

Possible utilities on this project are as follows:

Northwest Iowa Power Coop	Electric
MidAmerican Energy Company	Electric Distribution
Harrison County Rural Electric Cooperative	Electric
Arcadia Telephone Cooperative	Telephone

The current letting date is December 17, 2013.

You may indicate your acceptance or request additional information by e-mail.

PWF:KCB:mk

Attach.

cc: M. J. Kennerly	N. L. McDonald
K. D. Nicholson	G. A. Novey
T. Lazarowicz	D. R. Claman
R. L. Stanley	J. P. Rost
Judy Lensing	S. C. Marler
E. J. Ranney	L. C. Funnell
D. A. Widick	T. L. Gettings
S. J. Gent	M. A. Swenson
T. Crouch	J. W. Smith
E. C. Wright	D. A. Popp
J. N. McCollough	B. Bradley
J. Vortherms	S. Tymkowicz
D. Manley	K. C. Bell
M. Hobbs	E. Engle

D-5 Checklist

- X D-5 shell letter completed (needs to include all directory information, required reference files and geopak files etc.)
- X Complete x-sections available (need to be sheeted & batch plotable & list no. of sheets in each file.)
- X Plans and cross section files have been sheeted for batch plotting.
- ** Culverts and structures complete
- N/A Overhead signs and signals preliminary location identified.
- ** Structure TS+L for all 4' and larger, pipes or culverts.
- N/A Entrance (PDA) locations match access control letter
- N/A Entrance profile(s) on the plans and x-sections
- N/A Stability berms completed
- N/A Final ditching done
- N/A Borrows identified
- X Wetland ROW requirements identified
- X Plan sheets checked for Township Range, scale, and other details
- X Plan sheets PDFs created and check printed
- N/A Tab sheet for special needs included
- X Utility Legend

**See letter for culvert status



Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM CRAWFORD COUNTY PCC PAVEMENT - GRADE AND REPLACE

US 30 Over Drainage Ditch 0.5 Miles N. Of Ia. 37

SCALES: As Noted

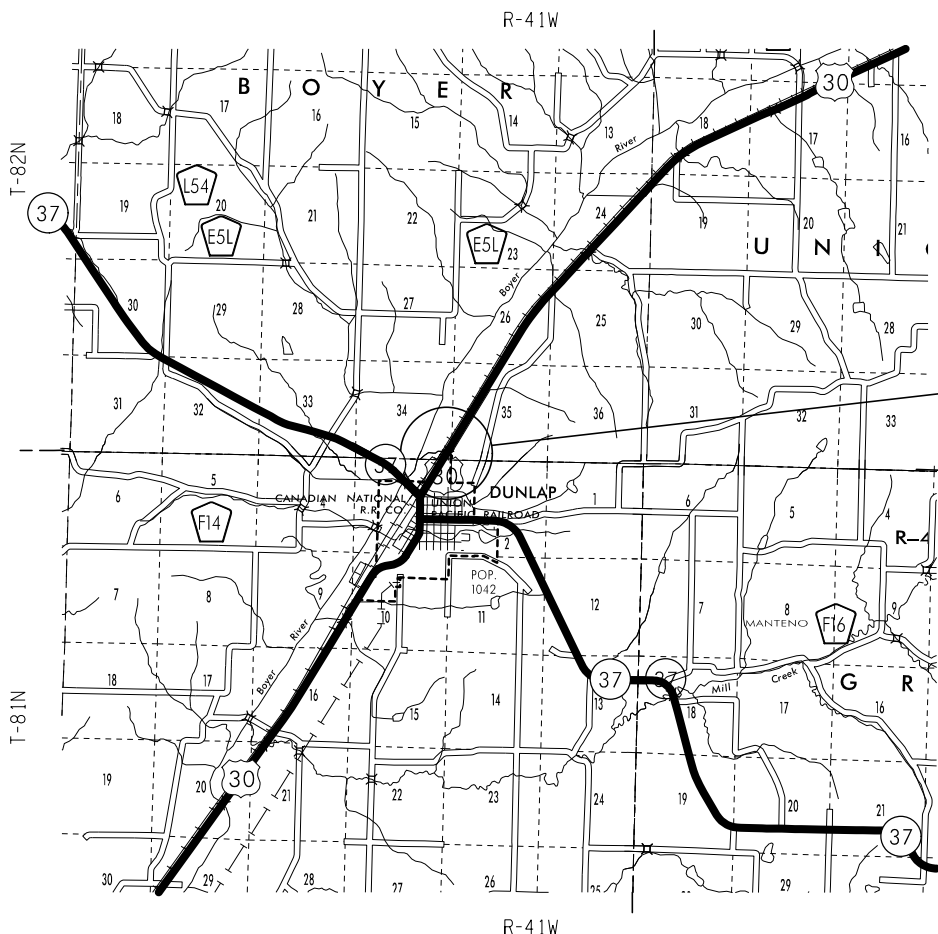
Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

NO MILEAGE SUMMARY



PROJECT LOCATION



D5 EARTHWORK:

CUT	=	70 CY
FILL + 30%	=	1965 CY
BORROW	=	1895 CY

REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER

09-24-030-120

PROJECT NUMBER

BRFN-30-2(148)--39-24

R.O.W. PROJECT NUMBER

NHSN-030-2(149)--2R-24

INDEX OF SHEETS

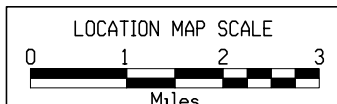
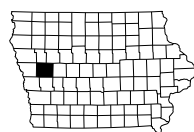
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.1	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 30
G Sheets	Survey Sheets
G.1	Survey Information
G.2	Horizontal Control Tab. & Super for all Alignments
G.3	Alignment Coordinates
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes
J.1	Tabulation of Special Events
V Sheets	Bridge and Culvert Situation Plans
V.1	Proposed Culvert Situation Plans
V.2 - 4	Existing Bridge Situation Plans (As-built)
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbols Information Sheet
W.2 - 4	Mainline Cross Sections
X Sheets	Channel Cross Sections
X.1 - 5	Channel Cross Sections

* Color Plan Sheets

CRAWFORD CO. PCC PAVEMENT - GRADE AND REPLACE

LETTING DATE
12-17-2013

BRFN-30-2(148)--39-24



101-4
04-30-02
DESIGN DATA RURAL
2013 AADT 3400 V.P.D.
2033 AADT 4960 V.P.D.
2033 DHV 512 V.P.H.
TRUCKS 20 %
Total Design ESALs --

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

DM5 PLAN - Date: 8-27-2013
D8 PLAN - Date: 10-1-2013

PRELIMINARY PLANS

Subject to change by final design.

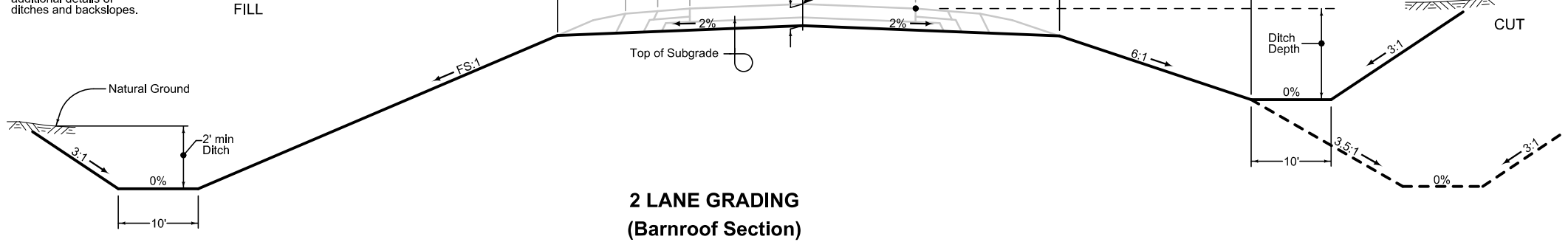
D5 PLAN - Date: April 27, 2012

MODIFIED
07-26-11

LOCATION		DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION	Ⓐ Feet	Ⓑ Feet	Ⓒ Inches	Ⓓ Feet	FS	
US 30	26+65.0	27+10.0	(1)	---	6.0	---	3.5
US 30	27+10.0	27+20.0	31.1	---	6.0	---	3.5
US 30	27+20.0	27+80.0	31.1	(2)	6.0	(3)	3.5
US 30	27+80.0	28+50.0	31.1	28.1	6.0	(3)	3.5
US 30	28+50.0	29+10.0	31.1	(4)	6.0	(5)	3.5
US 30	29+10.0	29+50.0	31.1	---	6.0	---	3.5
US 30	29+50.0	30+00.0	(6)	---	6.0	---	3.5
(1)	25.5 - 31.1						
(2)	26.9 - 28.1						
(3)	0.0 - 13.9						
(4)	28.1 - 26.9						
(5)	13.9 - 0.0						
(6)	31.1 - 25.4						

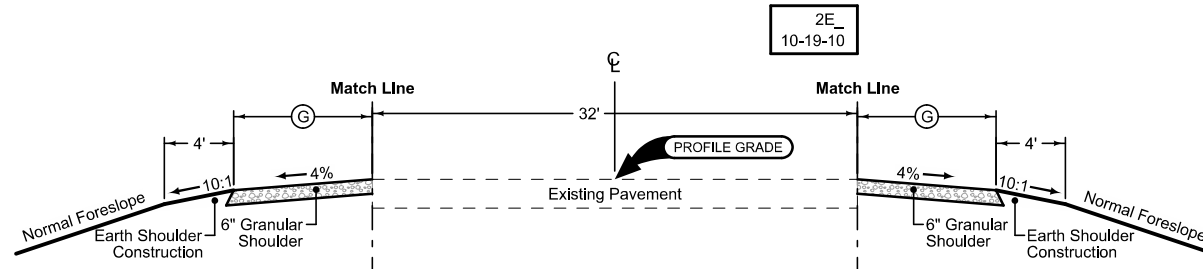
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



Granular Shoulder

2_G_SR_ 10-19-10		
STATION TO STATION	Ⓐ	Feet
26+65.0	27+10.0	4.6-9.0
29+50.0	30+00.0	9.0-4.2



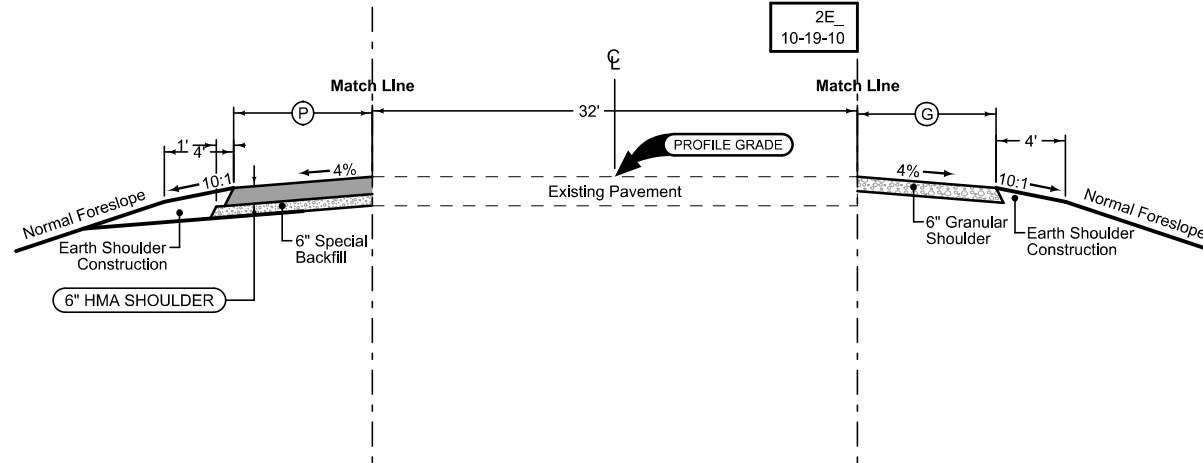
Granular Shoulder

2_G_SR_ 10-19-10		
STATION TO STATION	Ⓐ	Feet
27+20.0	29+10.0	6.0

HMA Shoulder

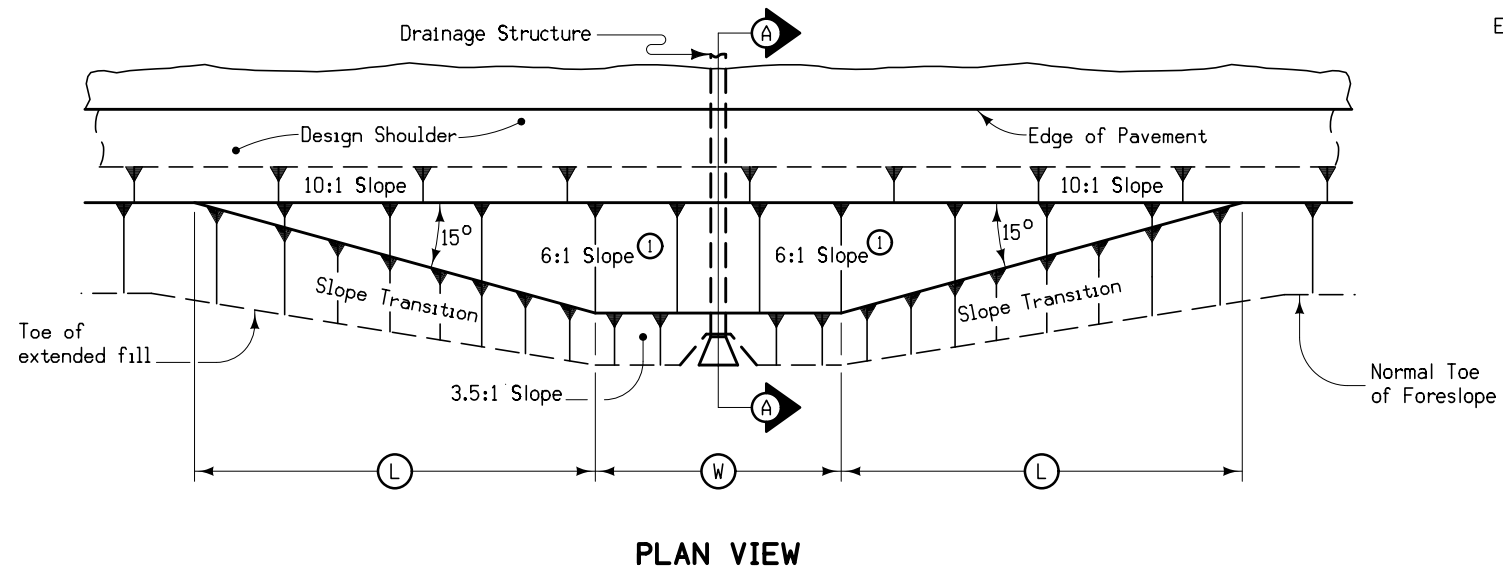
Shoulder Jointing:
Longitudinal joint: B

2_P_HMA_ 10-19-10		
STATION TO STATION	Ⓐ	Feet
27+10.0	29+50.0	9.0

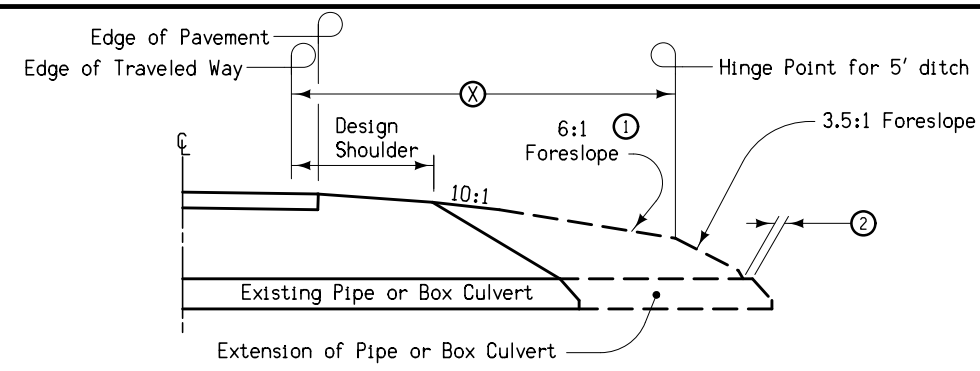


See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

U.S. HIGHWAY 30



PLAN VIEW

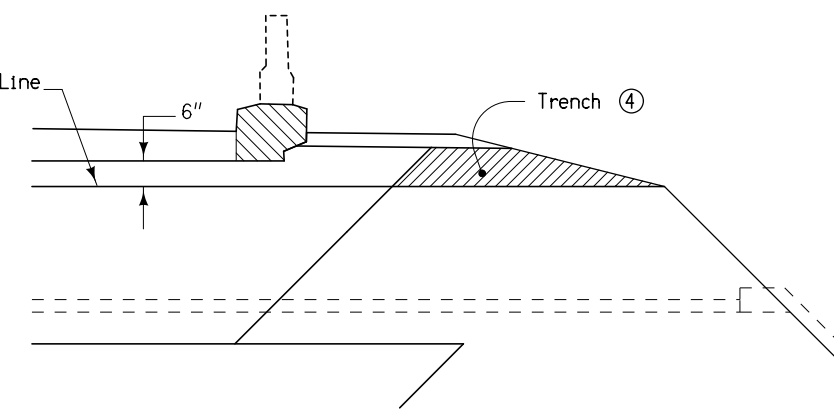
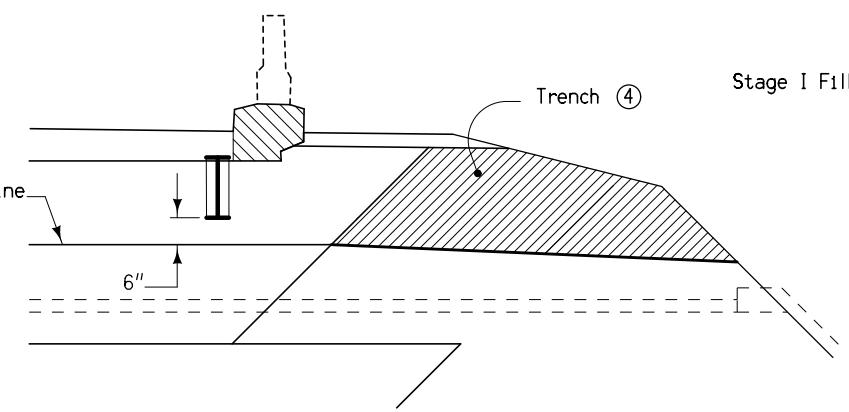
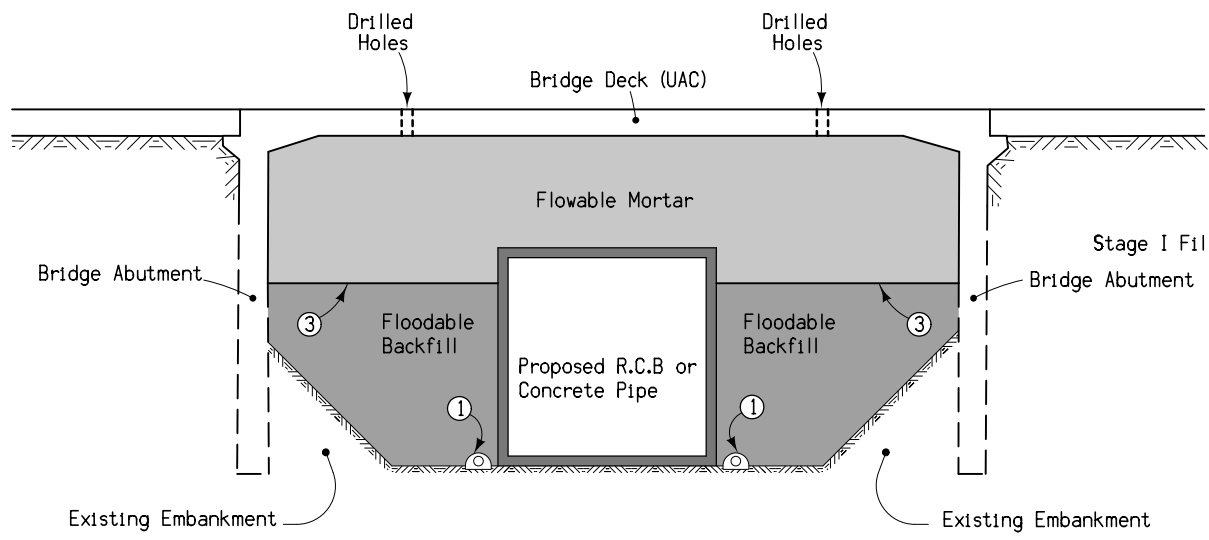
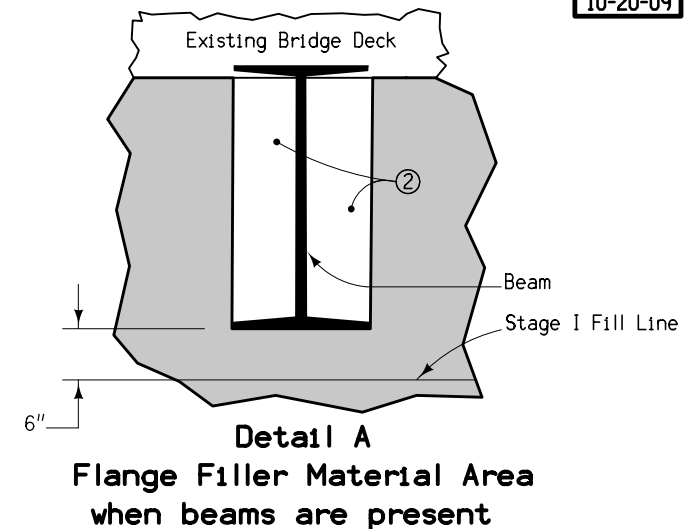
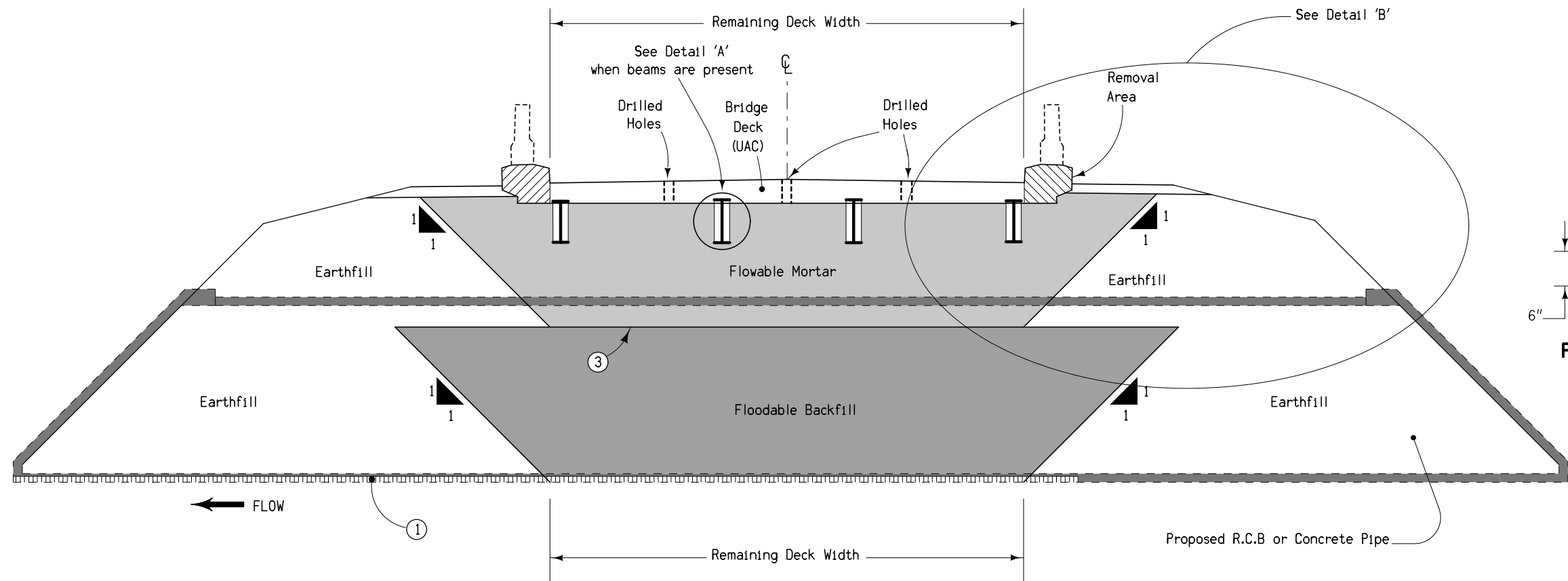


SECTION A-A

STRUCTURE LOCATION		(W)	(L)	(X)
STATION	SIDE	Feet	Feet	Feet
28+15.50	R	70.5	59.7	30.0

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

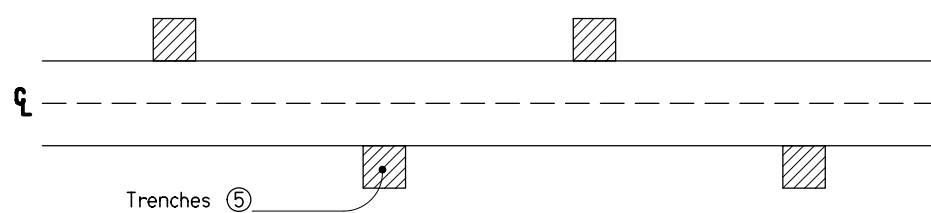
**DETAILS OF
BARNROOF FORESLOPE
AT DRAINAGE STRUCTURE**



Section along Centerline

Detail B (Beam Bridge)

Detail B (Slab Bridge)

























Trench Layout

- ① 4" Subdrain at flowline elevation of culvert with 4" cover of porous backfill.
- ② Flange Filler Material is incidental to flowable mortar.
- ③ Fill void with the maximum amount of Floodable Backfill possible. Distance from Floodable Backfill to bridge beams (when present) or bridge deck shall not exceed 5'.
- ④ Cut trenches in the soil plug to provide drainage for the flowable mortar. Backfill the trenches with open graded crushed stone, gravel, or recycled PCC to allow water to drain. Backfill material is incidental to flowable mortar.
- ⑤ Place trenches at 20' spacing with a minimum of two trenches on each side of the roadway.



FILL FOR CULVERT USED IN BRIDGE REPLACEMENTS

Denotes pay limits for flooded backfill














SURVEY SYMBOLS

-  SH Paved Shoulder
-  BL Topo Breakline
-  C Centerline BL of Road (ML or SR)
-  BRG Bridge
-  RR Centerline of Railroad Tracks
-  MM Mile Marker Post
-  BNK Stream Bank
-  TOP Top of Bridge Pier
-  D Centerline Draw or Stream (Down)
-  DU Centerline Draw or Stream (Up)
-  EP Edge of Paved Roads (ML or SR)
-  GDL Guard Rail (Rail and Cable)
-  SNP Unpaved Shoulder
-  ENU Edge Unpaved Entrance & Parking
-  ENT Centerline BL of Entrance
-  CON Concrete or A/C Slab
-  PPA Power Pole Co. 1
-  OUT Tile Outlet
-  FW Wire Fence
-  TR Telephone Riser Pole
-  EW Edge of Water
-  PIP Pipe Culvert







UTILITY LEGEND

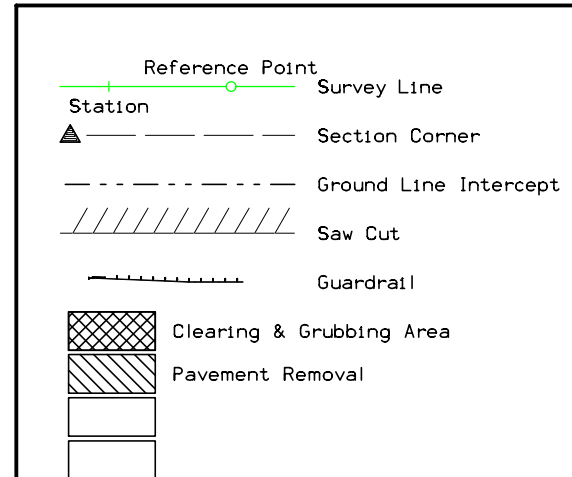
-  Northwest Iowa Power Coop
-  TR Telephone Riser Pole

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS









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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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



RIGHT-OF-WAY LEGEND

-  Proposed Right-of-Way
-  Existing and Proposed Right-of-Way
-  Easement and Existing Right-of-Way
-  Borrow
-  Easement (Temporary)
-  Easement
-  Excess
-  Access Control

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D)

Sta. 28+10.1 Lt. 183.47'
 53' X 14' WOOD & STEEL
 I-BEAM RR BRIDGE
 D.A. = 1306 Acres Plus SD - MTS-F
 (UAC)

HARRISON TWP.
 T-81N R-41W
 SEC. 3

CANADIAN NATL. RR

Sta. 28+07.2 Lt. 83.24'
 50' X 42' CONC. BEAM
 RR BRIDGE
 D.A. = 1306 Acres Plus SD - MTS-F
 (UAC)

STA. 26+65.00
 BEGIN PROJECT

STA. 29+99.00
 END PROJECT

UNION PACIFIC RR

INSTALL
 CABLE GUARDRAIL

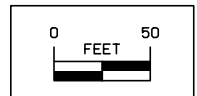
+95
 Field Entrance
 (UAC)

P.I. Sta 24+83.50
 25

REMOVE GUARDRAIL

Sta. 28+15.5
 34' X 42' Conc. Deck Girder Bridge
 D.A. = 1306 Acres - MTS-F
 (UAC)

Sta. 28+07.45 & 28+23.28
 Install Twin 154"x 97"x86' RF-41
 F.L. = Lt. 1086.20
 Rt. 1086.60



Survey Information

Crawford County
 SAP 0657
 BRFN-030-2(148)--39-24
 US 30 Over Drainage Ditch 0.5 Miles North of IA 37 in Crawford County
 PIN 09-24-030-120

General Information

This survey is in English Units.

Control Information – Opus observations and IDOT monuments were utilized as a basis for project control. 14 Control Points were held fixed in the RTK calibration.

- 7 held fixed Vertically; 37,201,202,203,500,502,504
- 3 held fixed Horizontally; 38,46,48,
- 4 held fixed Vertically and Horizontally; 34,36,47,200

Vertical Datum

This survey is relative to NAVD 88 vertical datum. Points 34,47,200 & 37 were statically observed for 4 hours. The OPUS solution values of points 34,47,200 & 37 were held fixed vertically in the RTK calibration. Point number 37 was held on fixed vertically in the level loops that originated and terminated on PN 37. The least squared adjustment values of the marks along the level runs were held fixed on this survey.

Equations:

CP 37 this survey Elev. =1097.708
 =CP 37 Opus Solution Elev. =1097.708 (NAVD 88 NGS Opus)
 =CP 37 Elev. =1097.248 (Computed NGVD 29)

@ Begin of Bridge EI= 1099.78 This Survey
 = Begin of Bridge EI= 1099.50 1929 FA 287 Sheet 6 Paving Plan
 = Begin of Bridge EI= 1099.67 1929 FA 287(3) Sheet 1 of a 1964 Bridge Widening Plan

A level loop South & West along US 30 & Ia 37 originated and terminated on CP 37, the Opus elevation value of 1097.708 was held fixed. The total length of the loop was 1.0 mile with a missed closure of 0.0058 feet.

A level loop North along US 30 originated and terminated on CP 37, the adjusted value of 1097.708 was held fixed. The total length of the 2nd run was 0.5 miles with a missed closure of 0.008 feet.

NGS datasheets show a vertical difference of 0.46' to 0.47' in the area (29 lower than 88) between NAVD88 to NGVD29.

Horizontal Datum

Project Coordinate Transformation

Iowa State Plane North Zone coordinates in US feet were transformed to project ground coordinates using a 1/combined scale factor broadcast about a held point. The held State Plane coordinate and project coordinate at control point 50 are N= 3429655.92 E=4355938.16

1 / GRID = 1.000017621

VERTICAL DATUM = NAVD 88 <> HORIZONTAL DATUM = NAD 83 (1996)

Local Project Plane Coordinate Conversion Equation:

- a. Local Project Coord y = [(State Plane y - hold point y) 1/grid factor] + hold point y
- b. Local Project Coord x = [(State Plane x - hold point x) 1/grid factor] + hold point x

ALL COORDINATES CONVERTED TO ENGLISH UNITS

POINT	STATE PLANE COORD(Y)	STATE PLANE COORD(X)	POINT SCALE FACTOR	ESTIMATED LOCAL PROJECT PLANE		GPS DERIVED ORTHOMETRIC HEIGHT
				COORD(Y)	COORD(X)	
G034	3414680.99	4347546.92	1.00004695	3414680.72	4347546.78	1099.57
G035	3415731.40	4348316.51	1.00004623	3415731.16	4348316.38	1144.33
G036	3418468.83	4348687.35	1.00004438	3418468.63	4348687.22	1095.83
G037	3420610.78	4350026.92	1.00004293	3420610.62	4350026.82	1097.87
G038	3424611.35	4352461.30	1.00004025	3424611.26	4352461.24	1101.44
G039	3409140.95	4347104.88	1.00005075	3409140.59	4347104.73	1101.64
G040	3412076.60	4347536.89	1.00004873	3412076.29	4347536.74	1115.84
G041	3412405.71	4350145.12	1.00004846	3412405.41	4350145.02	1165.88
G042	3412935.76	4350193.00	1.00004810	3412935.46	4350192.90	1210.19
G043	3414508.56	4353103.73	1.00004698	3414508.29	4353103.68	1287.90
G044	3415040.51	4351541.00	1.00004664	3415040.25	4351540.92	1231.31
G045	3416928.81	4353887.93	1.00004533	3416928.59	4353887.89	1238.31
G046	3416961.75	4353012.67	1.00004532	3416961.52	4353012.62	1228.23
G047	3419706.57	4351871.28	1.00004350	3419706.40	4351871.21	1169.64
G048	3422263.22	4352556.12	1.00004179	3422263.09	4352556.06	1124.29
G049	3426813.10	4353801.73	1.00003879	3426813.05	4353801.70	1100.53
G050	3429655.92	4355938.16	1.00003692	3429655.92	4355938.16	1118.48
G200	3422456.23	4344188.78	1.00004180	3422456.11	4344188.57	1156.25

Alignment

The mainline alignment is a retrace of the existing alignment. Stationing was carried backed up & carried forward from POT Sta 24+83.50 found in FA 287(2) AB Paving Plan

Alignment Equations

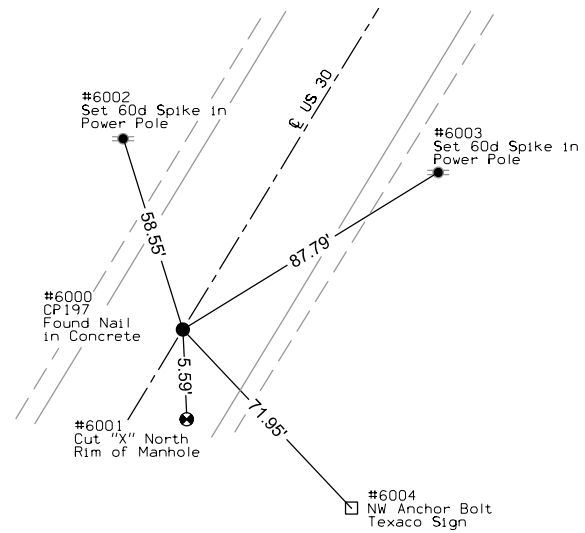
POT Sta 24+83.50 – This Survey (Set CP from X-Ties)
 =POT Sta 24+83.5 - 1929 FA 287 Sheet 6 Paving Plan
 =POT Sta 24+83.5 - 1960 FA 287(2) AB Sheet 4 Paving Plan

PI Sta 0+25.027 This Survey (Fd Nail set in PCC Slab)
 = PI Sta 0+27.00 AB Stationing FN-861 1961 Resurfacing Plan
 = PI Sta 0+27.00 AB Stationing FN-30-1(9)—21-43 1969 Resurfacing Plan

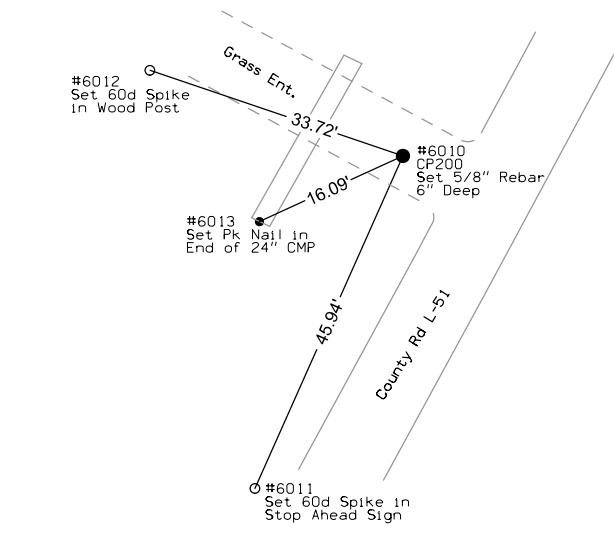
BENCHMARKS

						ELEVATION
-----						-----
No. 500 Sta.	2+57.696	1003.235	Lt. Y:3419024.422	X:4347918.101	Fd IHC NE Wing of Brg-----	1101.341
No. 501 Sta.	00+77.794	160.283	Lt. Y:3418432.029	X:4348544.203	Set RR Spk SW Side PP-----	1098.016
No. 502 Sta.	10+26.622	41.183	Rt. Y:3419137.308	X:4349210.120	Cut"X" SE Bolt F Hyd-----	1102.766
No. 503 Sta.	17+81.968	46.371	Rt. Y:3419779.553	X:4349607.733	Set RR Spk W Side PP-----	1097.695
No. 504 Sta.	27+91.597	22.416	Rt. Y:3420654.051	X:4350112.872	Cut"X" SE Barrier Rail of Brg-----	1101.651
No. 505 Sta.	35+64.296	45.813	Rt. Y:3421301.556	X:4350535.186	Set RR Spk W Side PP-----	1094.023

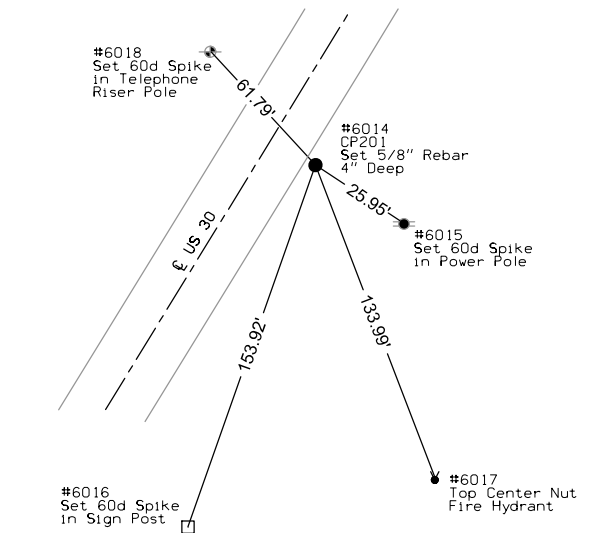
C.P. STA. 0+25.03 RIGHT 0.00
 CP197, Found Nail in Concrete
 XC=4348653.592 YC=3418303.542



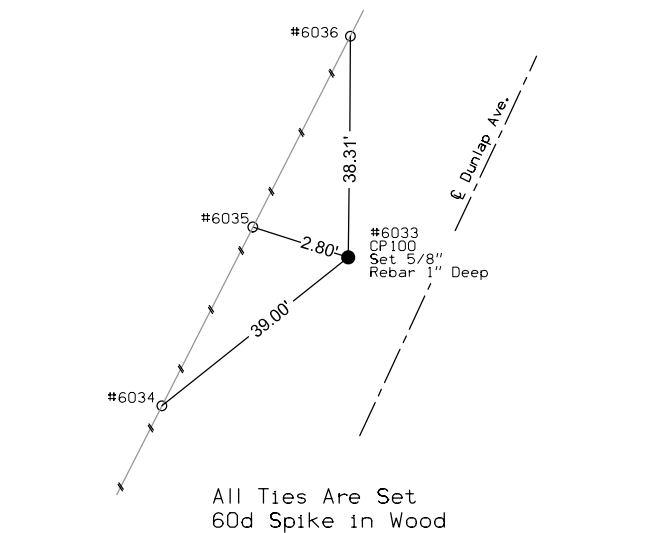
C.P. STA. 12+46.46 LEFT 5973.97
 CP200, Set 5/8" Rebar 6" Deep
 XC=4344188.572 YC=3422456.106



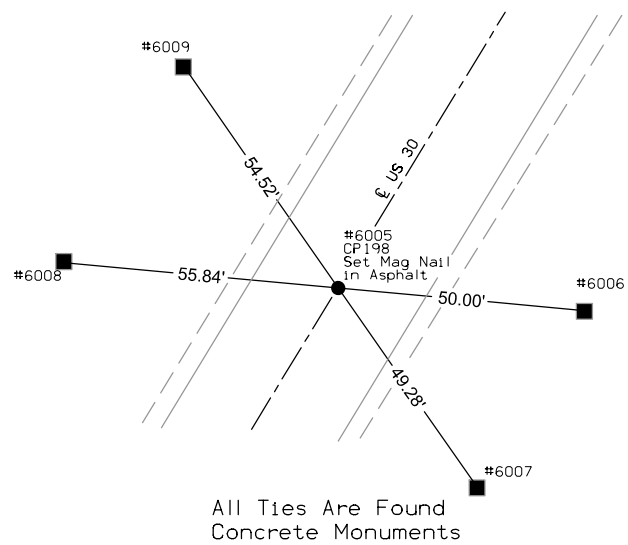
C.P. STA. 21+41.79 RIGHT 20.82
 CP201, Set 5/8" Rebar 4" Deep
 XC=4349773.213 YC=3420100.084



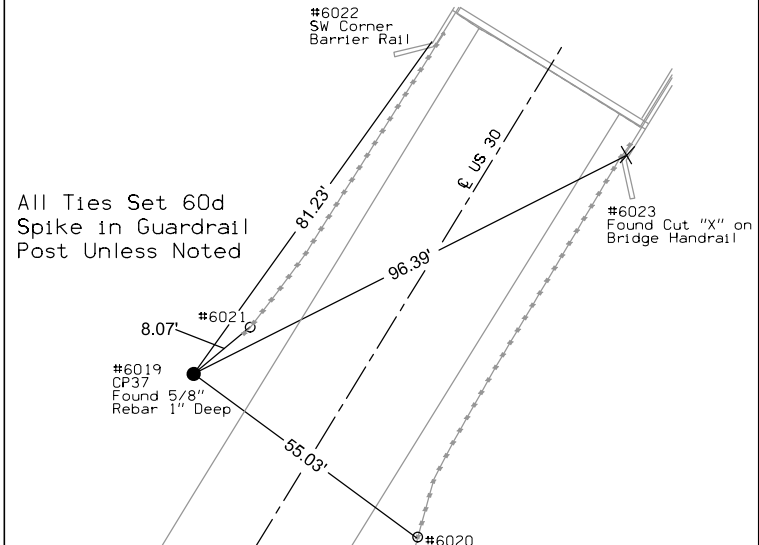
C.P. STA. 22+89.02 RIGHT 2124.95
 CP100, Set 5/8" Rebar 1" Deep
 XC=4351646.443 YC=3419130.522



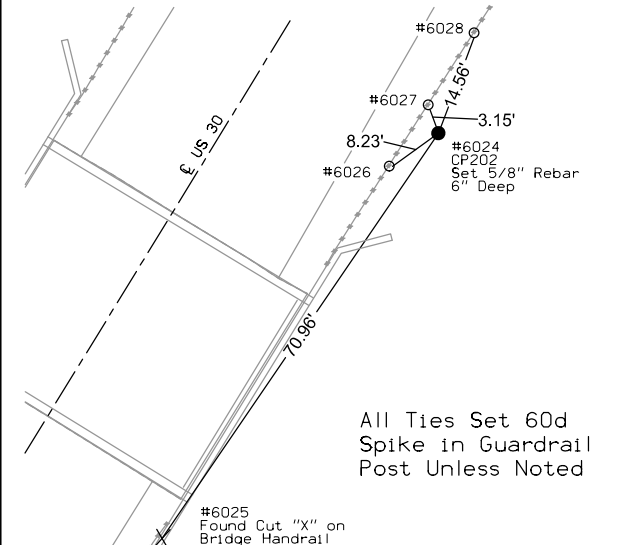
C.P. STA. 24+83.50 RIGHT 0.00
 CP198, Set PK Nail in Asphalt
 XC=4349933.310 YC=3420402.687



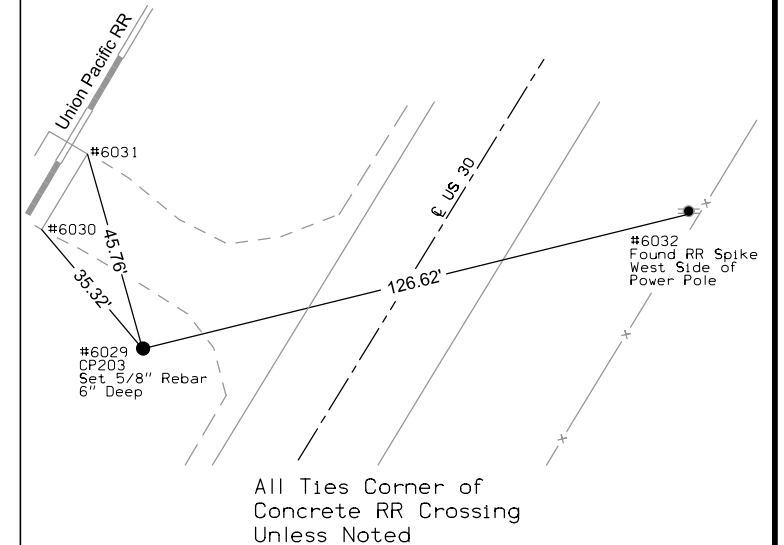
C.P. STA. 27+09.71 LEFT 28.44
 CP37, Found 5/8" Rebar 1" Deep
 XC=4350026.820 YC=3420610.620

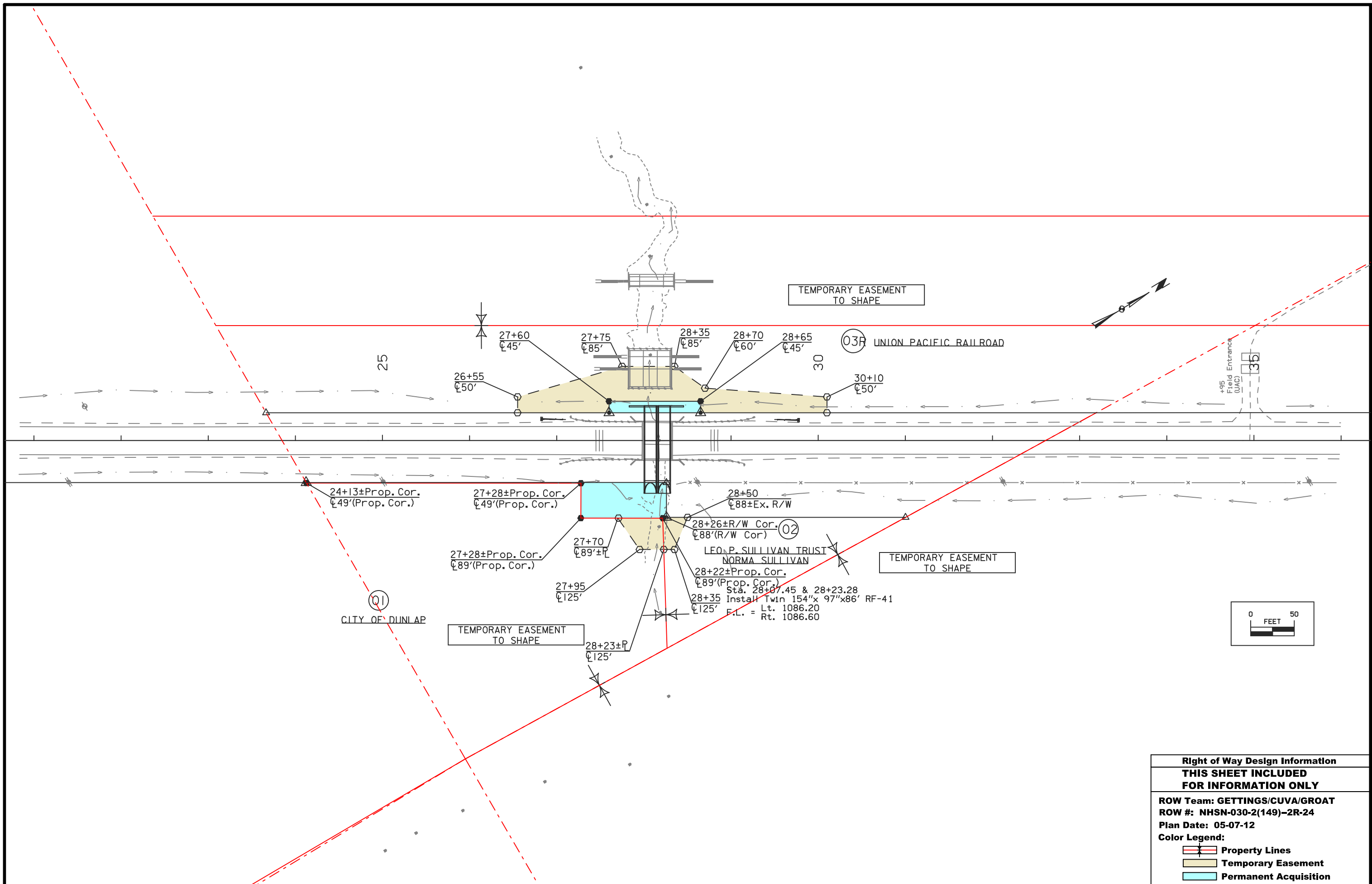


C.P. STA. 28+62.47 RIGHT 26.04
 CP202, Set 5/8" Rebar 6" Deep
 XC=4350152.865 YC=3420712.673



C.P. STA. 34+74.40 LEFT 43.37
 CP203, Set 5/8" Rebar 6" Deep
 XC=4350412.240 YC=3421271.247





TEMPORARY EASEMENT TO SHAPE

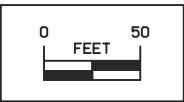
UNION PACIFIC RAILROAD

TEMPORARY EASEMENT TO SHAPE

TEMPORARY EASEMENT TO SHAPE

CITY OF DUNLAP

LEO P. SULLIVAN TRUST
NORMA SULLIVAN
Sta. 28+07.45 & 28+23.28
Install Twin 154"x 97"x86' RF-41
Lt. 1086.20
Rt. 1086.60



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/CUVA/GROAT	
ROW #: NHSN-030-2(149)-2R-24	
Plan Date: 05-07-12	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

PARCEL CHECK LIST

05/07/12 14:44 HSL PRINT FOR S J GROAT PAGES: 1 - 1 GEN: 1

PARCEL CHECK BY PROJ UPDATED 05/07/12 14:43 PAGE: 1

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER
 COUNTY : CRAWFORD PROJECT NO. :NHSN-030-2(149)--2R-24 PIN: 09-24-030120-00
 CONSTRUCTION NO.:BRFN-030-2(148)--39-24 ASSIGNED TO: NLC

DESCRIPTION : US 30 Over Drainage Ditch 0.5 Mile N. Of Ia. 37

PARCEL	KEY	OWNER	TYPE	R/W W.D OR EASE.	BORROW W.D OR EASE.	HOUSE OR
0001	26392	CITY OF DUNLAP	FEE			
0002	26393	LEO P. SULLIVAN TRUST NORMA SULLIVAN	FEE STATE OF IOWA FEE	4,221.40	EASE SQFT	
0003 R	26394	UNION PACIFIC RAILROAD	FEE STATE OF IOWA	1,384.60	EASE SQFT	
3		TOTAL PARCELS ON PROJECT				

102-15
08-01-08

TABULATION OF SPECIAL EVENTS

Event	Location	Date
None Provided		

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. Traffic will be maintained on US 30 at all times.
2. Traffic will be reduced to one lane using lane closures.
3. Traffic control on this project shall be found in accordance with Standard Road Plans of the "TC" Series listed in Tab. 105-4. For additional complementary information, refer to Part 6 of the Manual on Uniform Traffic Control Devices and to the current Standard Specifications.

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
None Provided	

1110	CANADIAN NATIONAL RR BRIDGE	CUTOFF WALL	1110
1100	UPRR BRIDGE	FL OUTLET=1086.20	1100
1090		3.5:1	1090
1080		6:1	1080
1070		FL INLET=1086.60	1070
1060			1060

PROPOSED PROFILE GRADE ON X

PROFILE GRADE LINE (PGL) IS AT ϕ /INSIDE EDGE OF LANES. TOP OF BRIDGE DECK AT ϕ ROADWAY IS ? ABOVE/BELOW THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

TRAFFIC ESTIMATE

20?? A.A.D.T. = ? VPD
 20?? A.A.D.T. = ? VPD
 20?? D.H.V. = ? VPH
 % TRUCKS = ? %
 TOTAL DESIGN ESAL's = ?

HYDRAULIC DATA

DRAINAGE AREA= 2.04 MI²
 STREAM SLOPE= 17.27 FT./MI.

Q₂ = 294 CFS
 STAGE= ?
 CHANNEL VELOCITY= ? FT/SEC

Q₅₀ = 1489 CFS
 NATURAL STAGE= ?
 BACKWATER= ?
 AVG. BRIDGE VELOCITY= ? FT/SEC

Q₁₀₀ = 1795 CFS
 NATURAL STAGE= ?
 BACKWATER= ?
 AVG. BRIDGE VELOCITY= ? FT/SEC
 CALCULATED DESIGN SCOUR= ?

Q₅₀₀ = 2412 CFS
 NATURAL STAGE= ?
 AVG. BRIDGE VELOCITY= ? FT/SEC
 CALCULATED CHECK SCOUR= ?

Q OVERTOPPING= ? CFS
 ROADWAY OVERTOP ELEV.= ?
 STA ?

EXTREME HW STAGE= ?
 DATE= ?
 AVG. LOW WATER STAGE= ?

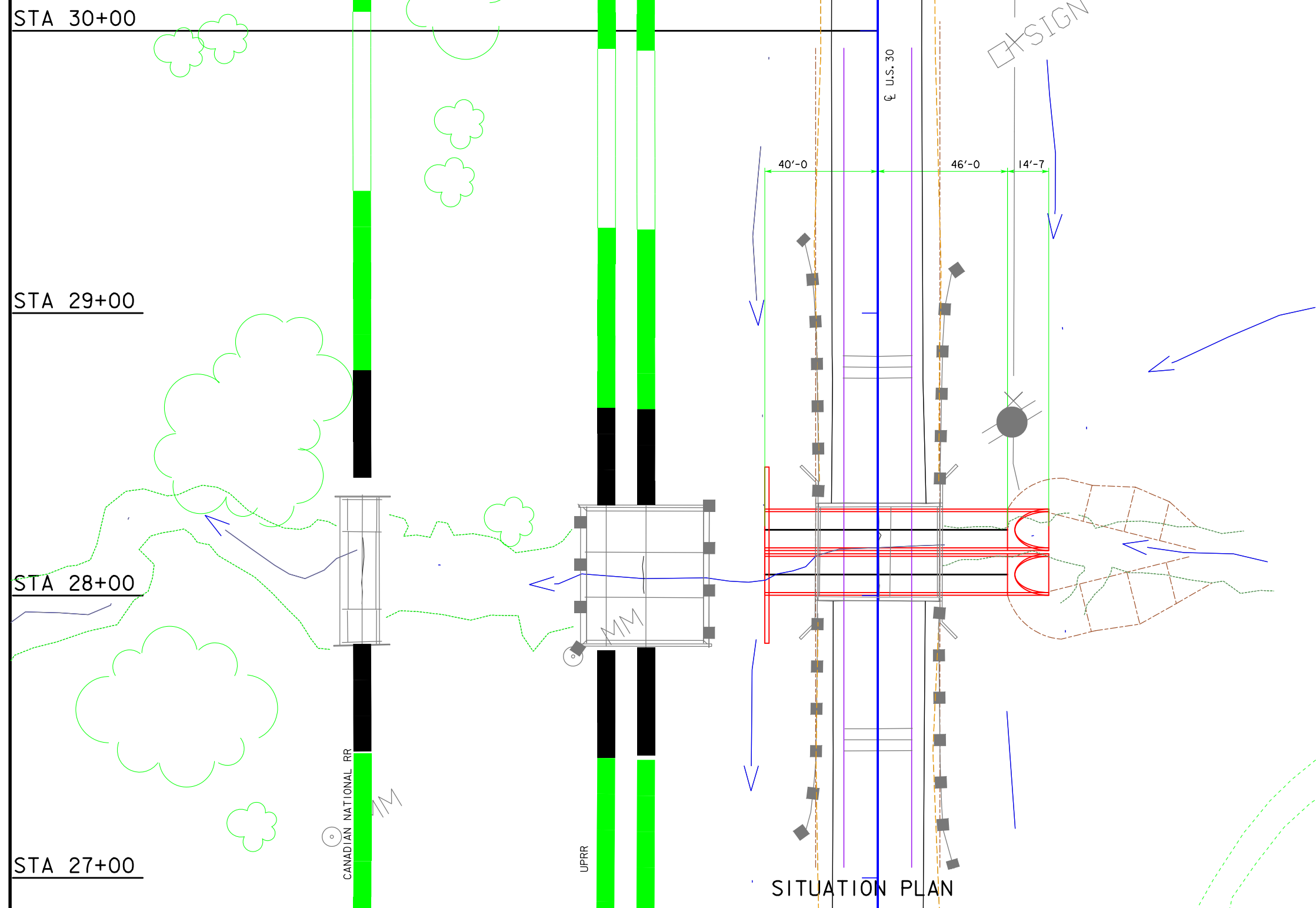
LOCATION

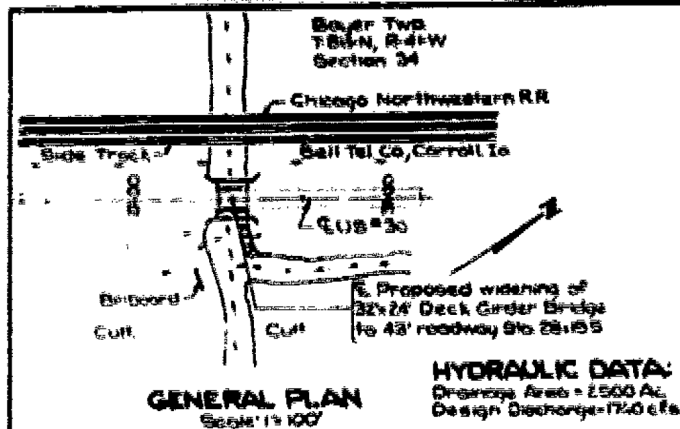
U.S. 30 OVER A TRIBUTARY TO BOYER RIVER
 T-82N R-41W
 SECTION 34
 BOYER TOWNSHIP
 CRAWFORD COUNTY
 BRIDGE MAINT. NO. 2438.5S030
 LATITUDE ?
 LONGITUDE ?



DESIGN FOR 0° SKEW
TWIN 154" x 97" x 86' REINFORCED CONCRETE ARCH PIPES
 WITH INLET CUTOFF WALL & OUTLET APRONS
SITUATION PLAN
 STATION: 28+07.45 & 28+23.28
CRAWFORD COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

LONGITUDINAL SECTION ALONG ϕ ROADWAY





GENERAL NOTES:

The widened portion of this bridge is designed for 120-44 loading plus 19 lbs. per sq. ft. of roadway for future wearing surface. The existing bridge is Design 326, Crawford County. Two flood lights are to be installed as shown on the "situation Plan" before any construction on the contract has started. Floodlights are to be removed after the completed bridge has been placed in service. Maintain two-way traffic on present bridge while constructing abutments. Before removing concrete rails and curb, restrict traffic to one 12' lane in the center of the roadway. The bridge contractor is to provide traffic control signals in accordance with Supplemental Specification 566. The lump sum bid for "Removal of Existing Structures" is to include the removal of pavement widening at each corner of the bridge as noted or shown on sheet 3 and the removal of all old concrete as shown by the break lines on sheet 2 & 3. Broken concrete is to be disposed of around the wings on the upstream (East) side of the bridge as directed by the engineer. Voids between new and old wings are to be backfilled with granular backfill material, which complies with section 4133, of the specifications, to elevation 1087.4. See "Weep Hole Detail" sheet 3. Suitable Class 20 Excavation is to be used for backfilling the wings, and widening the shoulders. Class 24 Excavation is to be obtained from northwest bank as shown on the "Situation Plan". Additional Class 24 Excavation is to be obtained within the right-of-way near the site as directed by the engineer. The price bid for "P.C. Concrete Pavement Widening" is to include all materials, labor and excavation necessary to construct the pavement widening in accordance with the plans and specifications. Red lines on tracings and faint lines on prints indicate the present structure.

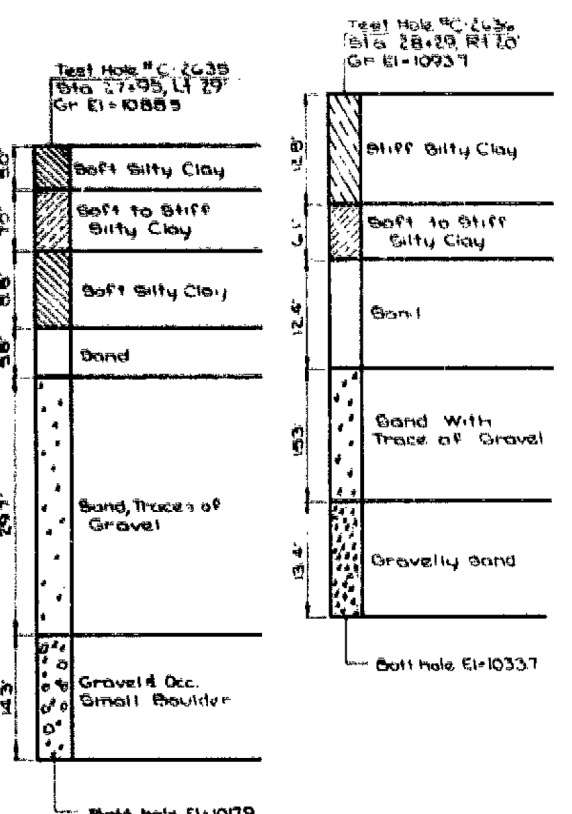
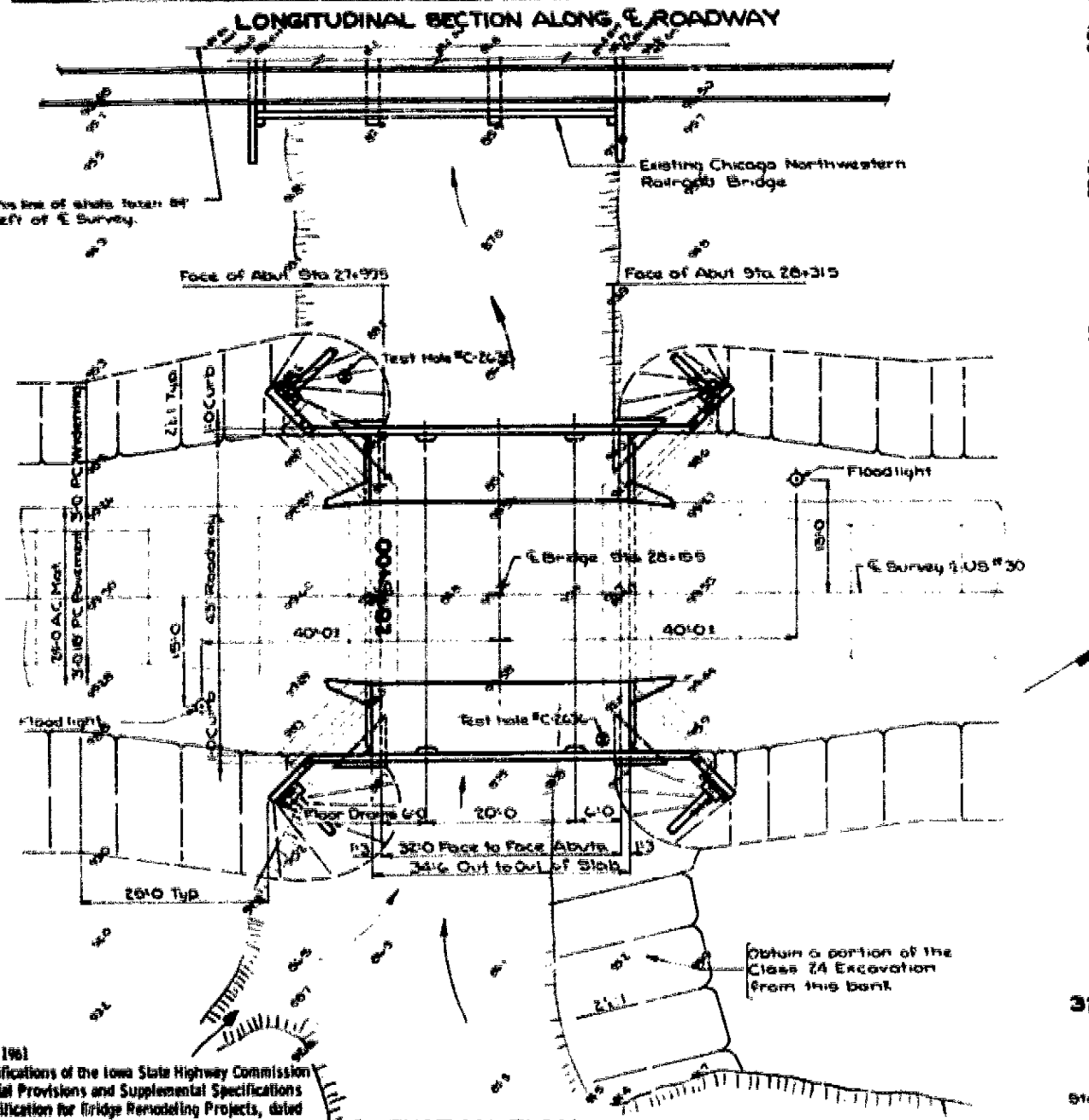
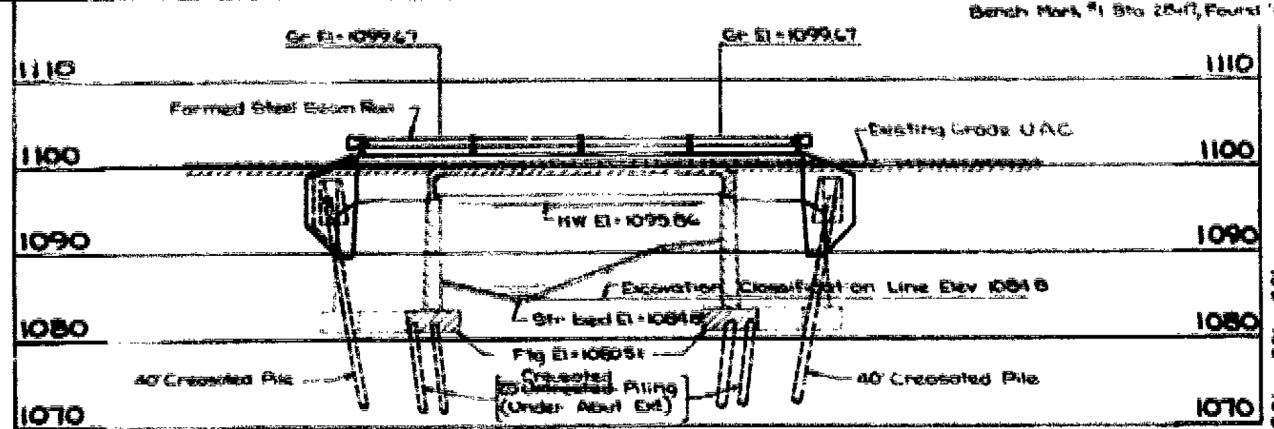
DESIGN STRESSES:

Design stresses for the following materials are in accordance with A.A.S.H.O. Standard Specifications for Highway Bridges, Series of 1961. Reinforcing Steel in accordance with Section 1.4.12. "Reinforcement" for Intermediate, Hard or Rail Steel Grade. Concrete in accordance with Section 1.4.11, f'c = 3500 p.s.i. Structural Steel in accordance with Int. 7162; 1.4.7. "Structural Steel"

TOTAL ESTIMATED QUANTITIES				
Item	Units	E. Abut.	Superstr.	Total
Structural Concrete*	Cu Yds	614	280	894
Reinforcing Steel	Lbs	5650	5050	10700
Structural Steel	Lbs		638	638
Prestressed Prestressed Concrete Beams-A Special(23)4	N#	4		4
Crested Piling	Lin Ft	4040	100	4140
Untreated Piling	Lin Ft	3075	300	3375
Class 20 Excavation	Cu Yds	100		100
Class 21 Excavation	Cu Yds	41		41
Class 24 Excavation	Cu Yds		150	150
Granular Backfill	Cu Yds		15	15
Formed Steel Beam Railings	Lin Ft		950	950
P.C. Concrete Pavement Widening	Sq Yds			54
Floodlighting	L.S.			LUMP SUM
Removal of Existing Structures	L.S.			LUMP SUM

* The floor and curbs, 280 cu yds to be Class "D" concrete, the remainder, 614 cu yds to be Class "C" concrete

SPECIFICATIONS:
 Design A. A. S. H. O. Series of 1961
 Construction: Standard Specifications of the Iowa State Highway Commission Series of 1964, plus current Special Provisions and Supplemental Specifications (including the Supplemental Specification for bridge Renovation Projects, dated November 3, 1964, Specification No. 567).
 Revised 10-20-64 Untreated piling changed to Crested



BOUNDING DATA
 Scale: 1" = 10'
 Dated June 10, 1964

1/4

LOCATION:
 Boyer Twp
 T-82-N, R-41-W
 Section 34
 Over Creek

Design For Widening
32'x24' CONCRETE DECK GIRDER BRIDGE TO 43' ROADWAY
GENERAL & SITUATION PLANS

Station: 28+155
 CRAWFORD COUNTY
 Iowa State Highway Commission
 September 1964
 Design No 964
 Crawford County
 Filed No 27084
 Project No P-287 (3)
 Sheet 1 of 4

This Sheet For Information Only

LEGEND OF CROSS SECTION SHEETS (ROAD)

- - - - - - Existing Ground Line
- ===== Proposed Template
- ===== Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- ===== Subgrade Treatment
- - - - - Granular Shoulder
- ===== Pavement
- - - - - Existing Pipe\RCB
- ===== Proposed Pipe\RCB
- ===== Proposed Dike
- ===== All Elements Associated with Proposed Entrances

LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS----- Topsoil (Class 10)
- TS A----- Topsoil (Type A Disposal)
- TS B----- Topsoil (Type B Disposal)
- TS C----- Topsoil (Type C Disposal)
- CL 10----- Class 10 Materials
- SEL LO----- Select Loams And Clay-Loams
- SEL SA----- Select Sand
- UNS A----- Unsuitable Type A Disposal
- UNS B----- Unsuitable Type B Disposal
- UNS C----- Unsuitable Type C Disposal
- SHALE----- Shale
- WASTE----- Waste
- B&W LS----- Broken and Weathered Rock
- ROCK----- Solid Rock
- BLDRS----- Boulders

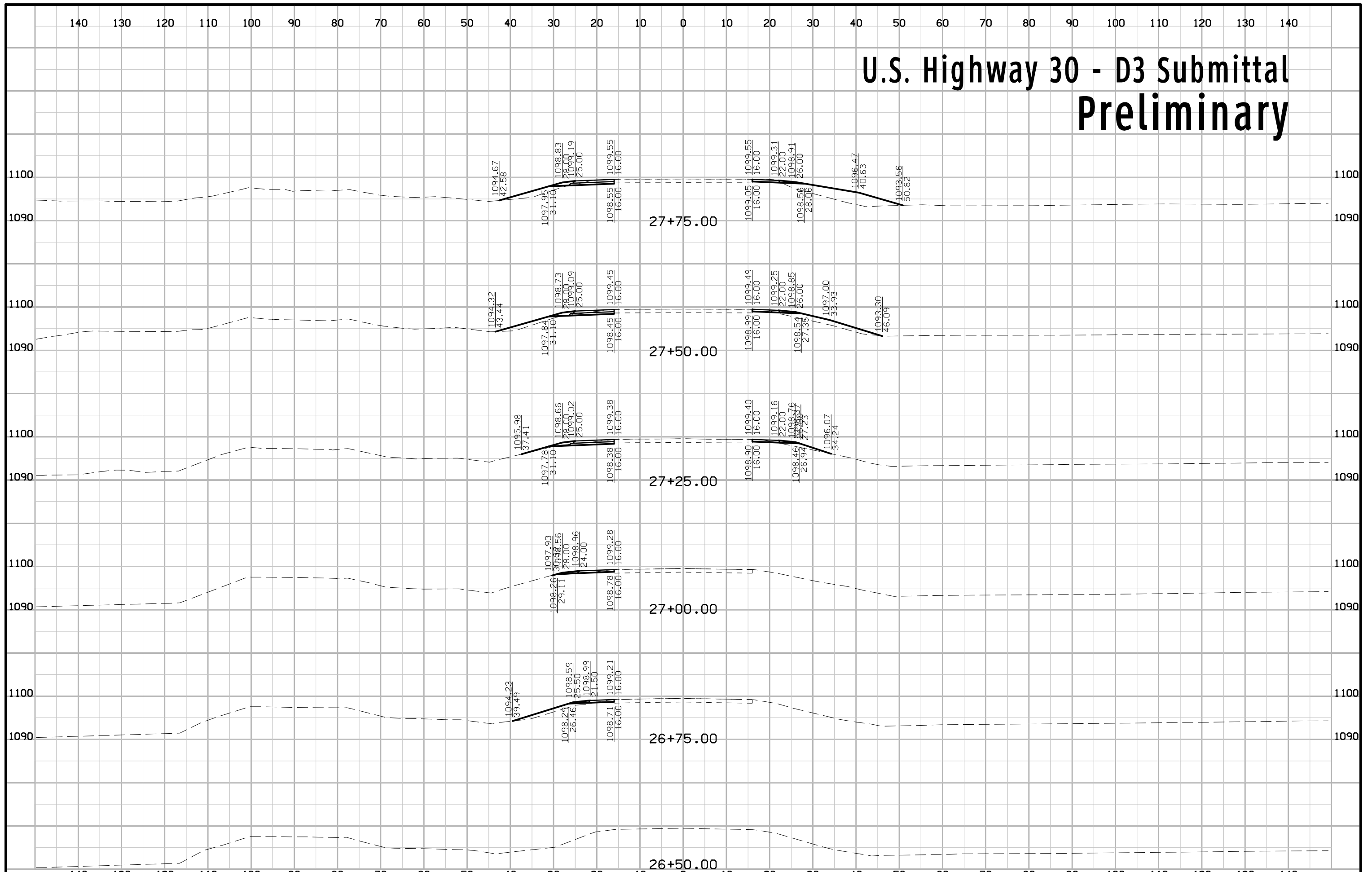
Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

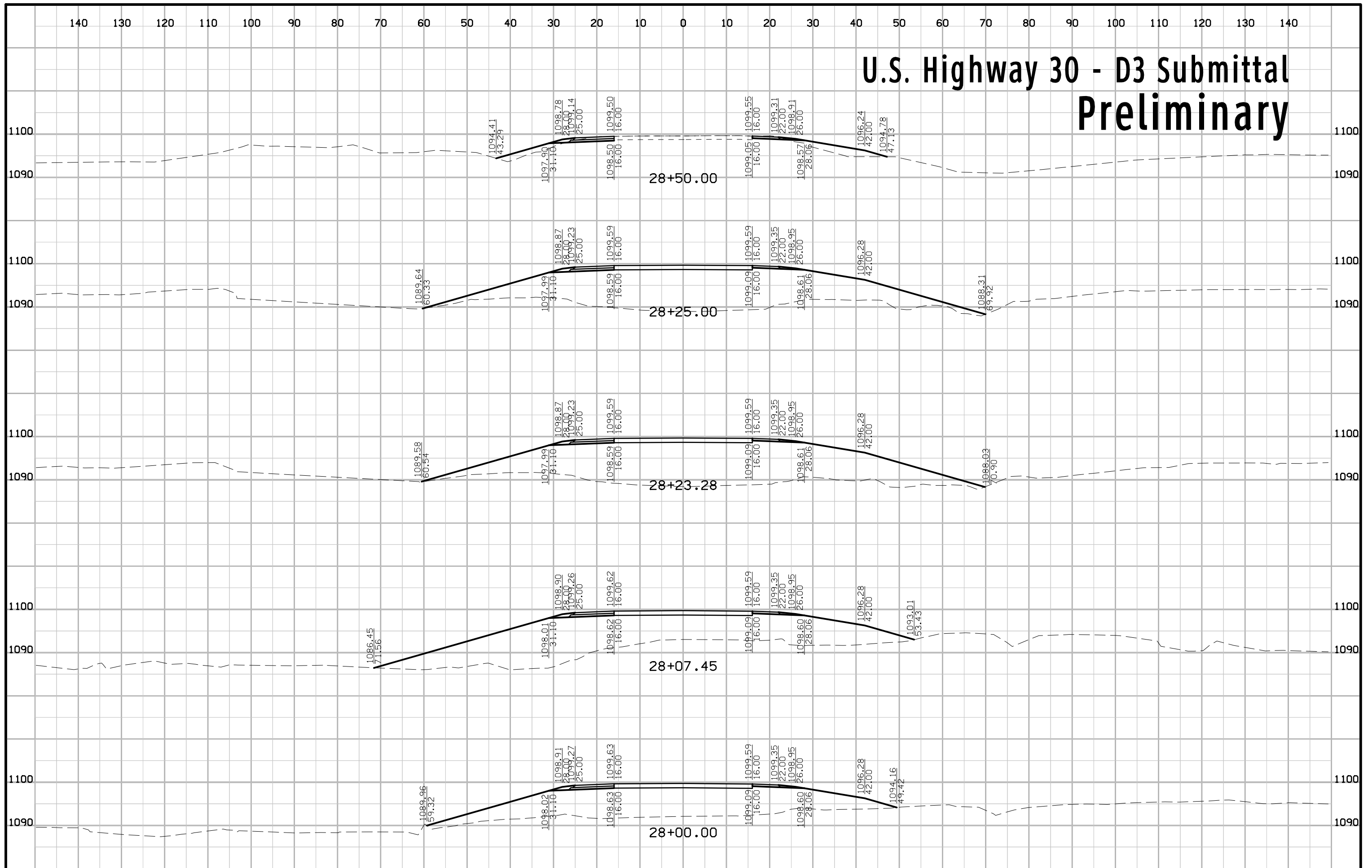
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES W)

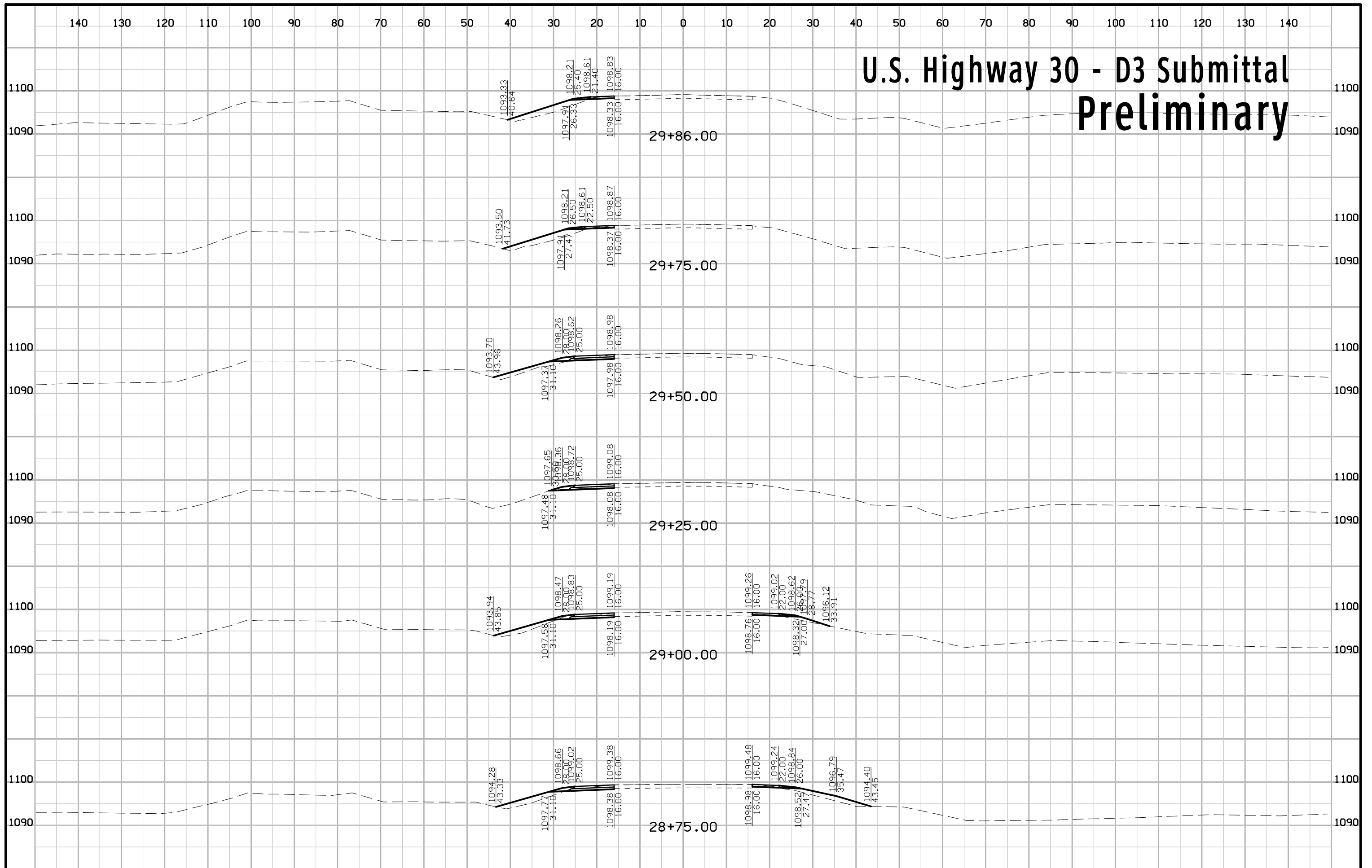
U.S. Highway 30 - D3 Submittal Preliminary



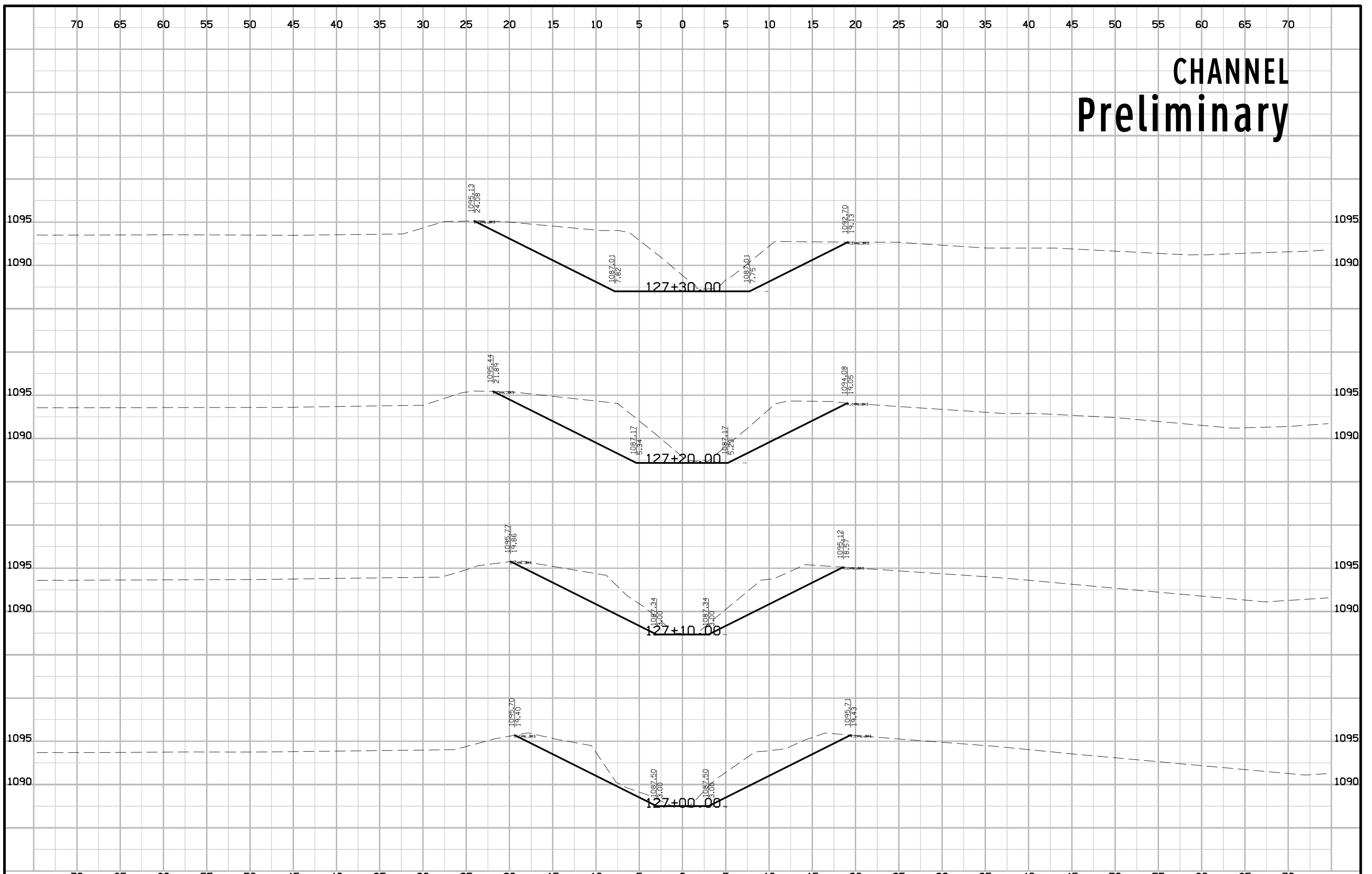
U.S. Highway 30 - D3 Submittal Preliminary



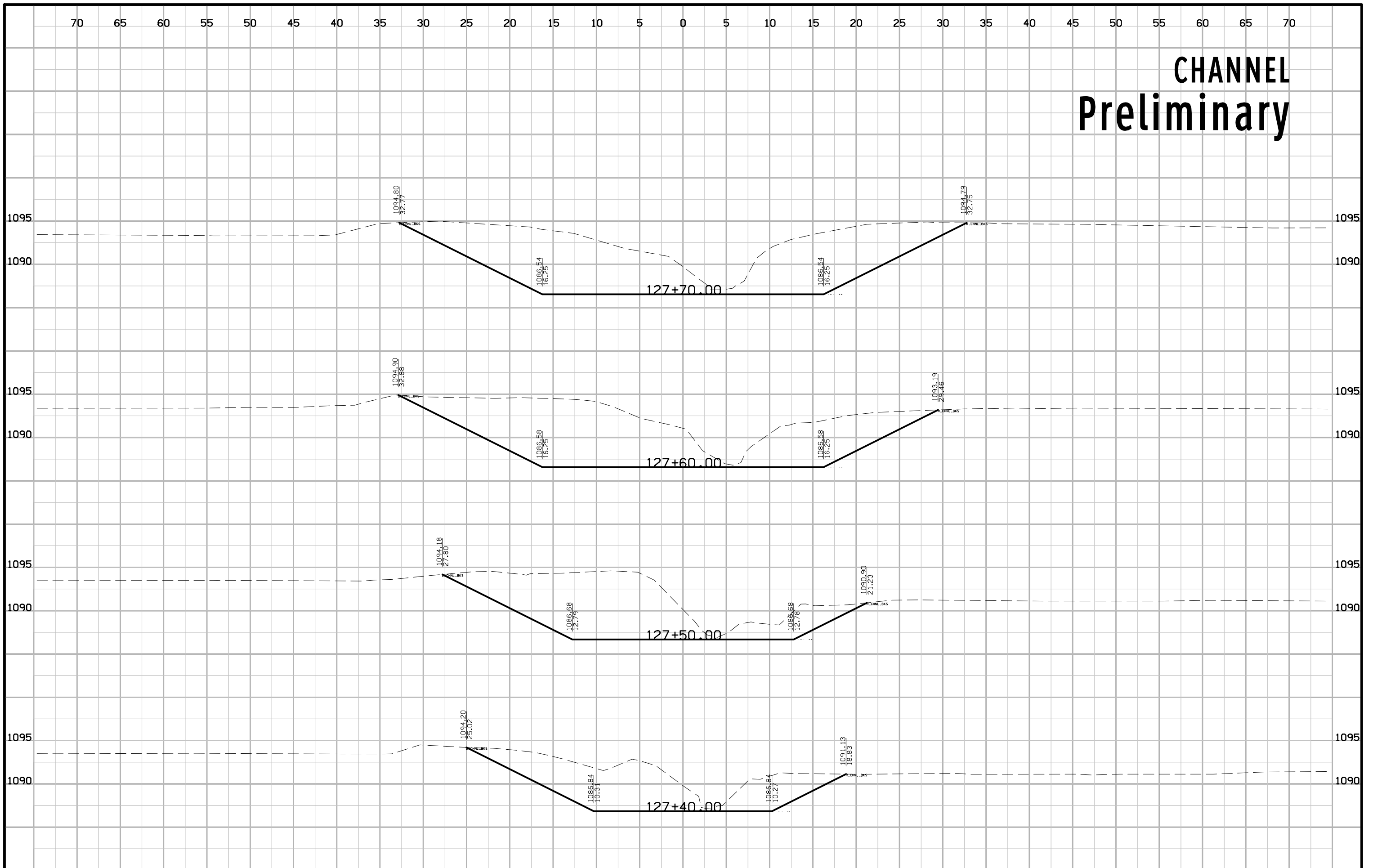
U.S. Highway 30 - D3 Submittal Preliminary



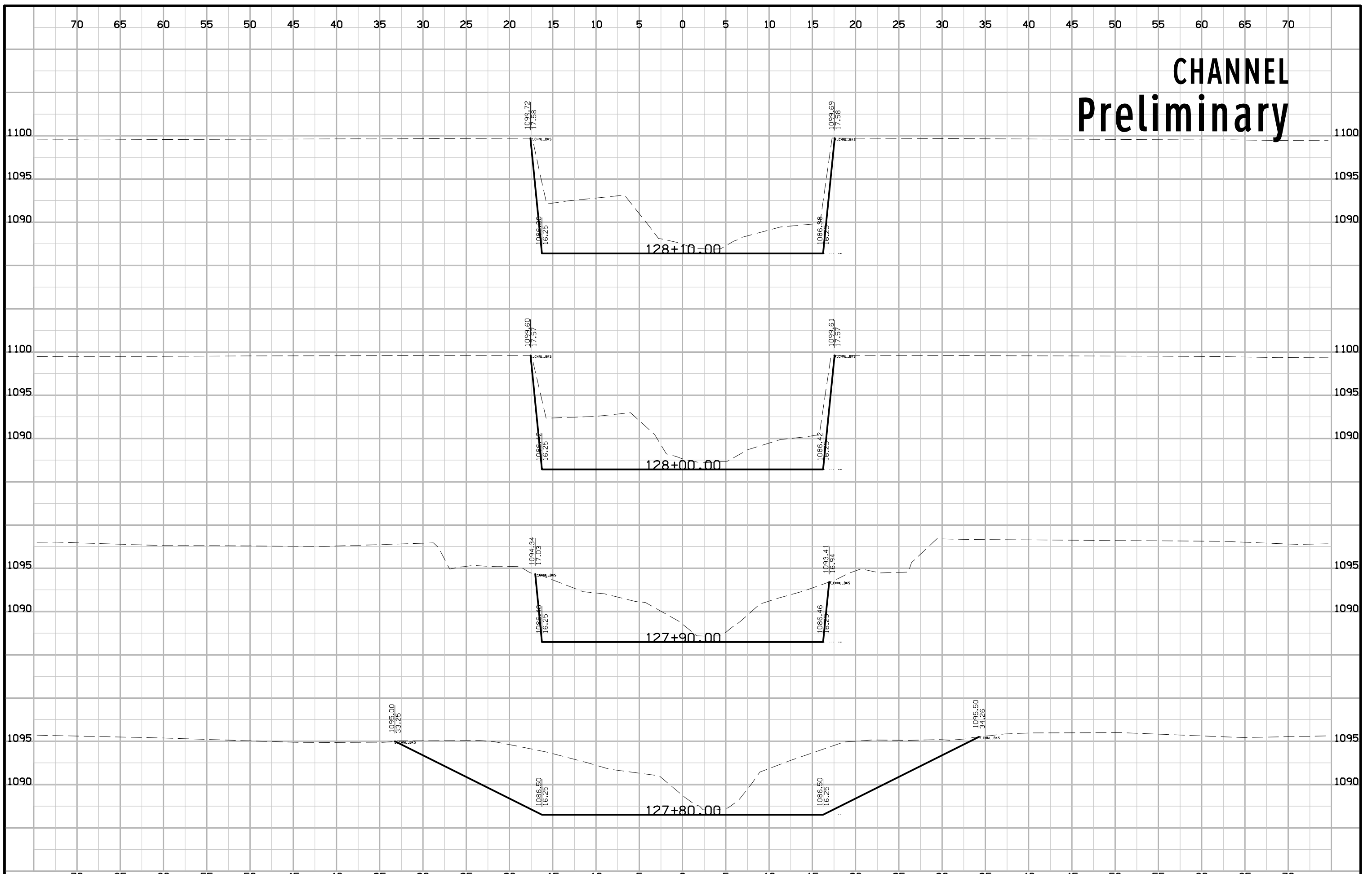
CHANNEL Preliminary



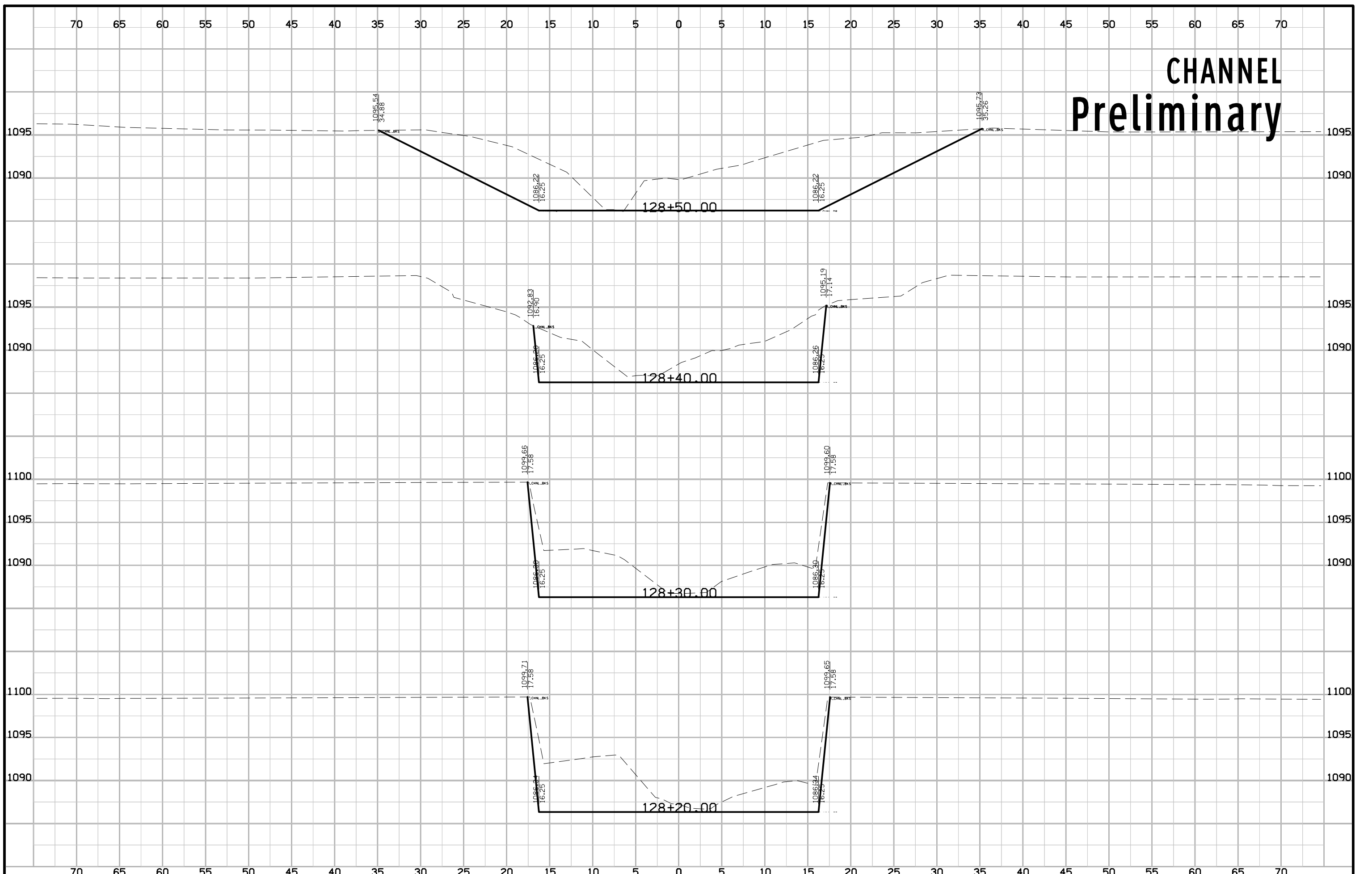
CHANNEL Preliminary



CHANNEL Preliminary



CHANNEL Preliminary



CHANNEL Preliminary

