STORY Co.

PCC PAVEMENT - GRADE AND REPLACE

BG-9A10(035)--80-85

LETTING DATE TBD

INDEX OF SHEETS

No.	DESCRIPTION
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* A.1	Title Sheet
* A.2	Location Map Sheet
B Sheets	**Typical Cross Sections and Details**
B.1	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1	Project Description
C.1	Estimated Project Quantities
C.2	Estimate Reference Information
C.3	Standard Road Plans
C.3	Index of Tabulations
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D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	"WEST TANGENT"
E Sheets	**Side Road Plan and Profile Sheets**
* E.1	"NORTH PARKING"
G Sheets	**Survey Sheets**
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L.5 - 8	Edge Profiles
M Sheets	**Storm Sewer Sheets**
M.1	Storm Sewer Tabulations
* M.2	Storm Sewer Legend & Symbol Information Sheet
* M.3	Storm Sewer Plan and Profile Sheets "WEST TANGENT"
T Sheets	**Earthwork Quantity Sheets**
T.1	Earthwork Quantity Sheets
U Sheets	**500 Series, Mod.Stds. and Detail Sheets**
U.1	Parking Paint - Details
U.2	Sign - Remove and Reinstall Locations
W Sheets	**Mainline Cross Sections**
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W.2 - 7	Mainline Cross Sections
	* Color Plan Sheets

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

STORY COUNTY

PCC PAVEMENT - GRADE AND REPLACE

Ames Complex from just W of Skywalk to W Gate / S Oak Ave

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
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL	41
PROJECT IDENTIFICATION NUMBER	15-85-000-010
PROJECT NUMBER	BG-9A10(035)--80-85
R.O.W. PROJECT NUMBER	

For Project Location Map
Refer to Sheet A.2

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Yanxiao Jia	Primary Signature Block

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER Yanxiao Jia 14837 IOWA

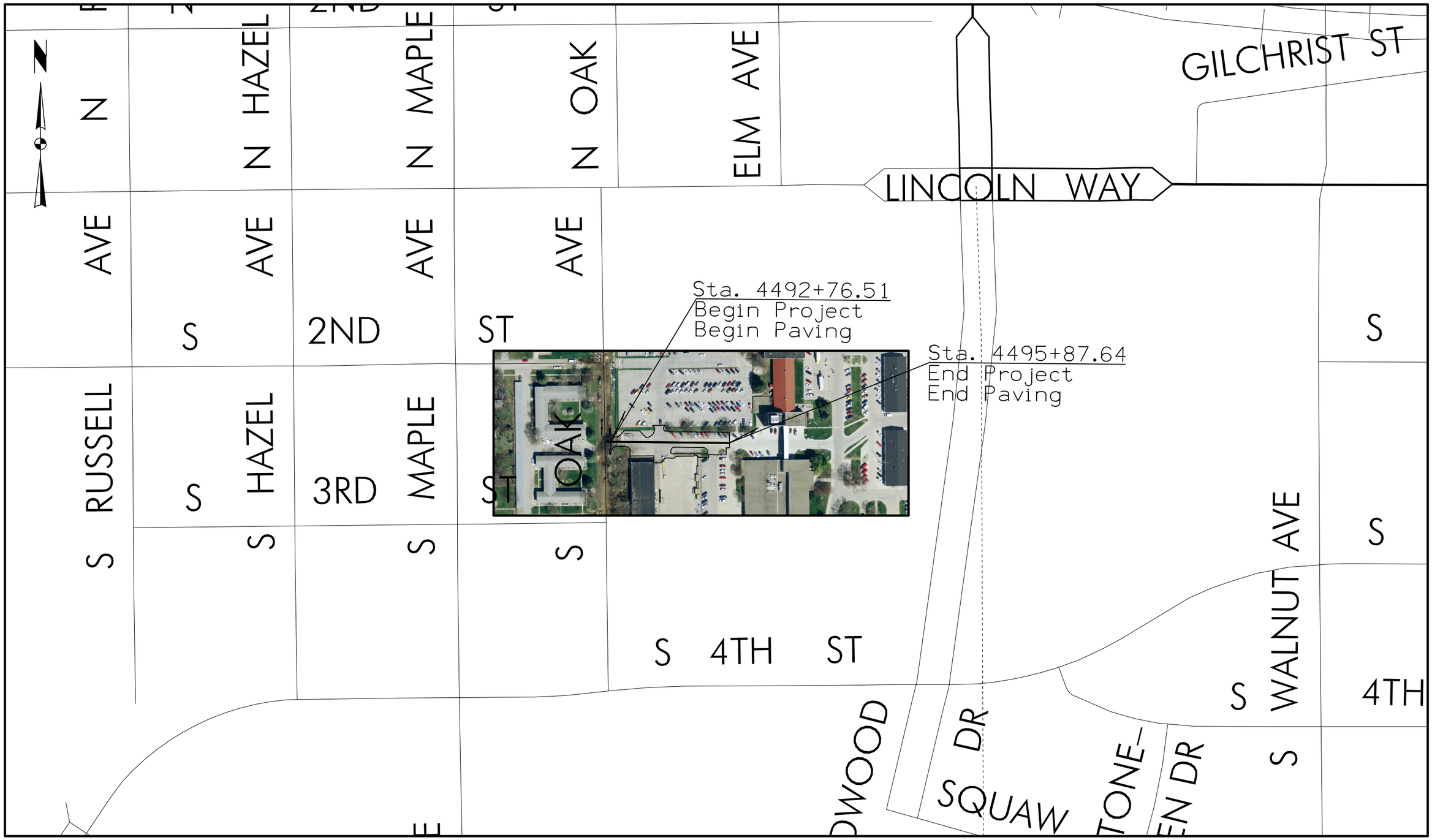
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Yanxiao Jia — Signature — 12-31-2015 Date

Yanxiao Jia — Printed or Typed Name

My license renewal date is December 31, 2016

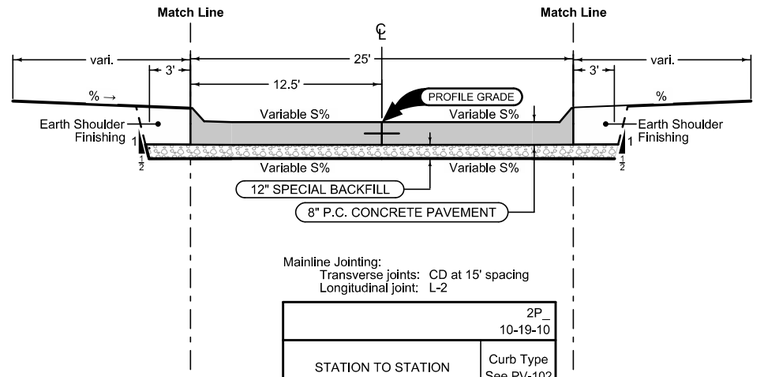
Pages or sheets covered by this seal: A.1-A.2, B.1, C.1-C.6, D.1-D.2, E.1 G.1-G.5, J.1-J.3, L.1-L.8, M.1-M.3, T.1, U.1-U.2, and W.1-W.7



Iowa DOT Parking
Ames, Iowa

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER A.2

11:22:28 AM 10/28/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015a01.sht

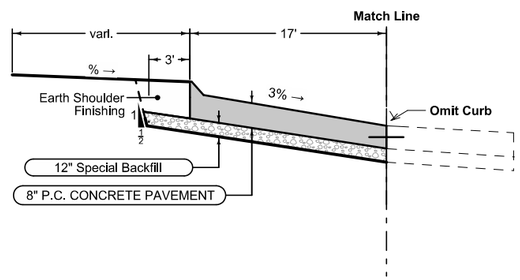


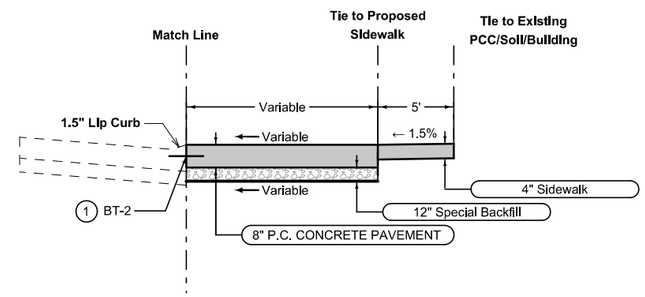
Mainline Jointing:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2

		2P_ 10-19-10
STATION TO STATION		Curb Type See PV-102
4492+76.51	4495+87.64	6" Std.

Parking

ML		2_Curb_ 04-19-11
STATION TO STATION		Curb Type See PV-102
4492+90.61	4493+69.67	6" Std.

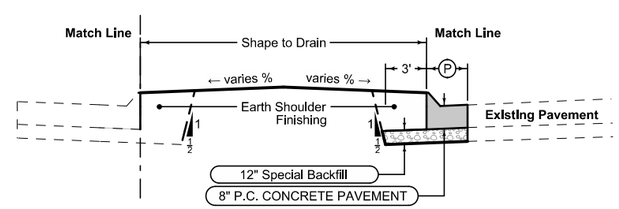




Parking

ML	04-19-11
STATION TO STATION	
4493+27.65	4494+34.02

(1) Joint to be placed 4.5" below parking surface.

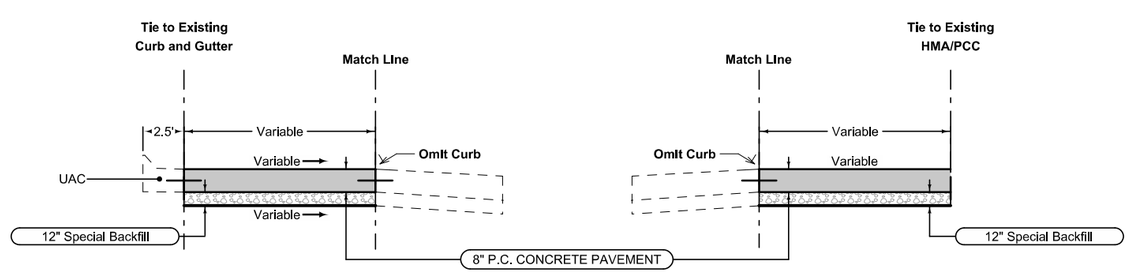


Parking

ML			2_Curb_ 04-19-11
STATION TO STATION		P Feet	Curb Type See PV-102
4494+44.52	4495+17.81	vari.	6" Std.

Parking

ML	04-19-11
STATION TO STATION	
4494+27.80	4495+87.64



Variable Panel

ML	04-19-11
STATION TO STATION	
4495+32.31	4495+87.64

See Tab 100-24 for pavement quantities.

Refer to L Sheets for additional information and details.

IDOT Ames Complex

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves reconstruction of the south DOT entrance along S. Oak Ave. from S. Oak Ave. to just W. of the Skywalk.
Storm sewer work is also included.

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2102-0425071	SPECIAL BACKFILL	CY	687.3	
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	743.0	
3	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	92.0	
4	2123-7450020	SHOULDER FINISHING, EARTH	STA	4.93	
5	2301-1033080	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C,	SY	1,909.1	
		CLASS 3 DURABILITY, 8 IN.			
6	2435-0140204	MANHOLE, STORM SEWER, SW-402, TOP ONLY	EACH	1	
7	2435-0250800	INTAKE, SW-508	EACH	2	
8	2435-0600010	MANHOLE ADJUSTMENT, MINOR	EACH	3	
9	2435-0600020	MANHOLE ADJUSTMENT, MAJOR	EACH	1	
10	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	52.0	
		2000D (CLASS III), 15 IN.			
11	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	6.0	
		2000D (CLASS III), 18 IN.			
12	2510-6745850	REMOVAL OF PAVEMENT	SY	2,095.6	
13	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	1	
14	2511-6745900	REMOVAL OF SIDEWALK	SY	25.6	
15	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.	SY	34.8	
16	2518-6910000	SAFETY CLOSURE	EACH	6	
17	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	4	
18	2526-8285000	CONSTRUCTION SURVEY	LS	1.00	
19	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	9.65	
20	2527-9263138	PAINTED SYMBOLS AND LEGENDS, HIGH-BUILD WATERBORNE	EACH	1	
21	2528-8445110	TRAFFIC CONTROL	LS	1.00	
22	2528-8445113	FLAGGERS	EACH	See Proposal	
23	2533-4980005	MOBILIZATION	LS	1.00	

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2102-0425071	**SPECIAL BACKFILL**
		See Typicals on B sheet and Tab. 100-24 for additional information.
-	-	-
2	2102-2710070	**EXCAVATION, CLASS 10, ROADWAY AND BORROW**
		Refer to "T" sheet.

		Overhaul will not be measured or paid for, but shall be considered incidental to
		roadway excavation on this project.

		Includes 79 cu. yds. of Class 10 material to be used as fill material and 664 cu. yds. to be wasted, as per
		Article 1106.07 of the current specifications.
-	-	-
3	2105-8425005	**TOPSOIL, FURNISH AND SPREAD**
		A. Topsoil, 8" thick, to be placed in disturbed areas behind curbs.
		B. Refer to T sheet for quantities.
		C. Overhaul will not be measured or paid for but shall be considered incidental to this bid item.
-	-	-
4	2123-7450020	**SHOULDER FINISHING, EARTH**
		A. For areas behind curb.
		B. Material for the earth shoulders is included in the quantities shown on T sheet.
-	-	-
5	2301-1033080	**STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.**
		A. Refer to Tab. 100-24.
		B. Thickness will not be evaluated.
-	-	-
6	2435-0140204	**MANHOLE, STORM SEWER, SW-402, TOP ONLY**
		A. Includes removal of existing top.
		B. Refer to M sheets for locations and details.
-	-	-
7	2435-0250800	**INTAKE, SW-508**
		Refer to M sheets for locations and details.
-	-	-
8	2435-0600010	**MANHOLE ADJUSTMENT, MINOR**
9	2435-0600020	**MANHOLE ADJUSTMENT, MAJOR**
		See Tab 104-10 for locations and details.
-	-	-
10	2503-0114215	**STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.**
11	2503-0114218	**STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.**
		Refer to M sheets for locations and details.
-	-	-
12	2510-6745850	**REMOVAL OF PAVEMENT**
		A. Refer to Tabs. 110-1 and 102-5 in the C sheets.
		B. Includes an estimated 562 linear feet of full depth sawcut.
-	-	-
13	2510-6750600	**REMOVAL OF INTAKES AND UTILITY ACCESSES**
		Refer to Tab. 110-15 for locations and details.
-	-	-
14	2511-6745900	**REMOVAL OF SIDEWALK**
		Refer to Tab. 110-5.
-	-	-
15	2511-7526004	**SIDEWALK, P.C. CONCRETE, 4 IN.**
		Refer to Tab. 113-1 in the C sheets.
-	-	-
16	2518-6910000	**SAFETY CLOSURE**
		Refer to Tab. 108-13A on Sheet C.3.
-	-	-
17	2524-6765010	**REMOVE AND REINSTALL SIGN AS PER PLAN**
		Refer to sheet U.2 for locations and details.
		Measurement for REMOVE AND REINSTALL SIGN AS PER PLAN will be the quantity shown in the contract documents.
		Payment for REMOVE AND REINSTALL SIGN AS PER PLAN will be at the contract unit price per sign.
-	-	-
18	2526-8285000	**CONSTRUCTION SURVEY**
-	-	-
19	2527-9263109	**PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED**
		Refer to Tab. 108-22 and Sheet U.1.
-	-	-
20	2527-9263138	**PAINTED SYMBOLS AND LEGENDS, HIGH-BUILD WATERBORNE**
		Refer to Tab. 108-29 in the C sheets.
-	-	-
21	2528-8445110	**TRAFFIC CONTROL**
		Refer to J sheets for traffic control layout and details.
		Includes 450' linear foot of orange mesh safety fence around the project area.
-	-	-
22	2528-8445113	**FLAGGERS**
-	-	-
23	2533-4980005	**MOBILIZATION**
-	-	-

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
PM-110	04-16-13	Line Types
PM-111	04-21-15	Symbols and Legends
PV-101	04-21-15	Joints
PV-102	04-15-14	PCC Curb Details
PV-103	04-19-11	Manhole Boxouts in PCC Pavement
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	10-20-15	Rigid Gravity Pipe Trench Bedding
SW-211	10-16-12	Special Pipe Connections for Storm Sewer
SW-402	04-21-09	Rectangular Storm Sewer Manhole
SW-508	10-21-14	Single Open-Throat Intake, Large Box
SW-602	04-21-15	Castings for Storm Sewer Manholes
SW-604	10-20-09	Castings for Area Intakes
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-212	04-16-13	Spot Location Lane Closure with Flaggers
TC-252	10-20-15	Routes Closed to Traffic

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-1A	ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)	C.1
100-1D	PROJECT DESCRIPTION	C.1
100-4A	ESTIMATE REFERENCE INFORMATION	C.2
100-24	PCC PAVEMENT	C.5
100-27	PAVEMENT SMOOTHNESS + PCC TEXTURE	C.5
102-5	EXISTING PAVEMENT	C.4
104-10	ADJUSTMENT OF FIXTURES	C.5
105-4	STANDARD ROAD PLANS	C.3
108-13A	SAFETY CLOSURES	C.5
108-22	PAVEMENT MARKING LINE TYPES	C.6
108-29	PAVEMENT MARKING SYMBOLS AND LEGENDS	C.6
110-1	REMOVAL OF PAVEMENT	C.4
110-5	SIDEWALK REMOVAL	C.4
110-15	REMOVAL OF INTAKES AND UTILITY ACCESSES	C.4
111-25	INDEX OF TABULATIONS	C.3
113-1	SIDEWALKS	C.5

232-3B
10-20-15

EROSION CONTROL (URBAN SEEDING)

Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area as follows:

Use seed mix and fertilizer meeting the requirements of Article 2601.03,C,4 and Section 4169 of the Standard Specifications.

Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

SN-1
MODIFIED

Special Note

Certified Plant Inspection per Section 2521 of the Standard Specifications will be required on this project.

102-5
10-16-12

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
	Story		Both			1978	PCC	BG-9A10(000)--80-85	PCC	6											Traffic Lanes and South Parking
									ACC	4											North Parking Areas

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
4492+76.51	4493+00.78		PCC	95.4	81.3	
4493+00.78	4495+85.90		HMA	1512.2	336.2	
4494+70.06	4495+87.64		PCC	488.0	144.3	
		Subtotals	PCC	583.4		
			HMA	1512.2		
		Totals:		2095.6	561.8	

110-5
10-20-15

SIDEWALK REMOVAL

* Not a bid item

Begin Station	End Station	Area SY	Saw Cut* LF	Remarks
4493+29.57	4493+88.70	25.6	12.4	

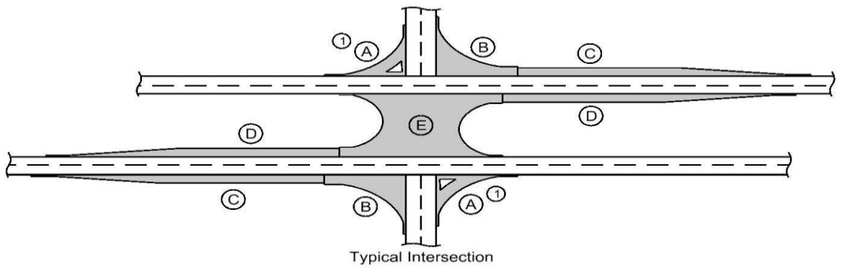
110-15
04-16-13

REMOVAL OF INTAKES AND UTILITY ACCESSES

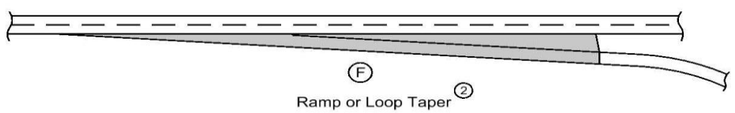
No.	Location/Description	Type	Remarks
1	4492+95.92, 30.3 Lt.	Intakes	Structure being replaced with 6' of 18" RCP Refer to M sheets

100-24
04-21-15

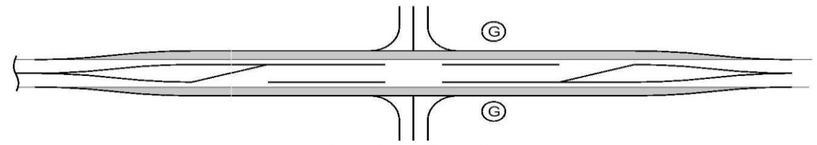
PCC PAVEMENT



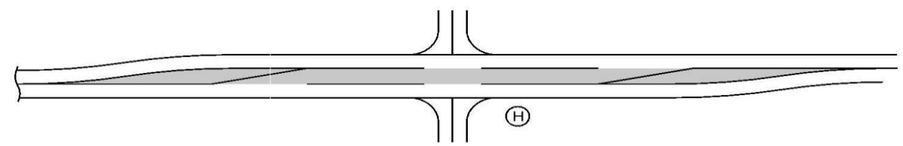
Typical Intersection



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.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	8 IN	10½ IN	TONS	CY	SY	
Parking Lot	Both	4492+76.51	4495+87.64	Varies	311.1	1909.1									1909.1		687.3			

100-27
10-20-09

PAVEMENT SMOOTHNESS + PCC TEXTURE

Road Identification	Begin Station	End Station	Proposed Posted Speed			Remarks
			35 or less	40 - 45	over 45	
Parking Lot	4492+76.51	4495+87.64	x			

104-10
08-01-08

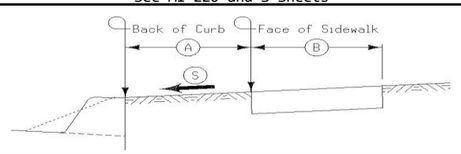
ADJUSTMENT OF FIXTURES

No.	Location Station	Type of Fixture	Adjustment		
1	4492+79.14	26" Manhole	Lower 1"	minor	(Center of manhole just Lt. of CL.)
2	4492+86.08	26" Manhole	Lower 3.7"	minor	(Center of manhole 1' Rt. of CL.)
3	4493+79.68	22" Manhole	Raise 12"	major	(Center of manhole 31.9' Lt. Of CL.)
4	4495+17.23	21" Manhole	Raise 3"	minor	(Center of manhole 25.6' Rt. Of CL.)

113-1
04-16-13

SIDEWALKS

See MI-220 and S Sheets



Road Identification	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	_" PCC Sidewalk	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SF	
Parking Lot	4493+27.41	4493+89.97	Rt.		5.00		34.8				

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
4492+76.51	1		
4494+03.51	1		
4494+10.16	1		
4495+43.26	1		
4495+87.27	1		
4495+87.64	1		
	Total = 6		

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 BLW4: Broken Lane Line (White) @ 0.25 ELW4: Edge Line Right (White) @ 1.00
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			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4										
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
Parking Lot																							
	4492+76.51	4495+87.64	BOTH	Waterborne/Solvent Paint		X		3.11															Centerline
	4492+98.03	4493+67.90	WB	Waterborne/Solvent Paint			X						0.82										Angle Parking Lines
	4494+20.28	4495+78.79	WB	Waterborne/Solvent Paint			X						2.86										Angle Parking Lines
	4493+27.52	4493+89.51	EB	Waterborne/Solvent Paint			X						1.63										Perpendicular Parking Lines
	4492+95.52	4493+17.07	WB	Waterborne/Solvent Paint			X						0.79										Hashed no parking area
	4494+14.70	4494+45.68	WB	Waterborne/Solvent Paint			X						1.69										Hashed no parking area
	4493+72.65	4493+80.55	EB	Waterborne/Solvent Paint			X						1.08										Hashed no parking area
				Factored Total: Waterborne/Solvent Paint				0.78	-	-	-	-	8.87	-	-	-	-	-	-	-	-	-	
				ty: Painted Pavement Markings, Waterborne or Sol							9.65												

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location																									Remarks
	Station	Side																							Groove Cuts	
			STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	EACH	
Parking Lot	4493+86.21	Rt.													1											

RET Retaining Walls

MH Utility Access (Manhole)

IN Storm Sewer Intake

TDC Tree Deciduous

TEV Evergeen Tree

LUM Luminaire

INB Storm Sewer Beehive Intake

D Centerline Draw or Stream (Down)

ENT Centerline BL of Entrance

DU Centerline Draw or Stream (Up)

St.S. STA Storm Sewer Line Co. 1

WV WV Water Valve

EB EB Electrical Box

SURVEYED UTILITY OWNER SYMBOLS

TI - Iowa Dept. of Transportation - Quality D

St.S. - Iowa Dept. of Transportation - Quality D

San. - Iowa Dept. of Transportation - Quality D

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

Reference Point

Station

Survey Line

Section Corner

Ground Line Intercept

Saw Cut

Guardrail

Clearing & Grubbing Area

Pavement Removal

RIGHT-OF-WAY LEGEND

Proposed Right-of-Way

Existing and Proposed Right-of-Way

Easement and Existing Right-of-Way

Borrow

Easement (Temporary)

Easement

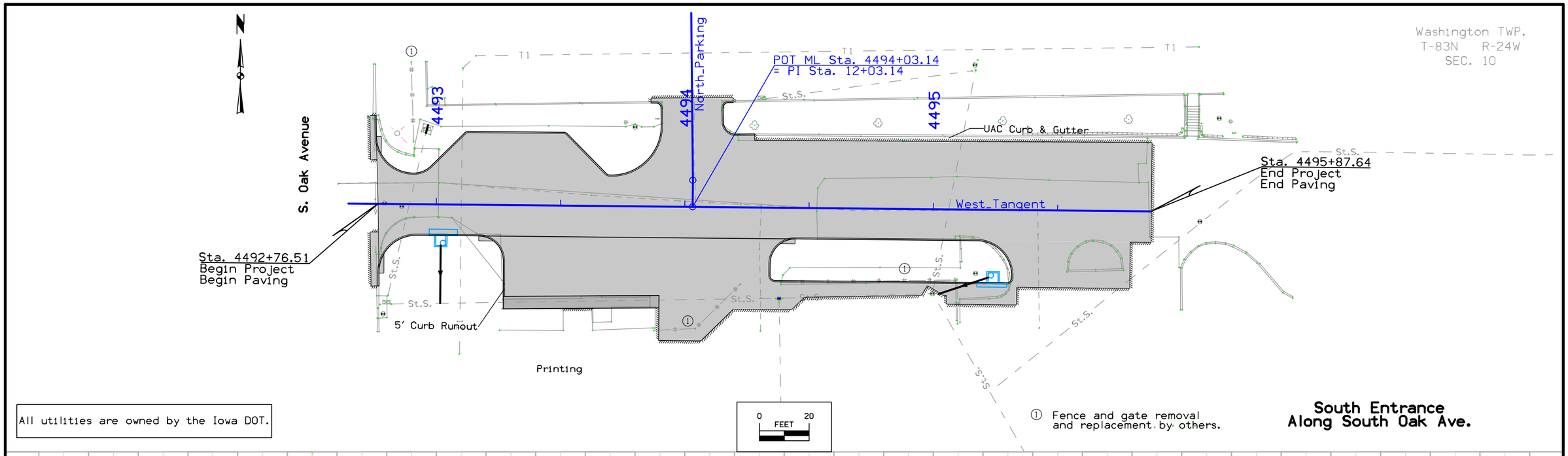
Excess

A/C Access Control

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

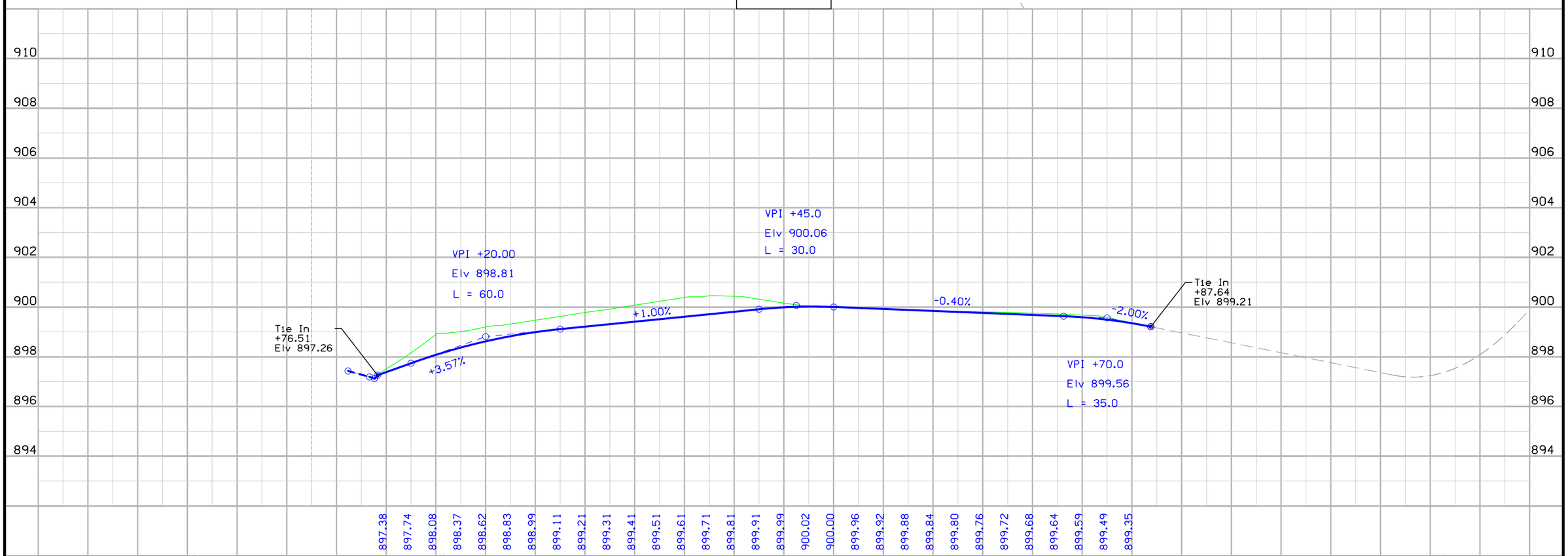
(COVERS SHEET SERIES D, E, F, & K)

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Romsey \ Altenhofen**	**STORY** COUNTY	PROJECT NUMBER **BG-9A10(035)--80-85**	SHEET NUMBER **D.1**



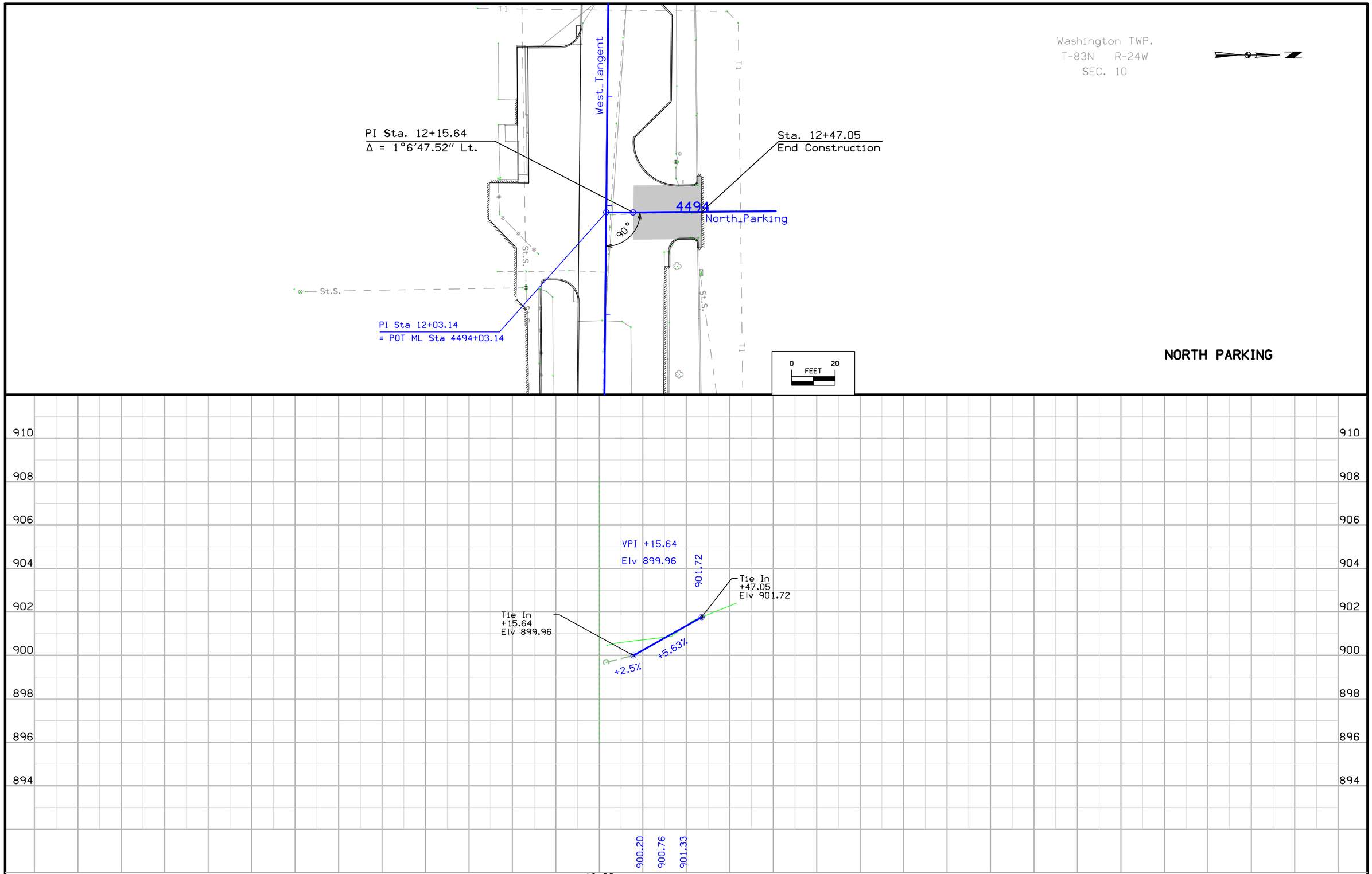
All utilities are owned by the Iowa DOT.

South Entrance Along South Oak Ave.



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER D.2

11:49:33 AM 10/28/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015D2.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER E.1

11:48:21 AM 10/28/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015D2.dgn

Story County
BG-9A10 (2)—80-85
Ames Complex from just W of Skywalk to W
Gate / S Oak Ave, Type of Work: PCC
Pavement – Grade and Replace
PIN 11-58-000-010
Sap-0530.2

Party Personnel

Michael Rummelhart- Survey Party Chief
Todd Riley- Assistant Survey Party Chief

Date(s) of Survey

Begin Date 02/09/2015
End Date 02/18/2015

General Information

Measurement units for this survey are US survey feet. Project datum and control information is provided by Design Survey Office. This project is a complete field survey for the digital terrain model.

Vertical Control

This survey vertical datum is the same as project HDP-0155(653)—71-85
Survey elevations relate to HDP-0155(653)—71-85 as built plan elevations as follows:

Datum Benchmark
BM # 513 this survey Elevation = 899.65
NAVD 1929
= BM # 513 project no. HDP-0155(653)—71-85

BM # 514 this survey Elevation = 896.38
NAVD 1929
= BM # 514 project no. HDP-0155(653)—71-85

Horizontal Control

HDP-0155(653)—71-85 project control was recovered and used for this survey.

Alignment Information

The horizontal alignment for this survey was created from S. Oak St. to the POT Sta. 4495+87.64(from 2011 survey Project No. BG-9A10 (2)—80-85 Between Materials Lab and SW Wing). Survey stationing was equated at POT Sta. 4495+87.64 from 2011 survey (Between Materials Lab and SW Wing Project No. BG-9A10 (2)—80-85), and was run back and ahead without equation throughout the survey.

Equations are as follows:

POT Sta. 4495+87.64 This Survey
= POT Sta. 4495+87.64 as-built Plans Project No. BG-9A10 (2)—80-85

Utility Information

One – call was not contacted. DOT Facilities Office administers underground utility information. All utilities are owned by IDOT.

Company	Symbol	Remark
Iowa D.O.T	T1	Underground Telephone
Iowa D.O.T	SAN	Sanitation Sewer
Iowa D.O.T	St.S	Storm Sewer

Telephone Line - Were not located and were mapped from survey crew using plans Project # STPN-69-5(70)—2J-85.
Storm Sewer Lines – Most of storm sewers were located from survey crew and the remaining was mapped from survey crew using plans Project # STPN-69-5(70)—2J-85.
Sanitation Sewer Lines – were mapped from survey crew using plans Project # STPN-69-5(70)—2J-85.

Survey Information

Story County
BG-9A10 (2)—80-85
Ames Complex from just W of Skywalk to W
Gate / S Oak Ave, Type of Work: PCC
Pavement – Grade and Replace
PIN 11-58-000-010
Sap-0530.2

General Information

Measurement units for this survey are US survey feet. Project datum and control information is provided by Design Survey Office. This project is a complete field survey for the digital terrain model.

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This survey vertical datum is the same as project HDP-0155(653)—71-85 Survey elevations relate to HDP-0155(653)—71-85 as built plan elevations as follows:

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NAVD 1929
= BM # 513 project no. HDP-0155(653)—71-85

BM # 514 this survey Elevation = 896.38
NAVD 1929
= BM # 514 project no. HDP-0155(653)—71-85

Horizontal Control

HDP-0155(653)—71-85 project control was recovered and used for this survey.

Alignment Information

The horizontal alignment for this survey was created from S. Oak St. to the POT Sta. 4495+87.64(from 2011 survey Project No. BG-9A10 (2)—80-85 Between Materials Lab and SW Wing). Survey stationing was equated at POT Sta. 4495+87.64 from 2011 survey (Between Materials Lab and SW Wing Project No. BG-9A10 (2)—80-85), and was run back and ahead without equation throughout the survey.

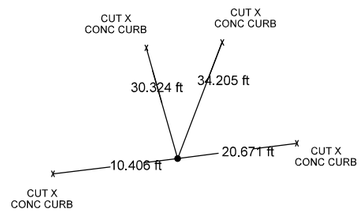
Equations are as follows:

POT Sta. 4495+87.64 This Survey
= POT Sta. 4495+87.64 as-built Plans Project No. BG-9A10 (2)—80-85

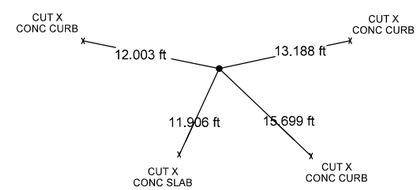
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
513	1470706.1590	2887866.5690	899.6500	Off Chain	Off Chain	BM	CUT X CONC.CURB
514	1470350.5180	2887922.2740	896.3820	Off Chain	Off Chain	BM	CUT X CONC.CURB

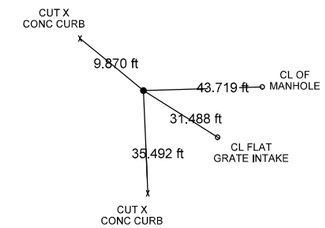
CP
Point #39, Fnd. Iron Pin 5" Deep
N=1470937.266, E=2887787.362



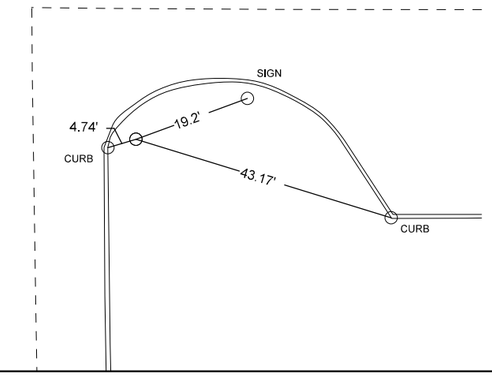
CP
Point #40, Fnd. Iron Pin 2" Deep
N=1470783.087, E=2887782.141



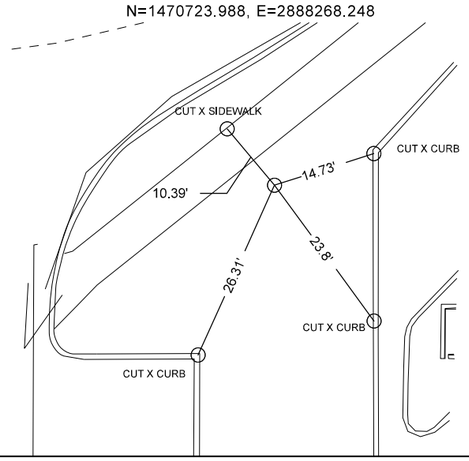
CP
Point #42, Fnd. Iron Pin 2" Deep
N=1470385.965, E=2887920.726



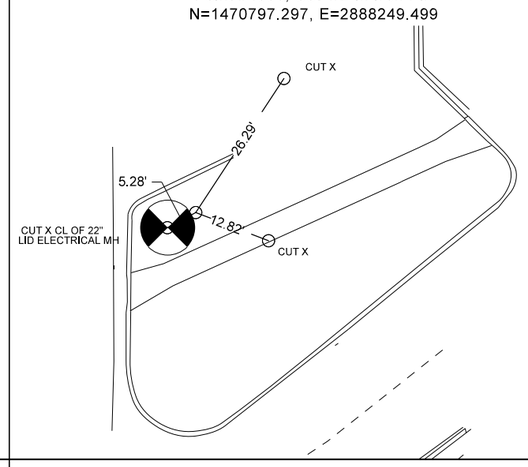
CP STA 4496+04.60, 21.26 RT
Point #4001, Set 1/2 In Iron Pin
N=1470719.998, E=2887959.202



CP STA 4499+01.88, 28.54 RT
Point #4005, Set 1/2 In Iron Pin
N=1470723.988, E=2888268.248



CP STA 4499+27.92, 42.35 LT
Point #4006, Set 1/2 In Iron Pin
N=1470797.297, E=2888249.499



FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER	BG-9A10(035)--80-85	SHEET NUMBER	G.3

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
Existing ML Chain																			
(05302)																			
10436		4492+60.21	1,470,752.45	2,887,615.19															
10522		4493+00.61	1,470,752.83	2,887,655.58															
10425		4494+53.14	1,470,742.59	2,887,807.77															
1		4495+87.64	1,470,741.28	2,887,942.27															
Northeast Curb																			
(NE_CURB)																			
650		11+00.00	1,470,772.39	2,887,782.71															
N9								11+07.51	1,470,772.32	2,887,775.20	11+12.51	1,470,772.27	2,887,770.20	11+15.37	1,470,777.27	2,887,770.15			
N8								11+21.10	1,470,783.00	2,887,770.09	11+23.10	1,470,785.00	2,887,770.08	11+24.24	1,470,785.02	2,887,772.08			
656		11+26.24	1,470,785.04	2,887,774.07															
North Parking																			
(NORTH_PARKING)																			
653		12+03.14	1,470,743.07	2,887,757.77															
654		12+13.84	1,470,753.78	2,887,757.88															
655		12+81.17	1,470,821.10	2,887,757.22															
Northwest Curb																			
NW_CURB																			
651		9+91.62	1,470,779.85	2,887,630.40															
N1								10+00.00	1,470,771.46	2,887,630.52	10+14.66	1,470,756.81	2,887,630.72	10+23.21	1,470,756.67	2,887,645.37			
N2								10+23.21	1,470,756.67	2,887,645.37	10+27.36	1,470,756.63	2,887,649.51	10+31.07	1,470,759.53	2,887,652.47			
N3								10+50.17	1,470,772.90	2,887,666.11	10+51.00	1,470,773.48	2,887,666.70	10+51.74	1,470,773.48	2,887,667.53			
N4								10+90.12	1,470,773.10	2,887,705.91	10+90.95	1,470,773.10	2,887,706.74	10+91.69	1,470,772.50	2,887,707.32			
N5								11+14.11	1,470,756.50	2,887,723.01	11+14.94	1,470,755.91	2,887,723.59	11+15.68	1,470,755.90	2,887,724.42			
N6								11+16.23	1,470,755.89	2,887,724.97	11+36.62	1,470,755.70	2,887,745.36	11+48.03	1,470,776.09	2,887,745.16			
N7								11+54.81	1,470,782.86	2,887,745.09	11+56.81	1,470,784.86	2,887,745.08	11+57.95	1,470,784.84	2,887,743.08			
652		12+05.35	1,470,784.82	2,887,741.08															
Southeast Curb																			
(SE_CURB)																			
S20								1+17.81	1,470,729.46	2,887,872.32	1+31.81	1,470,729.32	2,887,886.32	1+39.80	1,470,715.32	2,887,886.18			
S21								1+40.60	1,470,714.53	2,887,886.17	1+42.60	1,470,712.53	2,887,886.15	1+43.74	1,470,712.55	2,887,884.15			
S22								2+37.02	1,470,713.45	2,887,790.87	2+39.02	1,470,713.47	2,887,788.87	2+40.17	1,470,715.47	2,887,788.89			
S23								2+44.96	1,470,720.27	2,887,788.94	2+54.96	1,470,730.27	2,887,789.04	2+60.67	1,470,730.17	2,887,799.03			
Southwest Curb																			
(SW_CURB)																			
670		12+00.00	1,470,707.30	2,887,631.62															
S1								12+09.15	1,470,716.45	2,887,631.50	12+24.50	1,470,731.80	2,887,631.29	12+33.06	1,470,731.65	2,887,646.64			
S2								12+58.09	1,470,731.41	2,887,671.67	12+67.95	1,470,731.31	2,887,681.54	12+73.66	1,470,721.45	2,887,681.57			
671		12+93.06	1,470,702.04	2,887,681.65															
West Tangent																			
(WEST_TANGENT)																			
14		4492+64.57	1,470,744.42	2,887,619.21															
1		4495+87.64	1,470,741.28	2,887,942.27															

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data													Remarks
			Spiral Data								Curve Data					
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
Northeast Curb																
(NE_CURB)																
N9											90° 00′ 00.00″ RT	5.00′	7.85′	5.00′	2.07′	
N8											90° 00′ 00.00″ RT	2.00′	3.14′	2.00′	0.83′	
Northwest Curb																
NW_CURB																
N1											88° 40′ 07.12″ LT	14.66′	23.21′	15.00′	5.97′	
N2											45° 00′ 00.00″ LT	4.14′	7.85′	10.00′	0.82′	
N3											45° 00′ 00.00″ RT	0.83′	1.57′	2.00′	0.16′	
N4											44° 59′ 59.98″ RT	0.83′	1.57′	2.00′	0.16′	
N5											45° 00′ 00.02″ LT	0.83′	1.57′	2.00′	0.16′	
N6											91° 06′ 47.43″ LT	20.39′	31.80′	20.00′	8.56′	
N7											89° 59′ 12.38″ LT	2.00′	3.14′	2.00′	0.83′	
Southeast Curb																
(SE_CURB)																
S20											90° 00′ 00.00″ RT	14.00′	21.99′	14.00′	5.80′	
S21											89° 59′ 59.99″ RT	2.00′	3.14′	2.00′	0.83′	
S22											90° 00′ 00.00″ RT	2.00′	3.14′	2.00′	0.83′	
S23											90° 00′ 00.00″ RT	10.00′	15.71′	10.00′	4.14′	
Southwest Curb																
(SW_CURB)																
S1											91° 19′ 52.87″ RT	15.35′	23.91′	15.00′	6.46′	
S2											89° 13′ 46.05″ RT	9.87′	15.57′	10.00′	4.05′	

108-23A
08-01-08

TRAFFIC CONTROL PLAN

-Construction area is closed to traffic.
-Maintain traffic on S. Oak Ave. at all times.
-Maintain access to all other parking areas.

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

- Pavement Removal
- Proposed Granular Shoulder
- Proposed Granular Subbase
- Temporary Shoulder
- Proposed Special Backfill
- Existing Shoulder Strengthening
- Temporary Barrier Rail

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White

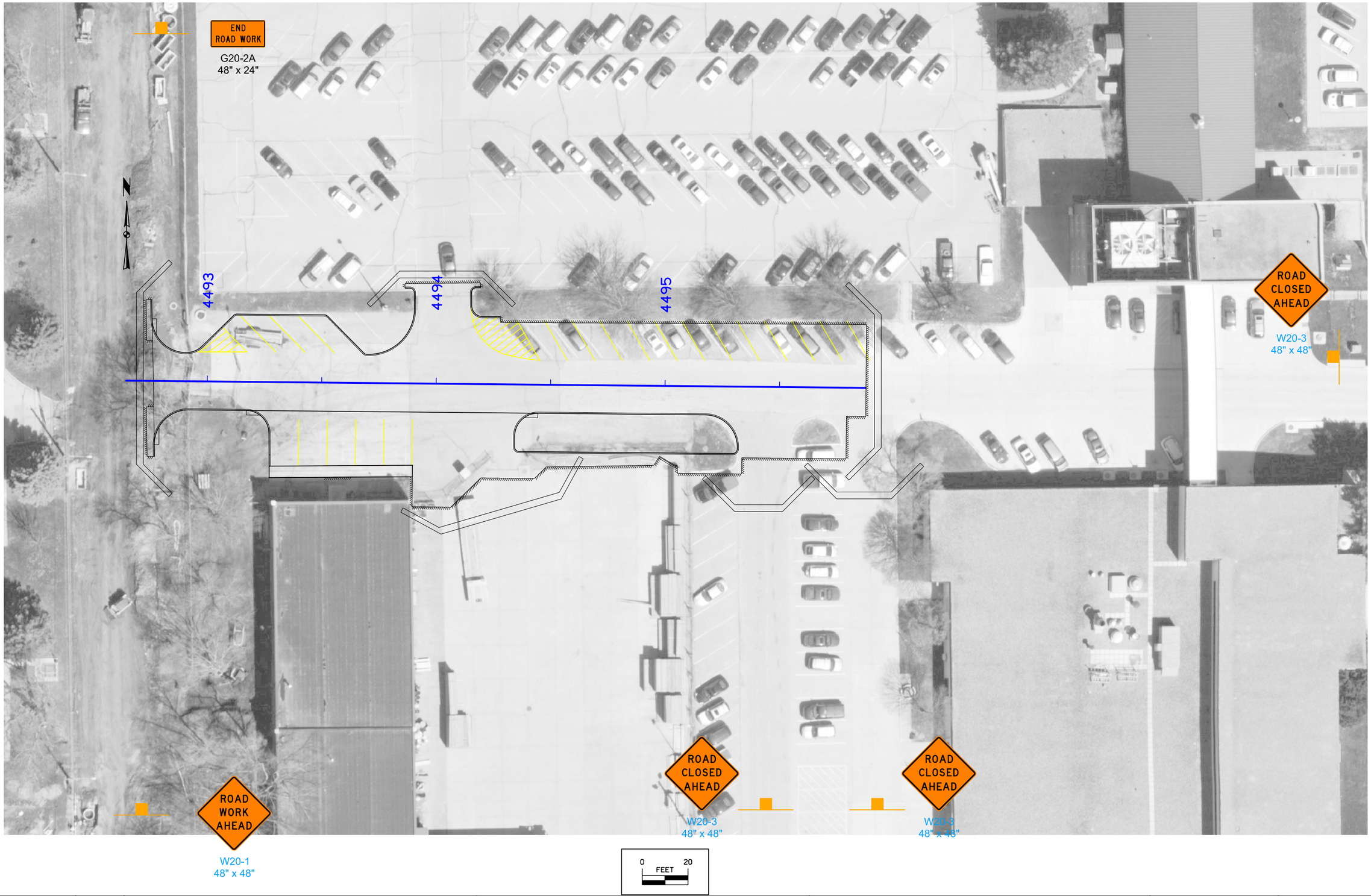
SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

- 42" Channelizer
- Temporary Traffic Signal
- Drum
- Traffic Sign
- Orange Plastic Safety Fence
- Type III Barricade-Plan View
- Temporary Barrier Rail
- Type A Warning Light
- Temporary Floodlighting
- Pavement Removal

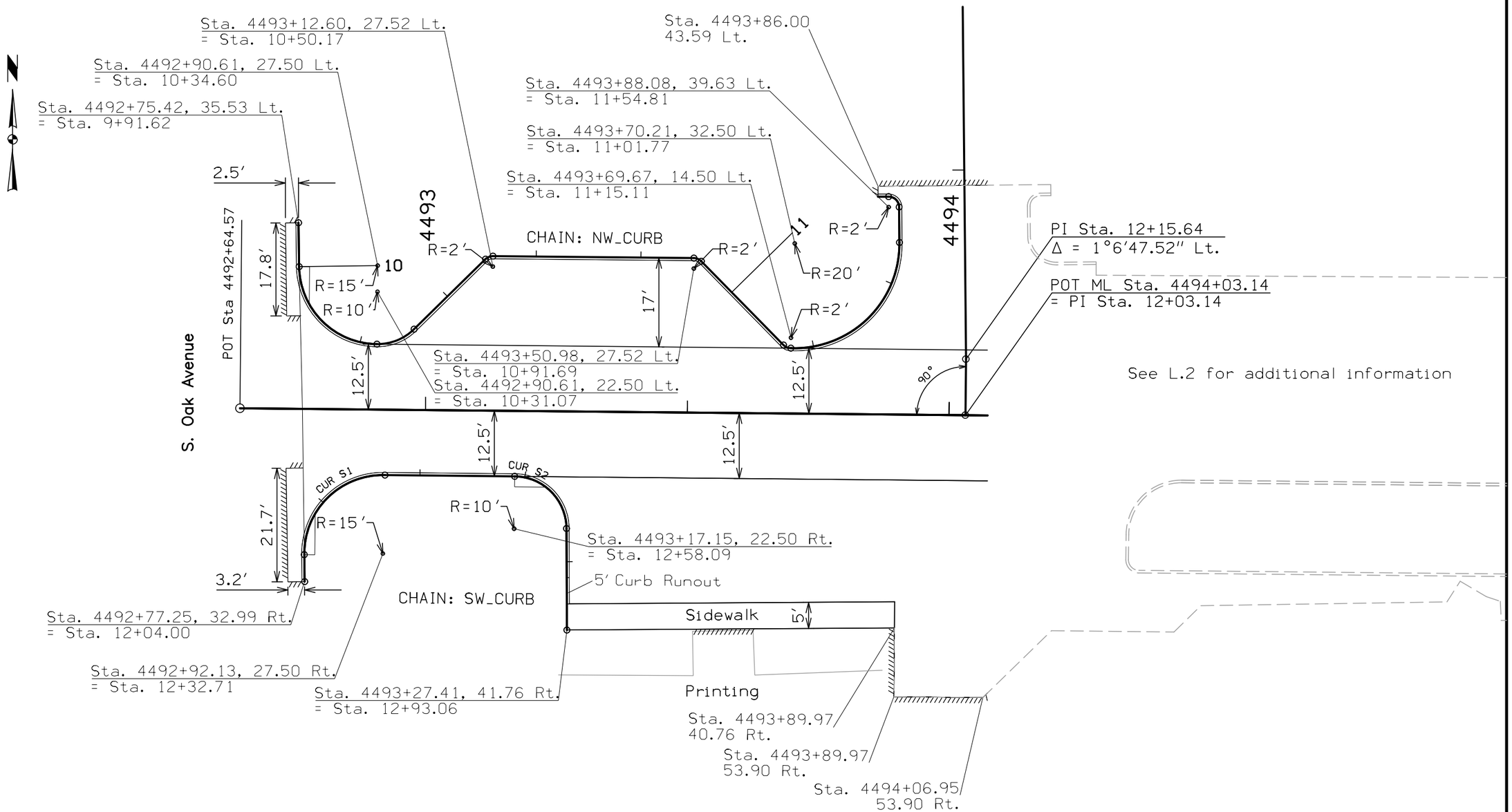
TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)



FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER	BG-9A10(035)--80-85	SHEET NUMBER	J.3

8:10:54 AM 11/2/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015j03.sht



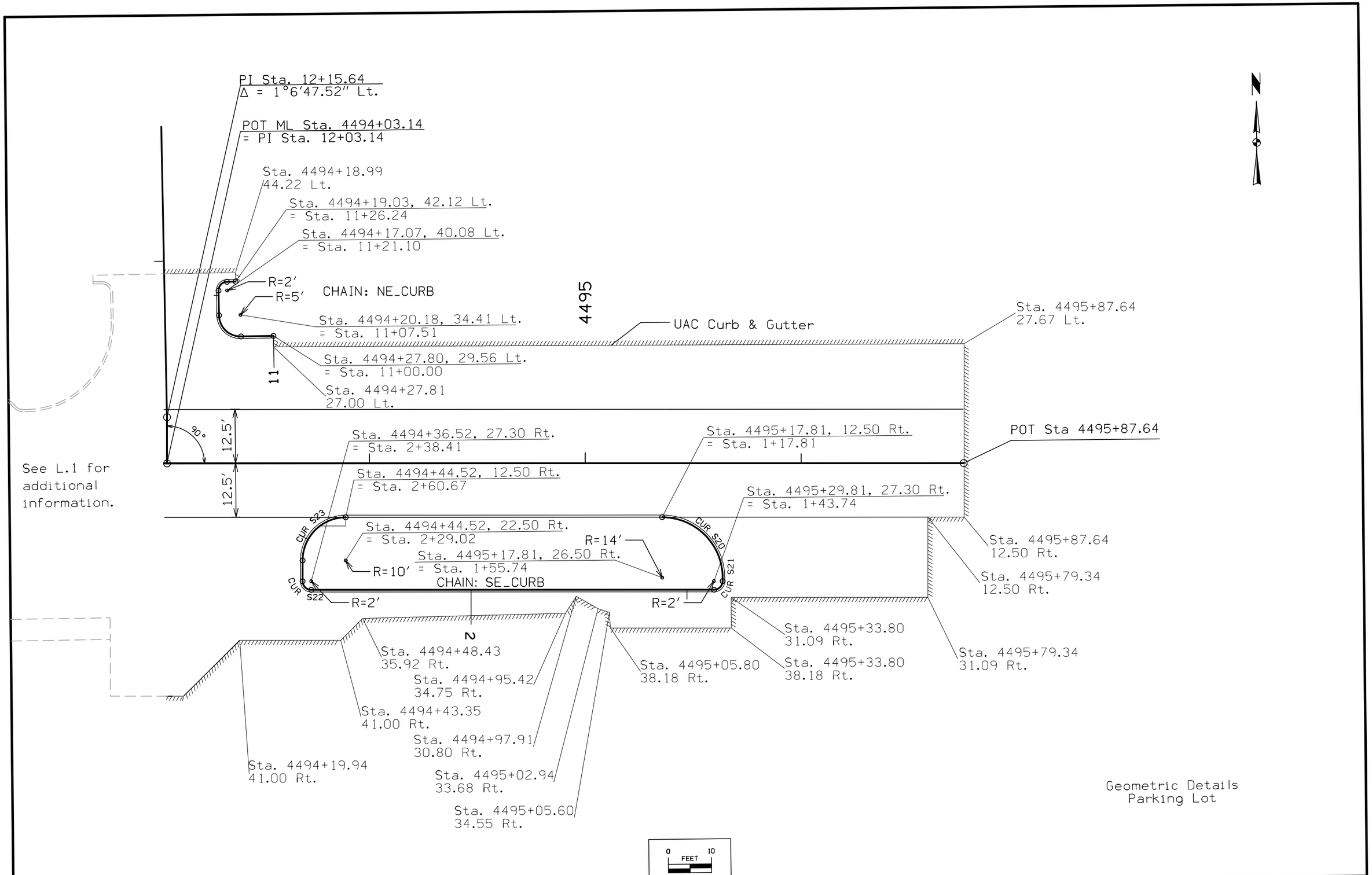
Geometric Details
Parking Lot

Note: Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.

0 FEET 10

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER L.1

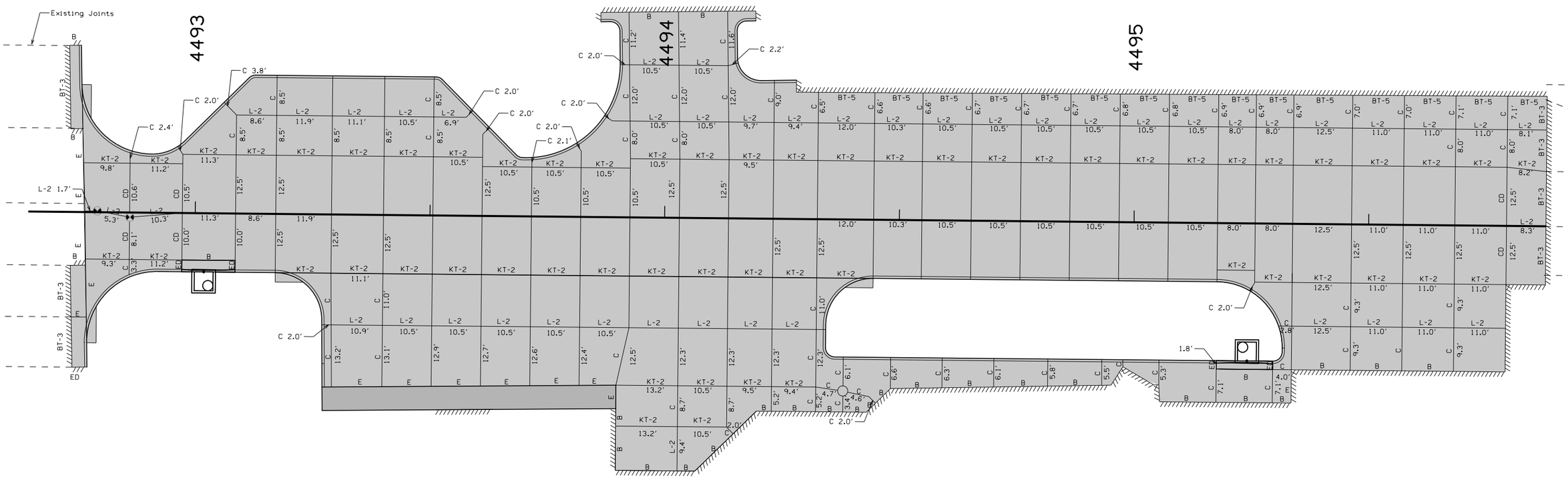
1:08:09 PM 10/28/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015L1.dgn



FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Romsey \ Altenhofen**	**STORY** COUNTY	PROJECT NUMBER **BG-9A10(035)--80-85**	SHEET NUMBER **L.2**

1:08:12 PM 10/28/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015L1.dgn

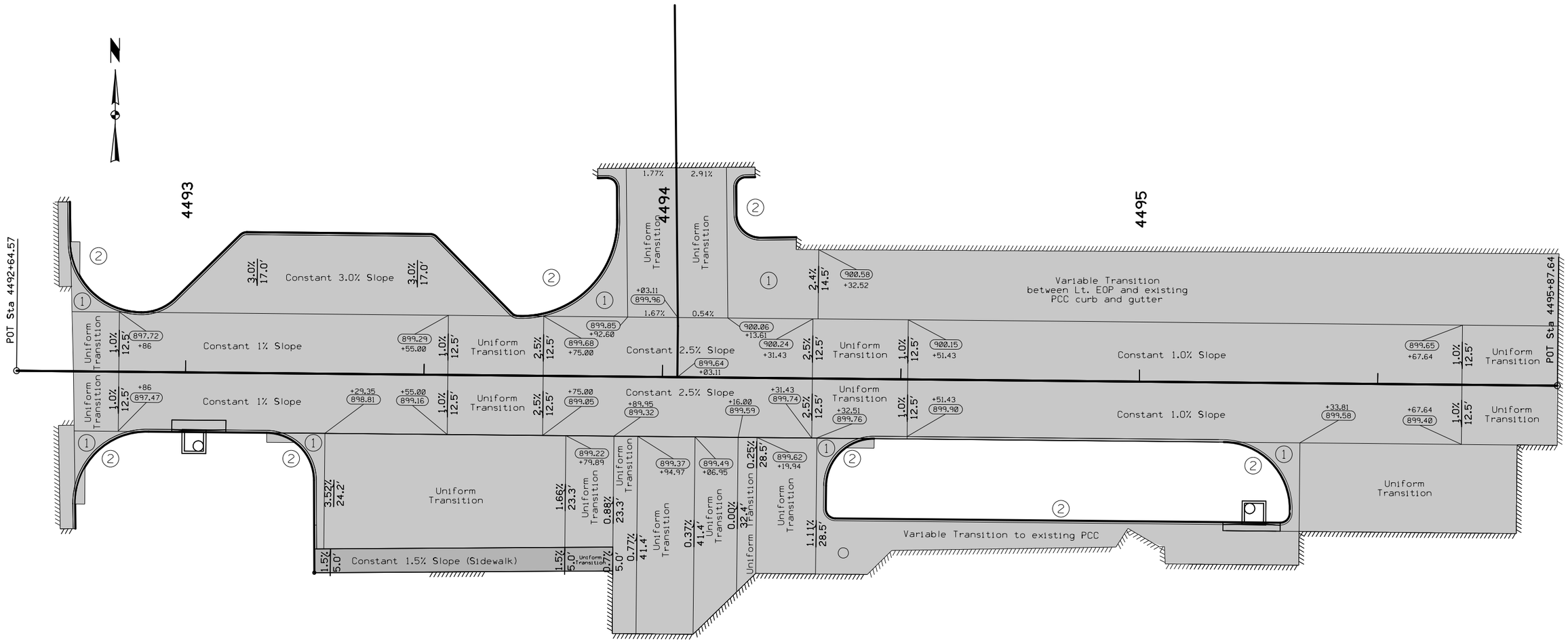
Not to Scale



Jointing Details

FILE NO.	ENGLISH	DESIGN TEAM Ja \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER L.3

1:08:15 PM 10/28/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015L1.dgn



① —— Special Shaping

② —— Refer to other L Sheets for edge return profiles

Staking Details

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER L.4

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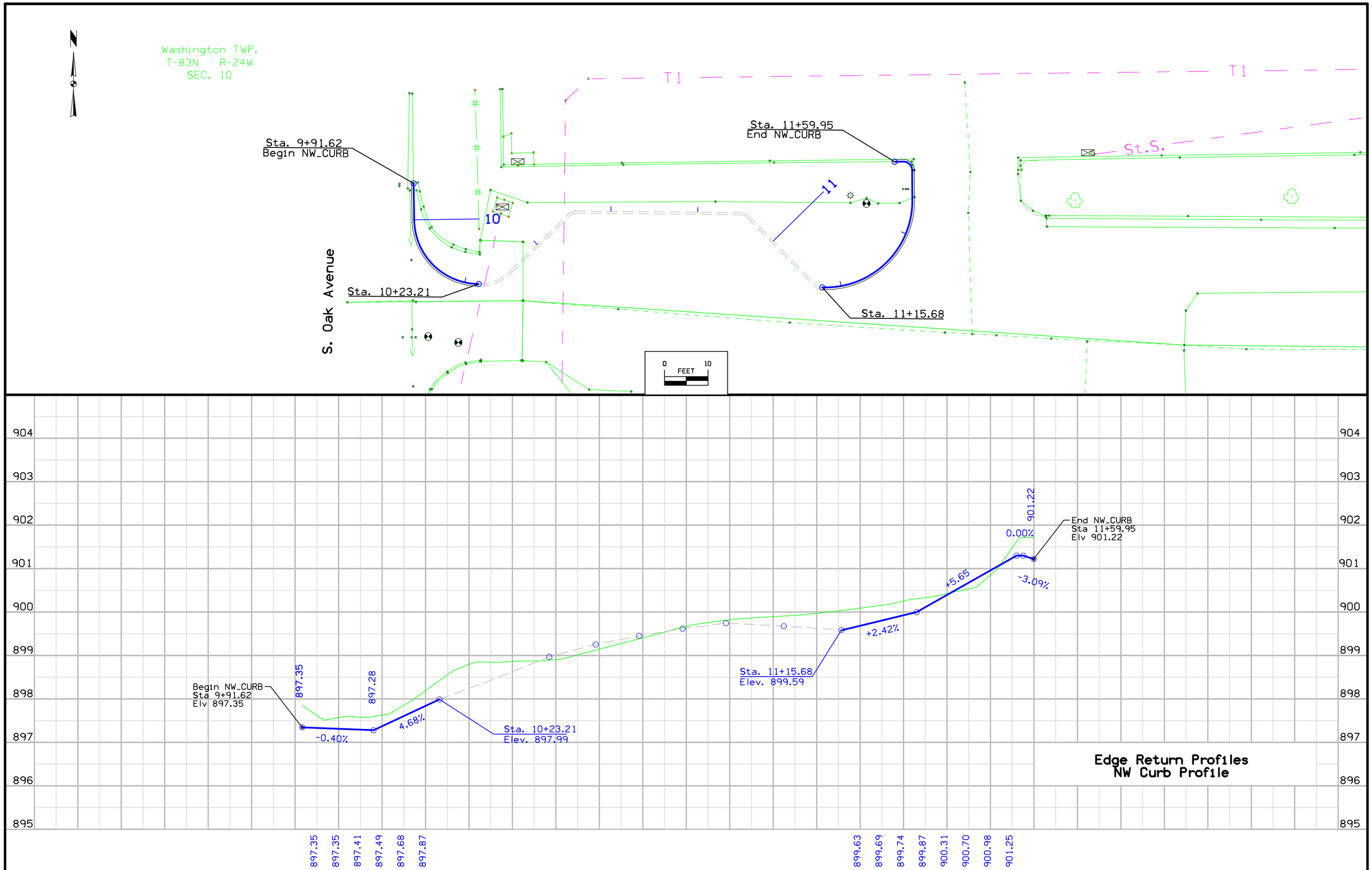

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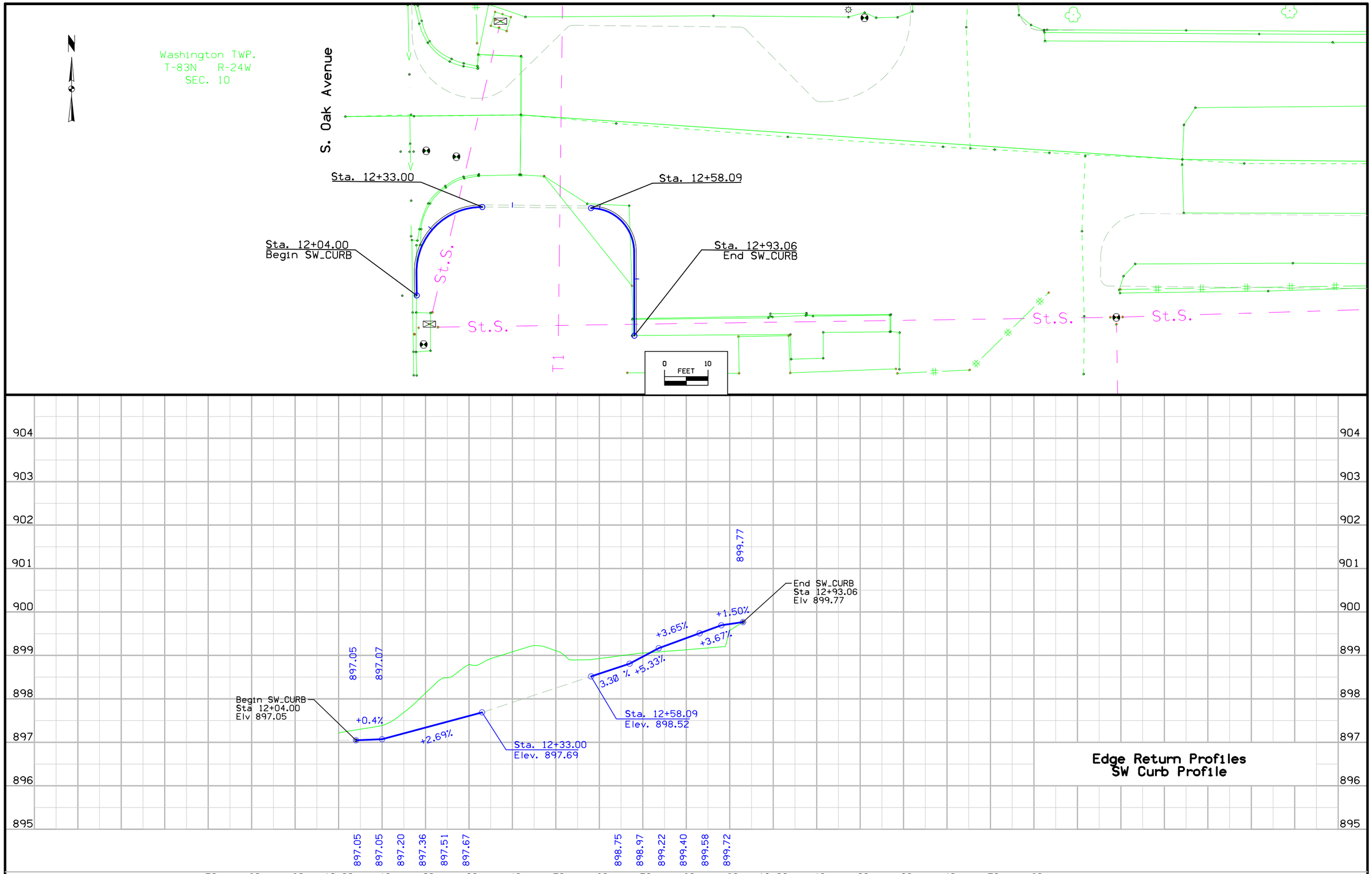

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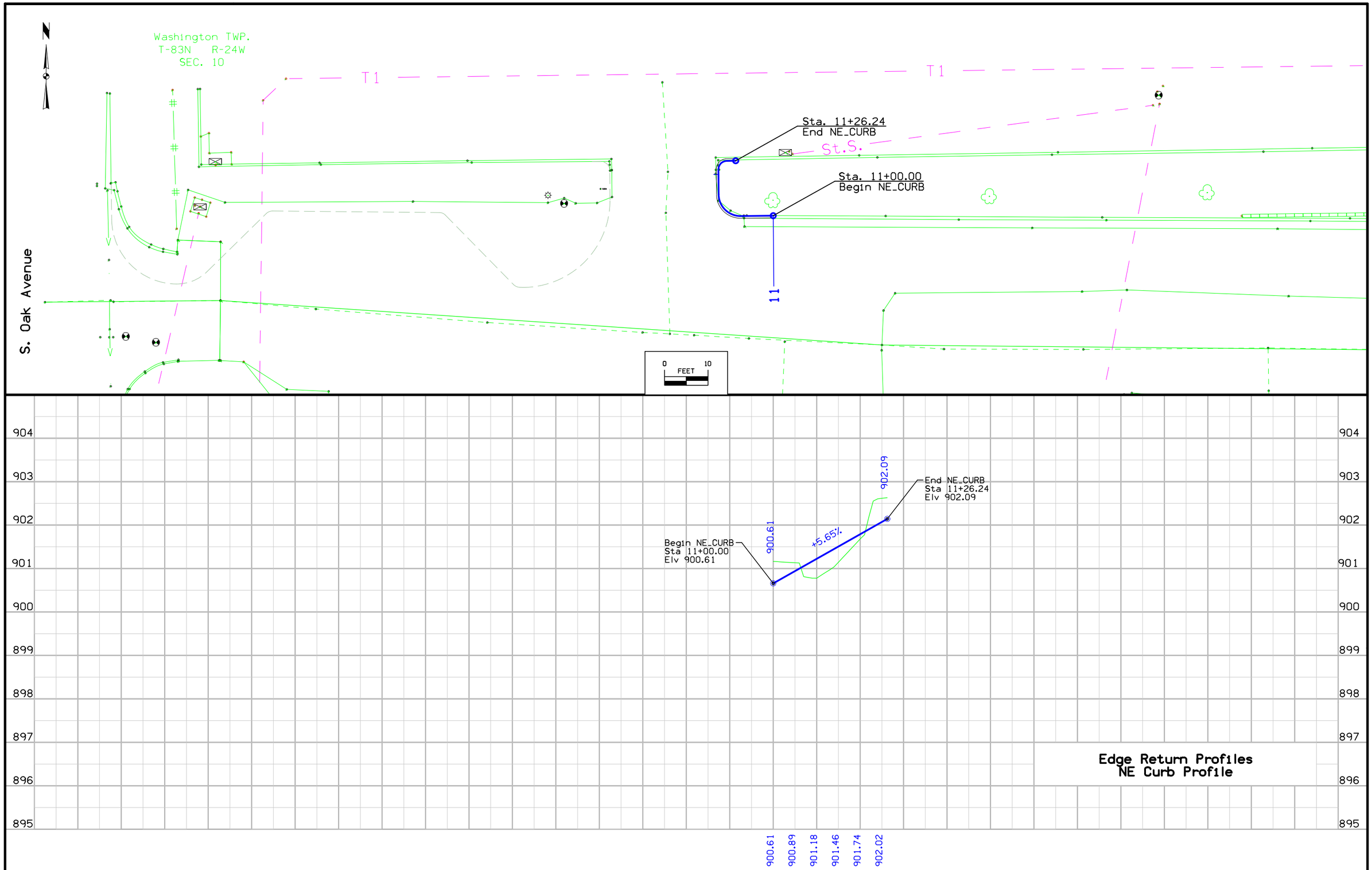

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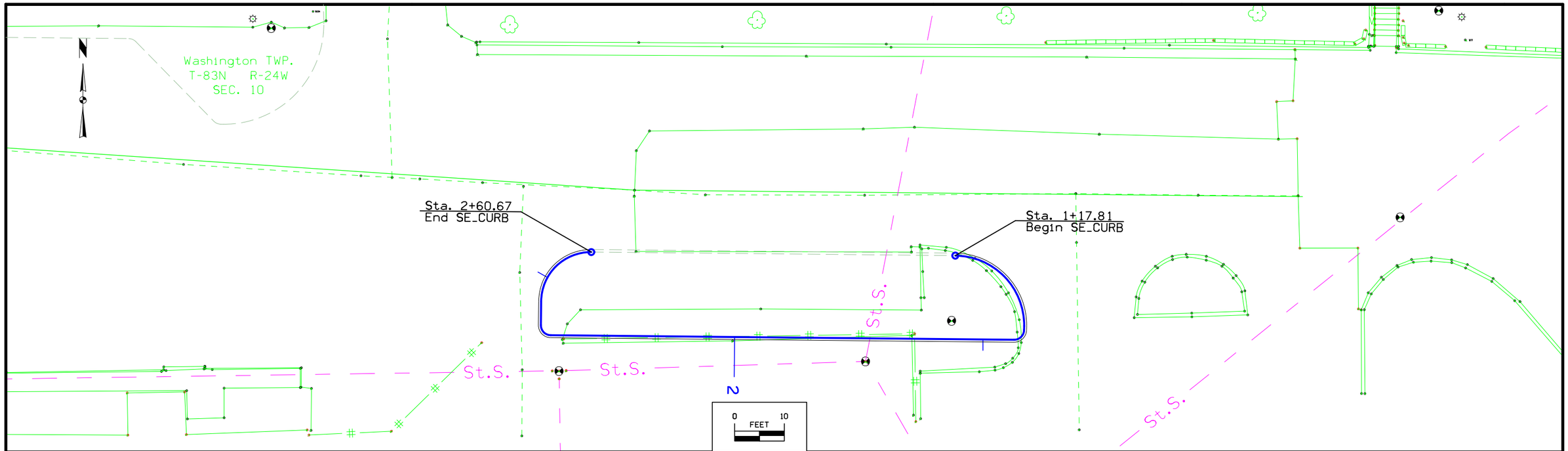
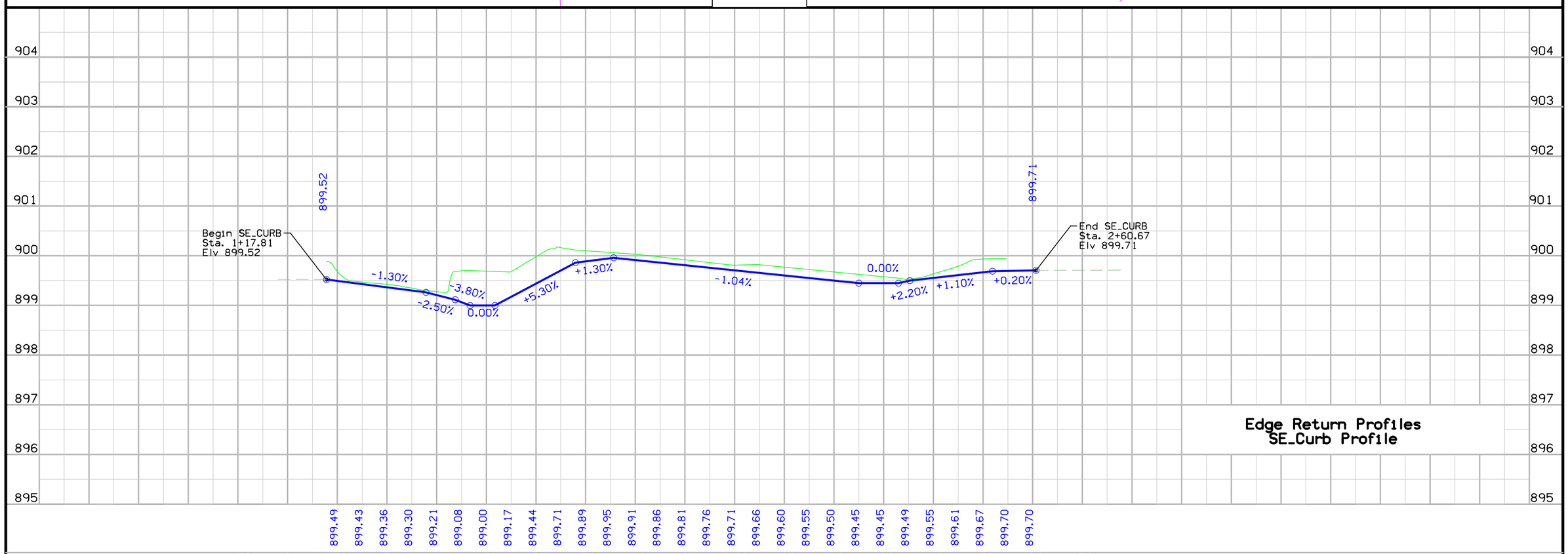




Edge Return Profiles
SE_Curb Profile

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER L.8

2:04:42 PM 10/22/2015 Civil_Training w:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015L1.dgn

STORM SEWER

(1) Diameter or equivalent diameter
* Bid Item
** For SW-545

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
e1	4492+95.92, 30.3 Lt.	Unknown	894.4	unknown		(1)
e2	4492+80.23, 39.6 Rt.	Unknown	897.49	unknown		UAC
e3	4494+38.28, 36.5 Rt.	Top Only SW-402	899.5	unknown		(2)
e4	4494+99.97, 34.0 Rt.	Unknown	900.08	891		UAC
5	4493+01.91, 12.50 Rt.	SW-508	898.01	893.01		
6	1+49.24, 0.0 offset	SW-508	899	893		low point (3)

(1) Remove intake e1 and replace with pipe P-E1
(2) Requires a Type 4B grate SW-604. Existing well dimension 4'X4'.
(3) Insert Length: 3' on east side; 4' on west side

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each side of the Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	Intake/ Utility Access No. To	Class 'D'	Pipe Size (1) IN	Bid* Length FT	Design Length FT	Slope %	Connected Pipe Joint (DR-121) Type	Flow Lines Inlet Elevation	Flow Lines Outlet Elevation	Flow Lines Other Elevation	Pipe Profile Sheet No.	Notes
P-E1			2000	18	6'								(1) 6' Pipe (SW-211)
P-5	5	P-E2	2000	15	27	23.2	2.2		893.51	893		M.3	See SW-211
P-6	6	e4	2000	15	25	20.8	4.7		893.5	892.5		M.3	See SW-211

SURVEY SYMBOLS

- MH Utility Access (Manhole)
- IN Storm Sewer Intake
- INB Storm Sewer Beehive Intake
- D Centerline Draw or Stream (Down)
- St.S. STA Storm Sewer Line Co. 1

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Gray, Dark	(112)	Existing Topographic Features, Utilities, and Labels
Black	(17)	Proposed Storm Sewer Details, Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	Design Color No.	
Gray, Light	(48)	Proposed Pavement Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Gray, Dark	(112)	Existing Ground Line Profile and Existing Utilities Information
Black	(17)	Proposed Pipes and Intakes

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Plug and Abandon Existing Pipe or Structure
- Removal of Existing Pipe or Structure
- Previously Constructed Pipe or Structure
- Direction of Pipe Flow

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Existing Ground
- Proposed Ground
- Previously Constructed Pipe or Structure
- Proposed Pipe or Structure

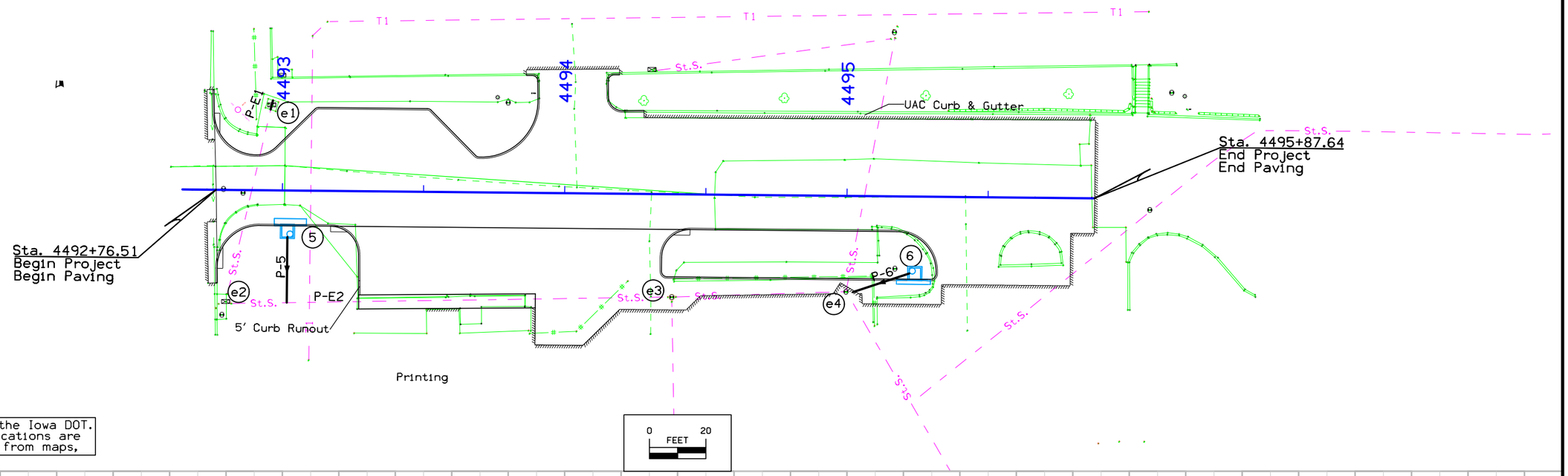
Reference Point
Survey Line
Station
Section Corner
Ground Line Intercept
Saw Cut
Guardrail
Clearing & Grubbing Area
Pavement Removal

RIGHT-OF-WAY LEGEND

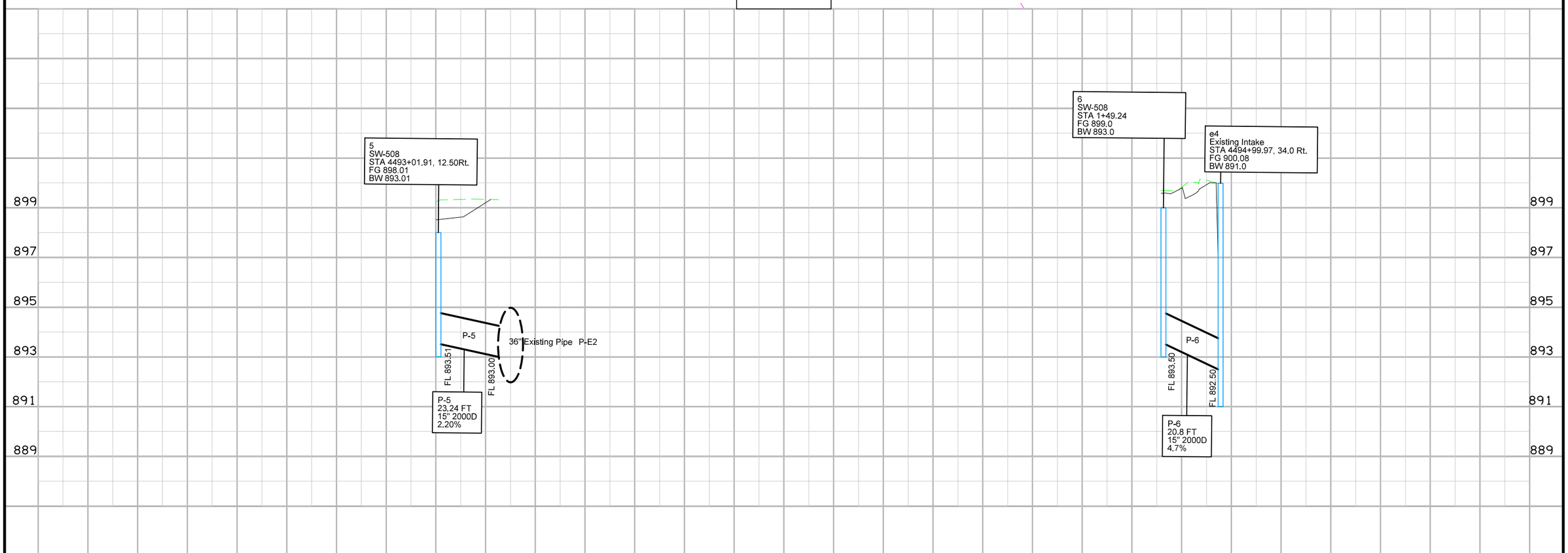
- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)



All utilities are owned by the Iowa DOT.
All underground utility locations are
SPECULATIVE and located from maps,



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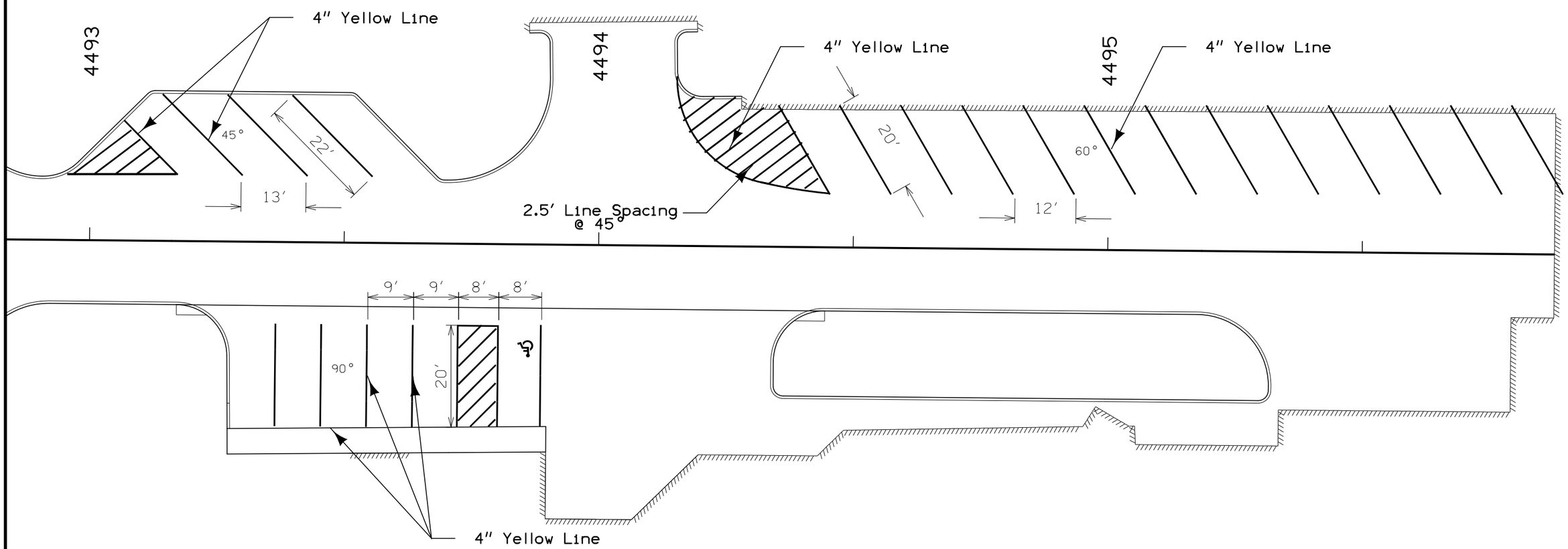
Earthwork Quantities

Station	Station	Class 10 Cut Volume (CY)	Class 10 Fill Volume (CY)	Topsoil Spread Volume (CY)
4492+76.51	4492+90	24	3	3
4492+90	4493+00	27	4	5
4493+00	4493+10	28	3	5
4493+10	4493+20	26	2	5
4493+20	4493+30	26	2	4
4493+30	4493+40	28	1	3
4493+40	4493+50	28	1	3
4493+50	4493+60	26	2	4
4493+60	4493+70	23	5	6
4493+70	4493+80	23	6	7
4493+80	4493+90	34	4	5
4493+90	4494+00	42	1	1
4494+00	4494+10	38	0	0
4494+10	4494+20	33	0	2
4494+20	4494+30	28	0	2
4494+30	4494+40	23	2	2
4494+40	4494+50	20	3	4
4494+50	4494+60	19	3	4
4494+60	4494+70	19	3	4
4494+70	4494+80	19	3	4
4494+80	4494+90	19	3	4
4494+90	4495+00	18	3	4
4495+00	4495+10	20	3	4
4495+10	4495+20	24	2	4
4495+20	4495+30	25	2	3
4495+30	4495+40	21	1	1
4495+40	4495+50	19	0	0
4495+50	4495+60	22	0	0
4495+60	4495+70	24	0	0
4495+70	4495+87.64	19	0	0
			61	
			+30% Shrink: 18	
	Totals:	743	79	92



Pavement Marking
Details
Parking Lot

0 FEET 10

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER U.1

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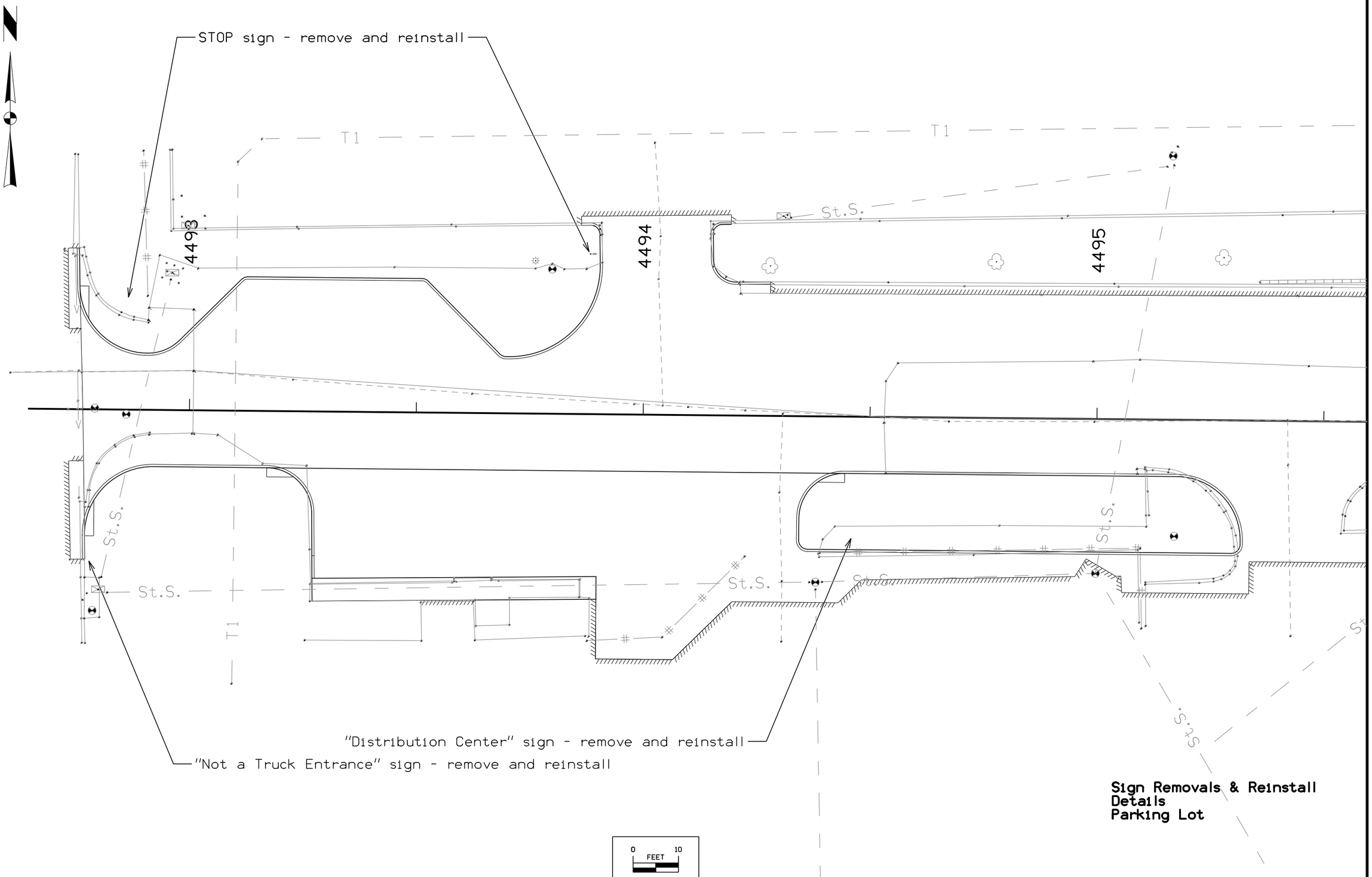


Sign Removals & Reinstall Details Parking Lot

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER U.2

8:52:50 AM 10/27/2015 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8500001015\Design\8500001015u01.sht

LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- Additional Topsoil Removal
- Subrade 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

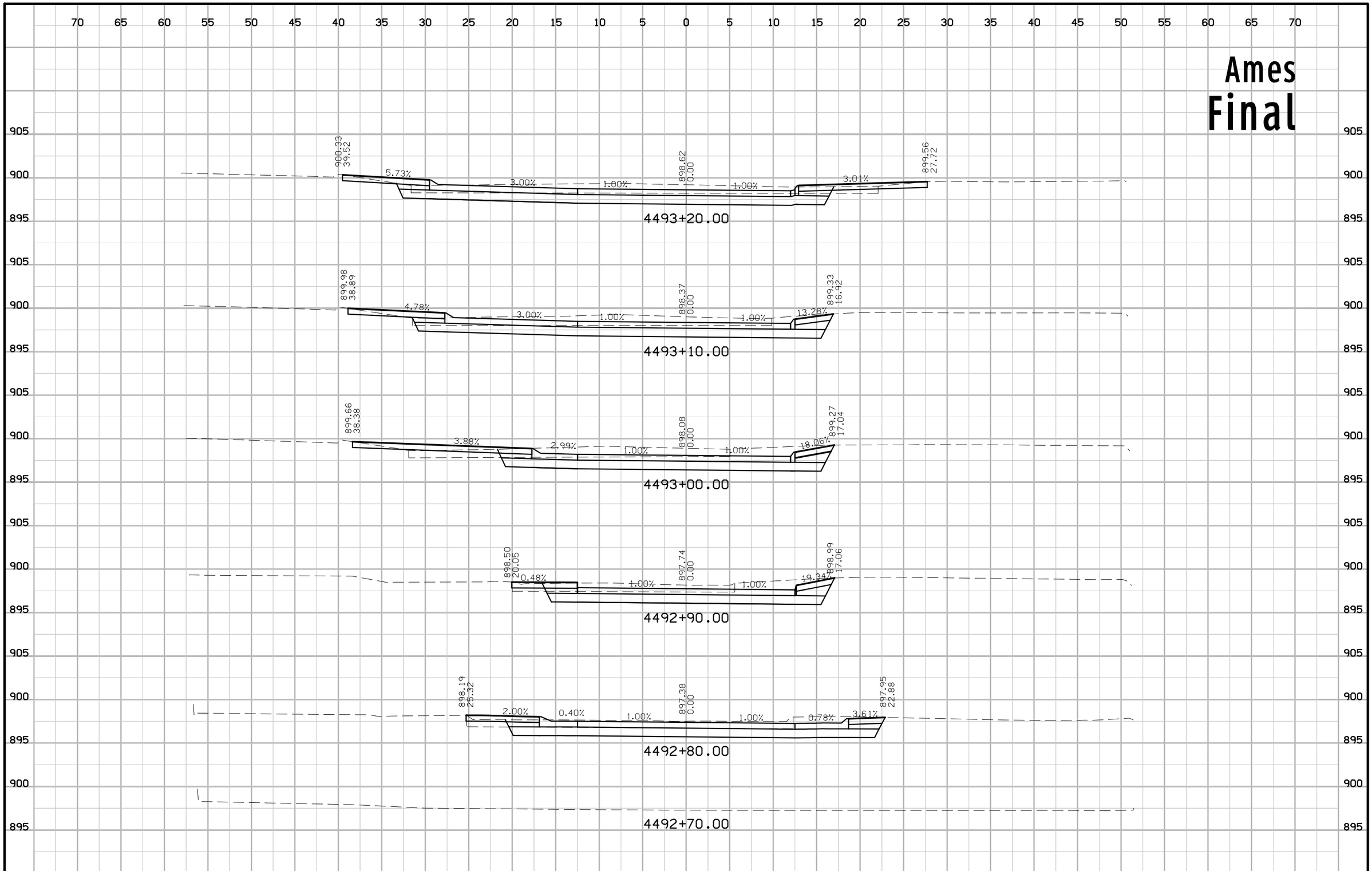
Note: All layer lines and descriptions identify layers above the line.

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, X, Y, & Z)

Ames
Final



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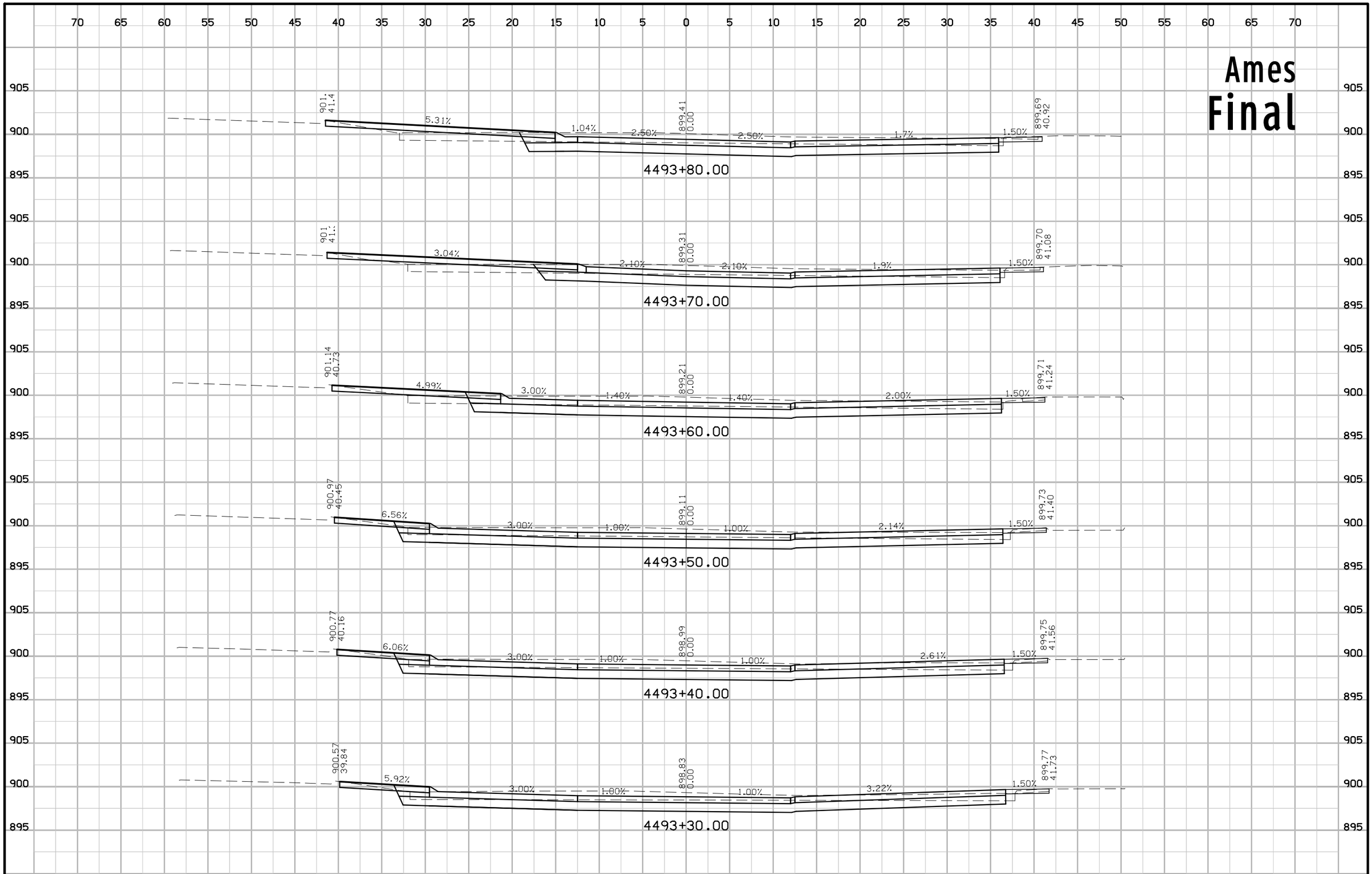

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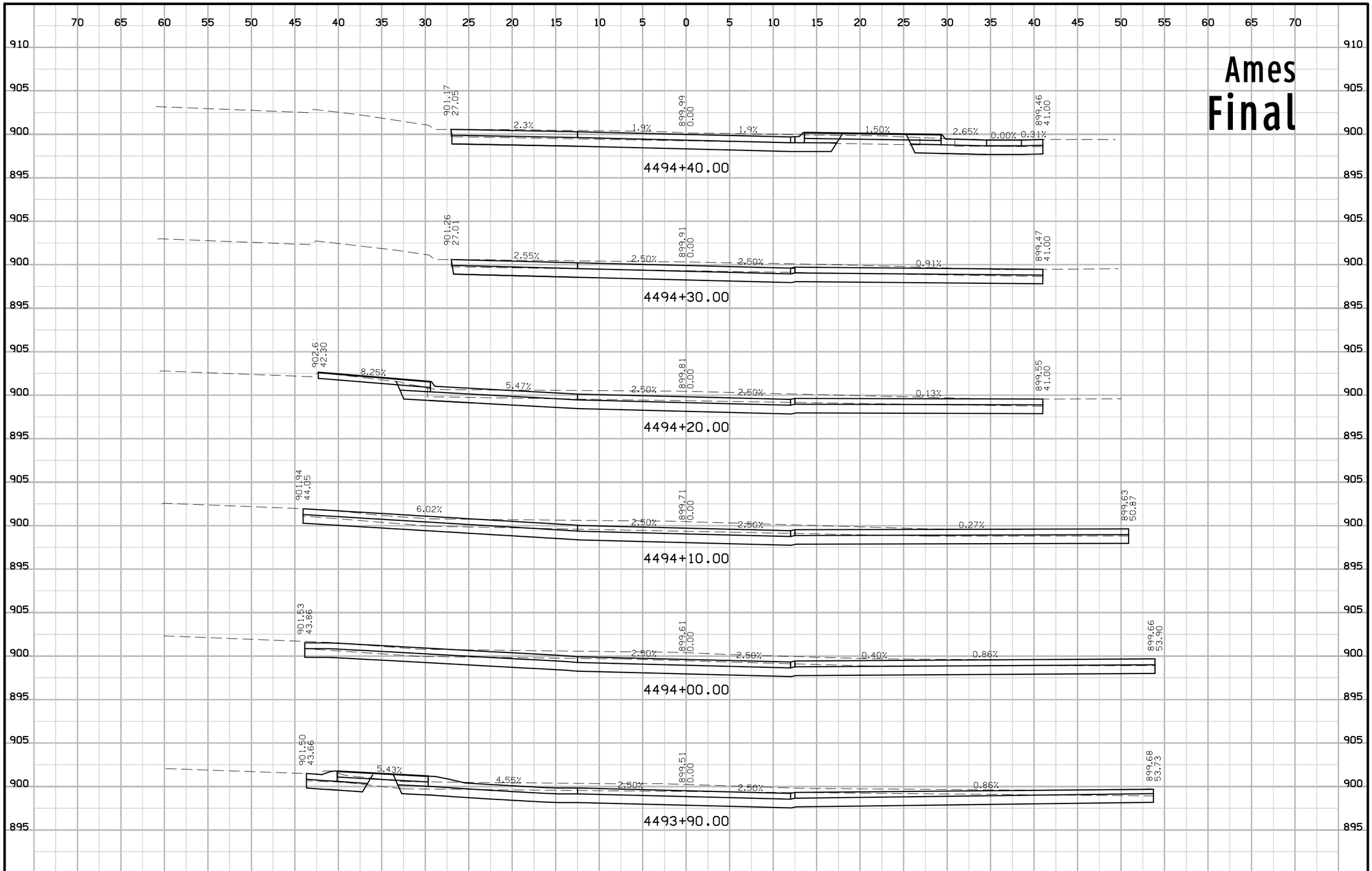

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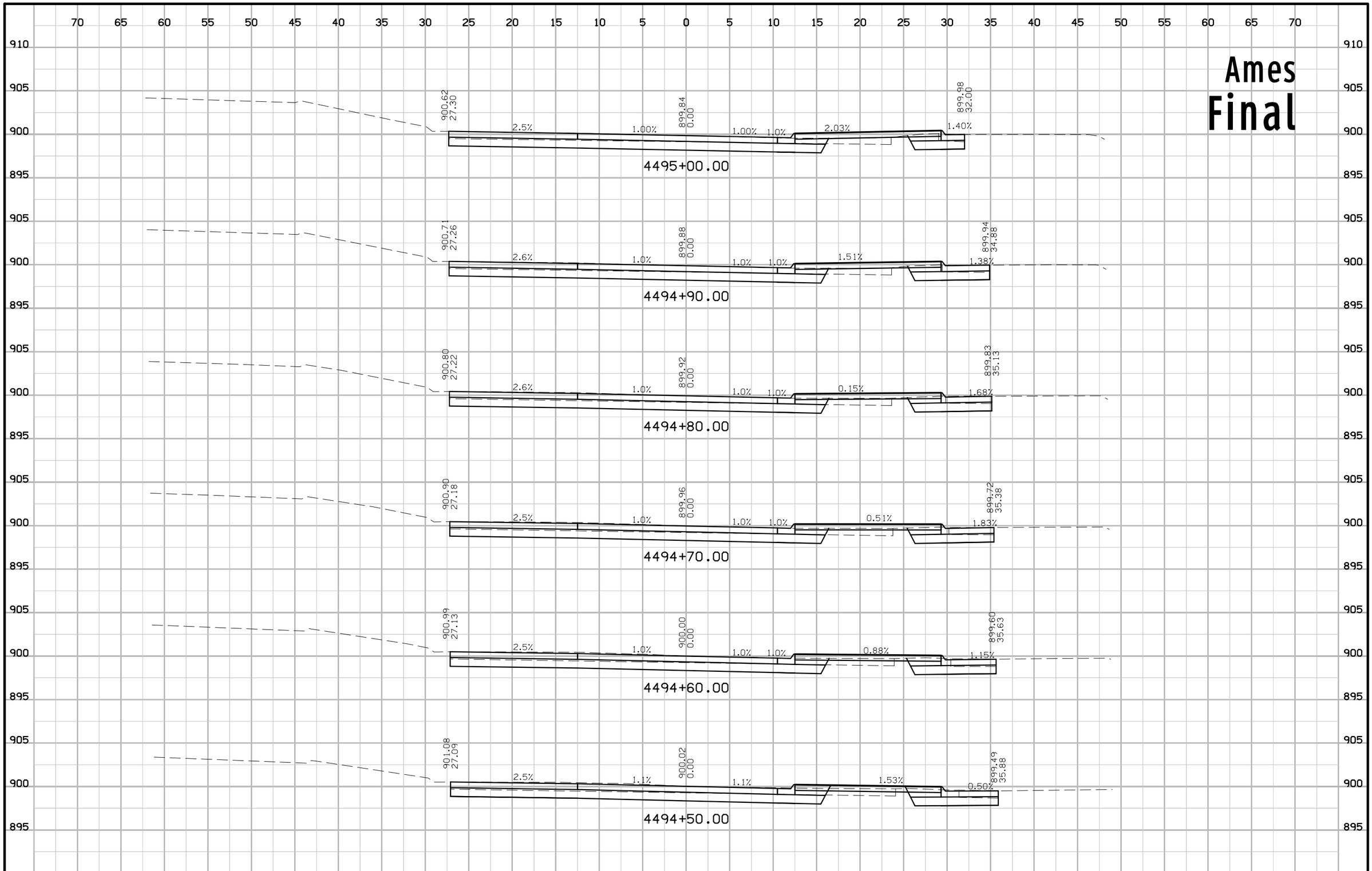

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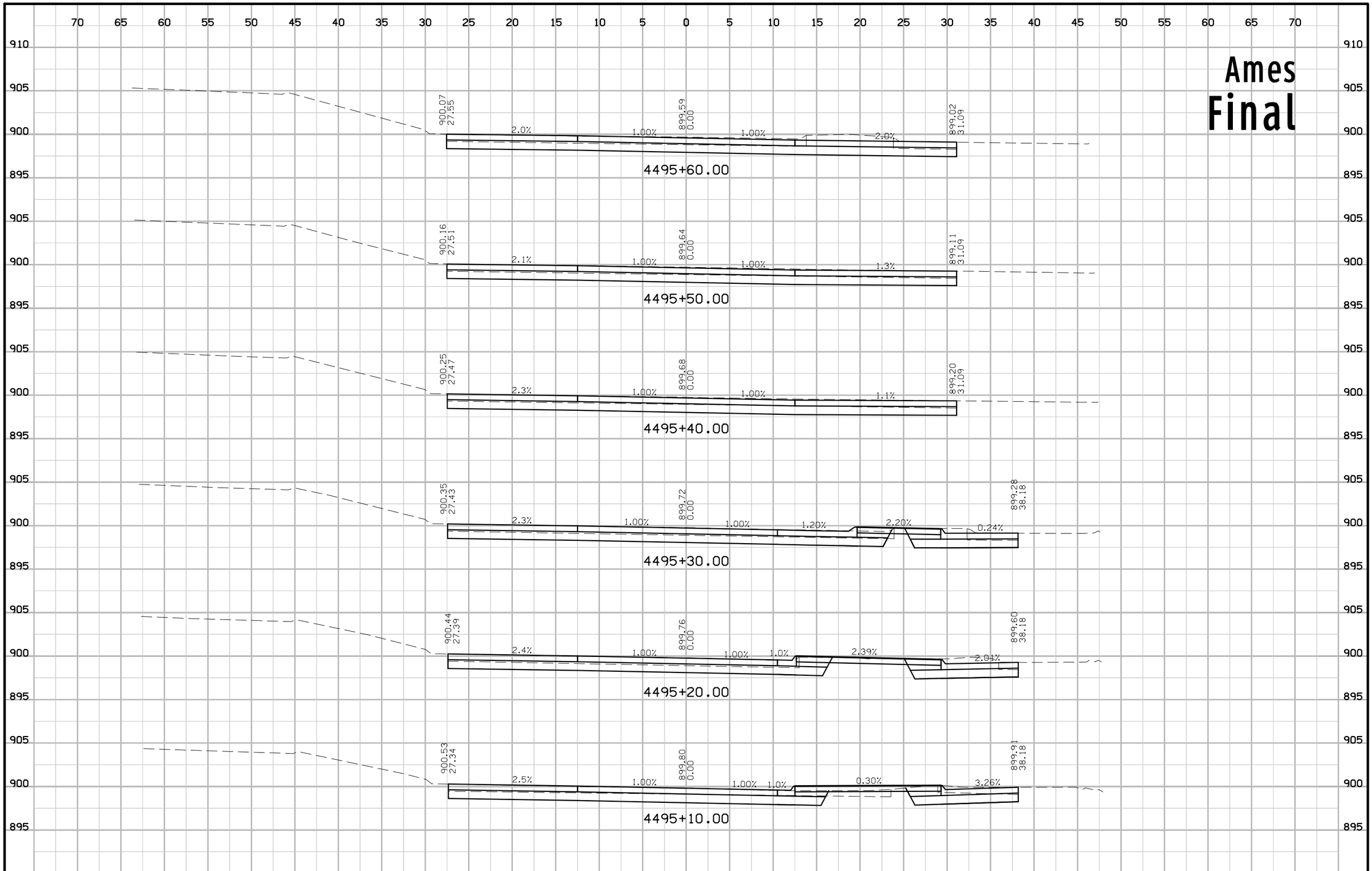

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Romsey \ Altenhofen	STORY COUNTY	PROJECT NUMBER BG-9A10(035)--80-85	SHEET NUMBER W.6

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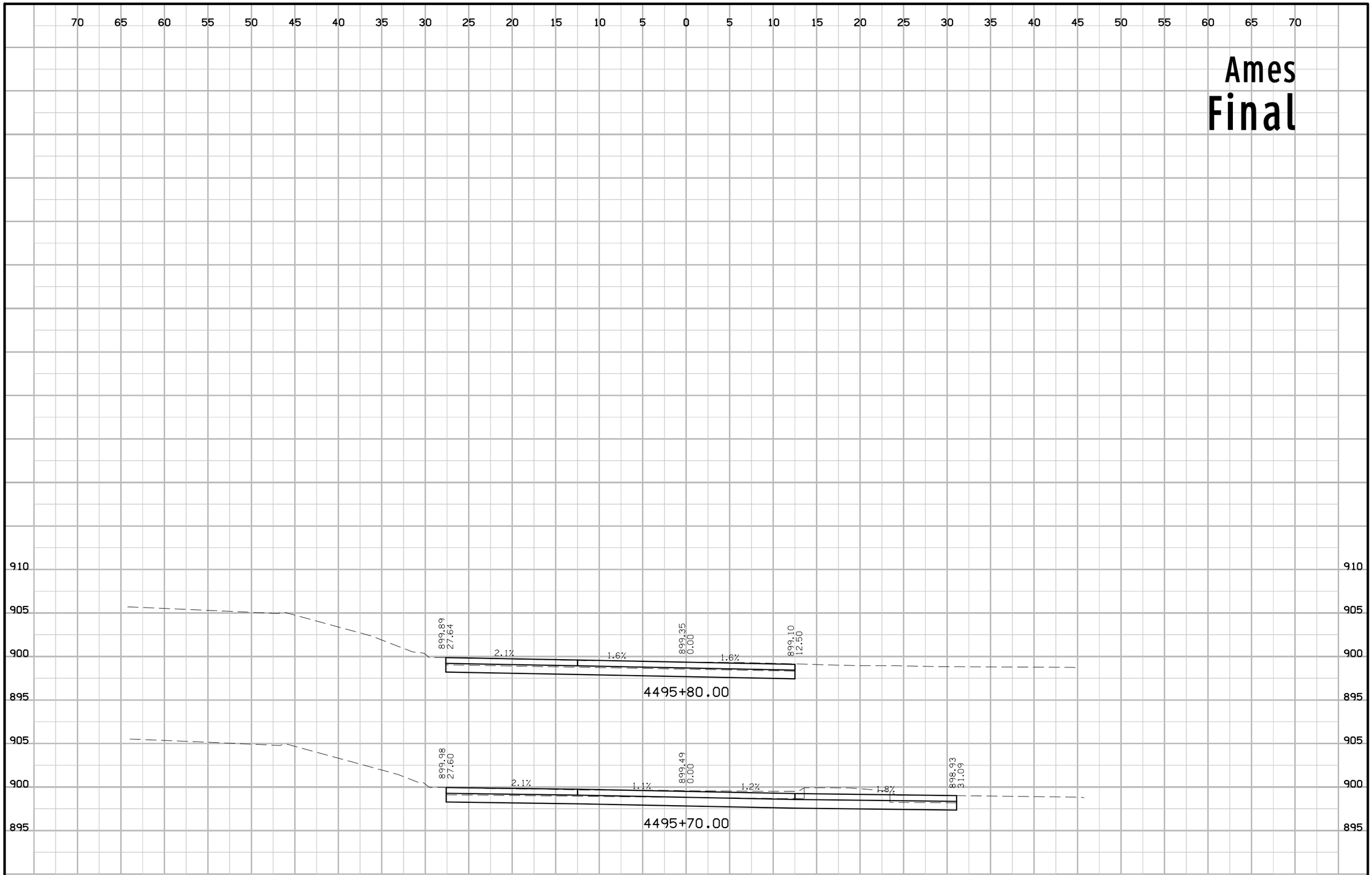

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