for more information. Removal of existing sideroad fillets shall be incidental to Class 13 excavation. Removal of existing widening shall be incidental to Class 13 excavation. Class 13 excavation shall become the property of the Contractor.
2	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	21,450.6	Refer to Typical 7110 and Tab. 112-9 for more information.
3	2213-8200000	BASE WIDENING, HOT MIX ASPHALT MIXTURE	TON	18,356.3	
4	2303-1032500	HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	3,386.3	
5	2303-1033504	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	3,386.3	
6	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	1,507.8	
7	2318-1001100	COLD IN-PLACE RECYCLED ASPHALT PAVEMENT	SY	71,639.3	
8	2318-1001220	ASPHALT STABILIZING AGENT (FOAMED ASPHALT)	TON	315.2	
9	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	918.2	See Tab. 112-10 for more information.
10	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL	994.8	Refer to Tab. 112-10 for more information.
11	2548-0000310	MILLED CENTERLINE RUMBLE STRIPS, HMA SURFACE	STA	459.1	See Tab. 112-10 for more information.

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves resurfacing the roadway from Clayton County Line north to 0.2 miles west of the east junction of Co Rd X32. The purpose of the project is to improve the condition of the mainline pavement. Resurfacing the roadway will address this concern and adding paved shoulders will improve the safety of the corridor. Milled rumble strips and guardrail replacement will be part of this project.

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	04-19-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-221	04-19-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-2)
BA-225	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-2)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-260	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-2)
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-121	10-17-17	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-201	04-21-20	Concrete Aprons
DR-402	04-19-22	Rock Flume for Bridge End Drain
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
DR-621	04-18-17	Pipe Extension
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-502	04-21-15	Seeding in Rural Areas
EW-301	04-20-21	Guardrail Grading
PM-110	04-21-20	Line Types
PM-120	10-21-14	Stop Lines and Islands
PM-420	10-15-19	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-521	10-15-19	Two-Lane Roadway with Right Turn Lanes
PR-103	04-21-20	Full Depth PCC Patch with Dowels
PR-201	10-21-14	Runouts for Resurfacing
PR-202	10-21-14	Notches for Resurfacing (with or without Runout)
PV-3	04-16-19	Safety Edge
PV-12	10-20-20	Milled Shoulder Rumble Strips
PV-13	10-17-17	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
PV-202	04-21-20	Hot Mix Asphalt Resurfacing
PV-301	04-21-20	Superelevation Details Two Lane Roadway
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-213	10-15-19	Lane Closure with Flaggers
TC-214	04-21-20	Lane Closure with Flaggers for use with Pilot Car
TC-282	10-15-19	Uneven Lanes

111-25
10-18-11

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100-19	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	C.14
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04-21-20

HERBICIDE

For all herbicide applications, the following provisions shall apply.

1. Follow all laws, rules and regulations related to the handling of pesticides, including but not limited to:
   a. Follow all herbicide label directions, restrictions, and precautions.
   b. The company responsible for the herbicide applicator must be licensed with Iowa Department of Agriculture and Land Stewardship (IDALS) as a commercial pesticide applicator company.
   c. The person applying the herbicide must be certified through IDALS as a pesticide applicator in Category 6, Right-of-Way. For herbicide applications that require an aquatic certification, the applicator must also be certified as a pesticide applicator in Category 5, Aquatics.
   d. Use herbicide and adjuvant products labeled for the application site:
      i. For applications on the primary highway right-of-way, use only products labeled for use on highway rights-of-way or roadsides.
      ii. For applications to or over water, use only products labeled for corresponding use in aquatic sites, unless intermittent pockets of standing water, such as tire ruts, and the product is labeled for such use.
      iii. For applications to areas in the water conveyance portion of the ditch that do not contain water at the time of application, use only products labeled for non-irrigation ditch banks or aquatic sites.
   e. Do not apply any herbicide to or over standing or flowing water unless required coverage is obtained under a National Pollutant Discharge and Elimination System (NPDES) Pesticide Discharge Permit through Iowa DNR. If standing or flowing water is encountered in areas when they need to be sprayed, notify Iowa DOT (Roadside Development) to determine required coverage.

2. Schedule work according to weather conditions and take measures to avoid off-target damage, such as runoff, leaching, drift and volatilization.
   a. Do not spray herbicide 24 hours prior to forecast precipitation that is expected to cause significant runoff conditions.
   b. For areas with saturated soil, such as ditch bottoms, do not spray herbicide 24 hours prior to forecast precipitation, unless using products labeled for aquatic sites.
   c. For conventional applications, avoid applications when wind speed exceeds 10 mph. For invert applications, avoid applications when wind speed exceeds 15 mph.
   d. For conventional foliar applications, use a drift retardant and maintain drift control throughout the application period by adding more to the tank as it breaks down from agitation.
   e. Avoid spraying volatile products when temperatures are forecast to exceed 85° F within 3 days.
   f. Check the IDALS Sensitive Crops Directory and do not spray adjacent to a listed operation when wind is blowing towards it.

3. Respond to allegations of any off-target damage attributed to handling and spraying of herbicide.

4. Provide the following documents to the Engineer for approval not less than 2 weeks prior to the application.
   a. A copy of the herbicide and adjuvant labels, including any applicable supplemental labels.
   b. A copy of the herbicide and adjuvant Material Safety Data Sheets (MSDS.)

5. Have copies of the herbicide and adjuvant labels and MSDSs on-hand and at locations of storage, transport, and application.

6. Schedule work to maximize efficiency of the herbicide application in relation to weather conditions and plant growth stage. Follow any label recommendations given as “for best results.”
   a. For weed applications:
      i. To determine if weeds are “actively growing,” use as a guideline that there needs to have been at least 1 hour of temperature above 65° F and 1 hour of sun in the day prior to, of, or forecast before a rain the day after the application.
      ii. For spring applications to thistles, apply after basal leaves of Canada thistles are fully extended, and after rosettes of musk thistle are at least 8 inches diameter, but before flower stage.
      iii. For fall applications to thistles, apply prior to the second hard freeze of 28° F, unless otherwise listed in the label directions.

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04-21-20

HERBICIDE

   b. For tree and brush applications:
      i. For foliar applications and cut stump/surface applications with water-soluble products, apply after leaves are fully opened in the spring and prior to leaf discoloration in the fall.
      ii. For cut stump applications with oil soluble products, do not apply during periods of heavy sap flow. Use as a guideline that heavy sap flow occurs in late winter to early spring when nighttime temperatures below 32° F are followed by daytime temperatures above 32° F with sunny conditions.
      iii. For cut stump and basal bark applications, add sufficient dye so that treated areas are visible to inspection 7 days after application.

7. Notify the Engineer prior to calibrating, mixing and applying herbicides, including incidental items.

8. Provide copies of daily spray logs to the RCE at the end of each week of spraying (form provided by Iowa DOT).

9. If Contractor does not complete spray item on schedule, the

232-10
04-18-17

EMERALD ASH BORER

Any living, dead, cut or fallen material of the ash (Fraxinus spp.) including trees, nursery stock, logs, firewood, stumps, roots, branches, and composted or uncomposted ash chips can be freely moved within the yellow areas of the most recent Federal EAB Quarantine & Authorized Transit.

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab_quarantine_map.pdf.

Obtain appropriate Compliance Agreements from USDA APHIS PPQ prior to moving any of the above listed ash articles to areas outside the yellow zone on the map.

For questions, concerns, and general assistance, contact:

USDA APHIS PPQ, Iowa office, 515-414-3295

Or

Iowa Department of Agriculture & Land Stewardship
515-725-1470
Entomology@IowaAgriculture.gov

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.

ARCHAEOLOGICAL SITES

Several archaeological sites are located within the project limits. (13AM604, 13AM581, 13AM528, 13AM82, 13AM603, 13AM510, 13AM337, 13AM588 and 13AM508.) A Vertical Restricted Area with No Access is present from MP 7.54 to MP 9.5. The restriction will prohibit any excavation below the subgrade in the area, except in those areas where culvert work is needed.
This project will be monitored by the Iowa DOT archaeologist Brennan Dolan (515-239-1795) as needed and will be in attendance at the preconstruction meeting to discuss the project requirements with the Construction Engineer and the Contractor. The Contractor shall contact him with questions during project construction.
Should any new important historical or archaeological material be encounter during construction, project activities shall cease, and the Location and Environment Bureau shall be contacted immediately.

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, Permit No. 3. 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.

POLLUTION PREVENTION PLAN

System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES

A. Designer:
1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:
1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:
1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:
1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the construction of HMA Resurfacing.

B. This PPP covers approximately 224 acres with an estimated 41 acres being disturbed. The portion of the PPP covered by this contract has 41 acres disturbed.

C. The PPP is located in an area of one soil association Downs-Fayette-Nordness. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.35.

D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.

E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into Paint Creek and Yellow River.

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices
1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
a) Permanently ceased on any portion of the site, or
b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices
1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

c. Storm Water Management
Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS
Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS
During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

POLLUTION PREVENTION PLAN

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
   1. Date of the inspection.
   2. Summary of the scope of the inspection.
   3. Name and qualifications of the personnel making the inspection.
   5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
   6. Major observations related to the implementation of the PPP.
   7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

A. Base PPP - Initial Pollution Prevention Plan.
B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
C. Fieldbook Entries – 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 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.

Mary K Kelly
Signature

Mary K Kelly
Printed or Typed Name

Signature

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
	3	76		7.54	11.32	1937	ACC(4)	FN-347ABC	BSC	1	SAS	4									
				7.54	11.32	1972	ACC(4)	FN-76-2(8)	BAC	4.5											
				7.54	11.32	1991	ACC(4)	FN-76-2(18)--21-03	AAC	2	BAC	2.5			MIL	1	MCCABE QUARRY	C.LST.			
				7.54	11.32	2013	ACC(4)	MP-076-2(707)9--76-03	AAC	2											
	3	76		11.32	12.38	1964	ACC(4)	FN-347	BAC	3	ATB	7	SAS	6							
				11.32	12.38	1994	ACC(4)	STP-76-2(19)--2C-03	AAC	2	BAC	2			MIL	1	ROSSVILLE	C.LST.			
				11.32	12.38	2013	ACC(4)	MP-076-2(707)9--76-03	BSC												
	3	76		12.38	15.33	1964	ACC(4)	FN-347	BAC	3	ATB	7	SAS	6							
				12.38	15.33	1995	ACC(4)	STPN-76-2(24)--2J-03	BAC	2	AAC	2					BERNHARD QUARRY	C.LST.			
				12.38	15.33	2013	ACC(4)	MP-076-2(707)9--76-03	BSC												
				15.33	16.75	1964	ACC(4)	FN-347	BAC	3	ATB	7	SAS	6							
				15.33	16.75	1994	ACC(4)	STP-76-2(19)--2C-03	ACC	2	BAC	2			MIL	1	ROSSVILLE	C.LST.			
				15.33	16.75	2013	ACC(4)	STPN-76-2(24)--2J-03	BSC												
	3	76		16.75	19.78	1964	ACC(4)	FN-347	BAC	3	ATB	7	SAS	6							
				16.75	19.78	1995	ACC(4)	STPN-76-2(24)--2J-03	BAC	2	AAC	2					BERNHARD QUARRY	C.LST.			
				16.75	19.78	2013	ACC(4)	MP-076-2(707)9--76-03	BSC												

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.

Location Station	Type of Notch or Runout	(S) IN	(I) IN	(DI) IN	(L) FT	(M) IN	Pavement (1) Scarification SY	Remarks
202+35.36	Type 'N5'	2.0	1.0		150.0			BOP
220+92.98	Type 'N5'	2.0	1.0		150.0			Bridge approach
226+20.02	Type 'N5'	2.0	1.0		150.0			Bridge approach
239+17.00	Type 'N3'	2.0	1.0		12.0		8.0	Effigy Mounds Entrance
397+03.00					100.0			Equation. See Typical MK-5
819+38.00	Type 'N3'	1.5			37.5		25.0	sideroad X52
546+67.00	Type 'R1'	1.5			37.5			sideroad B25
425+50.00	Type 'R1'	1.5			15.0			PCC Ent. Lt.
376+50.00	Type 'N4'	1.5	1.5		150.0			EOP
							33.0	total

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

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

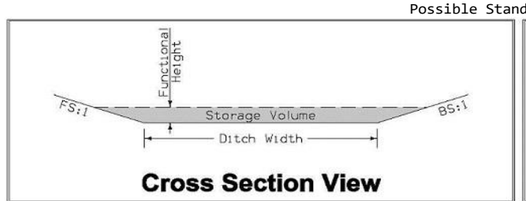
* Not a bid item

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
							Total (LF)		Extensions (LF)		Aprons		Culvert Sections												
													Left Side		Right Side										
Location	Size and Type of Culvert	Size	Type of Culvert																						
		IN		LF	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	NO.*	FT	NO.*	FT	IN	OUT	NO.	TYPE	NO.	TYPE	CY	CY	
Section A	Mainline																								
239+75	24"RCP												2	16				1				Type 3	8.0		See Tab. 110-2 & 100-23
276+00	5'x5' RCB																			C-2	2			50.0	N
284+55	4'x4'x47' RCB																								C, clean RCB
287+20	5'x4'x47' RCB																								C, clean RCB
329+50	2'X2' RCB																			C-2	1			17.0	K
340+24	24"RCP			12									1	8	3	24	1	1				Type 3		95.0	A, See Tab. 110-2 & 102-6C
344+35	2'x2' RCB																			C-2	1			25.0	D
367+00	24"RCP	24	RCP	6											2	16	1	1				Type 3	8.0	9.0	B
378+00	24"RCP	24	liner pipe	66													1	1				Type 3			L
Section A	Sideroad																								
363+05, 30' Lt.	18"x60' HDPE		Unclassified														1	1							C, clean pipe & reshape ditch
Section B	Mainline																								
804+46	2'x2' RCB																			C-2	1				M
774+88	6'X6'x243.6' RCB	66"	Liner Pipe	244																					
795+31	2'x2' RCB																			C-2	1				G
652+11	24" RCP										1											Type 3			See Tab. 100-23
602+79	2'x2'RCB 24" extension											1			10	66						Type 3			See Tab. 102-6C & 110-2
516+78	24" RCP																								C, Clean outlet
508+79	4'X5' RCB																			C-2	1				H
467+44	4'x7' RCB																			C-2	2				J. See Tab. 102-6C
436+10	2'x2'RCB 30" extension										1		4	24						C-2	1	Type 3			C, D
410+29	2'x2'70' RCB 30" ext.												2	16				1		C-2	1				I, C, clean RCB
389+51	2'x2'RCB																			C-2	3				E
384+90	24" RCP	24	Liner Pipe	70													1	1				Type 3			L

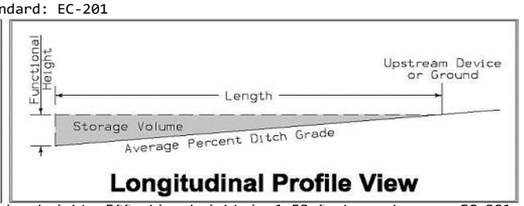
A: Replacing one section Lt. and replace one section Rt.
B: Replacing one section Rt. See Tabs. 110-2 & 110-18.
C: See Cleanout Pipe Culvert. See Typical MK-7.
D: Type 'C' is for RCB joint repair. 23' Lt. See Tabs 102-6C, 110-17, & 100-19.
E: Type 'C' is for 3 RCB joint repairs. 13' Lt., 5' Rt., & 19' Rt. See Tab 100-19.
F: Type 'C' is for RCB joint repair. 23' Rt.
G: Type 'C' is for RCB joint repair. 30' Rt., See Tab. 100-19.
H: Type 'C' is for RCB joint repair. 18' Lt.
I: Type 'C' is for RCB joint repair. 29' Rt.
J: Type 'C' is for 2 RCB joint repairs. 9' Lt. & 9' Rt.
K: Type 'C' is for RCB joint repair. 12' Rt. See Tabs. 100-23 & 100-17.
L: See Tab.100-19
M: Type 'C' is for RCB to flume joint repair. See Tab. 110-17
N: Type 'C' is for RCB joint repair. 18' Lt. & 34' Rt. See Tabs 100-23 & 102-6C.

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
	1	329+63.0	rt	24.0	24.0	24.0	3.0	4.0	10.0	7.2%		A
	1	367+00.0	rt	24.0	24.0	24.0	3.0	4.0	10.0	5.9%		

A: See Tabulation 104-13.

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
328+88.00	330+38.00	Rt	150.0	RCB 329+63 tab. 104-13
344+30.00	344+80.00	Lt	150.0	RCB 344+33 tab. 104-13
			300.0	total

102-6C
04-18-17

FULL-DEPTH PATCHES

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

Location				Dimension			PCC Patches													
Count	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels	HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
							PR-103	PR-102	PR-104	PR-105			PR-140	PR-101	PR-101 or PR-140			PR-101		
			L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
	Section A																			
1	329+50.00		R	14.0	7.0	9.0					10.9									See Tab. 104-13
1	340+24.00		R	24.0	12.0	9.0					32.0									See Tab. 104-13
1	344+35.00		L	12.0	8.0	9.0					10.7									See Tab. 104-13
1	A	MP8		20.0	12.0	9.0	26.7													Yellow River Bridge S Approach
1	A	MP8		20.0	12.0	9.0	26.7													Yellow River Bridge S Approach
	Section B																			
2	467+44.00		B	34.0	27.0	13.0					102.0									See Tab. 104-13
1	602+79.00		L	36.0	9.0	14.0					36.0									See Tab. 104-13
8							53.4													totals
	A: See sheet U.1 for location																			

100-19
Modified

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
Begin Station	End Station	Side	Length of Installation			Length of Installation		
			9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
Southeast		R		160				A, Guardrail
Southwest		L		160				A, Guardrail
Northeast		R		200				A, Guardrail
Northwest		L		240				A, Guardrail
239+82.00	239+82	Lt		120				See Tabulation 104-13 and Road Design Detail 570-11
284+33.00	284+33	Both		240				See Tabulation 104-13 and Road Design Detail 570-11
287+20.00	287+20	Both		240				See Tabulation 104-13 and Road Design Detail 570-11
340+25.00	340+25	Both		240				See Tabulation 104-13 and Road Design Detail 570-11
362+85.00	363+25.00	Lt				120.0		See Tabulation 104-13
378+00.00		Both		240				See Tabulation 104-13 and Road Design Detail 570-11
384+90.00		Both		240				See Tabulation 104-13 and Road Design Detail 570-11
389+51.00		Both		240				See Tabulation 104-13
410+29.00		rt		120				See Tabulation 104-13
436+10.00		lt		120				See Tabulation 104-13
467+44.00		Both		240				See Tabulation 104-13 and Road Design Detail 570-11
508+79.00		lt		120				See Tabulation 104-13 and Road Design Detail 570-11
516+78.00		Both		240				See Tabulation 104-13 and Road Design Detail 570-11
652+11.00		lt		120				See Tabulation 104-13
774+88.00		Both		240				See Tabulation 104-13
795+27.00	795+67.00	Rt.		120				See Tabulation 104-13 and Road Design Detail 570-11
804+40.00		Lt		120				See Tabulation 104-13 and Road Design Detail 570-11
				3520		120.0		total
	A: See sheet U.1 for additional information. To be placed at toe of foreslope.							

100-23
04-17-18

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Splash Basin	Type 5 Rock Slope Protection	Eng. Fabric	Class E Revetment	Erosion Stone	
			Lt./Rt.	FT	FT						SY	TON	TON	
IA 76 Section A	239+82.00		Lt.	8	30			x			27.0	25.2		See Tab. 104-13
	276+00.00		Lt.	12	30				x		71.0	50.4		5x5 RCB
	329+63.00		Rt.	10	24				x		24.0	12.6		See Tab. 104-13
	602+62.00		Rt.	10	8				x		8.0	4.2		See Tab. 104-23
	652+16.00		Rt.	5	40			x			40.0	21.0		See Tab. 104-23
											170.0	113.4		totals

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
Section A		
239+75, Lt.	two 30" flume sections	replacing flume with class E Rip Rap
340+24	24" RCP	replace one pipe section each side.
367+00	24" RCP	replace one pipe section Lt. side.
Section B		
602+79	24" RCP extension apron	replace apron

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 Ref. Loc. Sign to Ref. Loc. Sign 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	
202+35.6 to 220+00.0 Lt. Side	SB	Trees - Clearing														1764.4	15.0		0.6		A
243+00.0 to 253+81.3 Rt. Side	NB	Trees - Clearing														1081.3	15.0		0.4		A, Equation
253+67.2 to 273+25.0 Rt. Side	NB	Trees - Clearing														1957.8	15.0		0.7		A, Equation
291+00.0 to 326+85.2 Lt. Side	SB	Trees - Clearing														3585.2	15.0		1.2		A, Equation
326+99.0 to 329+28.0 Lt. Side	SB	Trees - Clearing														229.0	15.0		0.1		A, Equation
292+00.0 to 329+28.0 Rt. Side	NB	Trees - Clearing														3728.0	15.0		1.3		A
602+62 RCB Rt. Outlet	SB	Trees - Clearing and Grubbing			1		1											20.2			
795+47 RCB Flume Outlet Lt.	NB	Trees - Clearing		2		3			1									22.0		6	B
																		42.2	4.3		totals

A: Clearing will be defined as a 15 foot wide path measured 25 feet to 40 feet from centerline of roadway. Do not clear beyond existing right of way.
Clearing to be discussed with Area Maintenance Supervisor at Precon meeting. All clearing measured by area to be included in the lump sum herbcide application bid item.

B: Protect RCB flume.

REFERENCE LOCATION SIGNS AND DELINEATORS

Refer to SI-171, SI-172 and SI-173.

Begin Station	End Station	Location	Reference Location Signs								Enhanced Reference Location Signs								Intermediate Reference Location Signs			Delineators								Object Markers			Installation	
																						Type I		Type IA		Type II		Type III		Type 1	Type 2	Type 3	Type	Offset
			D10-1	D10-2	D10-3	D10-5	D10-6	D10-7	D10-8	D10-9	D10-1A	D10-2A	D10-3A	D10-5A	D10-6A	D10-7A	D10-8A	D10-9A	D10-1D	D10-2D	D10-3D	White	Yellow	White	Yellow	White	Yellow	White	Yellow					
202+15		RT/NB																									1						5 Feet
203+13		RT/NB																									1						5 Feet
204+13		RT/NB																									1						5 Feet
204+91		RT/NB																									1						5 Feet
205+91	A	RT/NB																									1						5 Feet
207+10		RT/NB																									1						5 Feet
208+10		RT/NB																									1						5 Feet
209+00		RT/NB																									1						5 Feet
209+48		RT/NB																													1		5 Feet
209+57		LT/SB																													1		5 Feet
210+09		RT/NB																									1						5 Feet
211+07		RT/NB																									1						5 Feet
212+07		RT/NB																									1						5 Feet
213+08		RT/NB																									1						5 Feet
214+08		RT/NB																									1						5 Feet
215+05		RT/NB																									1						5 Feet
216+03		RT/NB																									1						5 Feet
217+11		RT/NB																									1						5 Feet
218+12		RT/NB																									1						5 Feet
219+15		RT/NB																									1						5 Feet
220+08		RT/NB																									1						5 Feet
221+08	A	RT/NB																									1						5 Feet
222+15		RT/NB																									1						5 Feet
226+50		BOTH																									2						5 Feet
227+00		BOTH																									2						5 Feet
227+50		BOTH																									2						5 Feet
228+00		BOTH																									2						5 Feet
228+50		BOTH																									2						5 Feet
229+00		BOTH																									2						5 Feet
229+50		BOTH																									2						5 Feet
230+00		BOTH																									2						5 Feet
230+50		BOTH																									2						5 Feet
231+00		BOTH																									2						5 Feet
231+50		BOTH																									2						5 Feet
232+00		BOTH																									2						5 Feet
232+50		BOTH																									2						5 Feet
233+00		BOTH																									2						5 Feet
233+50		BOTH																									2						5 Feet
234+00	A	LT/SB																									2						5 Feet
234+50		BOTH																									2						5 Feet
235+00		BOTH																									2						5 Feet
235+50		BOTH																									2						5 Feet
236+00		BOTH																									2						5 Feet
236+50		BOTH																									2						5 Feet
237+00		BOTH																									2						5 Feet
237+50		BOTH																									2						5 Feet
238+00		BOTH																									2						5 Feet
294+00		RT/NB																									1						5 Feet
295+00		RT/NB																									1						5 Feet
296+00		RT/NB																									1						5 Feet
297+00		RT/NB																									1						5 Feet
298+00		RT/NB																									1						5 Feet
299+00		RT/NB																									1						5 Feet
300+00		RT/NB																									1						5 Feet
301+00		RT/NB																									1						5 Feet
302+00		RT/NB																									1						5 Feet
305+50		RT/NB																									1						5 Feet
306+50		RT/NB																									1						5 Feet
307+50		RT/NB																									1						5 Feet
308+50		RT/NB																									1						5 Feet
309+50		RT/NB																									1						5 Feet
310+50		RT/NB																									1						5 Feet
311+50		RT/NB																									1						5 Feet
312+50		RT/NB																									1						5 Feet
313+50		RT/NB																									1						5 Feet
314+50		RT/NB																									1						5 Feet
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317+50		RT/NB																									1						5 Feet
318+50		RT/NB																									1						5 Feet
319+50		RT/NB																									1						5 Feet
320+50		RT/NB																									1						5 Feet
321+50		RT/NB																									1						5 Feet
322+50		RT/NB																									1						5 Feet
323+50		RT/NB																									1						5 Feet
324+50		RT/NB																									1						5 Feet
		A: Post is missing																									98				2		totals

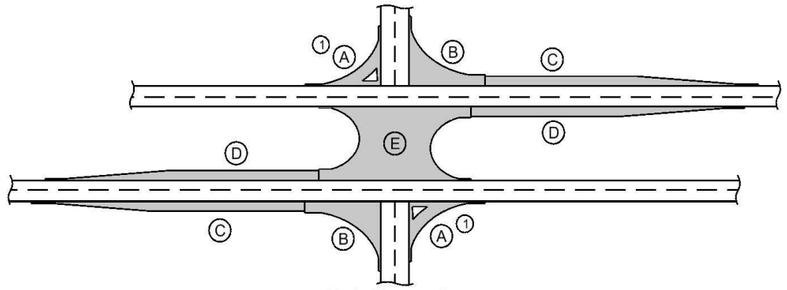
SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.

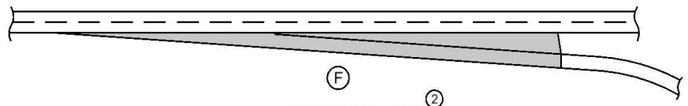
Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																			
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(P_{SG}) Width	(G) Width	(L) Length	Class 13 (4) Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	9" Paved Shoulder at Guardrail	Reinforced Paved Shoulder	Special Backfill				Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
																HMA Alternate		PCC Alternate					STA (3)	HMA	PCC	
					FT	FT (2)	FT	FT	CY (3)	TON (3)	TON/STA	TONS (3)	SY	SY (5)	SY (3)	TON (3)	TON/STA	TON (3)	TON/STA	CY (3)	TON (3)	TON/STA		CY (6)	CY (6)	
Section A																										
IA 76	SB	202+35.36	220+72.90	Lt	2.0			1837.5	68.1	110.6	6.0	6.6	408.3													B
	NB	202+35.36	220+61.80	Rt	2.0			1826.4	67.6	109.9	6.0	6.6	405.9													
	SB	227+22.90	233+93.00	Lt.	2.0			670.1	24.8	40.3	6.0	2.4	148.9													
	NB	226+62.00	233+93.00	Rt	2.0			731.0	27.1	44.0	6.0	2.6	162.4													
	NB	239+60.00	244+50.00	Rt	2.0			490.0	18.1	29.5	6.0	1.8	108.9													
	Both	244+50.00	253+81.30	Both	2.0			8235.2	610.0	991.1	12.0	59.5	1830.0													
	Both	253+67.20	326+85.20	Both	2.0			7318.0	542.1	880.7	12.0	52.8	1626.2													
	Both	326+99.00	346+73.50	Both	2.0			1974.5	146.3	237.6	12.0	14.3	438.8													
	Both	348+36.90	387+64.60	Both	2.0			3927.7	290.9	472.7	12.0	28.4	872.8													
	Both	388+31.70	397+03.00	Both	2.0			871.3	64.5	104.9	12.0	6.3	193.6													
							sub-total (63)		1859.6	3021.3		181.3														
Section B	NB	835+00.00	823+43.00	Lt	4.0			18934.4	1634.0	3198.5	16.9	191.9	8415.3								3737.7	19.7	189.3	1718.1		A
IA 76	NB	818+28.00	699+72.76	Lt	4.0			11855.2	1023.1	2002.6	16.9	120.2	5269.0								2340.2	19.7	118.6	1075.8		
	NB	699+68.38	605+01.60	Lt	4.0			9466.8	816.9	1599.2	16.9	96.0	4207.5								1868.7	19.7	94.7	859.0		
	NB	604+37.07	547+52.00	Lt	4.0			5685.1	490.6	960.4	16.9	57.6	2526.7								1122.2	19.7	56.9	515.9		B25
	NB	545+77.00	456+14.61	Lt	4.0			8962.4	773.4	1514.0	16.9	90.8	3983.3								1769.2	19.7	89.6	813.3		
	NB	456+22.53	376+50.00	Lt	4.0			7972.5	688.0	1346.8	16.9	80.8	3543.3								1573.8	19.7	79.7	723.4		
	SB	835+00.00	699+72.76	Rt	4.0			13527.2	1167.4	2285.1	16.9	137.1	6012.1								2670.3	19.7	135.3	1227.5		
	SB	699+68.38	605+01.60	Rt	4.0			9466.8	816.9	1599.2	16.9	96.0	4207.5								1868.7	19.7	94.7	859.0		
	SB	604+37.07	456+14.61	Rt	4.0			14822.5	1279.1	2503.9	16.9	150.2	6587.8								2926.0	19.7	148.2	1345.0		
	SB	456+22.53	376+50.00	Rt	4.0			7972.5	688.0	1346.8	16.9	80.8	3543.3								1573.8	19.7	79.7	723.4		
							sub-total (64)		9377.4	18356.3		1101.4									21450.6		1086.7	9860.4		
IA 76	NB	220+61.80	221+57.80	Rt				96.0	26.2					104.6												C
9" guardrail	SB	220+72.90	221+66.70	Lt				93.8	25.6					102.3												C
pavement	NB	225+89.30	226+62.00	Rt				72.7	21.2					84.7												C
	SB	225+99.80	227+22.90	Lt				123.1	42.8					171.4												C
							sub-total (63)																			
								385.6	115.8	0.0		0.0		463.0												
A: Turn Lane									11352.8	21377.6		1282.7														
B: Bridge																										
C: Excavated material from shoulder construction may be used for embankment.																										

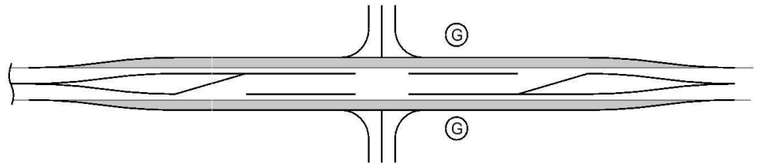
HMA PAVEMENT



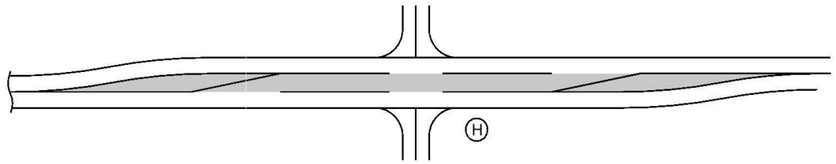
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(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.

(3) 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 150, and a special backfill unit weight (lbs/cf) of 140.

Location				Mainline			Area (3)								Bid Items											
															Hot Mix Asphalt Pavement						Binder					
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	Surface		Intermediate		Interlayer\CIPR		Surface	Intermediate	Interlayer	Special Backfill	Modified Subbase	Granular Subbase	Pavement Scarification	Remarks
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	TONS	SY	TONS	SY	TONS	SY	TONS	TONS	TONS	TONS	CY	SY	SY	
Section A	both	202+35.36	220+92.98	28.0	1857.6	5779.3									637.2	5779.3			325.1		38.2		26.0				4953.7	
	both	226+20.02	233+40.00	28.0	720.0	2239.9									247.0	2239.9			126.0		14.8		10.1				1919.9	
	nb	233+40.00	239+60.00		620.0				640.0						70.6	640.0			36.0		4.2		2.9				1653.3	
	sb	233+40.00	245+00.00		1160.0				1434.0						158.1	1434.0			80.7		9.5		6.5				3093.3	
	both	233+40.00	239+60.00	24.0	620.0	1653.3									182.3	1653.3			93.0		10.9		7.4				1653.3	
	both	239+60.00	245+00.00	26.0	540.0	1560.0									172.0	1560.0			87.8		10.3		7.0				1440.0	
	both	245+00.00	253+81.30	28.0	881.3	2741.8									302.3	2741.8			154.2		18.1		12.3				2350.1	
	both	253+67.20	326+85.20	28.0	7318.0	22767.1									2510.1	22767.1			1280.7		150.6		102.5				19514.7	
	both	326+99.00	346+73.50	28.0	1974.5	6142.9									677.3	6142.9			345.5		40.6		27.6				5265.3	
	both	348+36.90	387+64.60	28.0	3927.7	12219.5									1347.2	12219.5			687.3		80.8		55.0				10473.9	
	both	388+31.70	397+03.00	28.0	871.3	2710.7									298.9	2710.7			152.5		17.9		12.2				2323.5	
Subtotal (63)															6602.7				3368.7		396.2		269.5				54641.1	
Section B	both	835+00.00	823+76.00	32.0	1124.0	3996.4									330.5	3996.4	330.5	3996.4		3996.4	19.8	19.8						
	lt	823+76.00	822+76.00		100.0				66.7						5.5	66.7	5.5	66.7			0.3	0.3						
	lt	822+76.00	815+70.00		806.0				941.5						77.9	941.5	77.9	941.5		941.5	4.7	4.7						
	both	823+76.00	699+72.76	32.0	12403.2	44100.4									3646.6	44100.4	3646.6	44100.4		44100.4	218.8	218.8						
	both	699+68.38	605+01.60	32.0	9466.8	33659.7									2783.2	33659.7	2783.2	33659.7		33659.7	167.0	167.0						
	both	604+37.07	456+14.61	32.0	14822.5	52702.1									4357.8	52702.1	4357.8	52702.1		52702.1	261.5	261.5						
	both	456+22.53	376+50.00	32.0	7972.5	28346.8									2343.9	28346.8	2343.9	28346.8		28346.8	140.6	140.6						
Subtotal=75% (63)															10159.0		10159.0			122810.2	609.5	609.5						
Subtotal=25% (64)															3386.3		3386.3			71639.3	203.2	203.2						
Total (63)															16761.7		10159.0		3368.7	122810.2	1005.7	609.5					109282.1	
Total (64)															3386.3		3386.3			71639.3	203.2	203.2						
Totals															20148.1		13545.3		3368.7	194449.4	1208.9	812.7	269.5					

108-8A
10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Location				Layout Lengths				Long-Span System		Delineators and Object Markers (2)					Bid Items									
				BA-250, BA-260, LS-630, or LS-635														BA-250 or LS-630					BA-260 or LS-635		
No.	(1) Direction of Traffic	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET	BA-211		SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor *		Post Adapter	Steel Beam Guardrail	Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal	Remarks
																					Tangent	Flared	Tangent	Flared			
												Type 1	Type 2	Type 3													
												White	OM2-2	OM3-L	OM3-R												
				FT	LF	LF	LF	LF	STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
	SB	O	221+57.00	10.5	28.125			35.2			3			1	1	A	1		6.25						1	1	
	NB	O	221+45.90	10.5	28.125			35.2			3			1	1	A	1		6.25						1	1	
	SB	O	225+67.10	10.5	53.125			47.7			3			1	1	A	1		12.50	1	1						
	NB	O	225+56.00	10.5	37.500			47.7			3			1	1	A	1			1	1						
																	4		25.00	2	2				2	2	totals

* Contractor will need to drill new bolt holes for new bolt pattern for BA-202.

104-8A
10-17-17

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

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	Special Ditch Control, Wood Excelsior Mat	Turf Reinforced Mat (TRM), Type 2	Transition Mat	Macadam Stone Base	Engineering Fabric	Erosion Stone	
								EC-101	EC-104	EC-105				
		FT	SY	TYPE	A B C or D	SY	TONS	SQ	SQ	SF	TONS	SY	TONS	
223+56.50	NE	32.3	43.3	DR-402	A,D						1.100	34.3	24.800	
223+56.50	NW	32.3	44.8	DR-402	B,C,F						1.100	21.1	10.800	
											2.200	55.4	35.600	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
	SB	221+12.34	221+68.34	Lt	56.0
	NB	221+01.62	221+57.62	Rt	56.0
	SB	225+55.38	226+18.38	Lt	63.0
	NB	225+44.66	226+07.66	Rt	63.0
					238.0

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent. Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	(1) Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
1	SB	221+57.00	Lt	UAC	25.7	5.0					63.8	15.0	76.0		9.0	A,B
2	NB	221+45.90	Rt	UAC	25.7	5.0					63.8	15.0	76.0		14.0	A,B
3	SB	225+67.10	Lt	UAC	50.5	5.0	84.7	16.7			135.5	19.0	91.0		65.0	A,B
4	NB	225+56.00	Rt	UAC	35.0	5.0					85.9	16.0	80.0		132.0	A,B
															220.0	totals

A: Material excavated for paved shoulders may be used for embankment.
B: All location stations measured from bridge sta. 223+56.5. See sheets U.1 & U.2 for additional information.

110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
W-beam guardrail	56		A	Joel Monroe	A
	56			Area Supervisor	
	63			563-880-0084	
	63				
	238				total lineal feet

A: Salvage guardrail less posts, impact heads, and hardware. Deliver to Iowa DOT Maintenance yard Waukon, Iowa

MILLED RUMBLE STRIPS

See PV-12 and PV-13

* Calculated at 18" width for Shoulder.

Location						Installation Length		Fog Seal* (Milled Rumble Strip)	Effective Shoulder Width			Remarks
Road Identification	Station to Station		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	(L)	PCC	HMA	Shoulder	PCC Paved	HMA Paved	Granular\ Earth	
					IN	STA	STA	GAL	FT	FT	FT	
Proj. (63)	202+35.36	397+03.00	HMA	Left Shoulder	8"		189.34	205.2				
Proj. (64)	835+00.00	376+50.00	HMA	Left Shoulder	12"		459.10	497.4				
Proj. (63)	202+35.36	397+03.00	HMA	Right Shoulder	8"		189.34	205.2				
Proj. (64)	835+00.00	376+50.00	HMA	Right Shoulder	12"		459.10	497.4				
Proj. (63)	202+35.36	397+03.00	HMA	Centerline			189.34	0.0				
Proj. (64)	835+00.00	376+50.00	HMA	Centerline			459.10	0.0				
Lengths are adjusted for station equations												
				Totals		**PCC**	**HMA**	**Fog Seal**				
				HMA Shoulders			**1296.89**	**1405.2**				
				PCC Shoulders		**0.00**						
				PCC or HMA Shoulders		**0.00**	**0.00**	**0.0**				
				HMA Centerlines			**648.44**					
				PCC Centerlines		**0.00**						
				PCC or HMA Centerlines		**0.00**	**0.00**					

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	
221+48.30	221+68.30	Lt	PCC	17.8	20.0	Ex. pave. Shoulder at Guardrail
221+34.60	221+57.60	Rt	PCC	20.4	23.0	Ex. pave. Shoulder at Guardrail
225+55.40	225+78.40	Lt	PCC	20.4	23.0	Ex. pave. Shoulder at Guardrail
225+44.70	225+65.70	Rt	PCC	18.7	21.0	Ex. pave. Shoulder at Guardrail
243+30.00	245+30.00	Rt	HMA	44.4		Ex. pave. Shoulder. Incidental to Class 13
277+07.00	287+10.00	Lt	HMA	222.9		Ex. pave. Shoulder. Incidental to Class 13
289+70.00	375+00.00	Rt	HMA	1895.6		Ex. pave. Shoulder. Incidental to Class 13
315+10.00	321+50.00	Lt	HMA	142.2		Ex. pave. Shoulder. Incidental to Class 13
359+40.00	388+82.00	Lt	HMA	653.8		Ex. pave. Shoulder. Incidental to Class 13
831+60.00	815+70.00	Rt	HMA	530.0		Ex. pave. Shoulder. Incidental to Class 13
831+60.00	804+90.00	Lt	HMA	890.0		Ex. pave. Shoulder. Incidental to Class 13
808+88.00	801+50.00	Rt	HMA	164.0		Ex. pave. Shoulder. Incidental to Class 13
787+50.00	774+70.00	Rt	HMA	284.4		Ex. pave. Shoulder. Incidental to Class 13
878+50.00	762+18.00	Lt	HMA	2584.9		Ex. pave. Shoulder. Incidental to Class 13
762+18.00	743+75.00	Rt	HMA	409.6		Ex. pave. Shoulder. Incidental to Class 13
739+09.00	724+00.00	Lt	HMA	503.0		Ex. pave. Shoulder. Incidental to Class 13
708+44.00	698+42.00	Lt	HMA	1113.3		Ex. pave. Shoulder. Incidental to Class 13
699+89.00	671+37.00	Rt	HMA	3168.9		Ex. pave. Shoulder. Incidental to Class 13
669+32.00	653+00.00	Lt	HMA	544.0		Ex. pave. Shoulder. Incidental to Class 13
625+11.00	586+00.00	Lt	HMA	869.1		Ex. pave. Shoulder. Incidental to Class 13
625+11.00	586+00.00	Rt	HMA	869.1		Ex. pave. Shoulder. Incidental to Class 13
576+00.00	558+87.00	Rt	HMA	571.0		Ex. pave. Shoulder. Incidental to Class 13
547+70.00	532+75.00	Lt	HMA	498.3		Ex. pave. Shoulder. Incidental to Class 13
522+28.00	507+79.00	Rt	HMA	483.0		Ex. pave. Shoulder. Incidental to Class 13
497+00.00	461+60.00	Lt	HMA	1180.0		Ex. pave. Shoulder. Incidental to Class 13
456+20.00	446+00.00	Rt	HMA	340.0		Ex. pave. Shoulder. Incidental to Class 13
432+25.00	414+45.00	Lt	HMA	593.3		Ex. pave. Shoulder. Incidental to Class 13
414+45.00	377+50.00	Rt	HMA	1231.7		Ex. pave. Shoulder. Incidental to Class 13

PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
SLW4: Solid Lane Line (White) @ 1.00
SLW2: Stop Line (White) @ 6.00
ELY4: Edge Line Left (Yellow) @ 1.00

Location							Length by Line Type (Unfactored)													Remarks
Road ID	Station to Station	Dir. of Travel	Marking Type	Side L	Side C	Side R	BCY4* STA	DCY4 STA	NPY4** STA	SLW4 STA	SLW2 STA	ELY4 STA								
			Factored Total: Waterborne/Solvent Paint				37.86	818.46	406.04	15.65										Milling/CIPR
			Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							1278.01										
			Factored Total: Waterborne/Solvent Paint				37.86	818.46	406.04	15.65										1st Lift
			Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							1278.01										
			Factored Total: Waterborne/Solvent Paint				37.86	818.46	406.04	15.65										2nd Lift
			Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							1278.01										
			Factored Total: Waterborne/Solvent Paint				37.86	818.46	406.04	15.65										Surface Lift
			Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							1278.01										
			Bid Quantity: Grooves Cut for Pavement Markings							1278.01										
			Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							5112.00	3.00									Totals
			Bid Quantity: Grooves Cut for Pavement Markings							1278.01										

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100-1D
10-18-05

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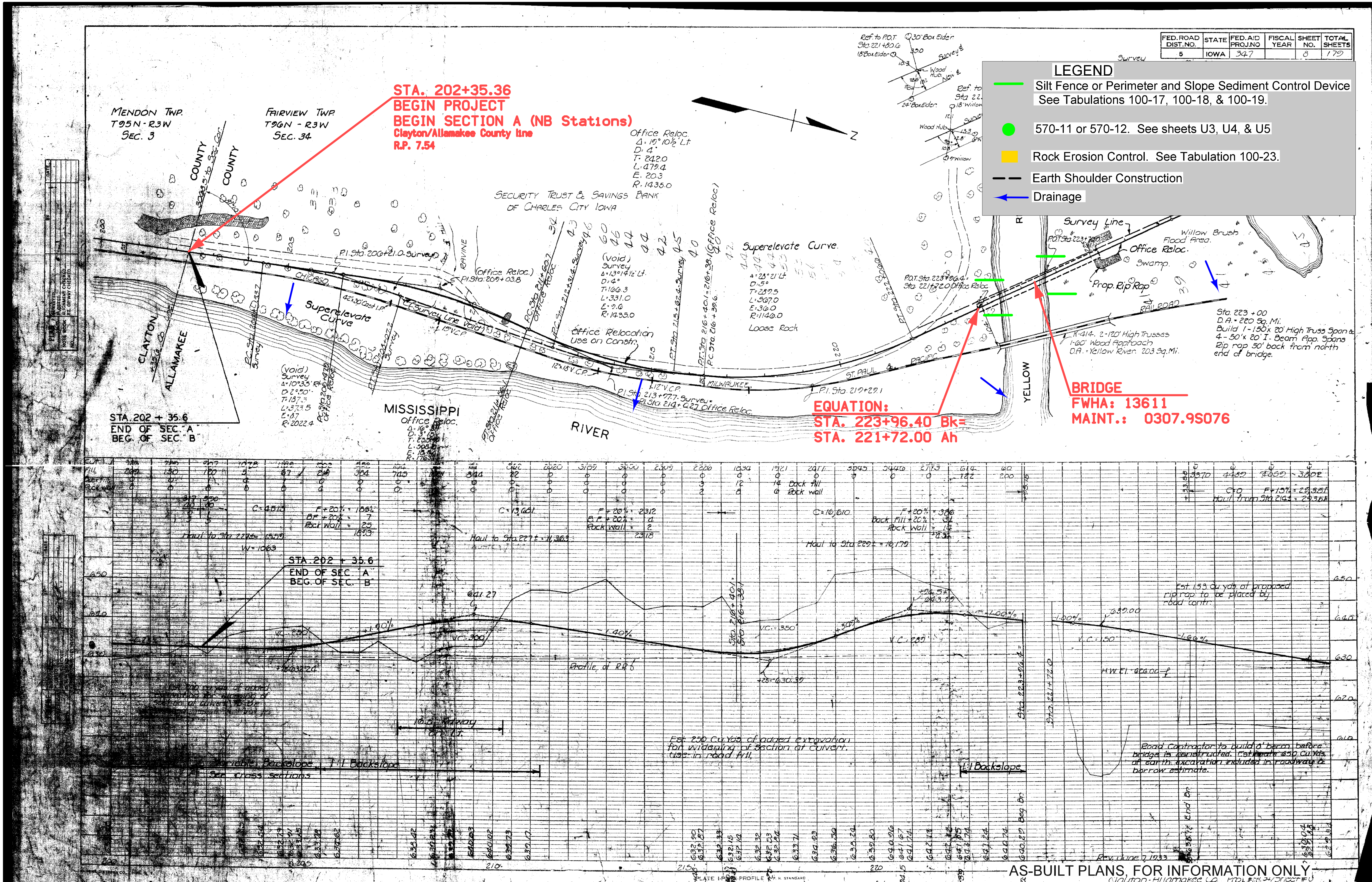

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D.1

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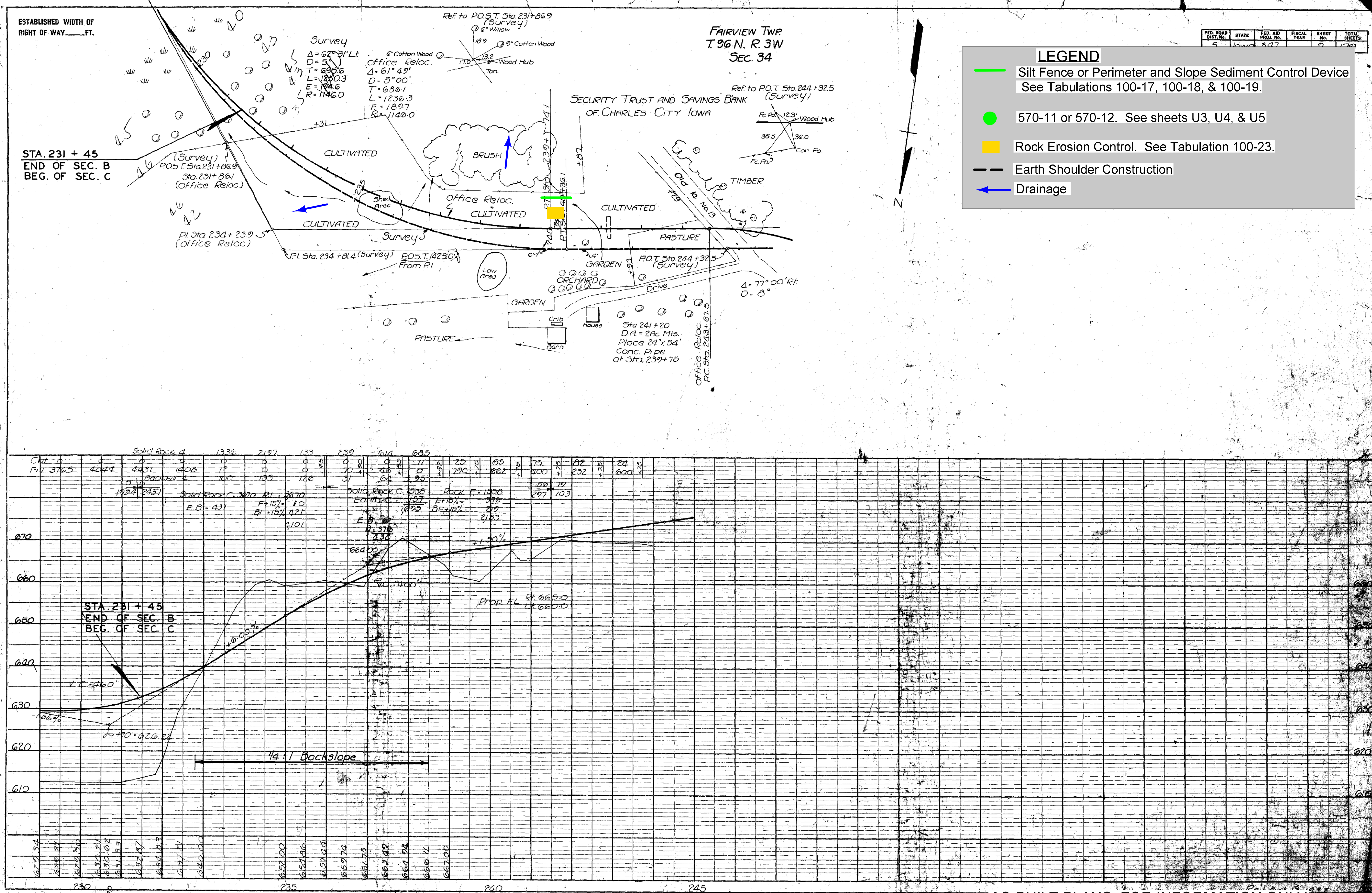

LEGEND

- Silt Fence or Perimeter and Slope Sediment Control Device. See Tabulations 100-17, 100-18, & 100-19.
- 570-11 or 570-12. See sheets U3, U4, & U5
- Rock Erosion Control. See Tabulation 100-23.
- Earth Shoulder Construction
- Drainage

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D2

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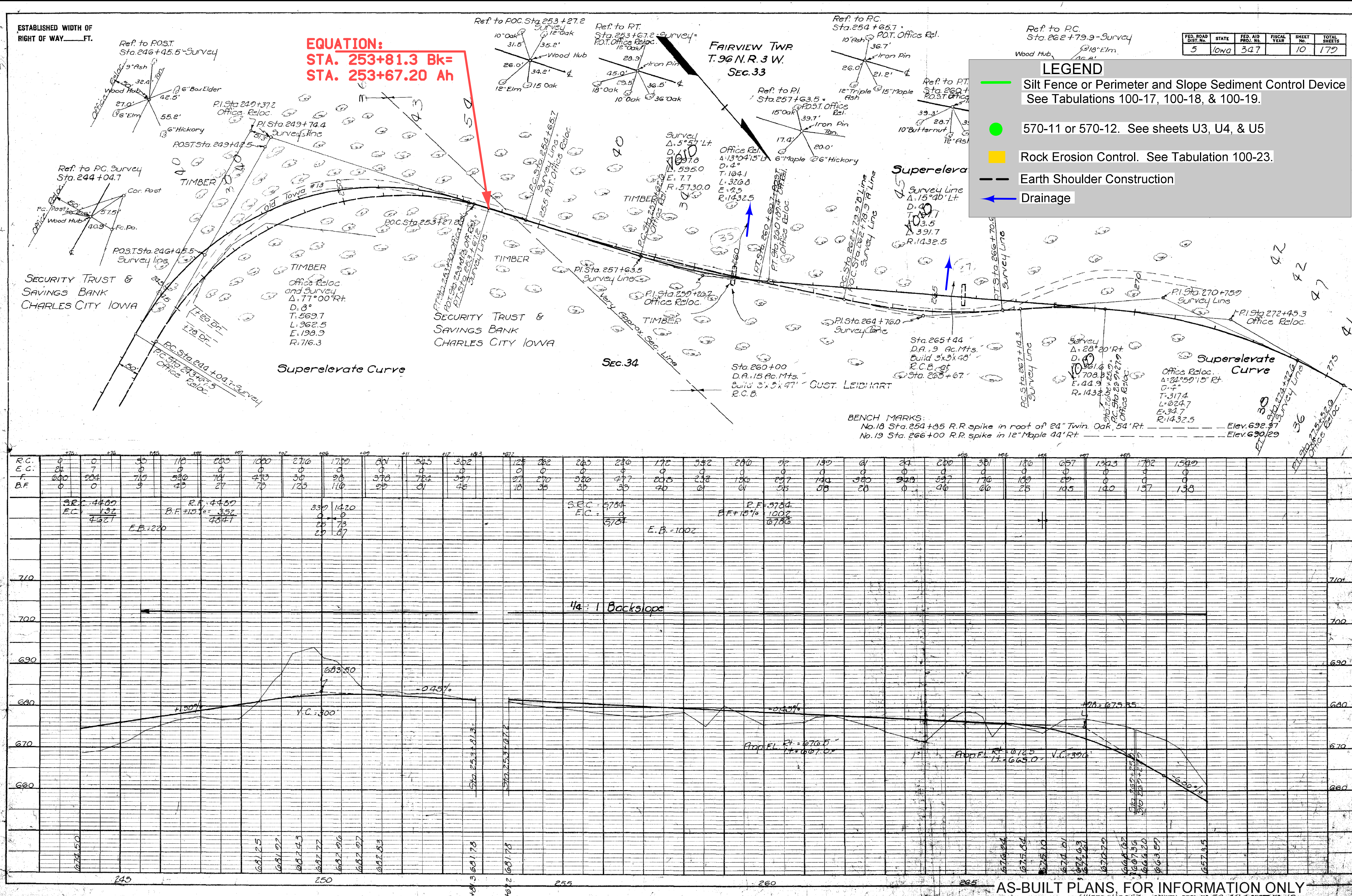
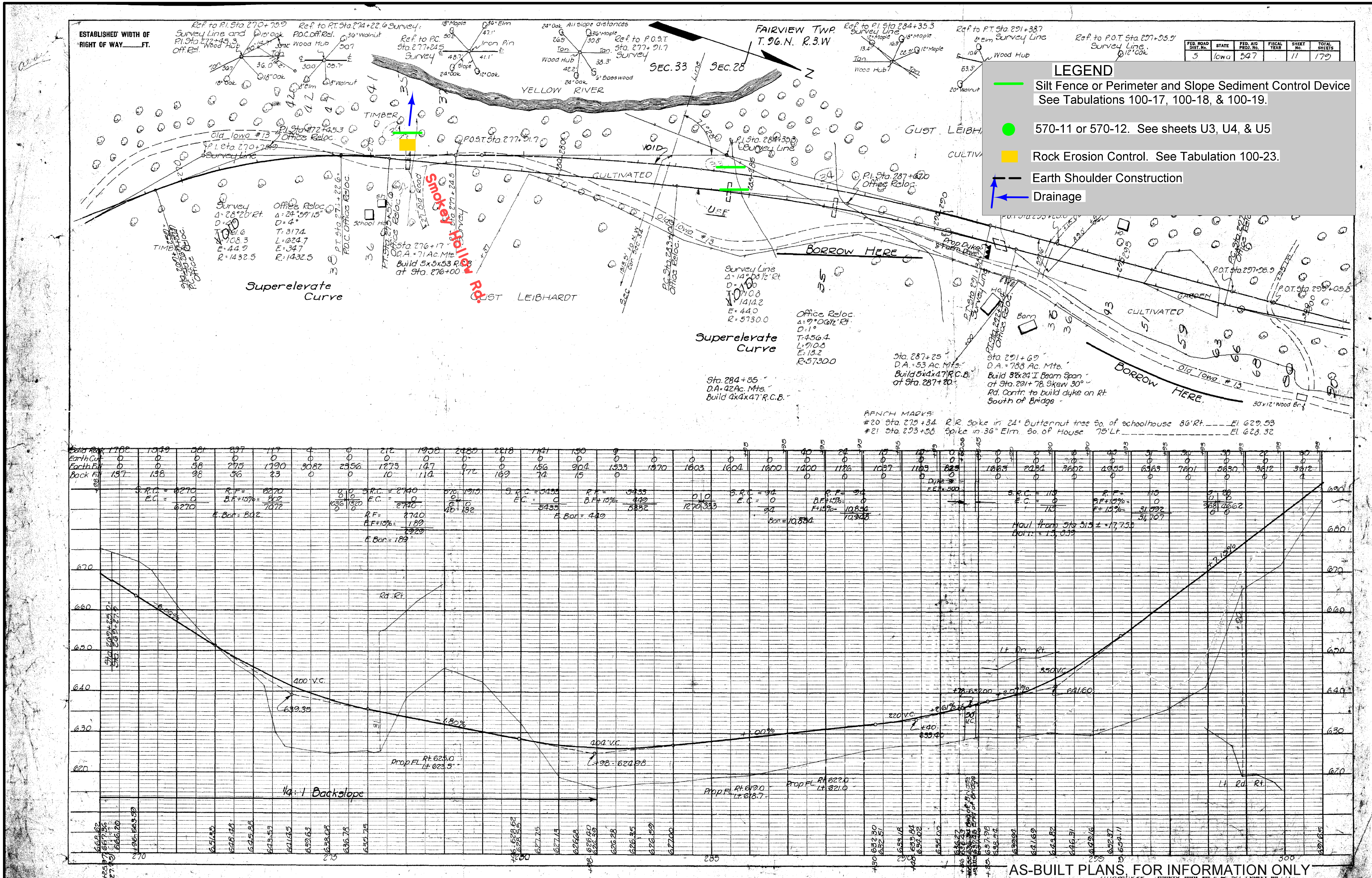


FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
5	Iowa	347		10	179



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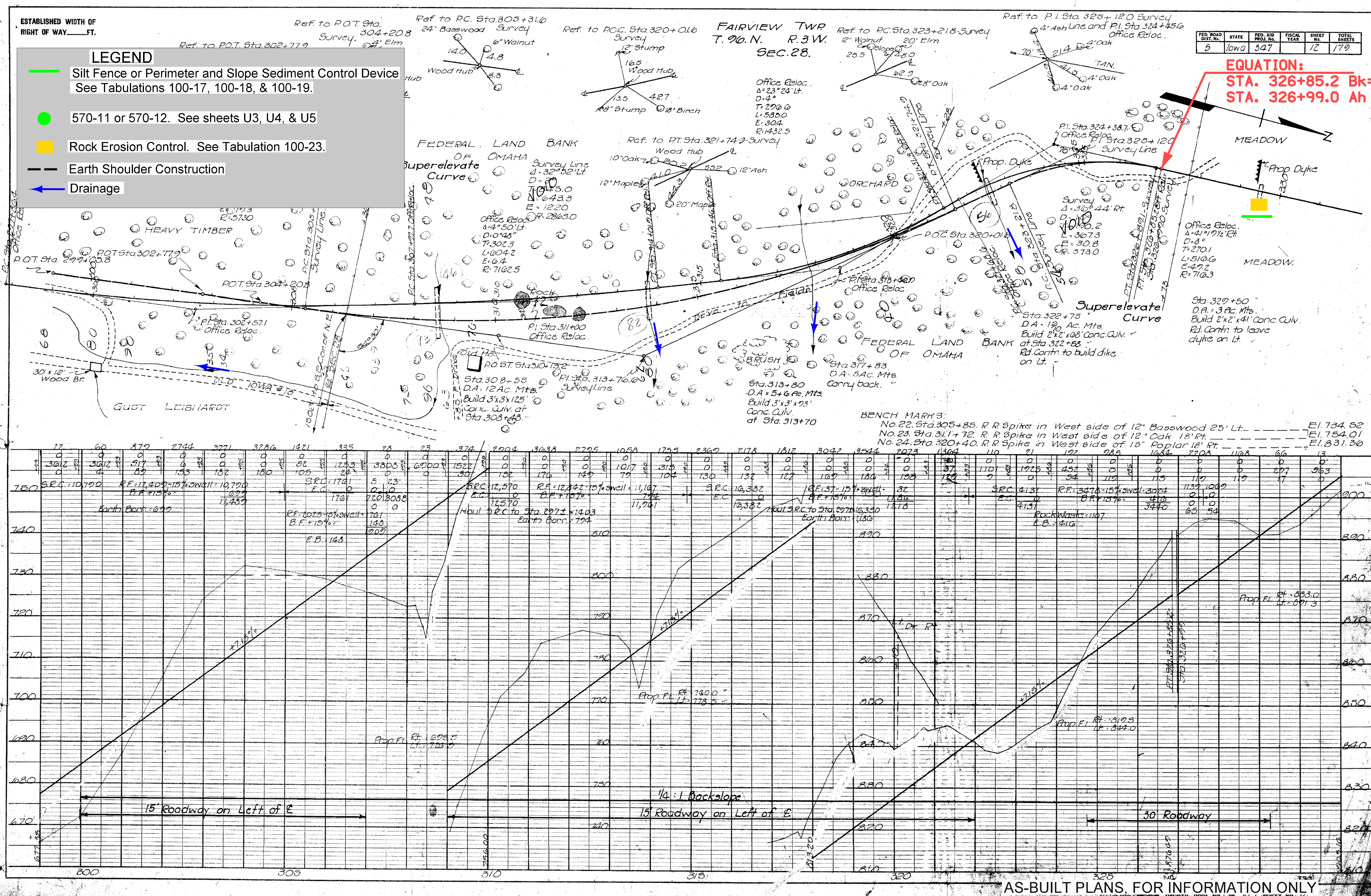

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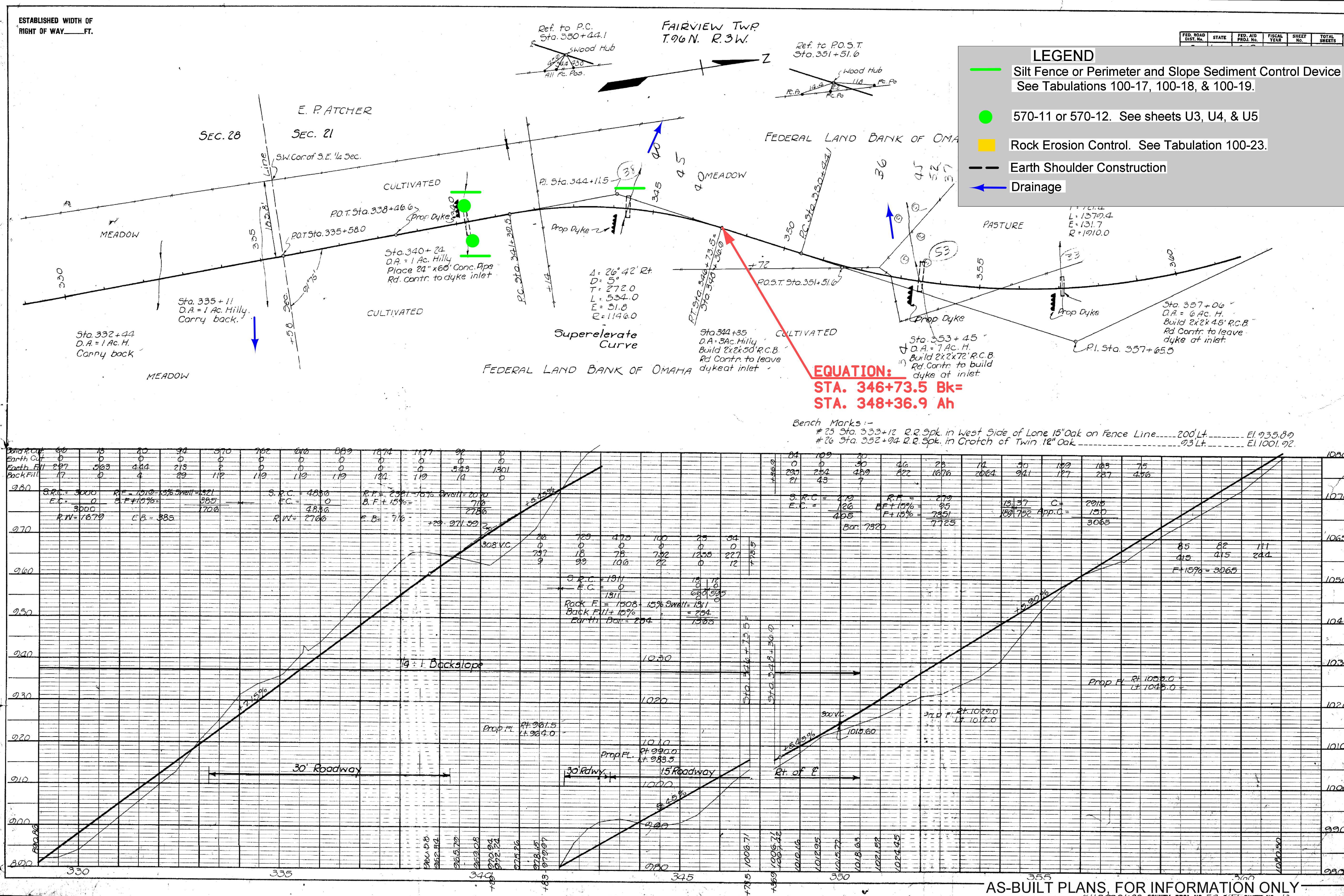

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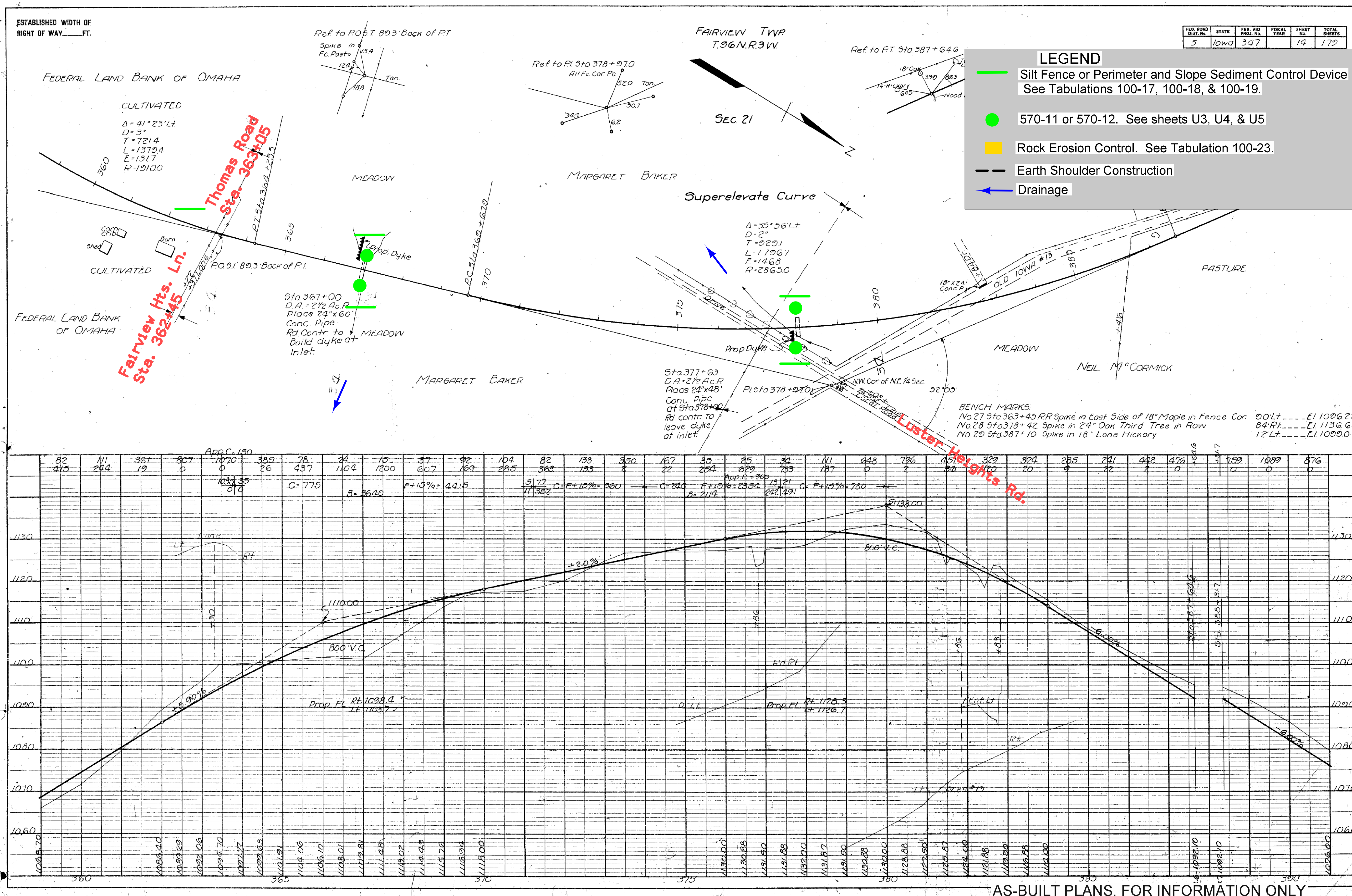

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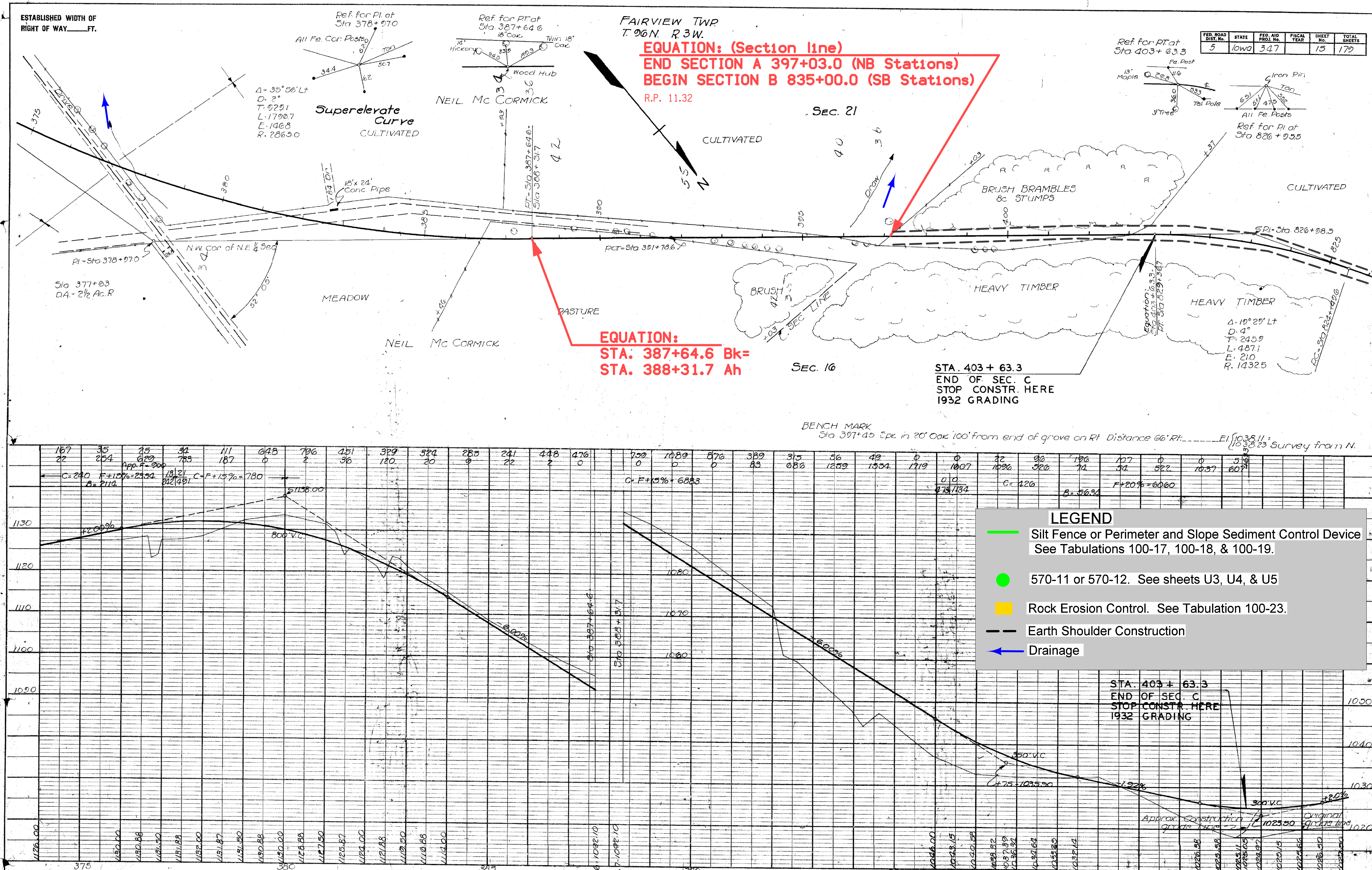

ESTABLISHED WIDTH OF RIGHT OF WAY____FT.
FAIRVIEW TWP
T. 96N. R.3W.
EQUATION: (Section line)
END SECTION A 397+03.0 (NB Stations)
BEGIN SECTION B 835+00.0 (SB Stations)
R.P. 11.32
Ref. for P.I. at Sta 378+97.0
All Fe. Cor. Posts
Ref. for P.T. at Sta 387+64.6
Wood Hub
Superelevate Curve
CULTIVATED
NEIL Mc CORMICK
Sec. 21
Sec. 16
MEADOW
PASTURE
BRUSH
BRUSH BRAMBLES & STUMPS
HEAVY TIMBER
CULTIVATED
18"x 24' Conc. Pipe
PI = Sta 378+97.0
Sta 377+63 DA = 2½ Ac. R
N.W. Cor. of N.E. ¼ Sec.
PT = Sta 387+64.6
Sta 388+31.7
PC = Sta 391+78.6
EQUATION:
STA. 387+64.6 Bk=
STA. 388+31.7 Ah
Ref. for P.T. at Sta 403+63.3
Ref. for P.I. at Sta 826+99.5
PI = Sta 826+98.5
STA. 403 + 63.3
END OF SEC. C
STOP CONSTR. HERE
1932 GRADING
BENCH MARK
Sta 397+45 Spk in 20" Oak 100' from end of grove on Rt. Distance 66' Rt. El 1038.11
1038.23 Survey from N.
Δ 19°29' Lt
D. 4°
T. 245.9
L. 487.1
E. 21.0
R. 1432.5
LEGEND
Silt Fence or Perimeter and Slope Sediment Control Device See Tabulations 100-17, 100-18, & 100-19.
570-11 or 570-12. See sheets U3, U4, & U5
Rock Erosion Control. See Tabulation 100-23.
Earth Shoulder Construction
Drainage
800' V.C.
+2.09%
-6.00%
350' V.C.
-1.92%
300' V.C.
+2.0%
Approx. Construction grade line
Original ground line
STA. 403 + 63.3
END OF SEC. C
STOP CONSTR. HERE
1932 GRADING
375
380
385
390
395
400
405

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D8

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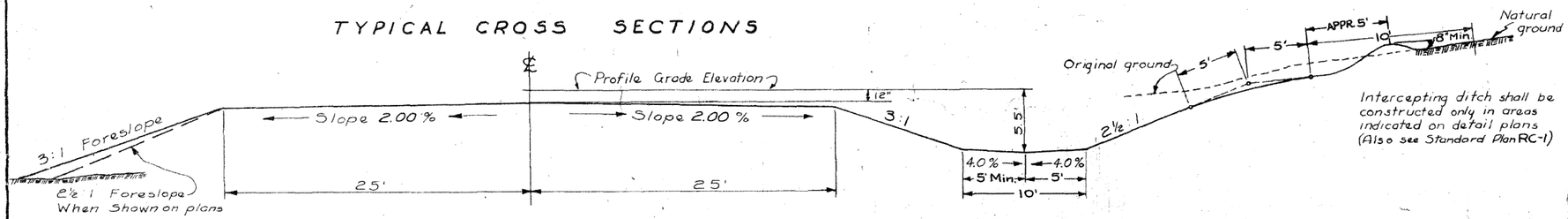
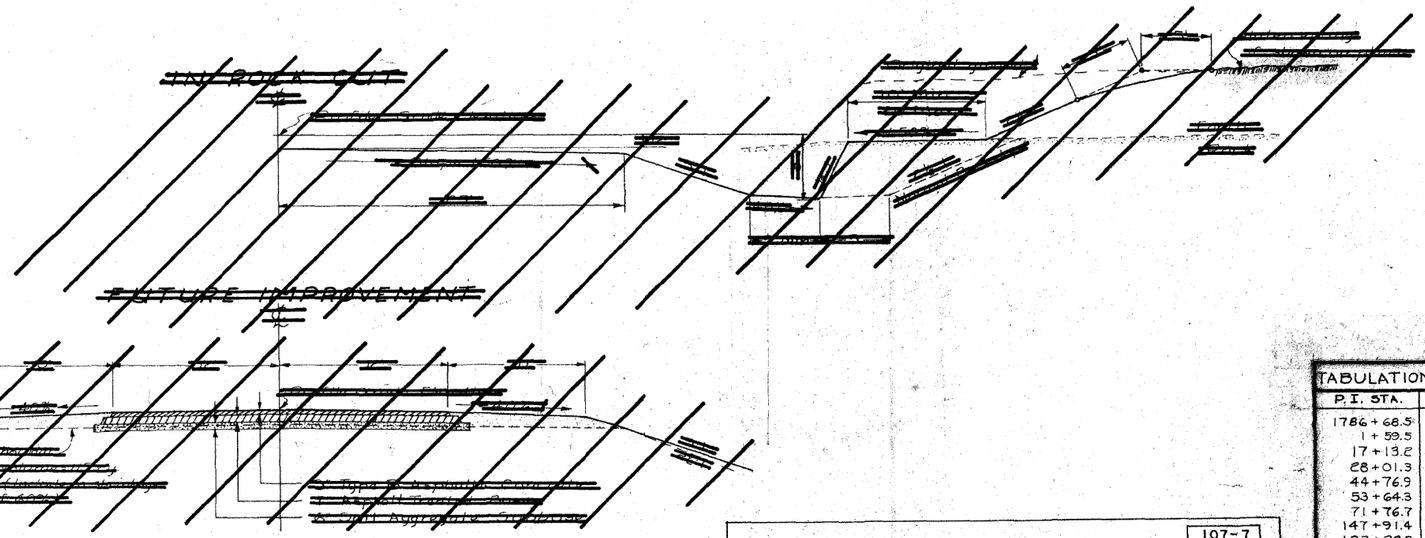
	IA	F-347(4)	2-A	55

TYPICAL CROSS SECTIONS



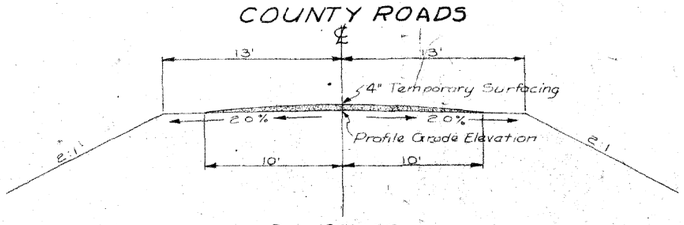
Intercepting ditch shall be constructed only in areas indicated on detail plans (Also see Standard Plan RC-1)

STA. 1796+96.9 to 1804+46.9
STA. 0+00.0 to 11+00.0
STA. 1782+52.24 to 1789+92.31

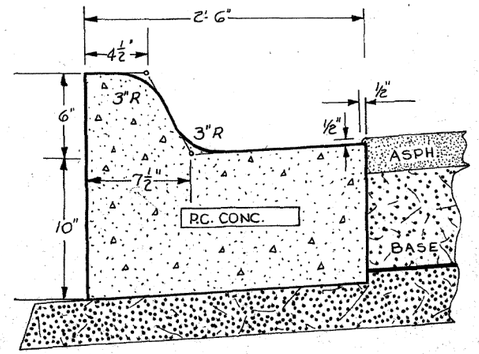


NOTE: See Paving Cross Section - Sheet No. 2.

COUNTY ROADS



STA. 1801+36



DETAILS OF P.C.CONC. CURB & GUTTER

107-7

TABULATION OF SHOULDER MATERIAL AVAILABILITY AREAS

LOCATION STATION TO STATION	SIDE	ESTIMATED QUANTITY AVAILABLE CU. YDS.
78 to 85	Left	3,000 C. Y.
127 to 136	Left	18,000 C. Y.
143 to 146	Right	7,000 C. Y.
147 to 150	Right	2,000 C. Y.
192 to 195	Left	2,000 C. Y.
276 to 281	Left	2,000 C. Y.
295 to 305	Left	4,500 C. Y.
328 to 335	Left	9,000 C. Y.
465 to 473	Left	6,000 C. Y.
581 to 587	Left	45,000 C. Y.
593 to 596	Right	2,500 C. Y.
575 to 577	Left	1,000 C. Y.
615 to 619	Left	2,000 C. Y.
627 to 635	Right	2,500 C. Y.
691 to 697	Right	10,000 C. Y.

TABULATION OF SUPERELEVATED CURVES

P.I. STA.	Δ	D	e	l
1786+68.5	19°-17' Rt.	5°	0.040	Spiral
1+59.5	9°-33' Lt.	3°	0.066	180'
17+13.2	14°-58½' Lt.	2°	0.047	Spiral
28+01.3	20°-12½' Rt.	3°	0.066	Spiral
44+76.9	9°-57' Rt.	3°-30'	0.072	Spiral
53+64.3	38°-00' Lt.	4°	0.076	Spiral
71+76.7	2°-53' Rt.	0°-30'	R.C.	175'
147+91.4	36°-09½' Rt.	3°	0.066	Spiral
192+38.8	44°-40½' Rt.	4°	0.076	Spiral
211+04.7	46°-10' Lt.	5°	0.080	Spiral
230+34.1	31°-51' Rt.	2°-30'	0.057	Spiral
273+66.4	67°-14' Rt.	4°	0.076	Spiral
294+90.6	58°-06' Lt.	3°-45'	0.074	Spiral
348+36.7	19°-37' Rt.	2°	0.047	Spiral
366+09.4	3°-06' Rt.	0°-30'	RC.	175'
384+22.2	11°-04' Lt.	1°	0.022	175'
419+75.6	37°-31' Rt.	2°	0.047	Spiral
451+29.5	24°-01' Lt.	3°	0.066	Spiral
473+42.9	34°-27' Rt.	4°	0.076	Spiral
514+97.4	34°-59' Lt.	4°	0.076	Spiral
540+06.4	38°-41' Rt.	4°	0.076	Spiral
564+98.6	42°-24' Lt.	5°	0.080	Spiral
599+65.5	16°-35' Lt.	2°	0.047	Spiral
616+48.1	27°-29½' Rt.	3°	0.066	Spiral
645+04.3	10°-06' Rt.	2°	0.047	Spiral
661+36.0	50°-06' Rt.	4°	0.076	Spiral
690+65.3	102°-06½' Lt.	4°	0.076	Spiral
703+74.6	20°-08' Rt.	3°-30'	0.072	Spiral
732+03.0	51°-47' Rt.	5°	0.080	Spiral
753+62.8	63°-12' Lt.	5°	0.080	Spiral
768+94.1	27°-51½' Rt.	3°	0.066	Spiral
782+50.0	3°-53' Rt.	0°-30'	RC.	175'
800+22.6	3°-27' Lt.	0°-30'	RC.	175'
815+96.4	33°-29' Rt.	3°	0.066	Spiral
826+06.5	19°-26' Lt.	4°	0.076	Spiral

e = Rate of superelevation in ft. per ft. of width.
l = Length of transition from normal section to full superelevation.

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D9

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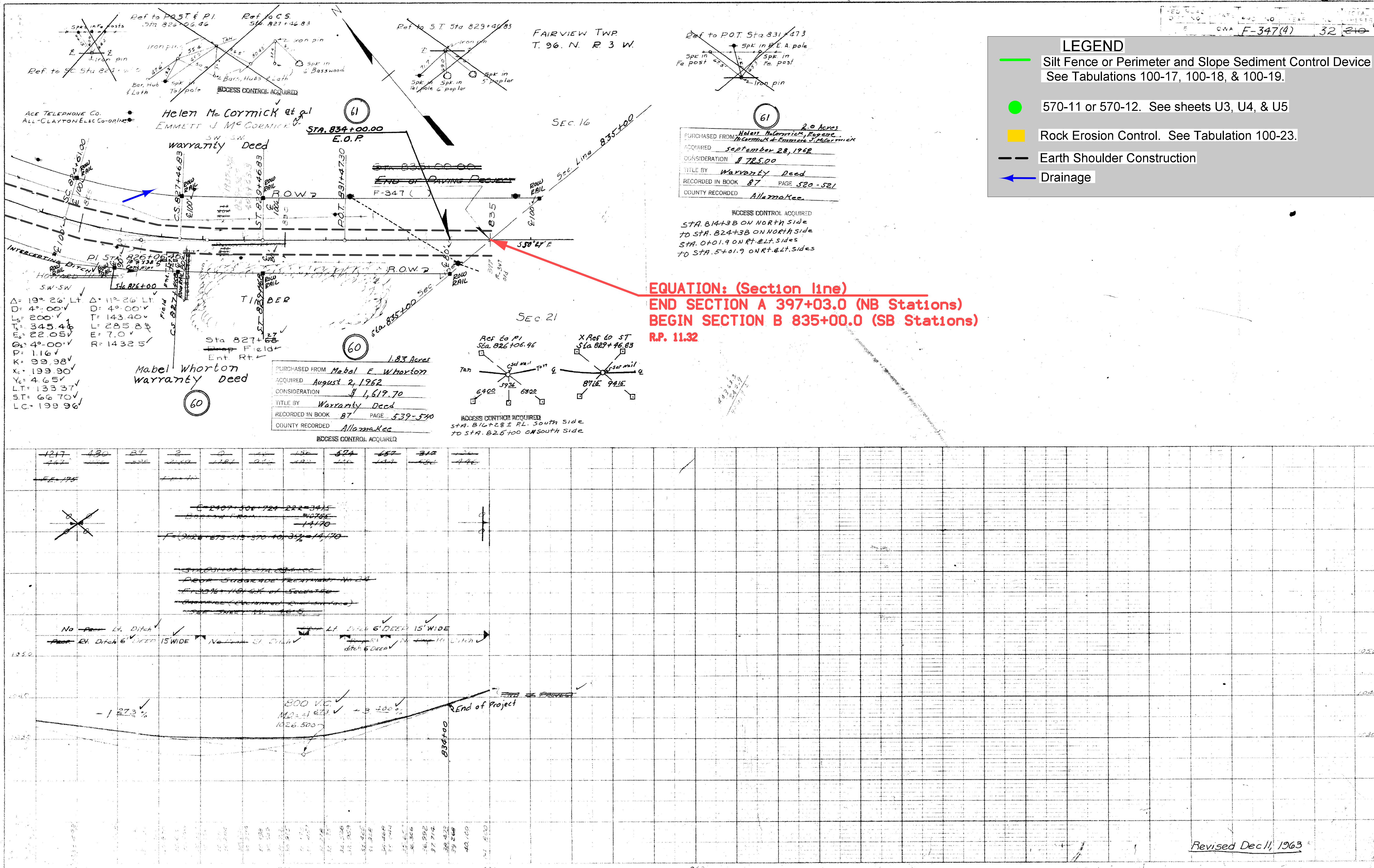

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D10

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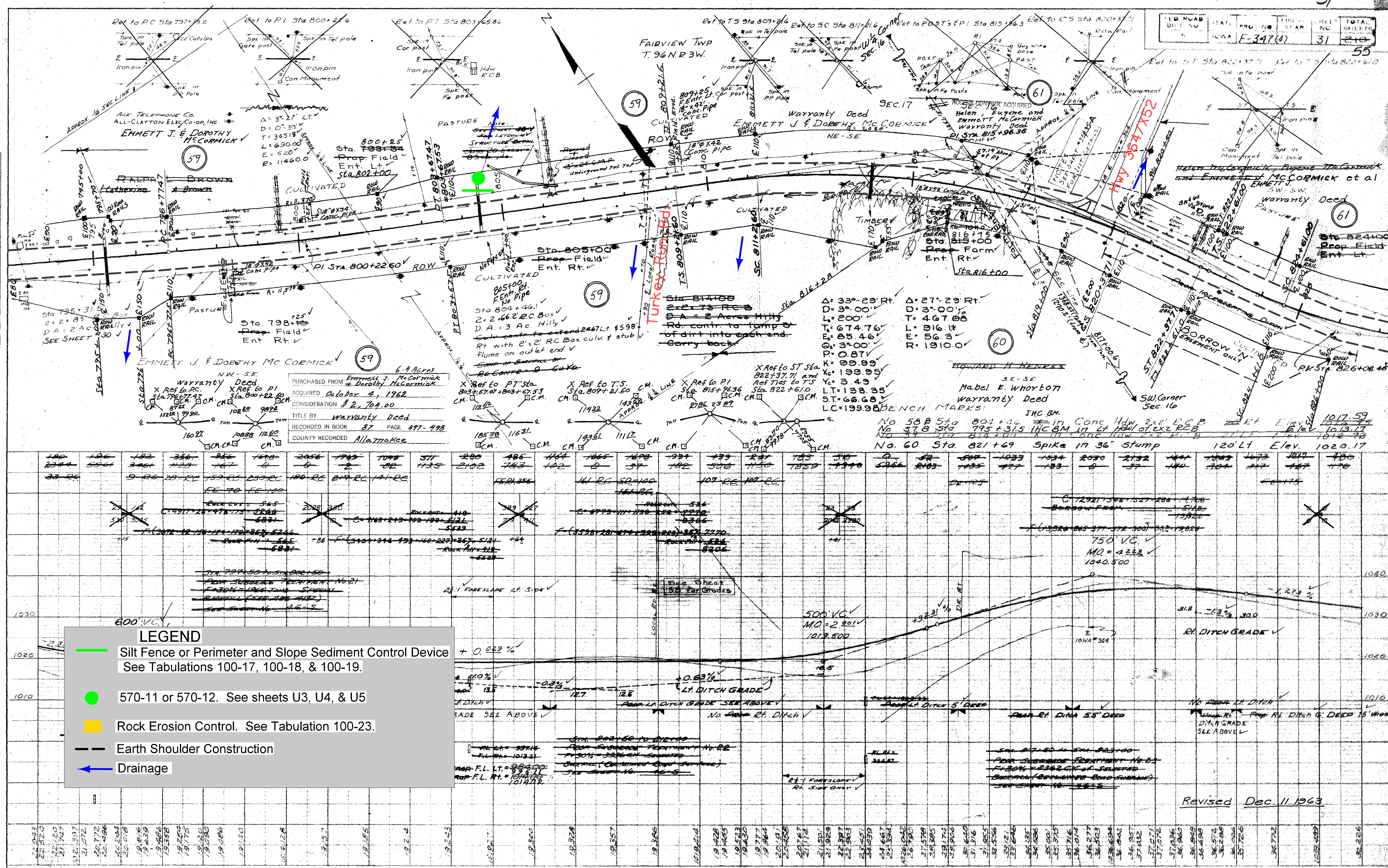

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D11

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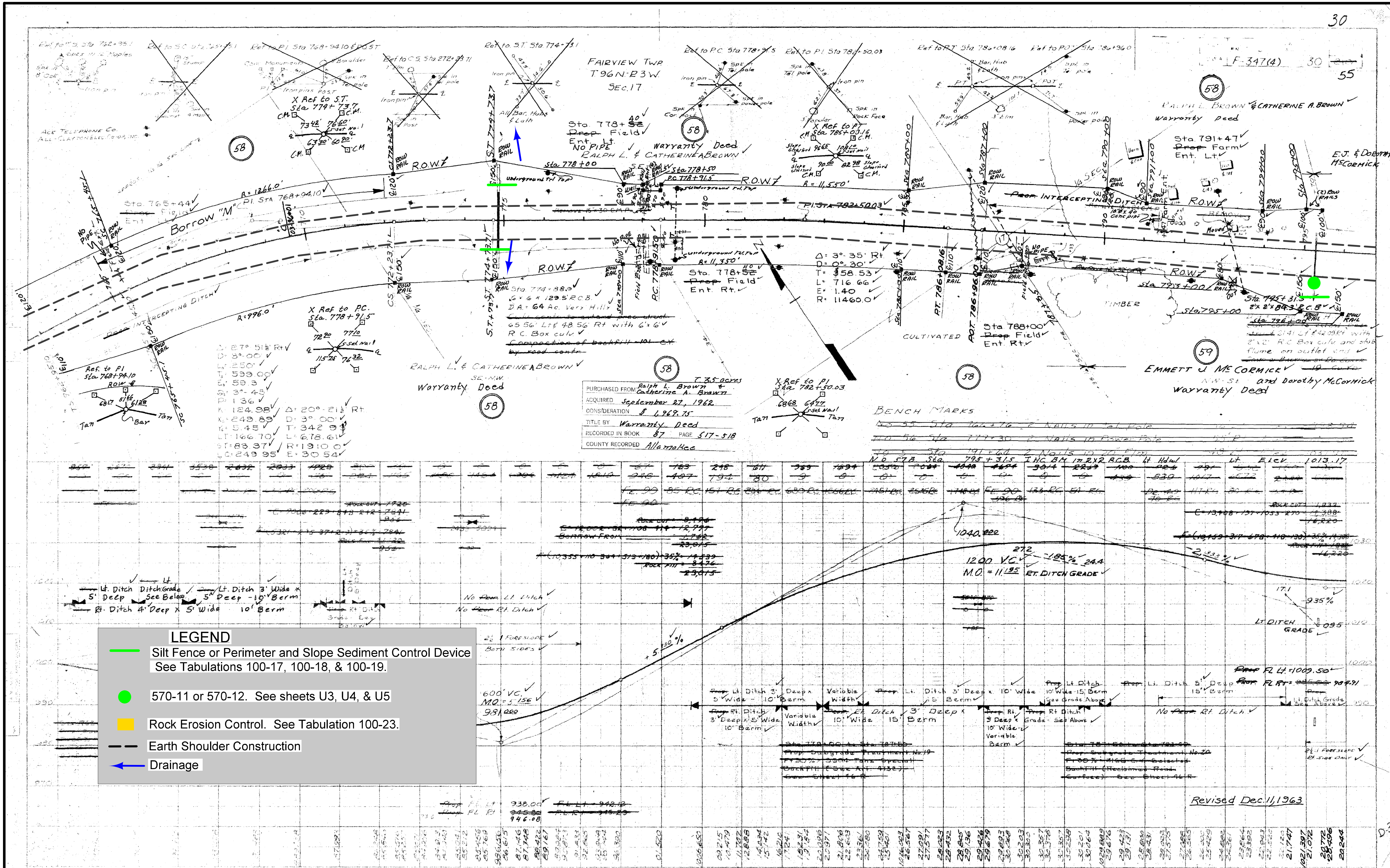
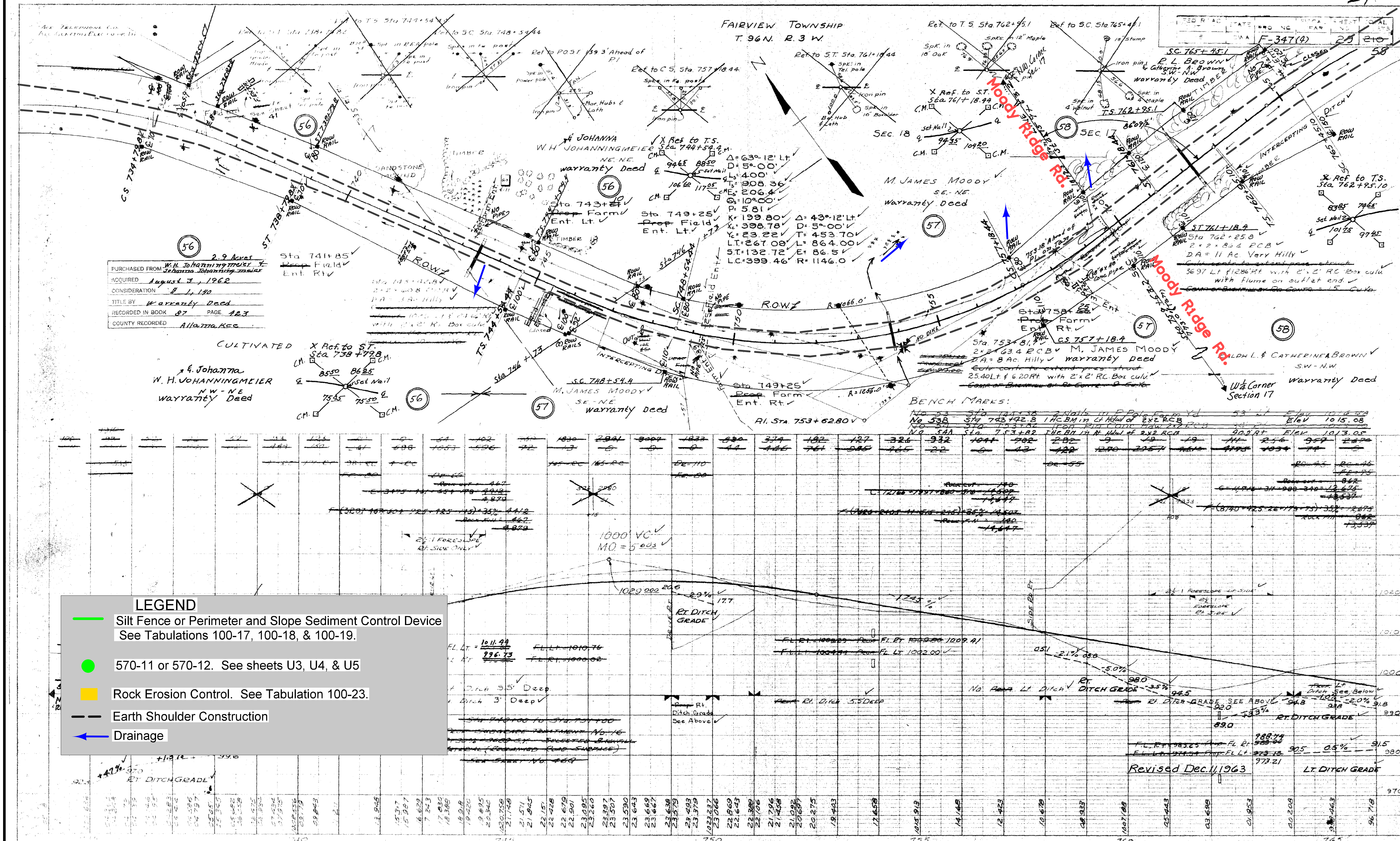


AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D12

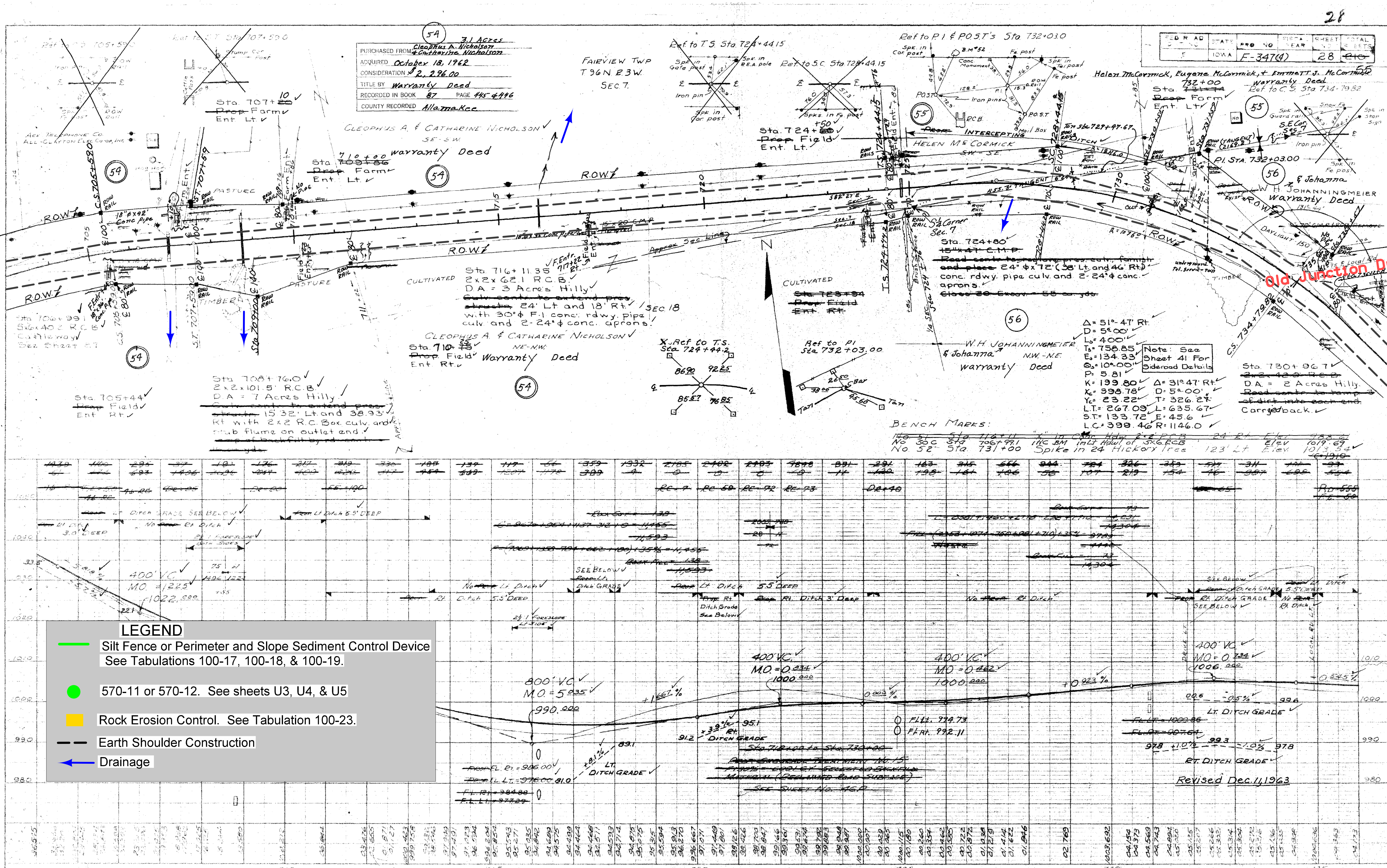


LEGEND

- Silt Fence or Perimeter and Slope Sediment Control Device — See Tabulations 100-17, 100-18, & 100-19.
- 570-11 or 570-12. See sheets U3, U4, & U5
- Rock Erosion Control. See Tabulation 100-23.
- Earth Shoulder Construction
- Drainage

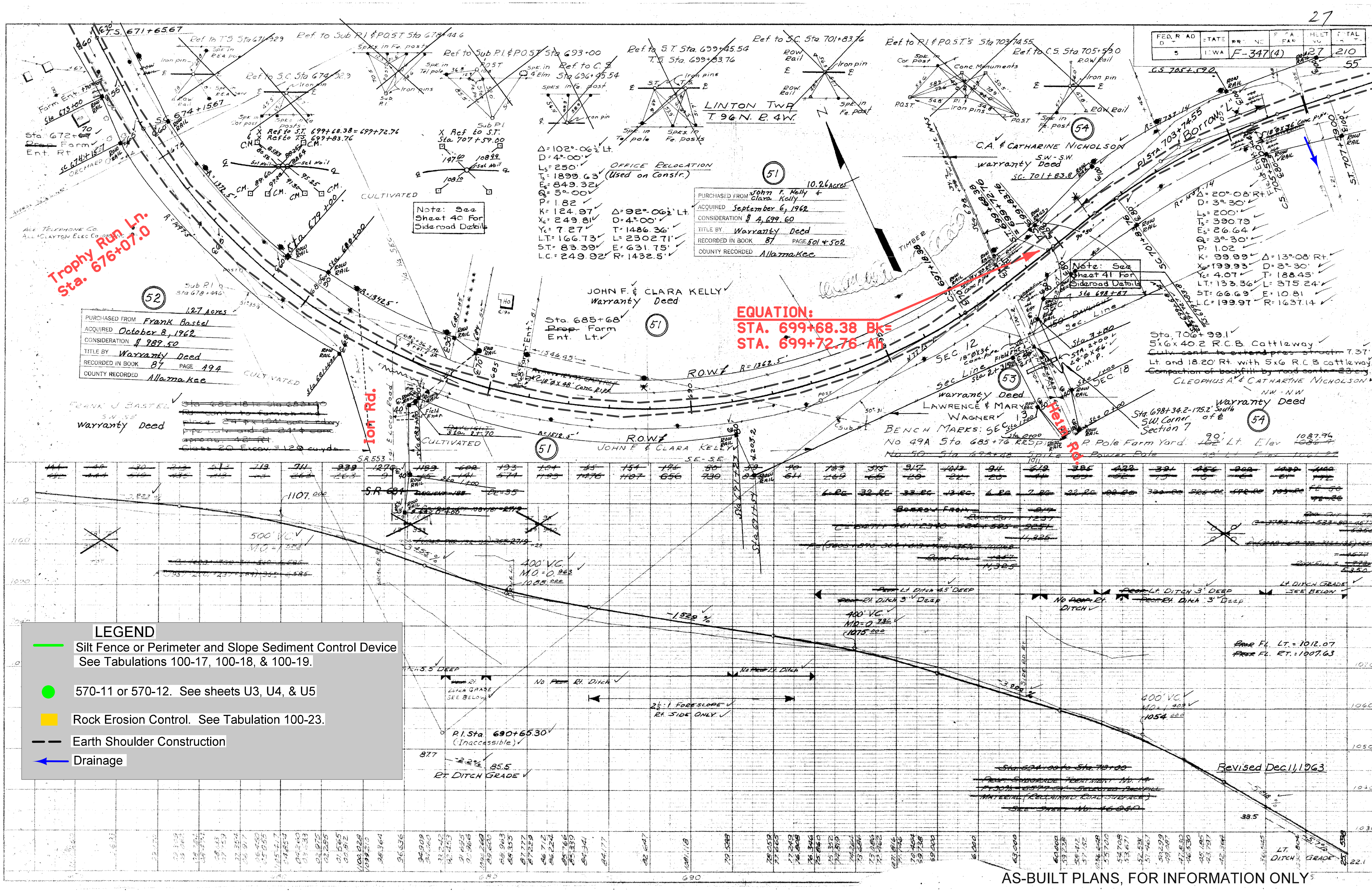
AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D13



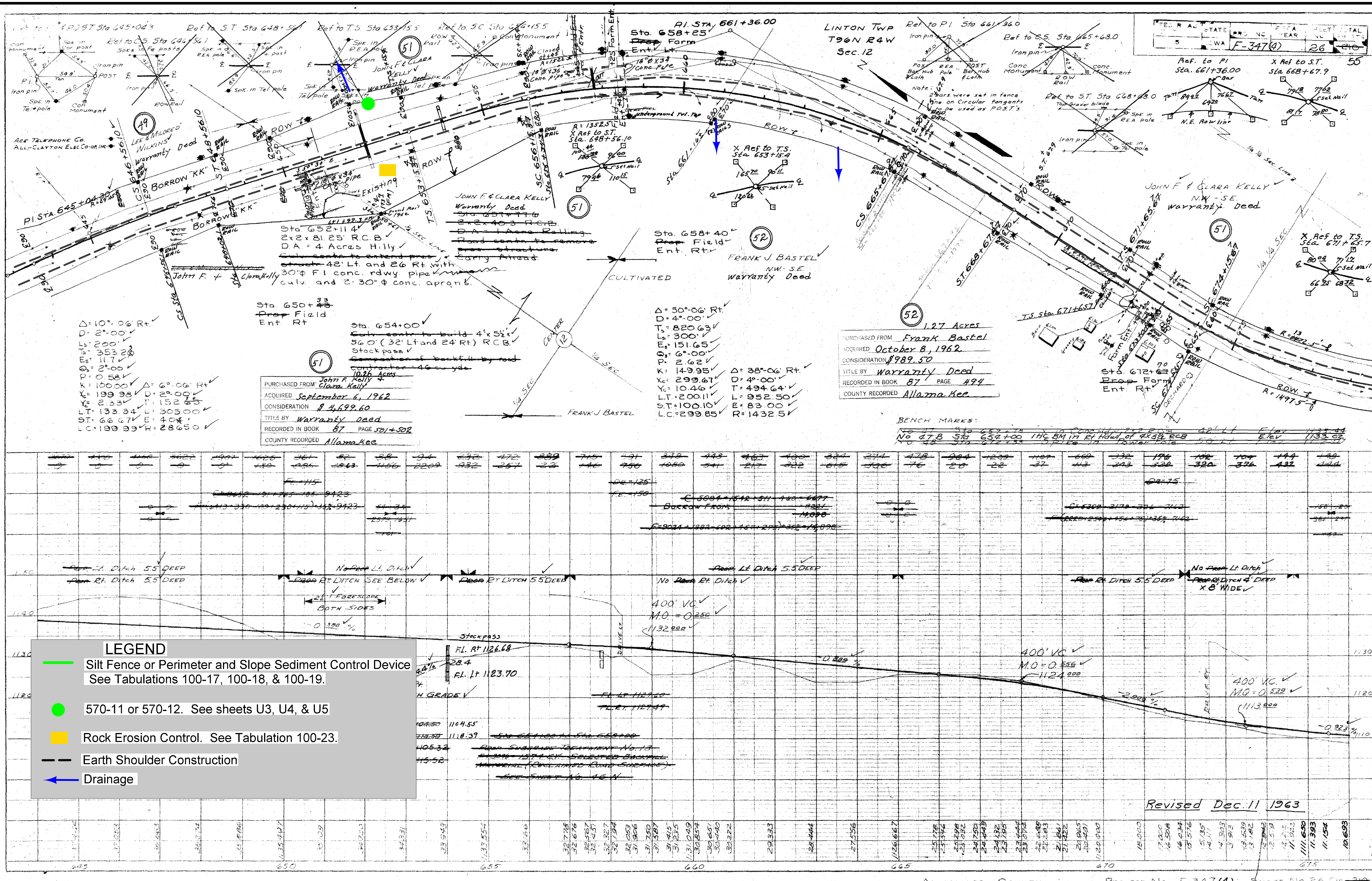
AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D14



AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D15



AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D16

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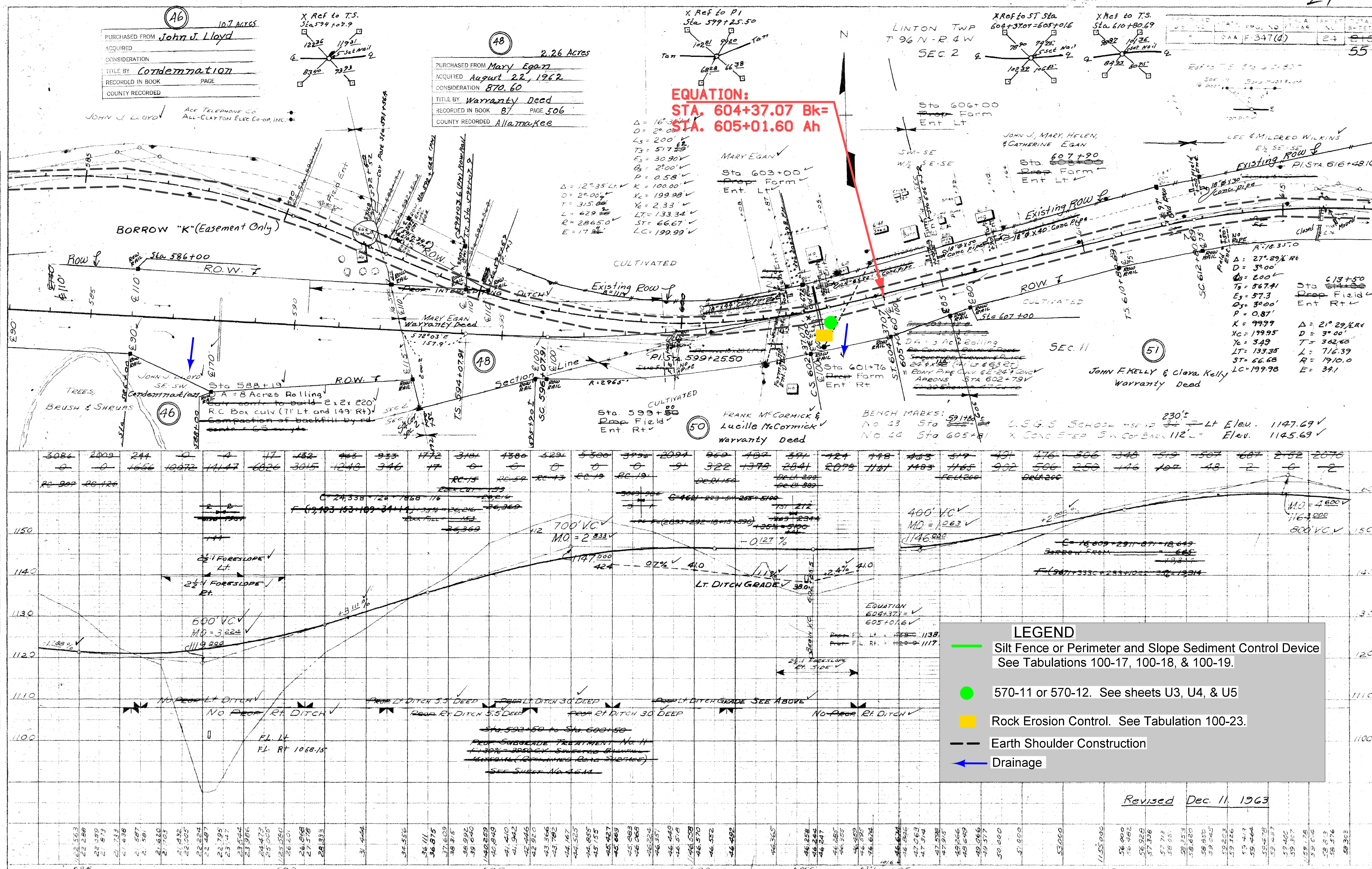

LEGEND

- Silt Fence or Perimeter and Slope Sediment Control Device See Tabulations 100-17, 100-18, & 100-19.
- 570-11 or 570-12. See sheets U3, U4, & U5
- Rock Erosion Control. See Tabulation 100-23.
- Earth Shoulder Construction
- Drainage

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D17

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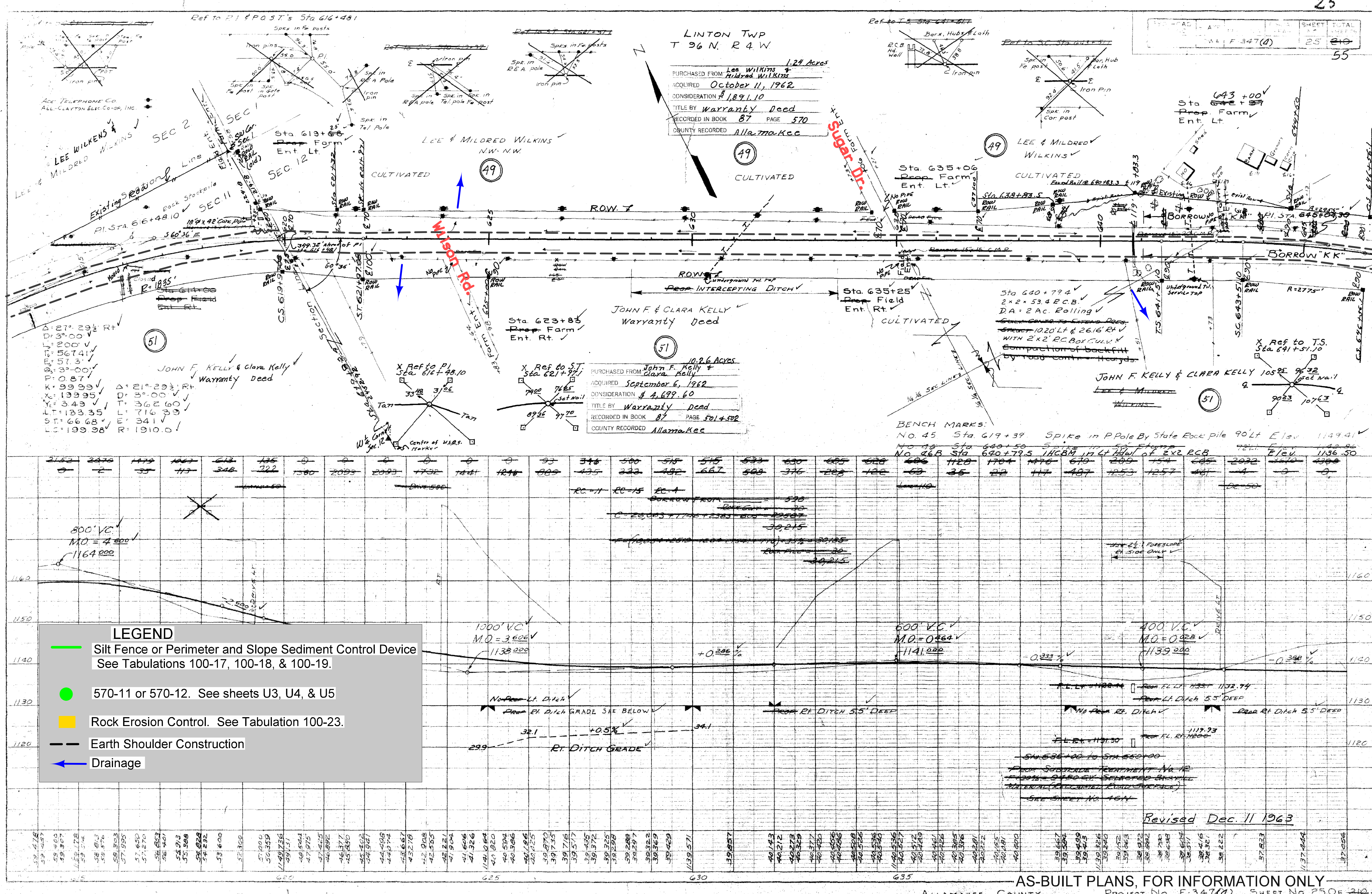

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D18

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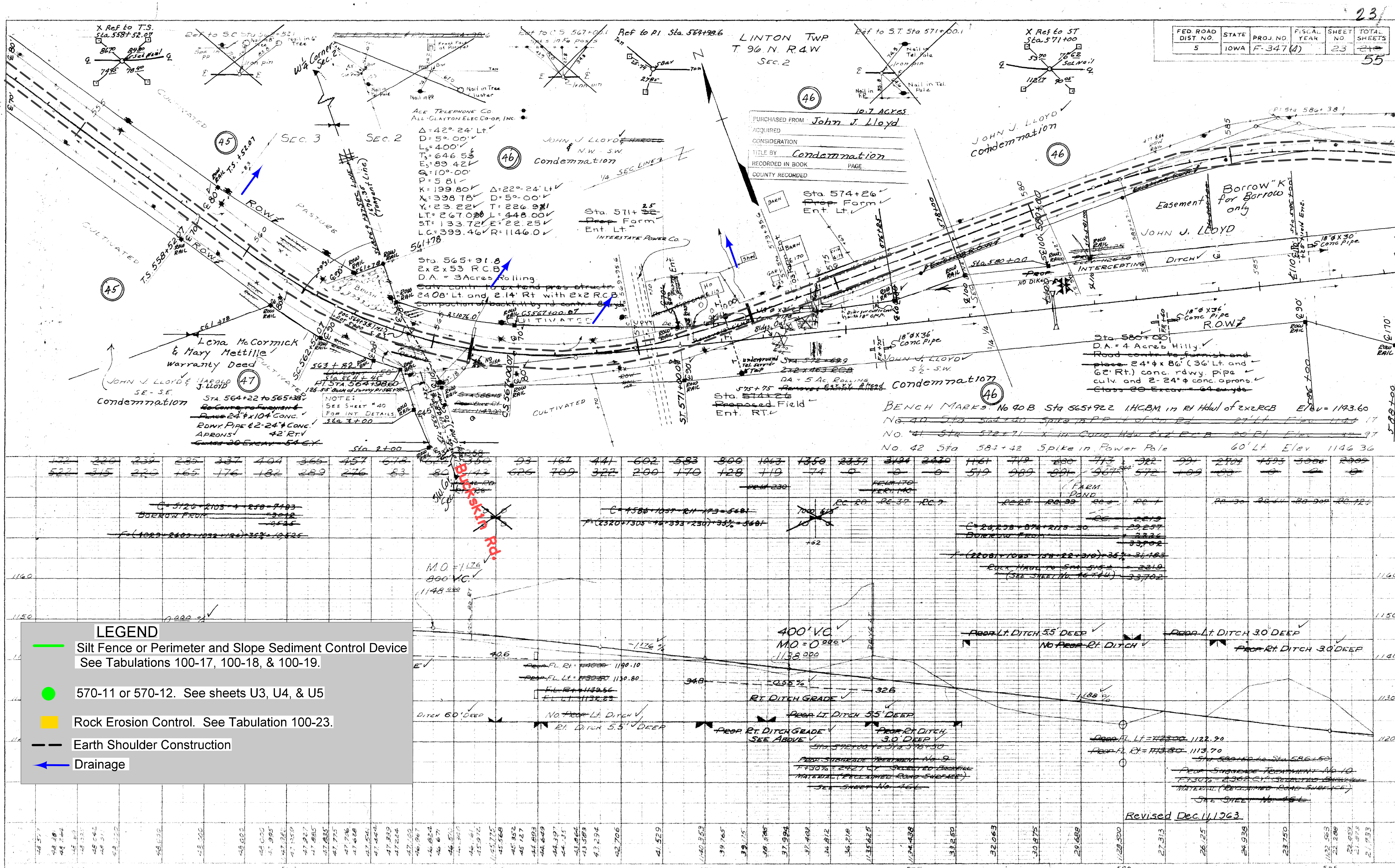

Revised Dec. 11, 1963

Allamakee Co. AS-BUILT PLANS, FOR INFORMATION ONLY Of 210 55

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D19

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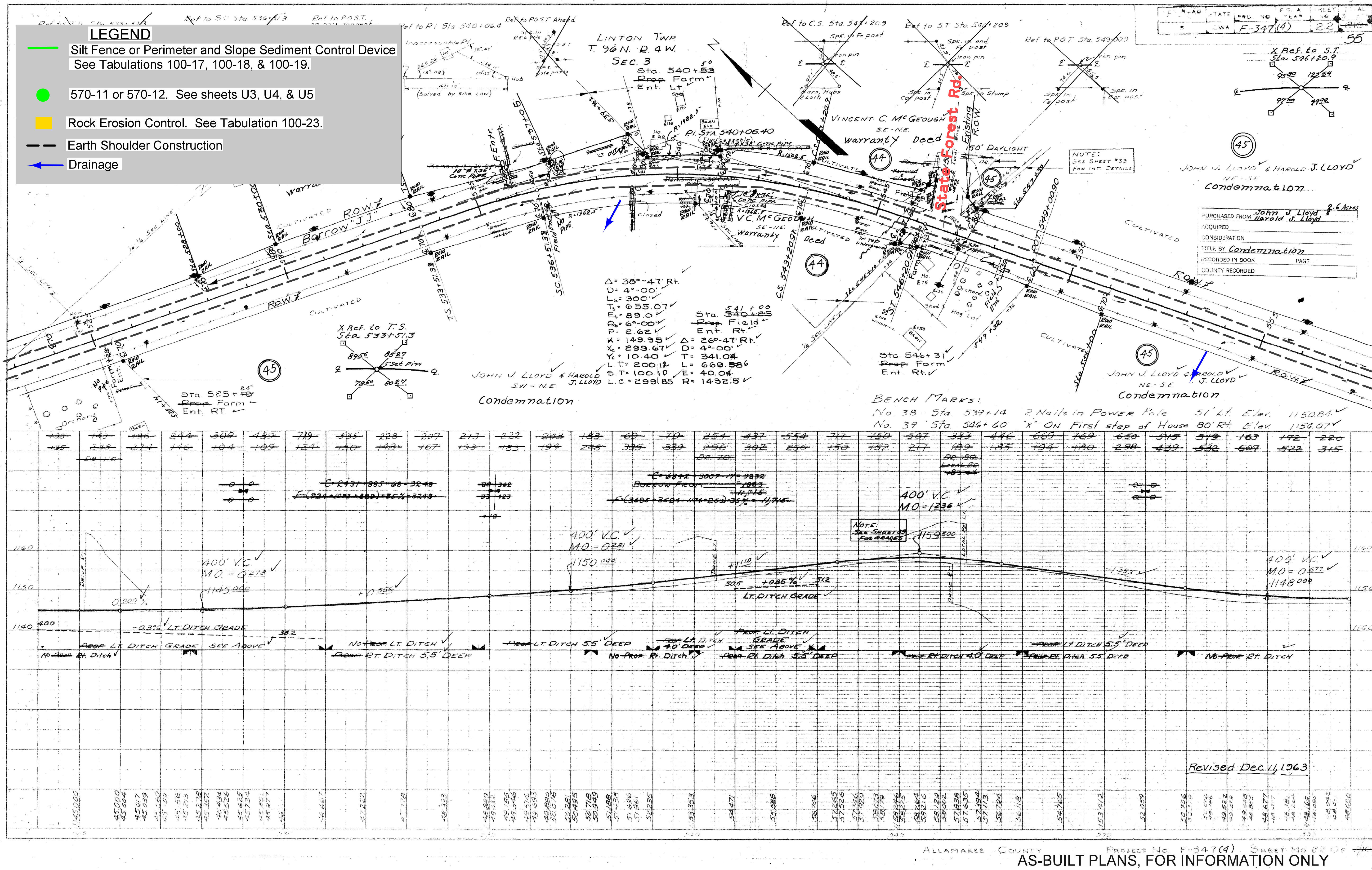

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D20

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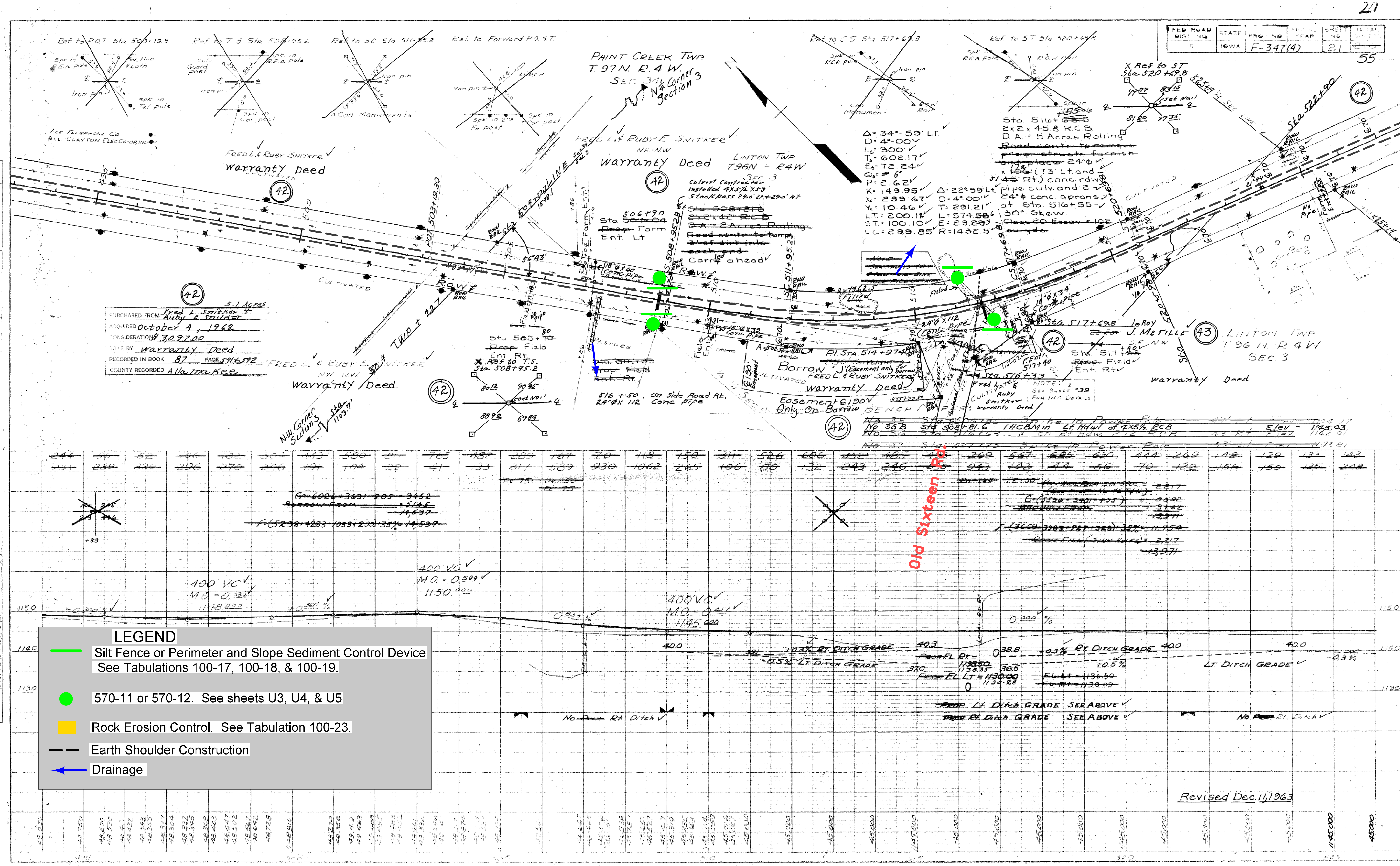

LEGEND

- Silt Fence or Perimeter and Slope Sediment Control Device. See Tabulations 100-17, 100-18, & 100-19.
- 570-11 or 570-12. See sheets U3, U4, & U5
- Rock Erosion Control. See Tabulation 100-23.
- Earth Shoulder Construction
- Drainage

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D.21

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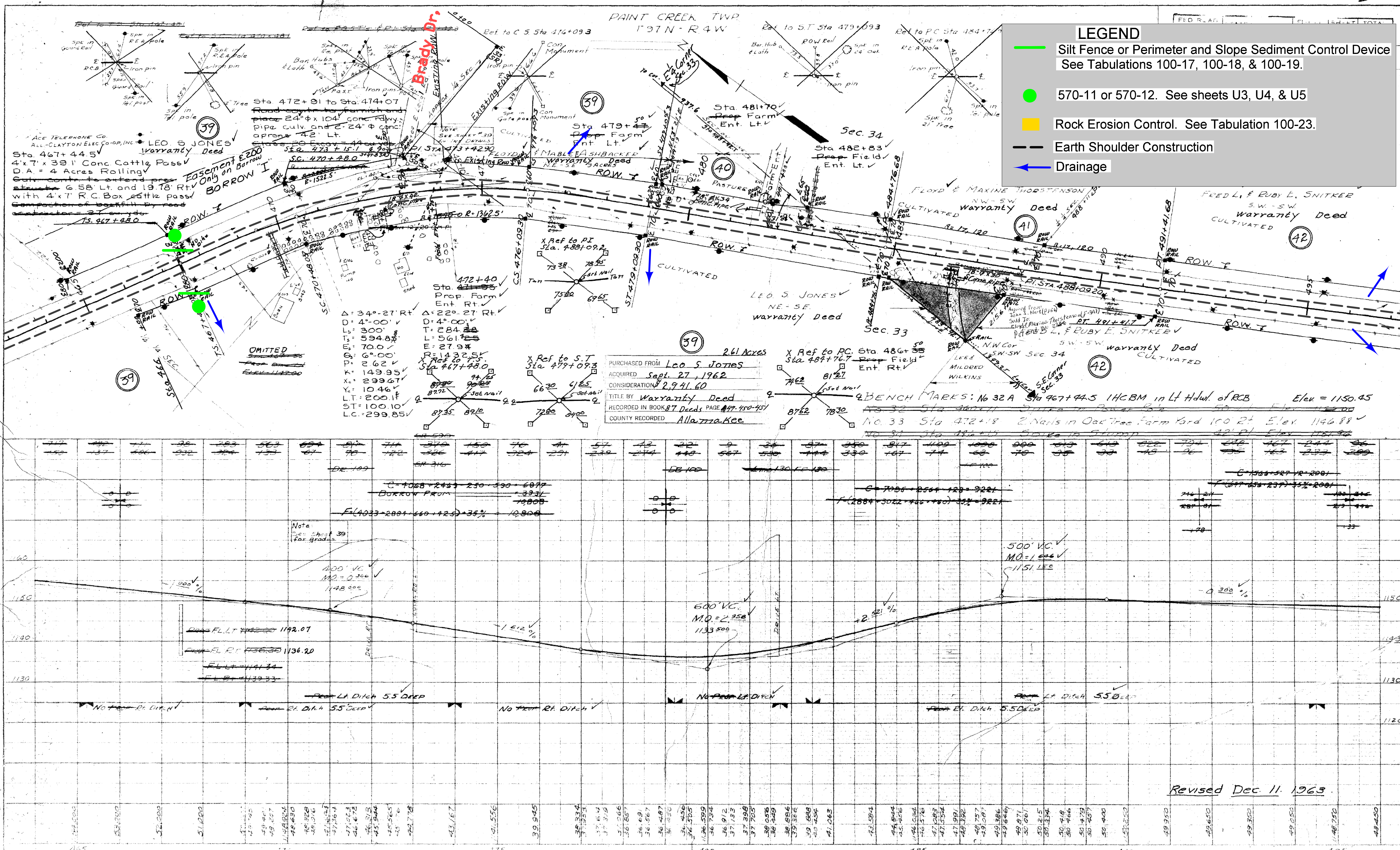

LEGEND

- Silt Fence or Perimeter and Slope Sediment Control Device. See Tabulations 100-17, 100-18, & 100-19.
- 570-11 or 570-12. See sheets U3, U4, & U5
- Rock Erosion Control. See Tabulation 100-23.
- Earth Shoulder Construction
- Drainage

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D.22

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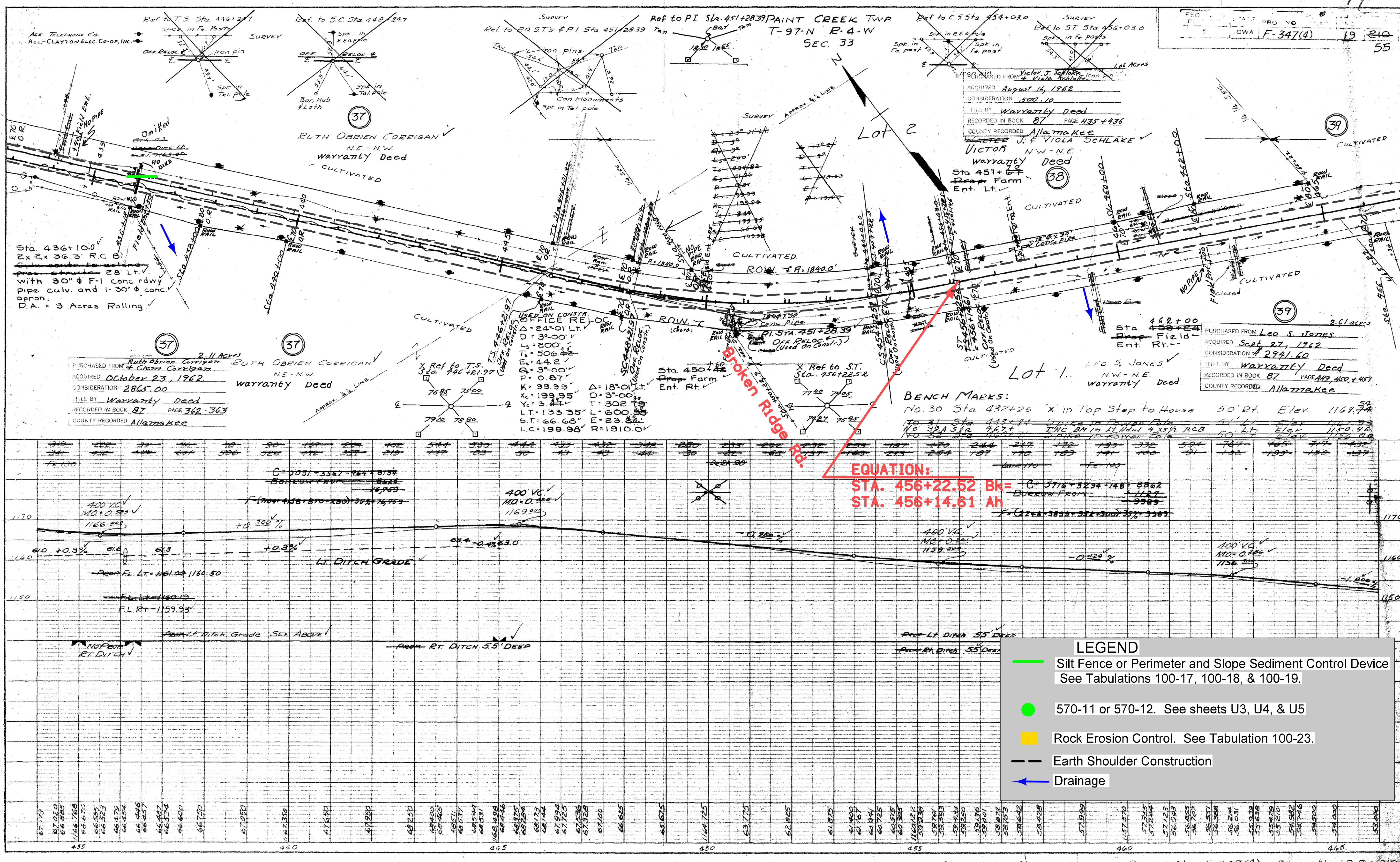

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D.23

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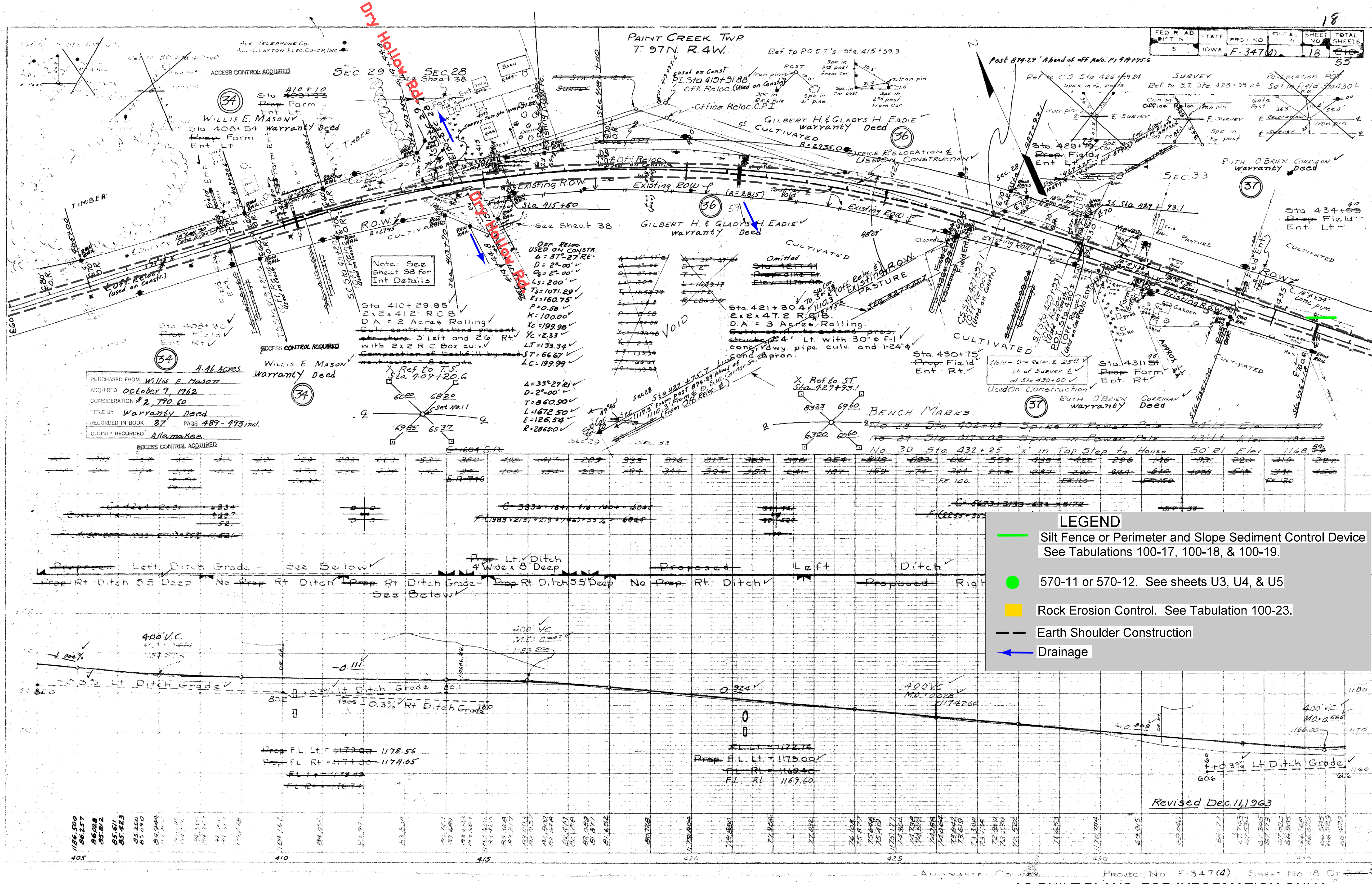

AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D.24

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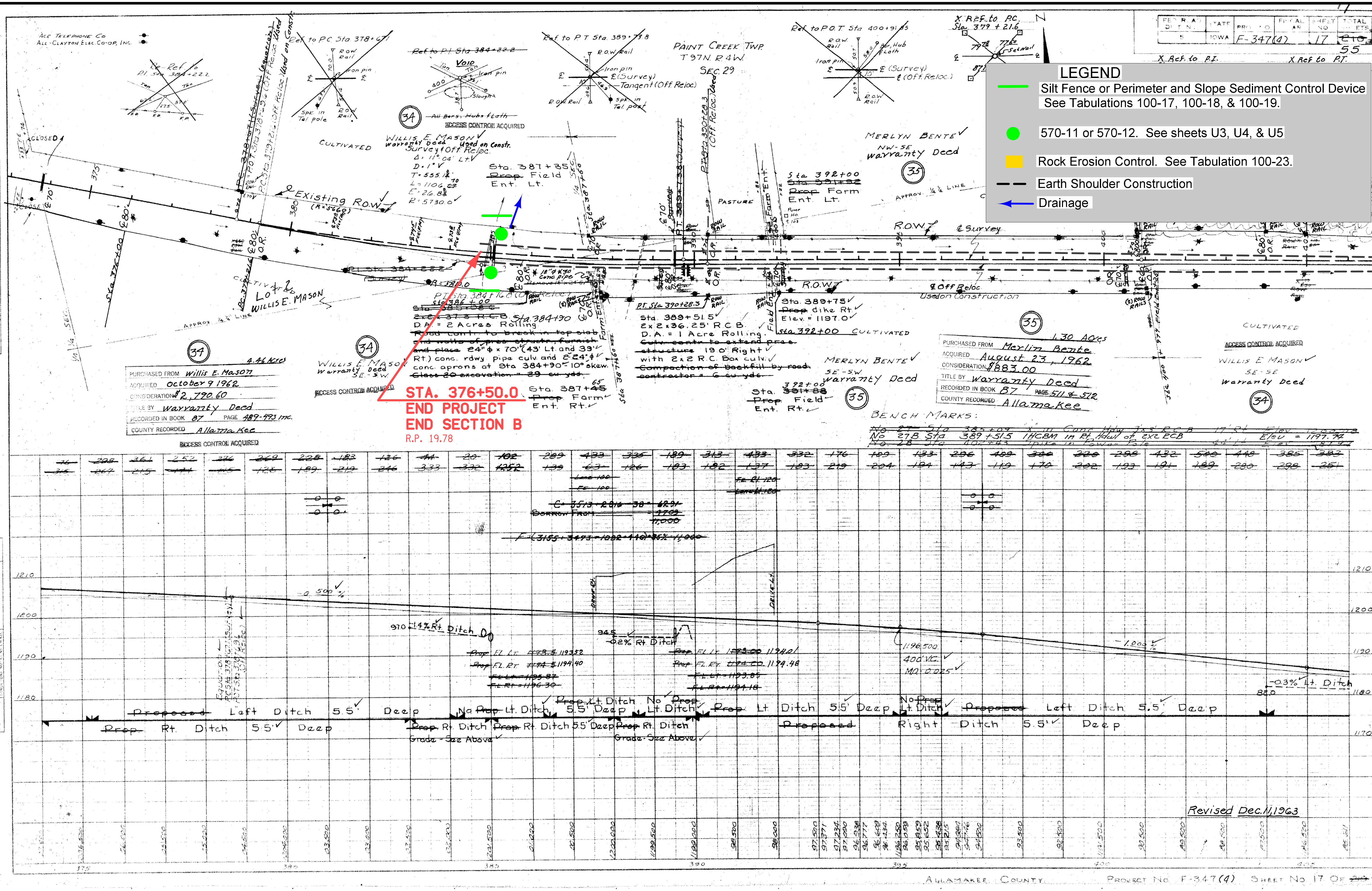


AS-BUILT PLANS, FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM KELLY\NIE\MEISE	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER D.25

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
			none									

111-01
04-17-12

COORDINATED OPERATIONS

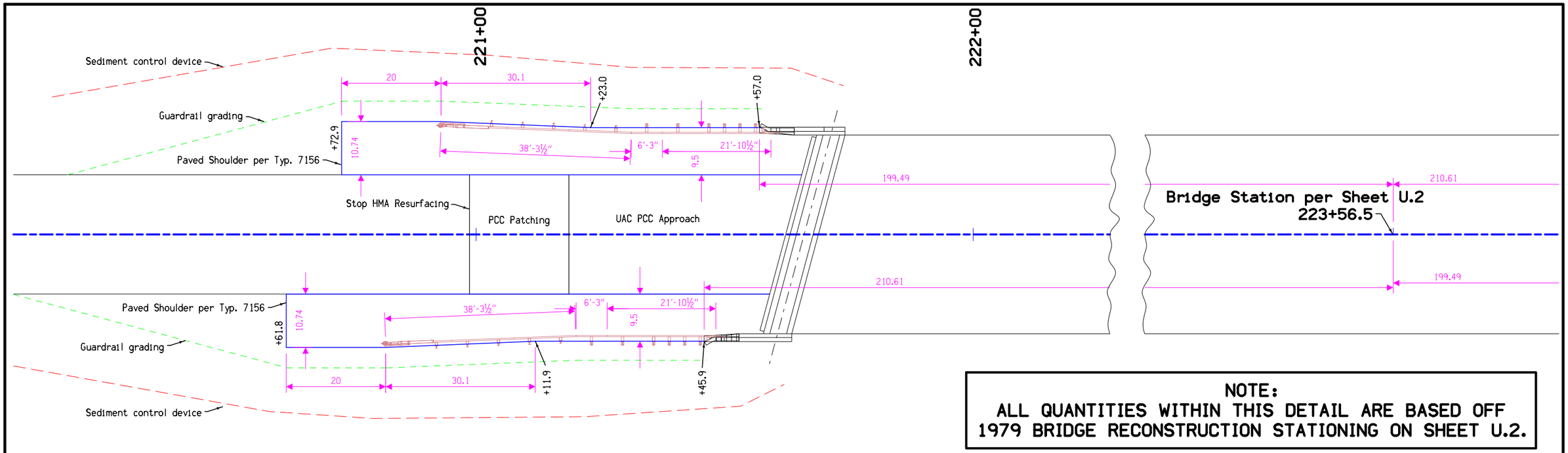
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
RCB Culvert Replacement,FY2022	0.6 mi W of E Jct of US 52
Mississippi River in Marquette	Bridge Cleaning , FY 2025

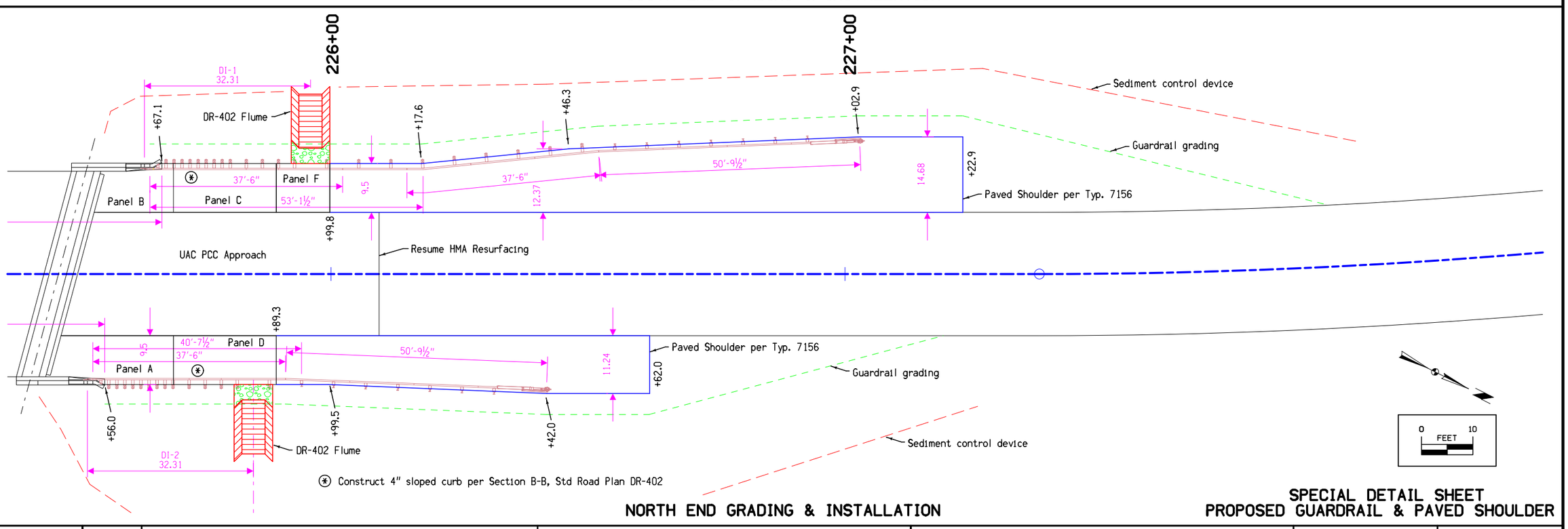
108-23A
08-01-08

TRAFFIC CONTROL PLAN

Through traffic shall be maintained at all times.



SOUTH END GRADING & INSTALLATION

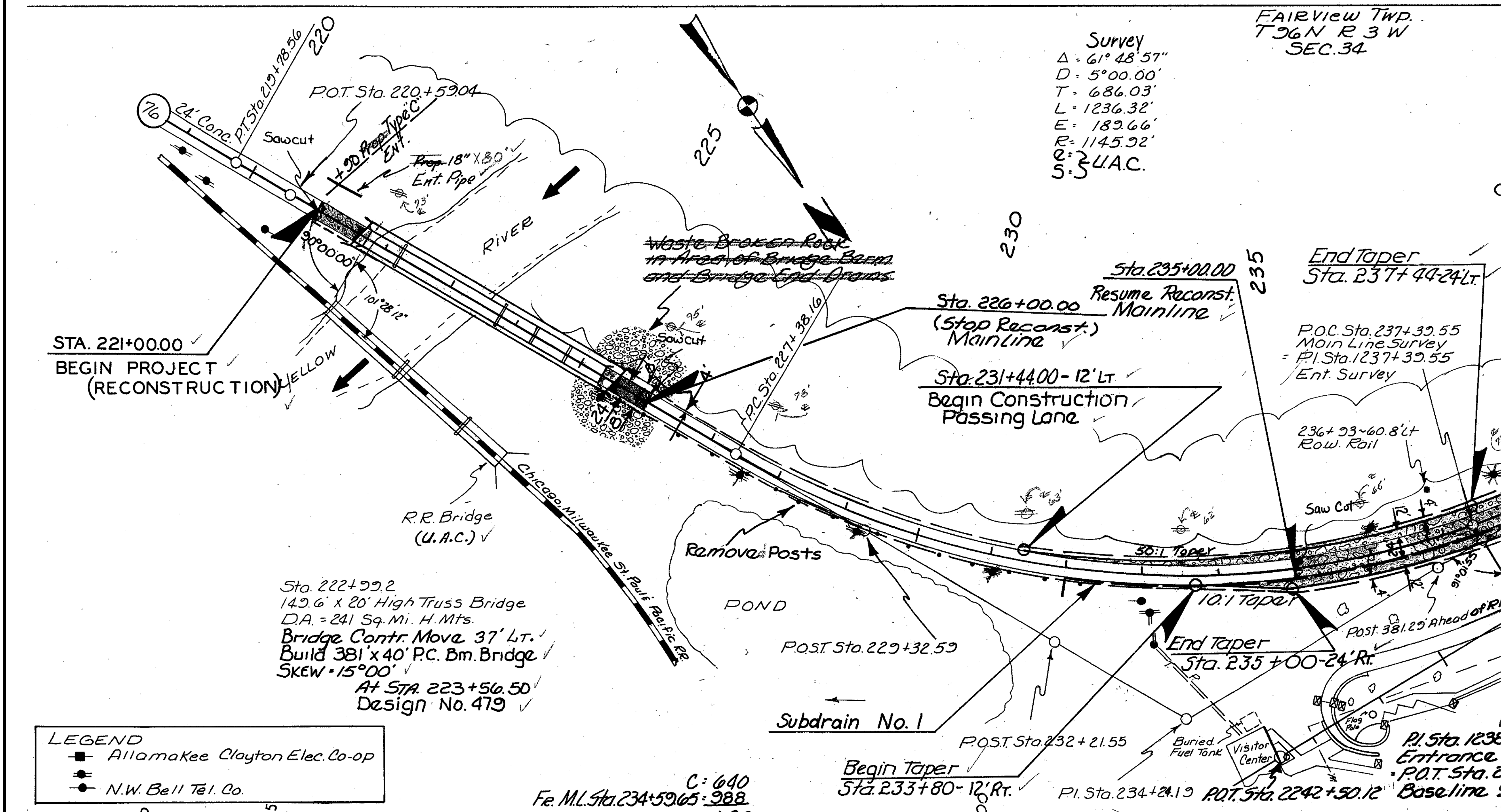


NORTH END GRADING & INSTALLATION

SPECIAL DETAIL SHEET
PROPOSED GUARDRAIL & PAVED SHOULDER

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Nie\Suntken	COUNTY	PROJECT NUMBER	SHEET NUMBER U.1

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC



1979 AS-BUILT - FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Nie\Suntken		Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER U.2

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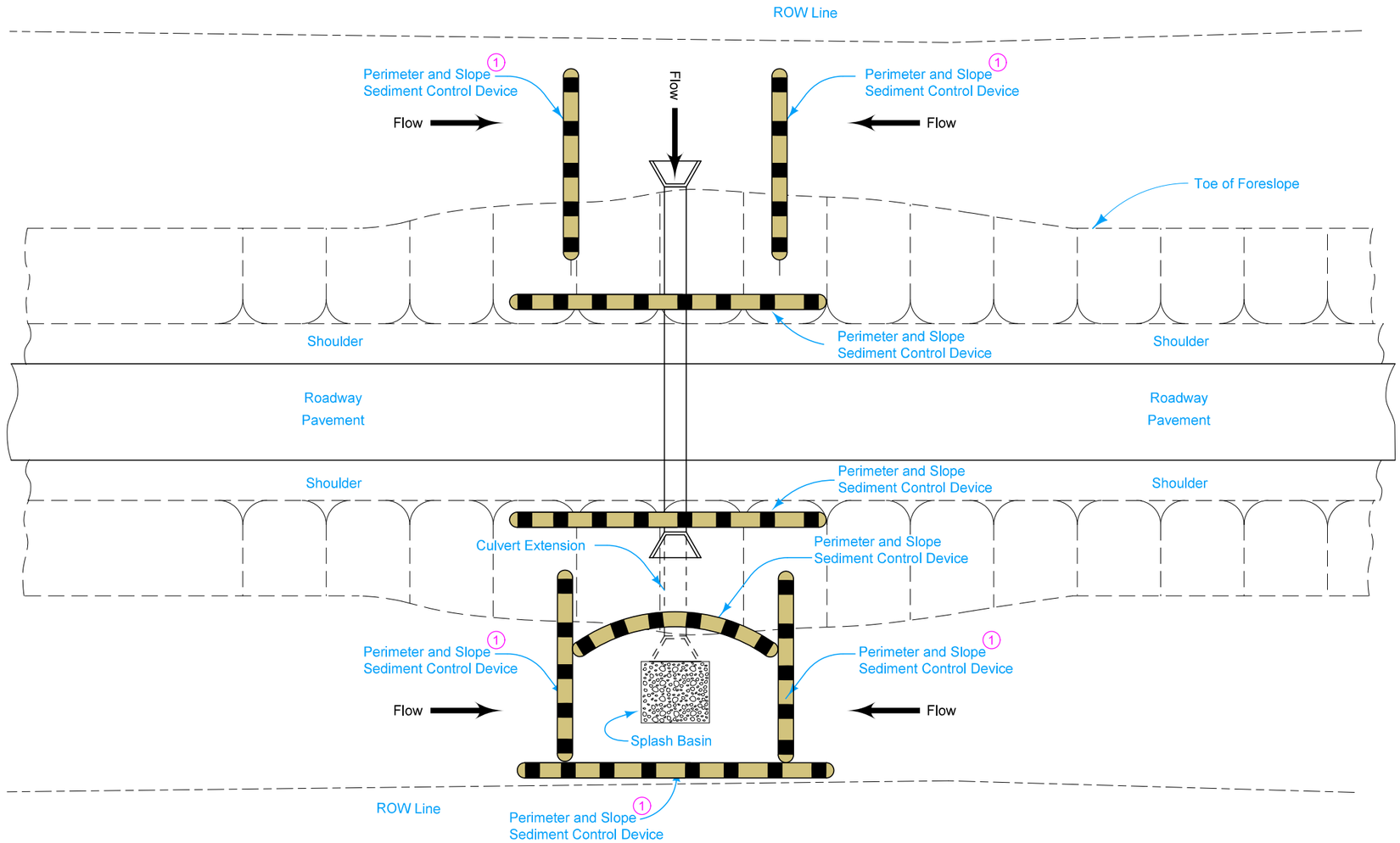
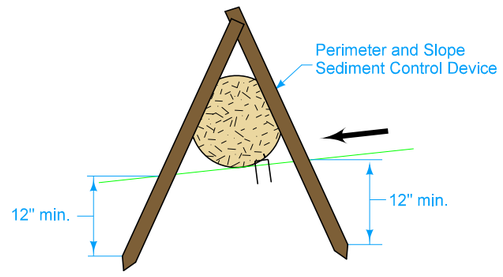
See Standard Road Plans , , and for installation details.



1 Silt Fence for Ditch Check may be substituted at no additional cost to the Contracting Authority.

Possible Contract Items:
- Perimeter and Slope Sediment Control Device
- Erosion Stone
- Class E Revetment
- Engineering Fabric

Possible Tabulations:
- 100-19
- 100-23
- 100-34



REVISION
1 10-19-21

ROAD DESIGN DETAIL

570-11

SHEET 1 of 1

REVISIONS: Added cross section for staking details.

TEMPORARY SEDIMENT CONTROL FOR CULVERT EXTENSION WITH EXPOSED SOIL

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Nie\Suntken	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER U.3

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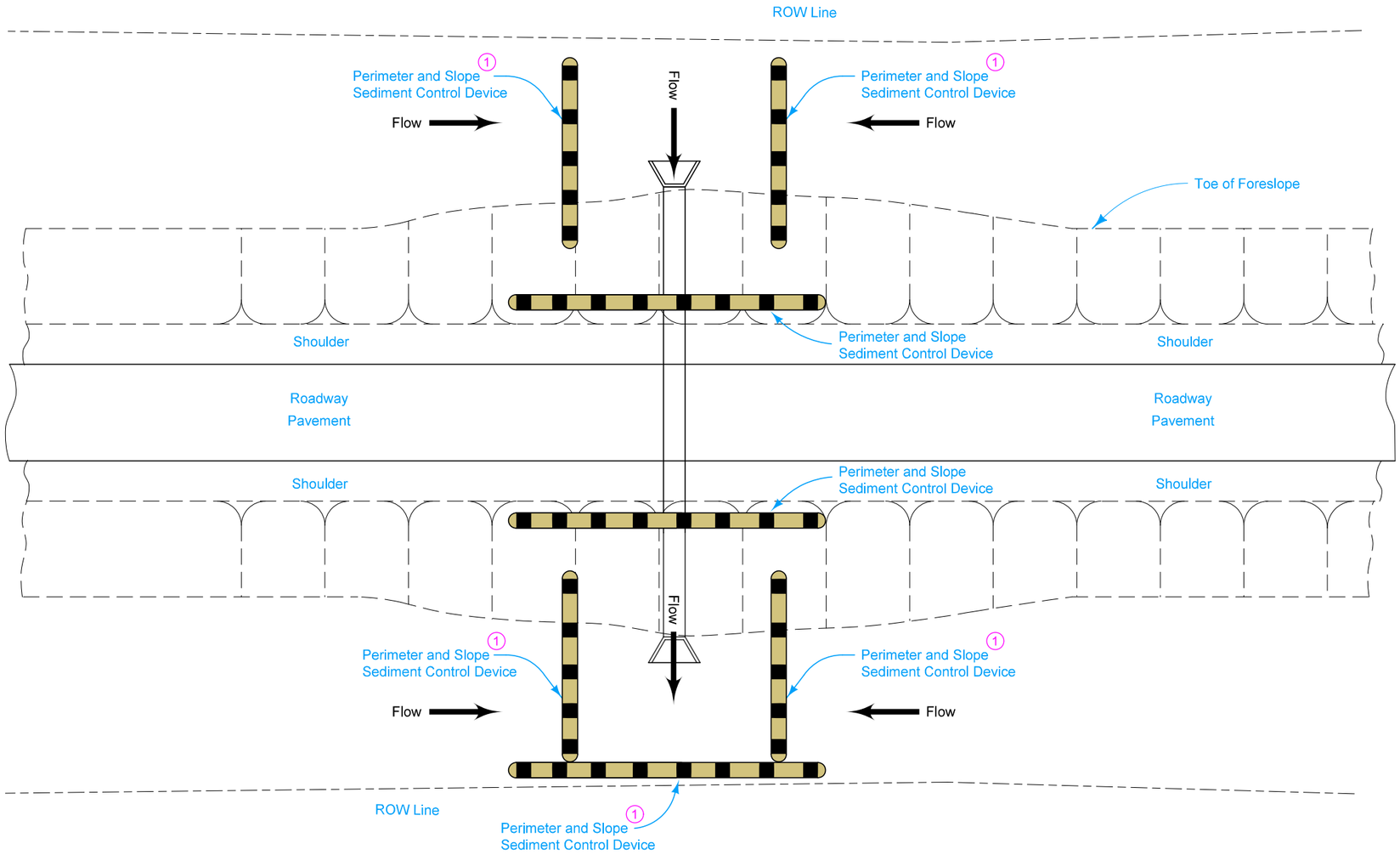
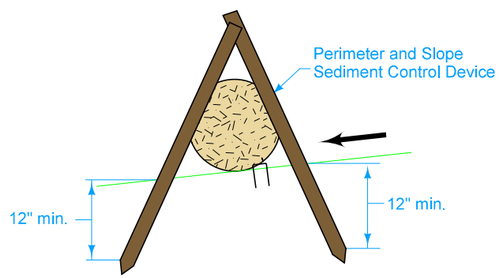
See Standard Road Plans and for installation details.

(1) Silt Fence for Ditch Check may be substituted at no additional cost to the Contracting Authority.



NON-CONTINUOUS FLOW CULVERT



Possible Contract Items:
Perimeter and Slope Sediment Control Device

Possible Tabulations:
100-19
100-34

REVISION	
1	10-19-21

ROAD DESIGN DETAIL

570-12

SHEET 1 of 2

REVISIONS: Added cross section for staking details.

TEMPORARY SEDIMENT CONTROL FOR SHOULDER WIDENING WITH EXPOSED SOIL

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Nie\Suntken	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER U.4

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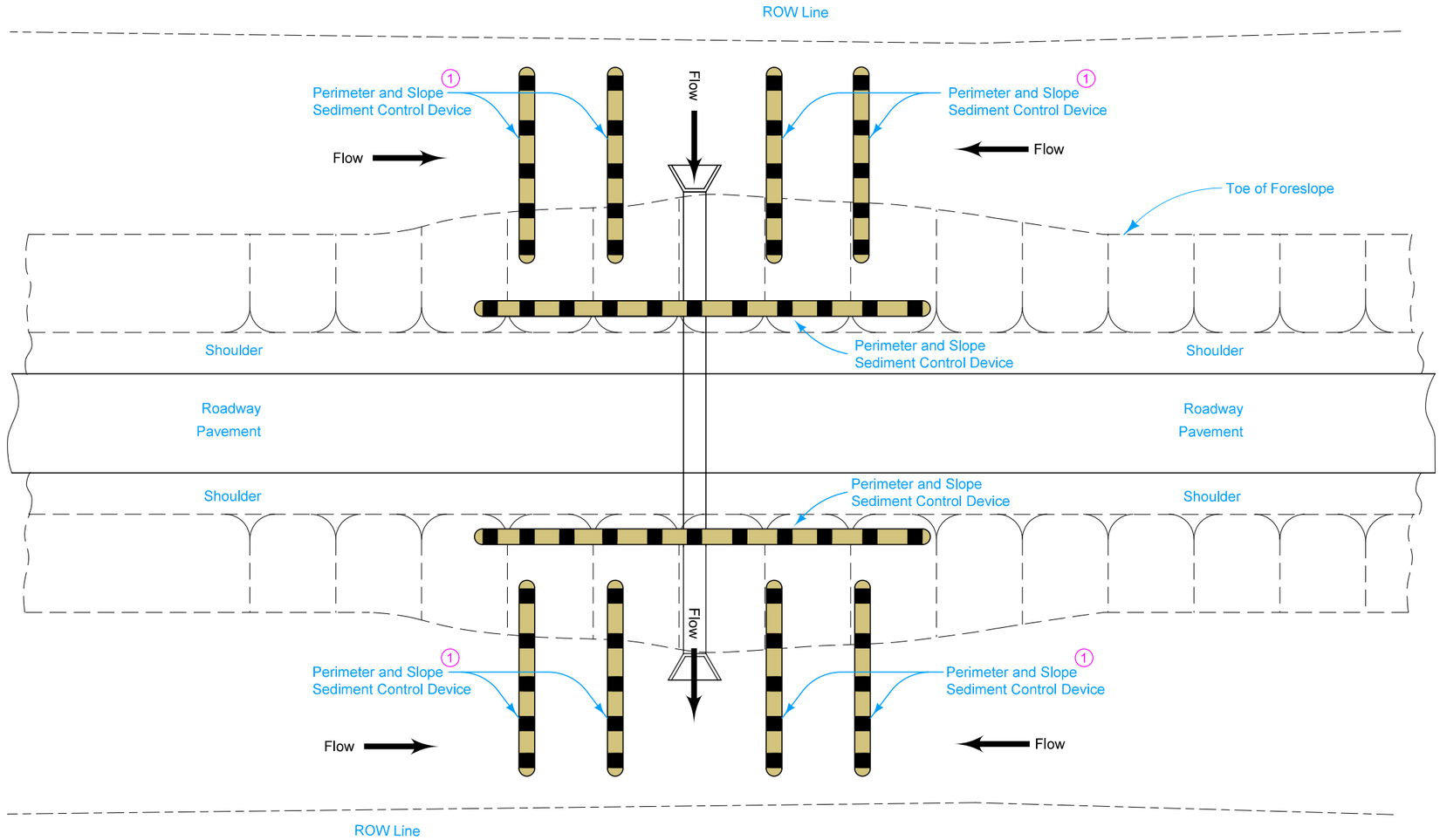
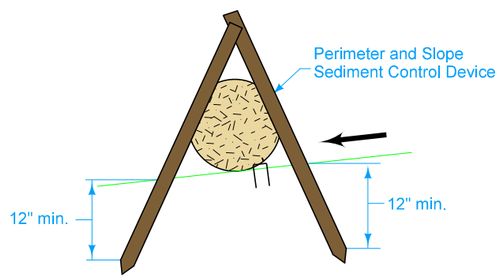


1 Silt Fence for Ditch Check may be substituted at no additional cost to the Contracting Authority.

CONTINUOUS FLOW CULVERT



REVISION	
1	10-19-21

ROAD DESIGN DETAIL

570-12

SHEET 2 of 2

REVISIONS: Added cross section for staking details.

TEMPORARY SEDIMENT CONTROL FOR SHOULDER WIDENING WITH EXPOSED SOIL

FILE NO.	ENGLISH	DESIGN TEAM Kelly\Suntken\Nie	Allamakee COUNTY	PROJECT NUMBER STP-076-2(63)--2C-03/HSIPX-076-2(64)--3L-03	SHEET NUMBER U.5

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