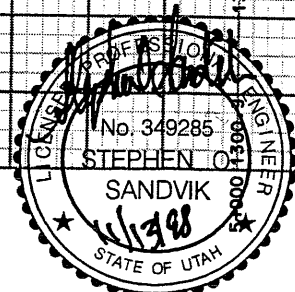
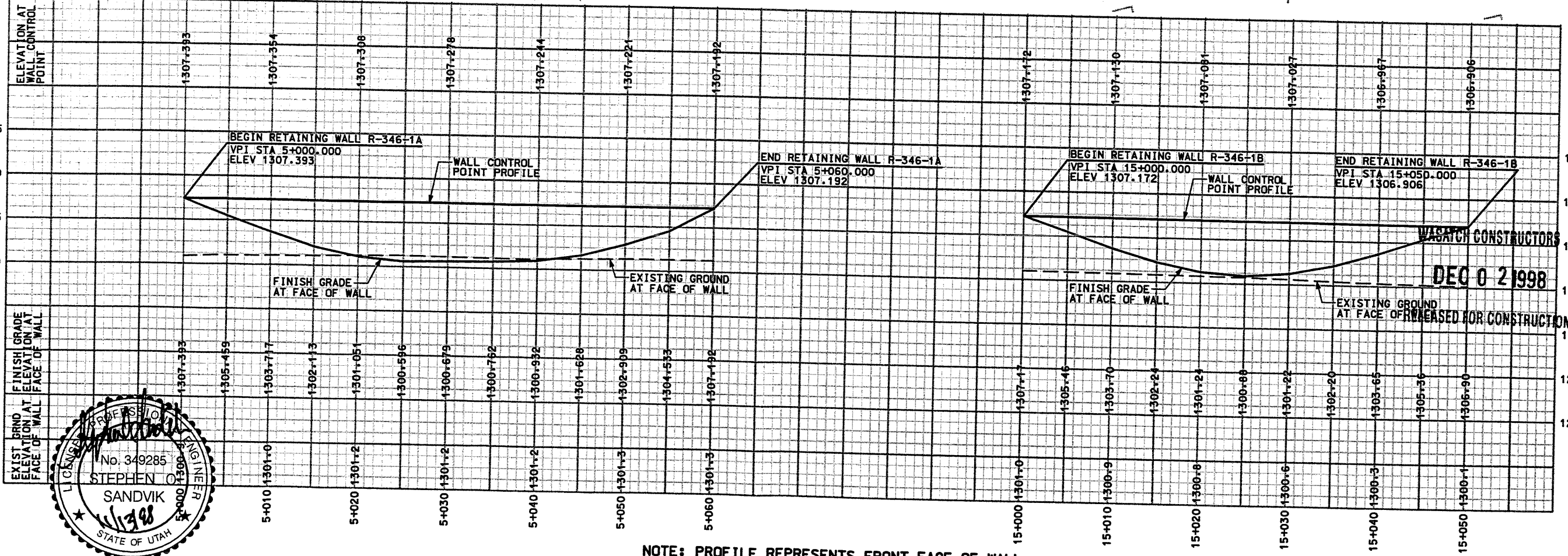
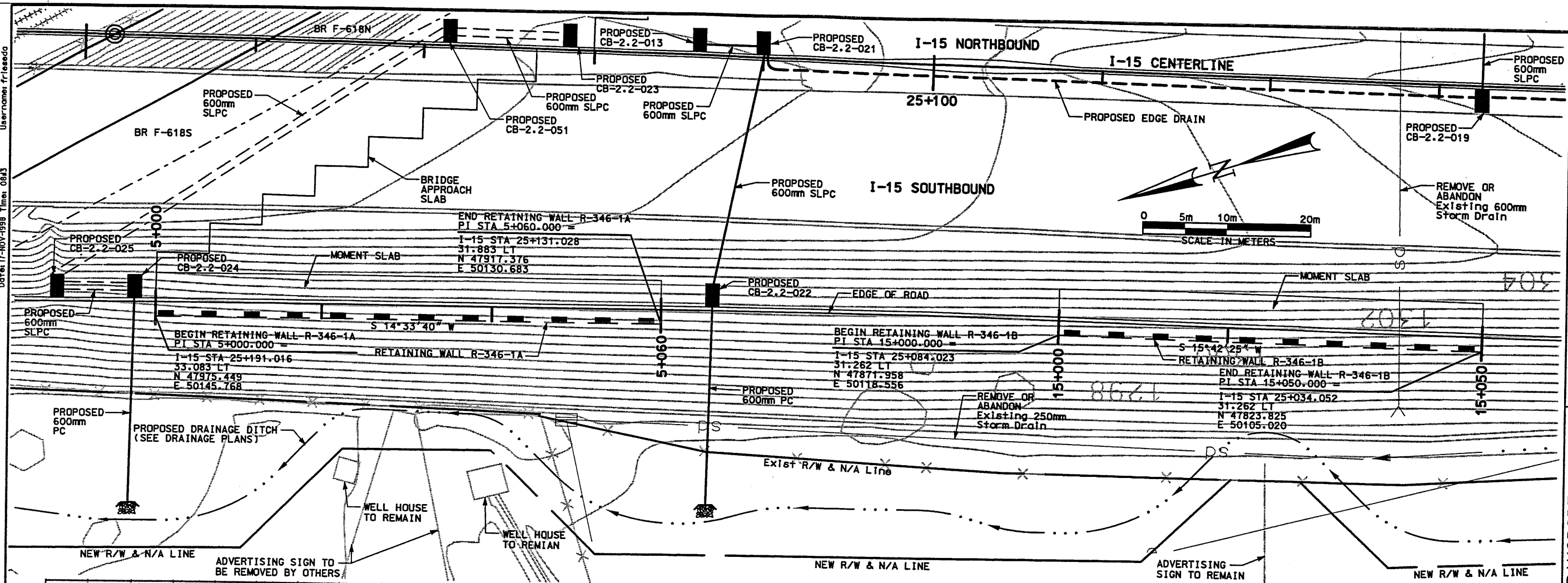


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Date: 17-NOV-1998 Time: 08:33

Username: frjaseco



NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	11/16/98	ORIGINAL ISSUE
2	11/16/98	REVISION
3	11/16/98	REVISION
4	11/16/98	REVISION

UTAH DEPARTMENT OF TRANSPORTATION
MK CENTENNIAL
SVERDRUP/DE LEUW

I-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-346-1A & 1B
SECTION 2.2
PROJECT NUMBER *SP-15-7(135)296

SALT LAKE COUNTY
DWG. NO. 2.2R-346-1.1

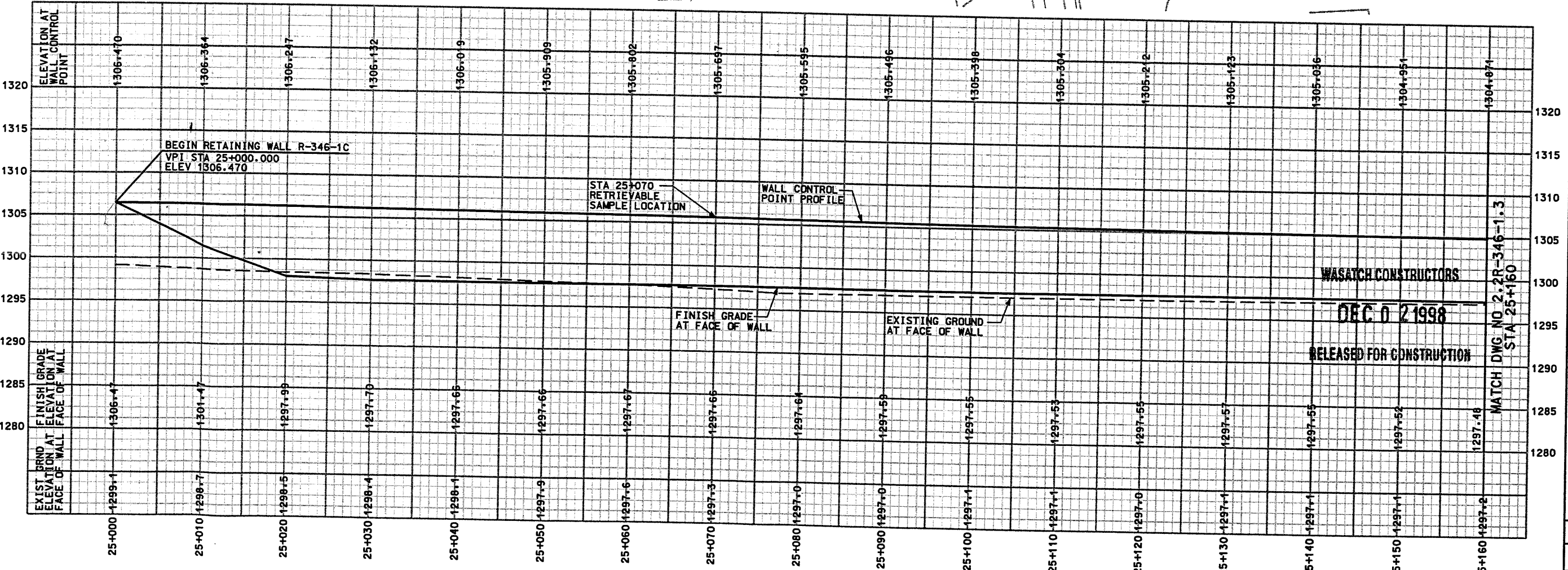
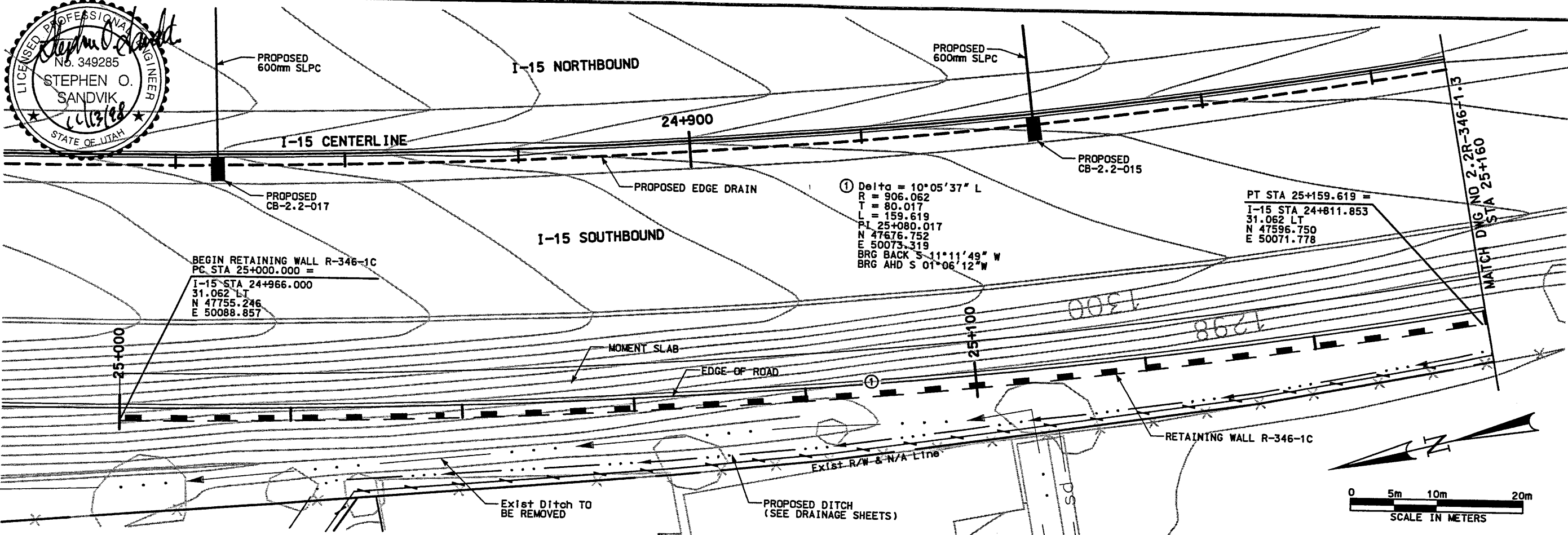
SHT. 1 OF 21

APPROVAL RECORD:
DESIGN: Stephen O. Sandvik, 9/03/98, CHECK: BAR, 9/03/98
DATE: 9/03/98, PROJECT DESIGN ENGINEER
DRAWN: S.D.S., 9/03/98, CHECK: BAR, 9/03/98
DATE: 9/03/98, PROJECT MANAGER: Randal L. Ross, 9/03/98

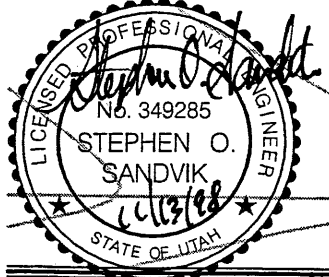
WBS NO. 2213408

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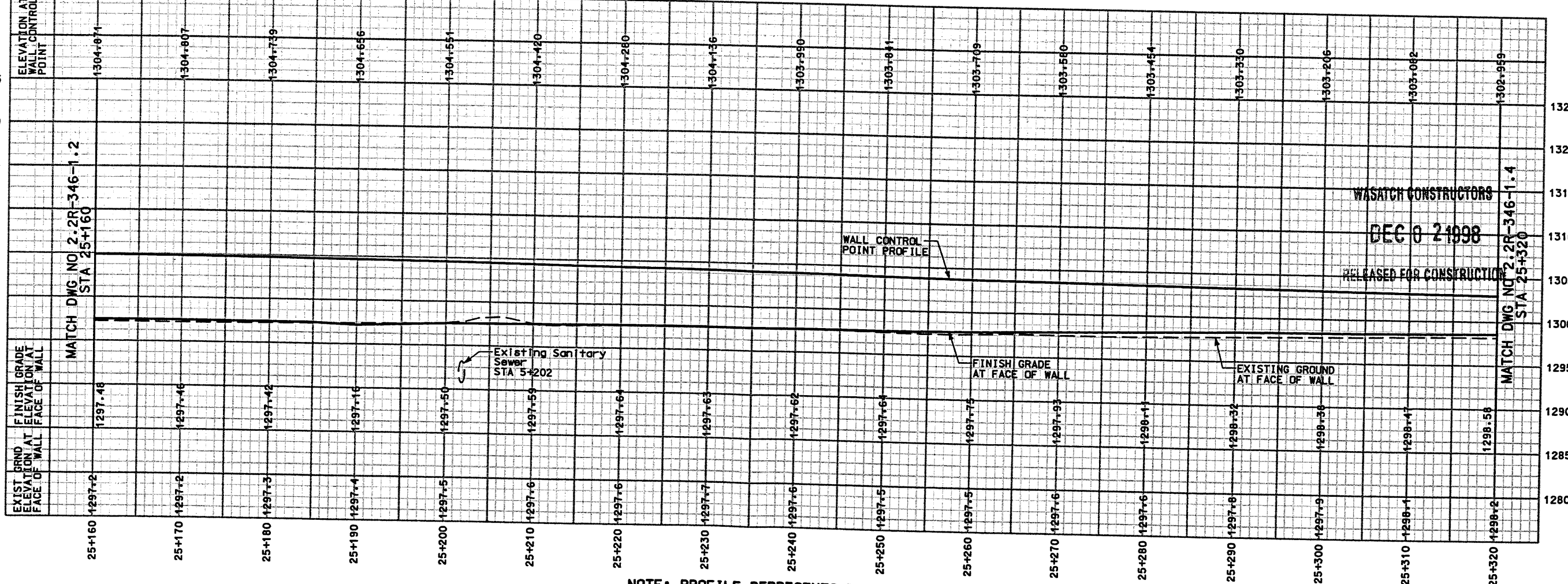
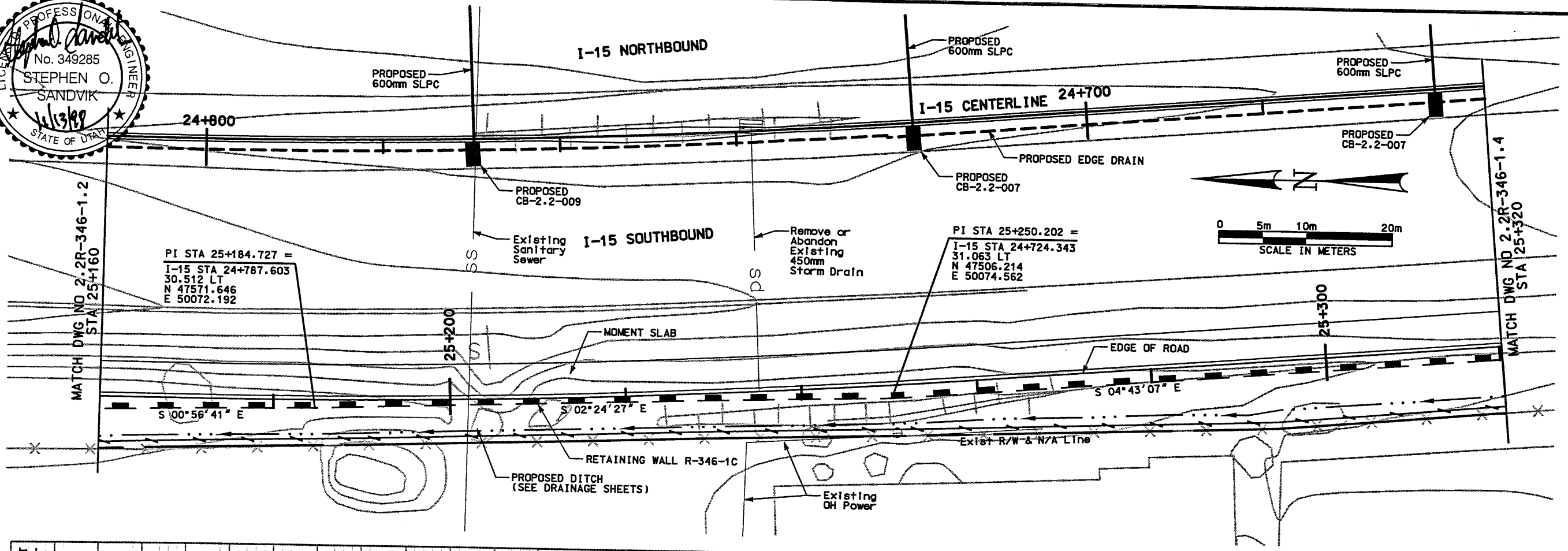
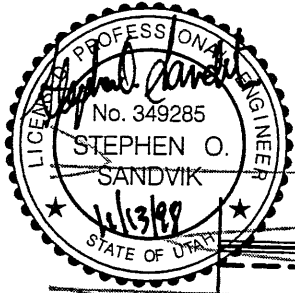


NOTE: PROFILE REPRESENTS FRONT FACE OF WALL



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	11/16/98	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEW		WBS NO.	2213408
APPROVAL DATE	8/31/98	DESIGN BAR	8/31/98
RECOMM. DATE	8/31/98	CHECK BAR	8/31/98
PROJECT DESIGN ENGINEER	Stephen O. Sandvik	CHECK BAR	/ /
PROJECT MANAGER	Randle L. Robb	CHECK BAR	/ /
PROJECT NUMBER	#SP-15-7(135)296	QUANT.	/ /
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-1C SECTION 2.2		UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEW	
SALT LAKE COUNTY DWG. NO. 2.2R-346-1.2		UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEW	
SHT. 2	OF 21		
REF.			

Filename: c:\dgn\15_cadd\33_97\sheet_files\wall\33_r-retwall-01.03.dgn Date: 11-NOV-1998 Time: 08:24 User: rfrleseda



APPROVED FOR CONSTRUCTION

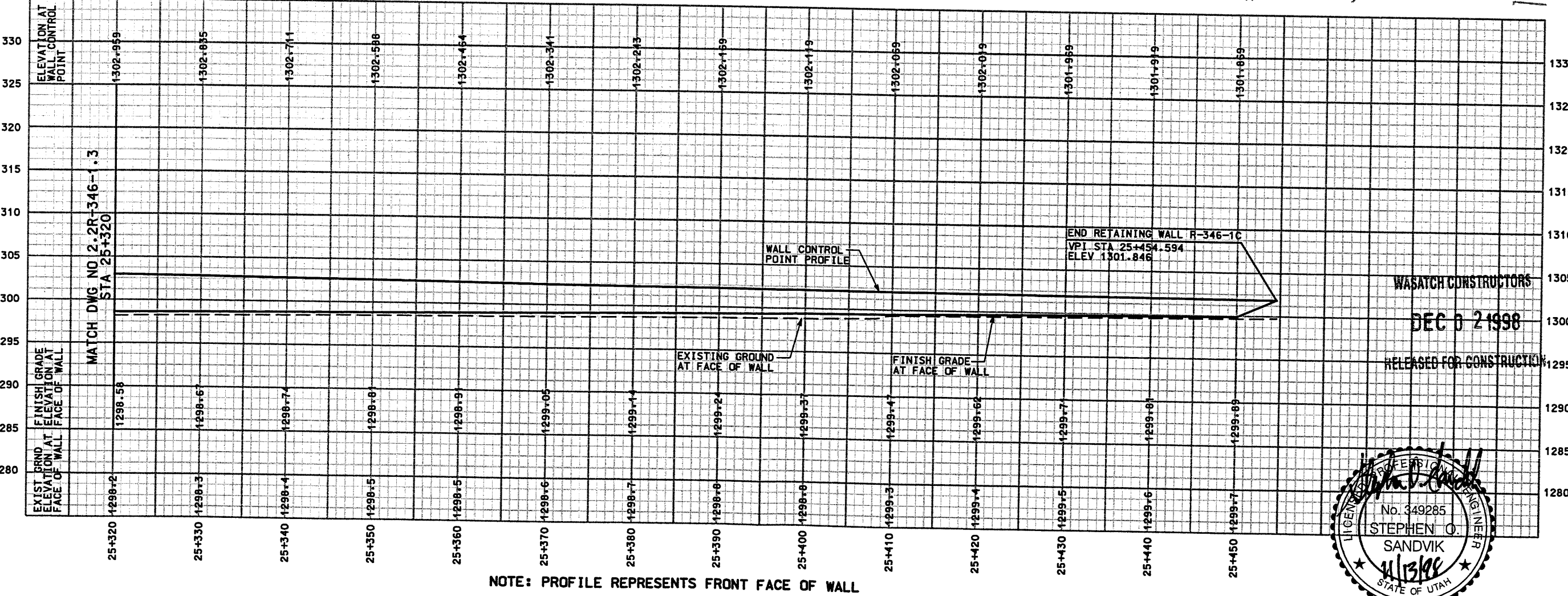
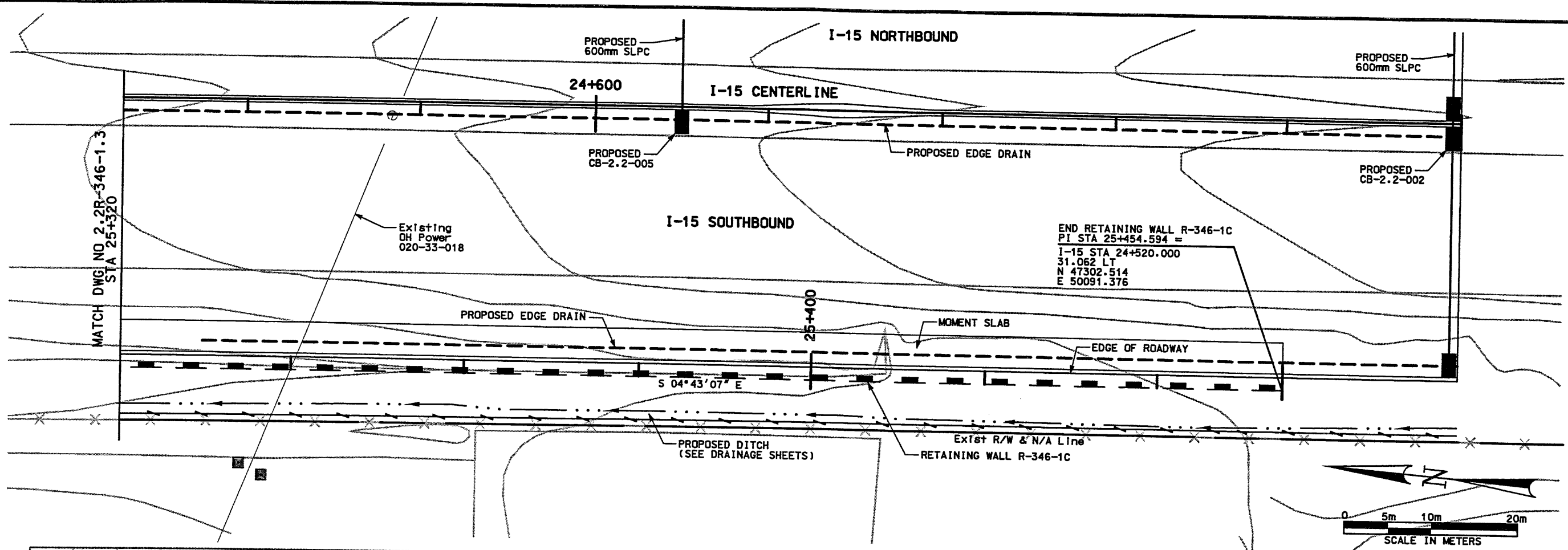
NO.	DATE	DESCRIPTION
1	11/16/98	ORIGINAL ISSUE
2	/ /	/ /
3	/ /	/ /
4	/ /	/ /

UTAH DEPARTMENT OF TRANSPORTATION
 MK CENTENNIAL
 SVERDRUP/DE LEUW

APPROVAL 8/31/98 Stephen O. Sandvik DESIGN SWS 8/31/98 CHECK BAR 8/31/98
 REVISION DATE PROJECT DESIGN ENGINEER DRAWN SWS 8/31/98 CHECK BAR 8/31/98
 APPROVED 8/31/98 Randle L. Ross QUANT. / / / / CHECK / /

I-15 CORRIDOR RECONSTRUCTION
 SITUATION & LAYOUT R-346-1C
 SECTION 2.2
 PROJECT #SP-15-7(135)296
 COUNTY SALT LAKE
 DWG. NO. 2.2R-346-1.3
 WBS NO. 2213408

SHT. 3 OF 21
 REF.



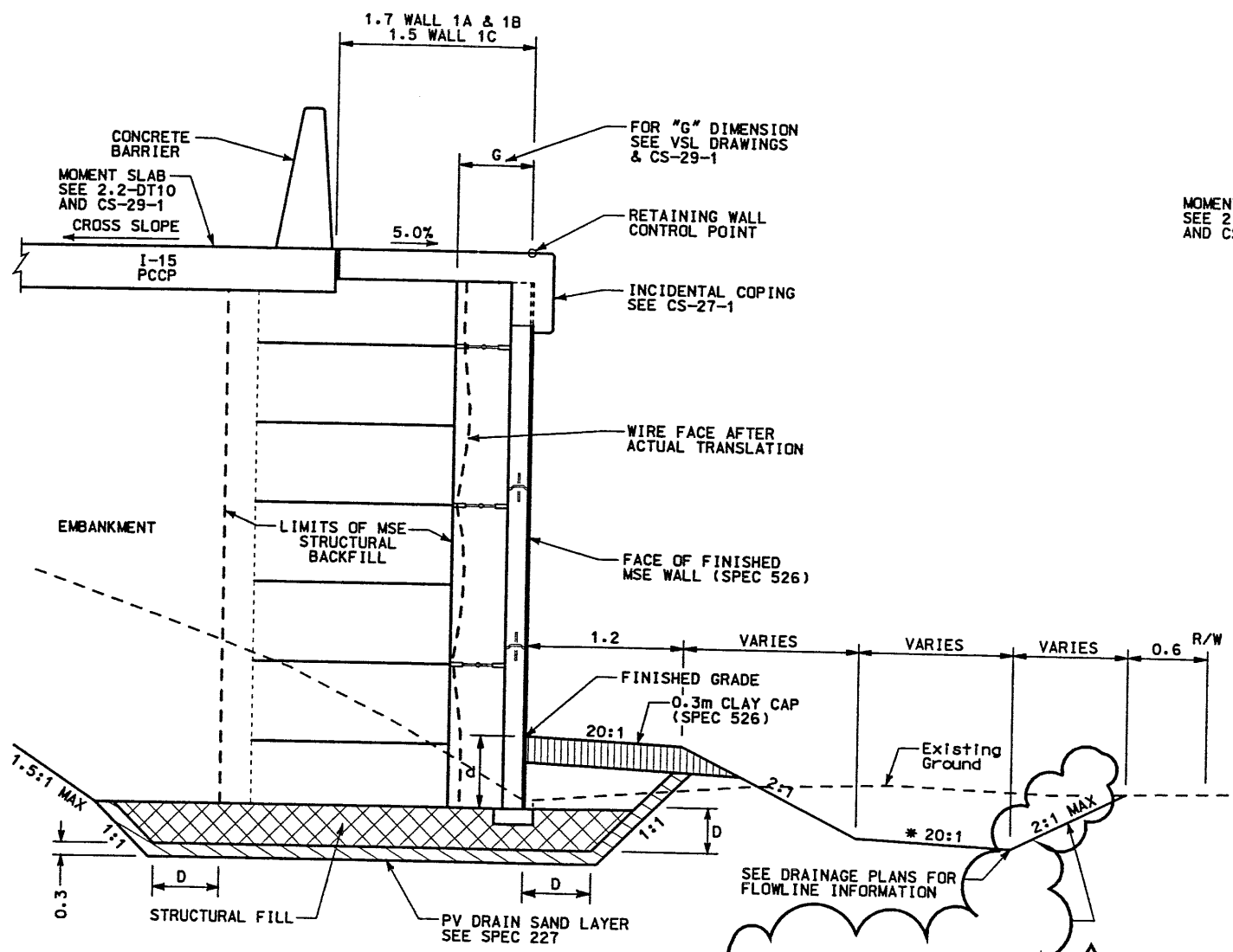
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NO.	DATE	NO.	DATE
△	11/16/98	△	11/16/98
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SYVERDRUP/DE LEUW		WBS NO. 2213408	
APPROVAL RECORD	DATE	DESIGNER	CHECK
8/31/98	8/31/98	Stephen O. Sandvik	8/31/98
PROJECT DESIGN ENGINEER	DATE	DESIGNER	CHECK
8/31/98	8/31/98	Randle L. Ross	8/31/98
PROJECT MANAGER	DATE	PROJECT MANAGER	QUANT.
			/ /
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-1C		SECTION 2.2	
PROJECT NUMBER #SP-15-(135)296			
SALT LAKE COUNTY		DWG. NO. 2.2R-346-1.4	
SHT. 4 OF 21		REF.	

Date: 25-MAR-1999 Time: 10:33
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RETAINING WALL DETAIL

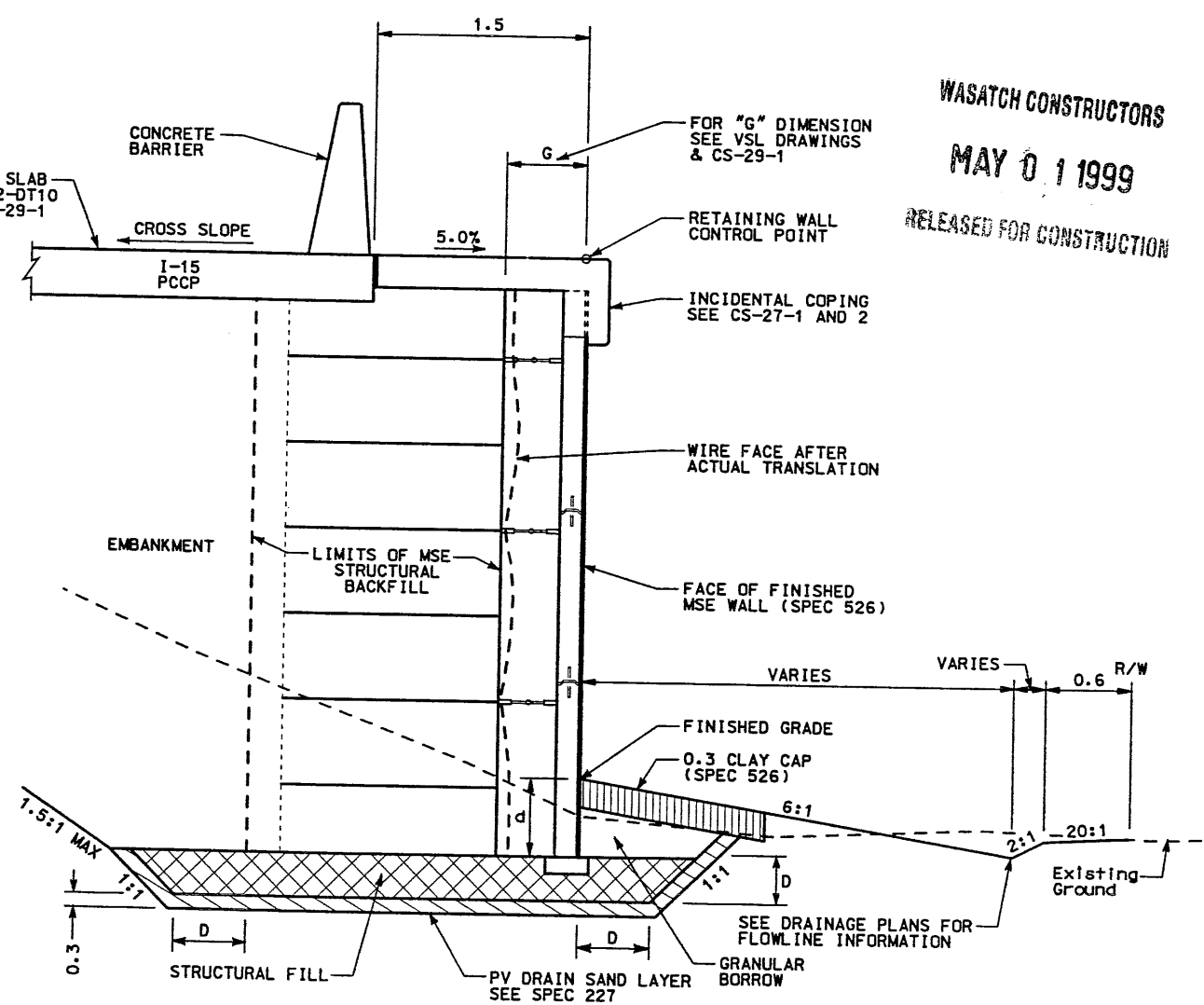
SECTION 2.2 WALL NO R-346-1A
 SECTION 2.2 WALL NO R-346-1B
 SECTION 2.2 WALL NO R-346-1C
 (2 - STAGE MSE WALLS)

- NOTES:**
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
 - 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) COMPACTED GRANULAR BORROW, 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.



DETAIL A

WALL R-346-1A STA 5+000 TO STA 5+060
 WALL R-346-1B STA 15+000 TO STA 15+050
 WALL R-346-1C STA 25+000 TO STA 25+030
 NTS
 * WALL 1C ONLY



DETAIL B

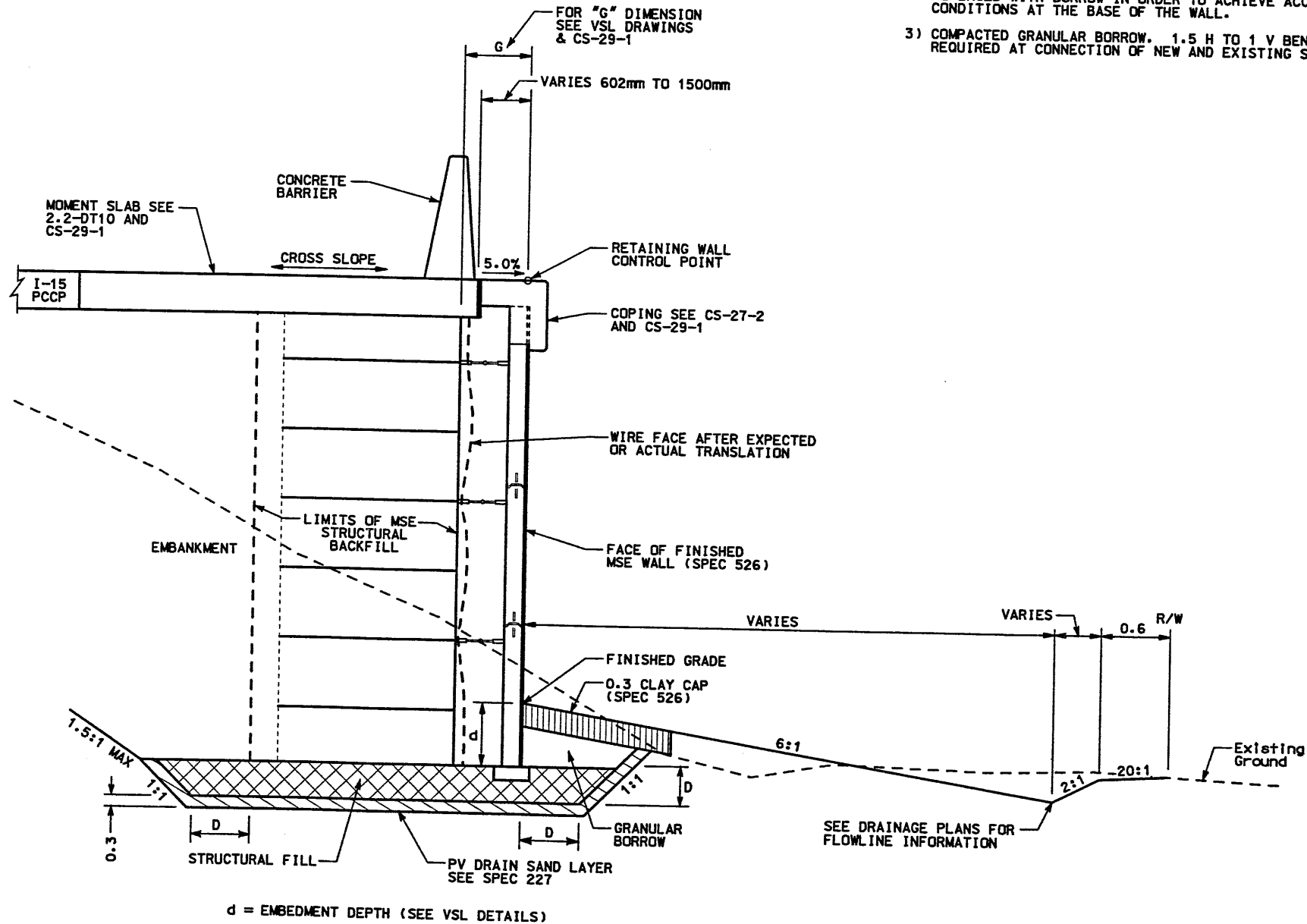
WALL R-346-1C STA 25+030 TO STA 25+159.619
 WALL R-346-1C STA 25+250.202 TO STA 25+454.594
 NTS

WASATCH CONSTRUCTORS
MAY 01 1999
 RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED DITCH NOTES
1	11/16/98	/ / /	/ / /
UTAH DEPARTMENT OF TRANSPORTATION			
MK CENTENNIAL			
SVERDRUP/DE LEUW			
APPROVAL DATE	DESIGNER	CHECKER	WBS NO.
8/31/98	Stephen O. Sandvick	8/31/98	2213408
APPROVED DATE	PROJECT ENGINEER	CHECKER	CHECK
8/31/98	Randle L. Ross	8/31/98	/ / /
PROJECT NUMBER			
#SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO.			
2.2R-346-1.5			
SHT. 5 OF 21			
REF.			

RETAINING WALL DETAIL
SECTION 2.2 WALL NO R-346-1C
(2 - STAGE MSE WALL)

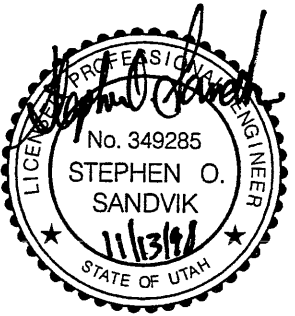


d = EMBEDMENT DEPTH (SEE VSL DETAILS)

DETAIL C
WALL R-346-1C STA 25+159.619 to STA 25+250.202
NTS

NOTES:

- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
- 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
- 3) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.



WASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	11/16/98	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213408	
MK CENTENNIAL		CHECK BAR 8/31/98	
SYVERDRUP/DE LEUW		CHECK BAR 8/31/98	
Stephen O. Sandvik		DRAWN SOS 8/31/98	
PROJECT DESIGN ENGINEER		CHECK BAR 8/31/98	
Randie L. Robb		QUANT. / /	
PROJECT MANAGER		CHECK / /	
I-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-1C	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-1.6	
SHT. 6 OF 21		REF.	

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY

NO.	DATE	REVISION	CHK

WIRE FACED WALL STA 5+000.000 =
 I-15 STA 25+191.016
 @ 32.381 LT
 END WIRE FACED WALL R-346-1A

PRECAST WALL STA 5+000.000 =
 I-15 STA 25+191.016
 @ 33.083 LT
 BEGIN PRECAST WALL R-346-1A

S14° 33' 40"W

FRONT FACE OF PRECAST WALL
 FRONT FACE OF WIRE FACE WALL

PLAN VIEW MSE WALL "R-346-1A"

SCALE: 1:400 (FULL SIZE)
 SCALE: 1:800 (HALF SIZE)

WIRE FACED WALL STA 5+060.000 =
 I-15 STA 25+131.028
 @ 31.181 LT
 END WIRE FACED WALL R-346-1A

PRECAST WALL STA 5+060.000 =
 I-15 STA 25+131.028
 @ 31.883 LT
 END PRECAST WALL R-346-1A

WIRE FACED WALL STA 15+000.000 =
 I-15 STA 25+084.023
 @ 30.560 LT
 END WIRE FACED WALL R-346-1B

PRECAST WALL STA 15+000.000 =
 I-15 STA 25+084.023
 @ 31.262 LT
 BEGIN PRECAST WALL R-346-1B

S15° 42' 25"W

FRONT FACE OF PRECAST WALL
 FRONT FACE OF WIRE FACE WALL

PLAN VIEW MSE WALL "R-346-1B"

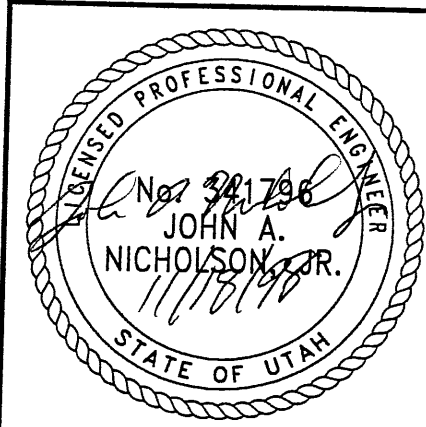
SCALE: 1:400 (FULL SIZE)
 SCALE: 1:800 (HALF SIZE)

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) =	34°
ANGLE OF INTERNAL FRICTION (BASE) =	34°
ANGLE OF INTERNAL FRICTION (RANDOM) =	34°
UNIT WEIGHT BACKFILL =	128 TO 135 PCF (20.1 TO 21.2 KN/M ³)
TRAFFIC SURCHARGE =	250 PSF
SEISMIC ACCELERATION COFF. =	0.27g 50 YR
SEISMIC ACCELERATION COFF. =	0.68g 250 YR
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) =	2.0
SAFETY FACTOR (SLIDING) =	1.5
SAFETY FACTOR (PULLOUT) =	1.5
DESIGN LIFE =	75 YEARS

RETAINED EARTH INDEX	
RE-1	PLAN WIRE FACED WALL R-346-1A&B, DESIGN CRITERIA
RE-2	PLAN WIRE FACED WALL R-346-1C
RE-3	TYPICAL CROSS SECTION
RE-4	TYPICAL CROSS SECTION
RE-5	TYPICAL CROSS SECTION
RE-6	WIRE FACED WALL R-346-1A
RE-7	WIRE FACED WALL R-346-1B
RE-8	WIRE FACED WALL R-346-1C
RE-9	WIRE FACED WALL R-346-1C
RE-10	WIRE FACED WALL R-346-1C
RE-11	WIRE FACED WALL R-346-1C
RE-12	WIRE FACED WALL R-346-1C
RE-13	WIRE FACED WALL R-346-1C
RE-14	WIRE FACED WALL R-346-1C
RE-15	WIRE FACED WALL R-346-1C

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-346-1"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2-R346-1.7
JOB NO.	239-0007
SHT. NO.	RE-1

VSL CORPORATION
 2840 Pecos Road, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4659

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, MA

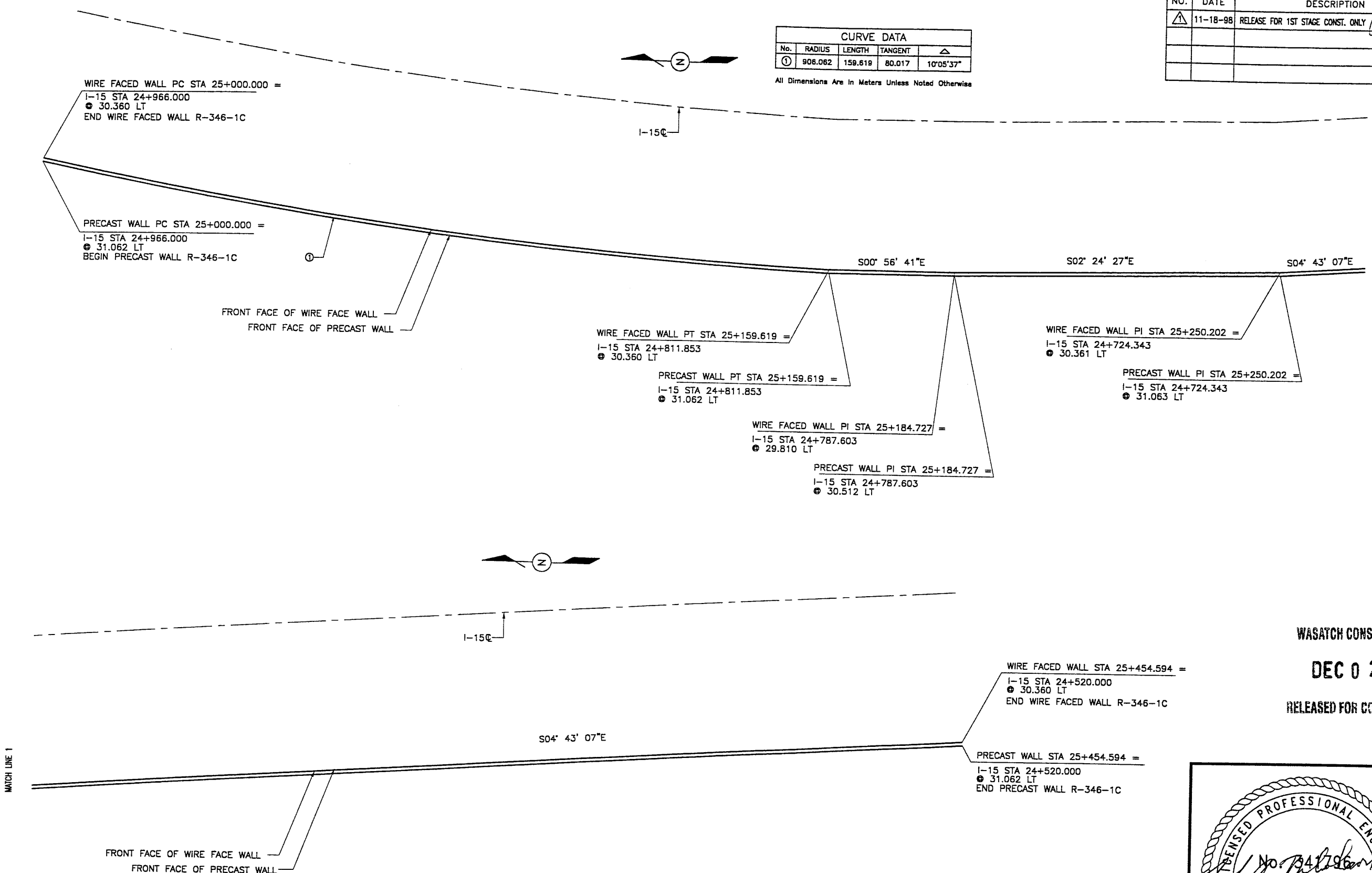
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FINAL PLOT 10-30-98
 H:\RE_EARTH\PROJECT\239-0007\1998\33\33-01\RE-1
 X-UTAH.DWG

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
11-18-98		RELEASE FOR 1ST STAGE CONST. ONLY

CURVE DATA				
No.	RADIUS	LENGTH	TANGENT	Δ
1	906.062	159.619	80.017	10°05'37"

All Dimensions Are in Meters Unless Noted Otherwise

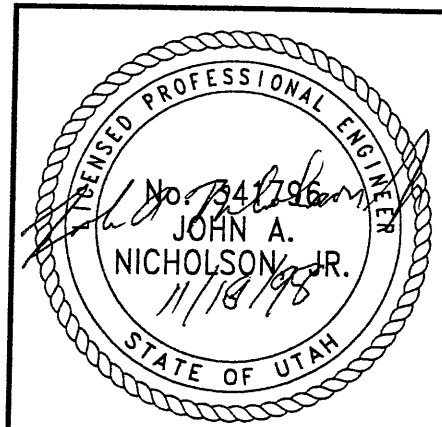


PLAN VIEW MSE WALL "R-346-1C"

SCALE: 1:400 (FULL SIZE)
 SCALE: 1:800 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-346-1"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

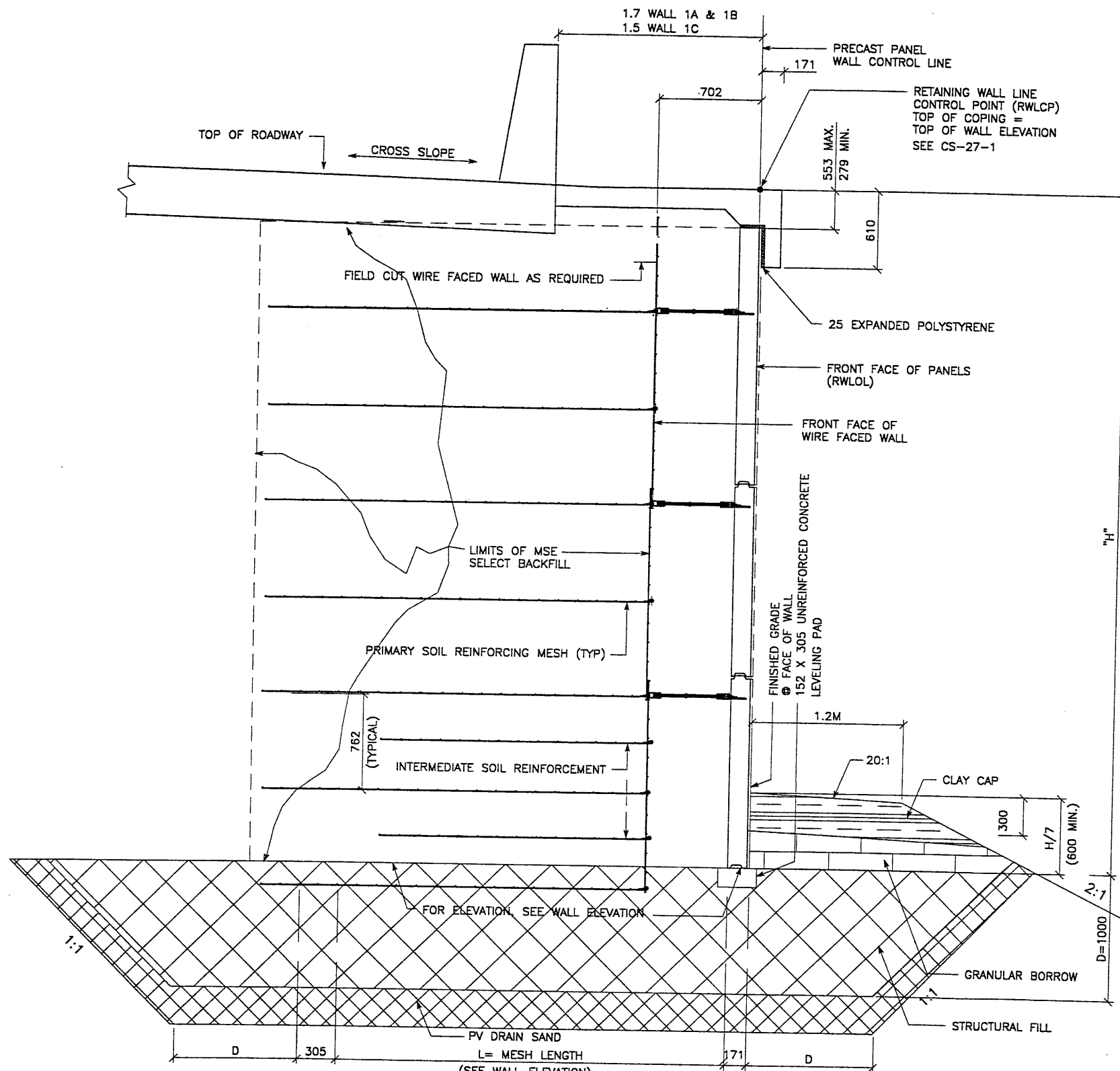
DES.	10-30-98	JN
DRN.	10-30-98	RSW
CHK.	10-30-98	JN

VSL CORPORATION
 2840 Redwood Ave., Suite 200
 Redwood City, CA 94063
 Telephone: (919) 781-6272
 Fax: (919) 781-6569

ALBANY, CA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

DWG. NO. 2.2-R346-1.8
 JOB NO. 239-0007
 SHI. NO. RE-2

3E (X-UTAH.DWG)
 X
 .33-01\RE-3.DWG
 H:\RE_EARTH\PROJECT\239-000\1998\33F
 FINAL 10-30-98



TYPICAL CROSS SECTION - WALL 33-1A STA 5+000 TO STA 5+060.000
 TYPICAL CROSS SECTION - WALL 33-1B STA 15+000 TO STA 15+050.000
 TYPICAL CROSS SECTION - WALL 33-1C STA 25+000 TO STA 25+030.000
 (SEE DWG. NO. 2.2R-346-1.5 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

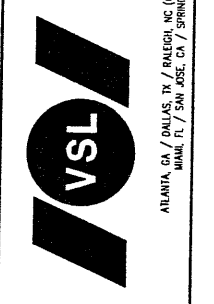
SEE FOSTER GEOTECHNICAL STD DWG FOR PLACEMENT OF INTERMEDIATE SOIL REINFORCEMENT & ADDITIONAL 2-STAGE WALL DETAILS

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE PLACED BEGINNING AT THE BOTTOM OF A WALL SECTION TO A HEIGHT 4.5M BELOW THE TOP OF COPING. IF A WALL SECTION IS LESS THAN 4.5M TALL, PLACE 2 ROWS OF INTERMEDIATE SOIL REINFORCEMENT AT THE BOTTOM OF THE WALL. SEE FOSTER GEOTECHNICAL STANDARD DRAWINGS FOR PLACEMENT DETAILS.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY

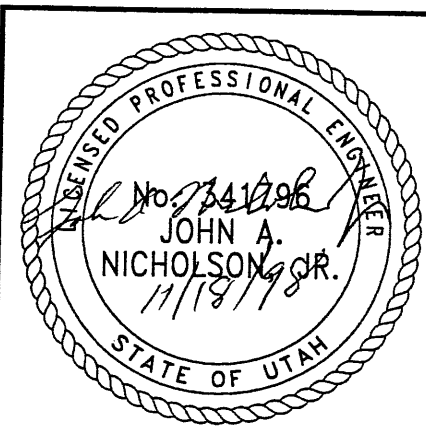
DES.	10-30-98	JN
DRN.	10-30-98	RSW
CHK.	10-30-98	JN

VSL CORPORATION
 2810 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6989



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WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS WIRE FACED WALL "R-346-1" TYPICAL CROSS SECTION	UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.2R-346-1.9	JOB NO. 239-0007
SHT. NO. RE-3	

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

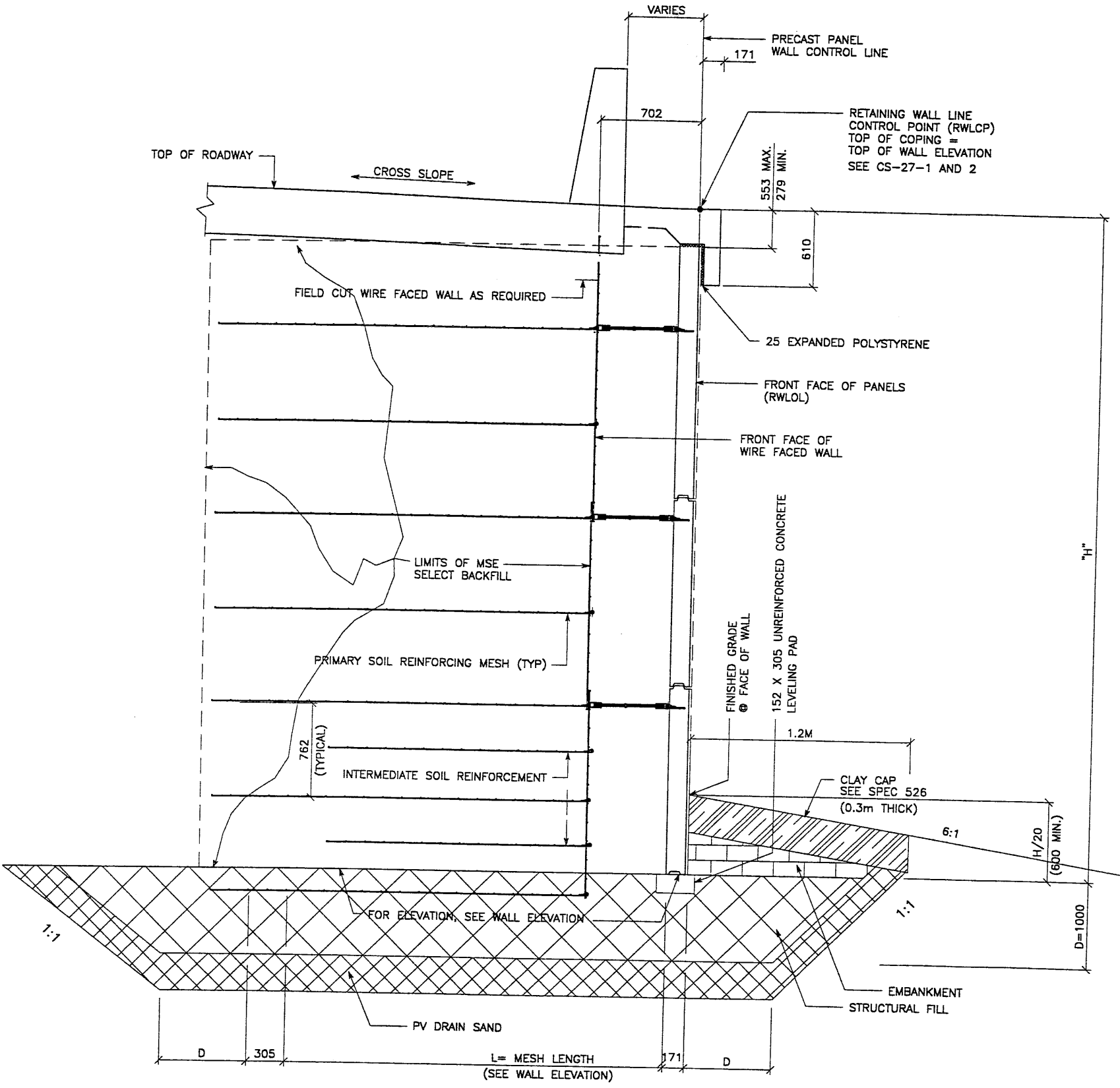
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\33-01\RE-4.DWG

FINAL PLOT 10-30-98



TYPICAL CROSS SECTION - WALL 33-1C 25+030 TO 25+454.594
 (SEE DWG. NO. 2.2R-346-1.5 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

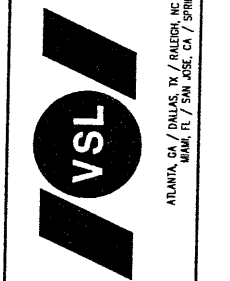
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

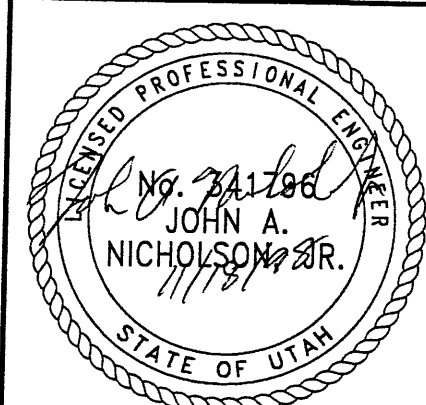
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY

DES.	DRN.	CHK.	NO.	DATE	REVISION	BY	CHK
JN	RSW	JN					

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4869



WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION



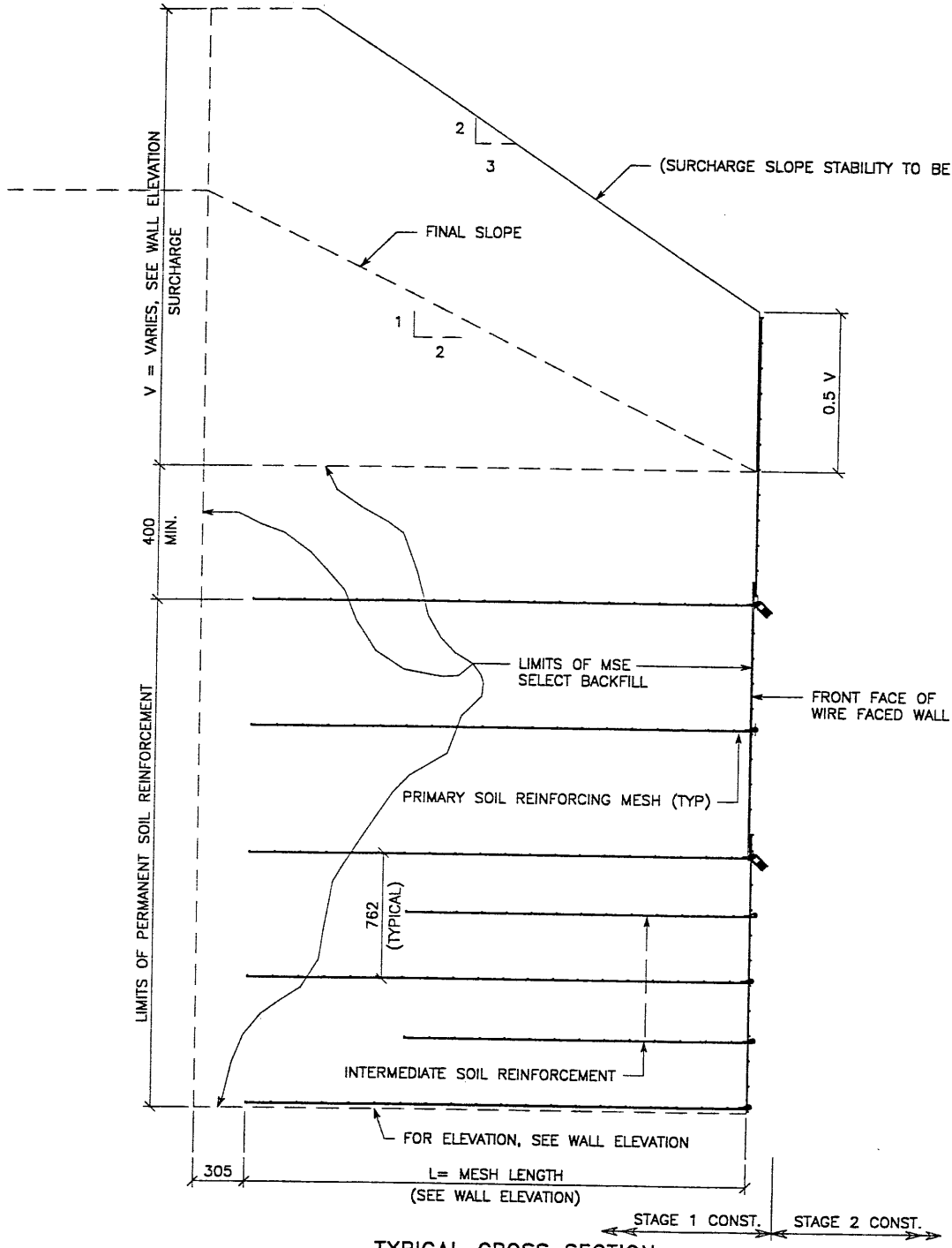
RETAINED EARTH™ WALLS
 WIRE FACED WALL
 TYPICAL CROSS SECTION

UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-1.10
JOB NO.	239-0007
SHT. NO.	RE-4

10 of 21

FINAL PLOT 10-27-98 H:\RE_EARTH\PROJECT\239-0007\1998\335F\33-01\RE-5 XE (X-UTAH.DWG) XIF



TYPICAL CROSS SECTION
STAGE 1 CONSTRUCTION WITH SURCHARGE

SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)

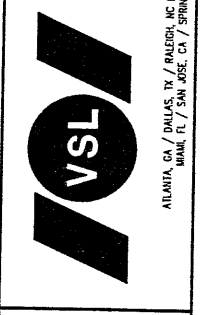
SEE FOSTER GEOTECHNICAL STD
DWG FOR PLACEMENT OF
INTERMEDIATE SOIL REINFORCEMENT
& ADDITIONAL 2-STAGE WALL DETAILS

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE
PLACED BEGINNING AT THE BOTTOM OF A WALL SECTION
TO A HEIGHT 4.5M BELOW THE TOP OF COPING.
IF A WALL SECTION IS LESS THAN 4.5M TALL, PLACE 2 ROWS
OF INTERMEDIATE SOIL REINFORCEMENT AT THE
BOTTOM OF THE WALL. SEE FOSTER GEOTECHNICAL
STANDARD DRAWINGS FOR PLACEMENT DETAILS.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
11-18-98		RELEASE FOR 1ST STAGE CONST. ONLY

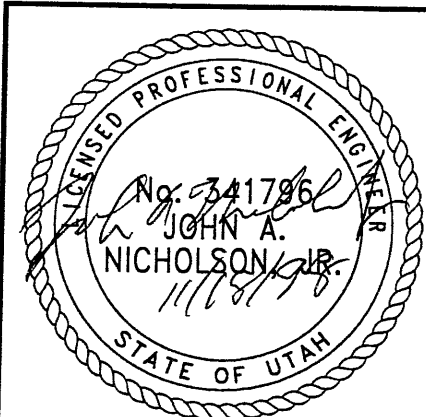
NO.	DATE	REVISION	BY

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-8272
Fax: (919) 781-4889



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RETAINED EARTH™ WALLS
WIRE FACED WALL "R-346-1"
TYPICAL SECTIONS @ WIRE FACED WALL
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

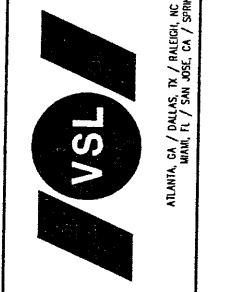
DWG. NO.
2.2-R346-1.11
JOB NO:
239-0007
SHT. NO.
RE-5

METRIC
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY

DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	REVISION	BY	CHK
JUN 10-30-98	RSW							
JUN 10-30-98	RSW							
JUN 10-30-98	RSW							

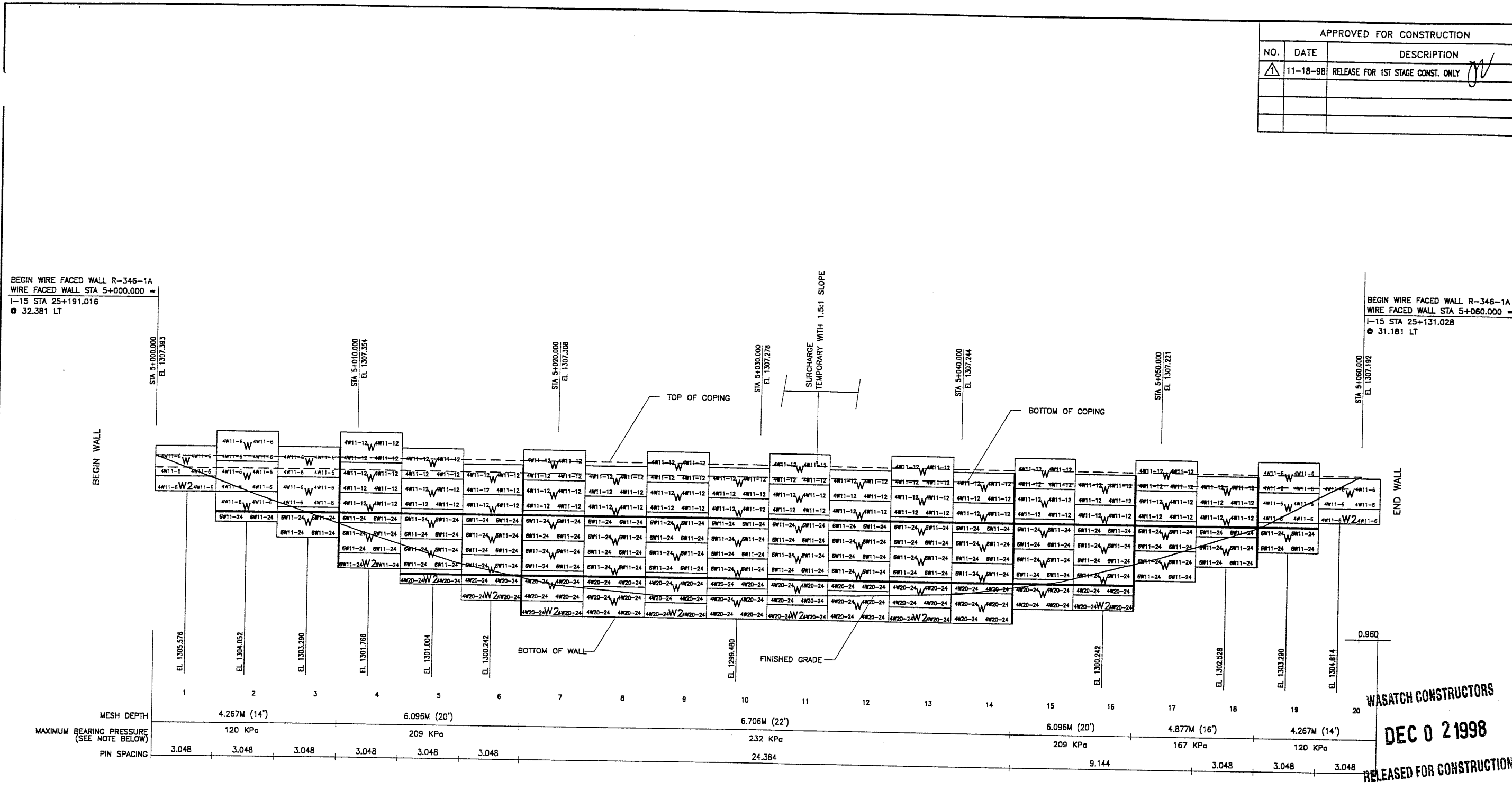
VSL CORPORATION
 2800 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6869



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RETAINED EARTH™ WALLS
 WALL "R-346-1A" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-1.12
JOB NO.	239-0007
SHT. NO.	RE-6



BEGIN WIRE FACED WALL R-346-1A
 WIRE FACED WALL STA 5+000.000 =
 I-15 STA 25+191.016
 ● 32.381 LT

BEGIN WIRE FACED WALL R-346-1A
 WIRE FACED WALL STA 5+080.000 =
 I-15 STA 25+131.028
 ● 31.181 LT

RETAINING WALL "R-346-1A" - 1ST STAGE: WIRE FACED WALL

(FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING, WALLS A & B = 695.10 SM)

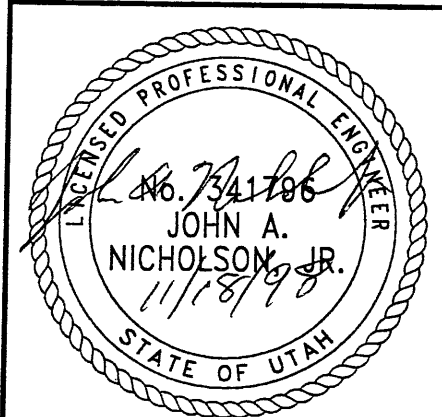
SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

* INDICATES SOIL REINFORCING TYPE
 MESH TO BE USED ON ADDITIONAL
 WIRE WALL FACING ADDED AFTER
 SETTLEMENT.

NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURES
 AT FINAL STAGE FOR STATIC LOAD CONDITION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

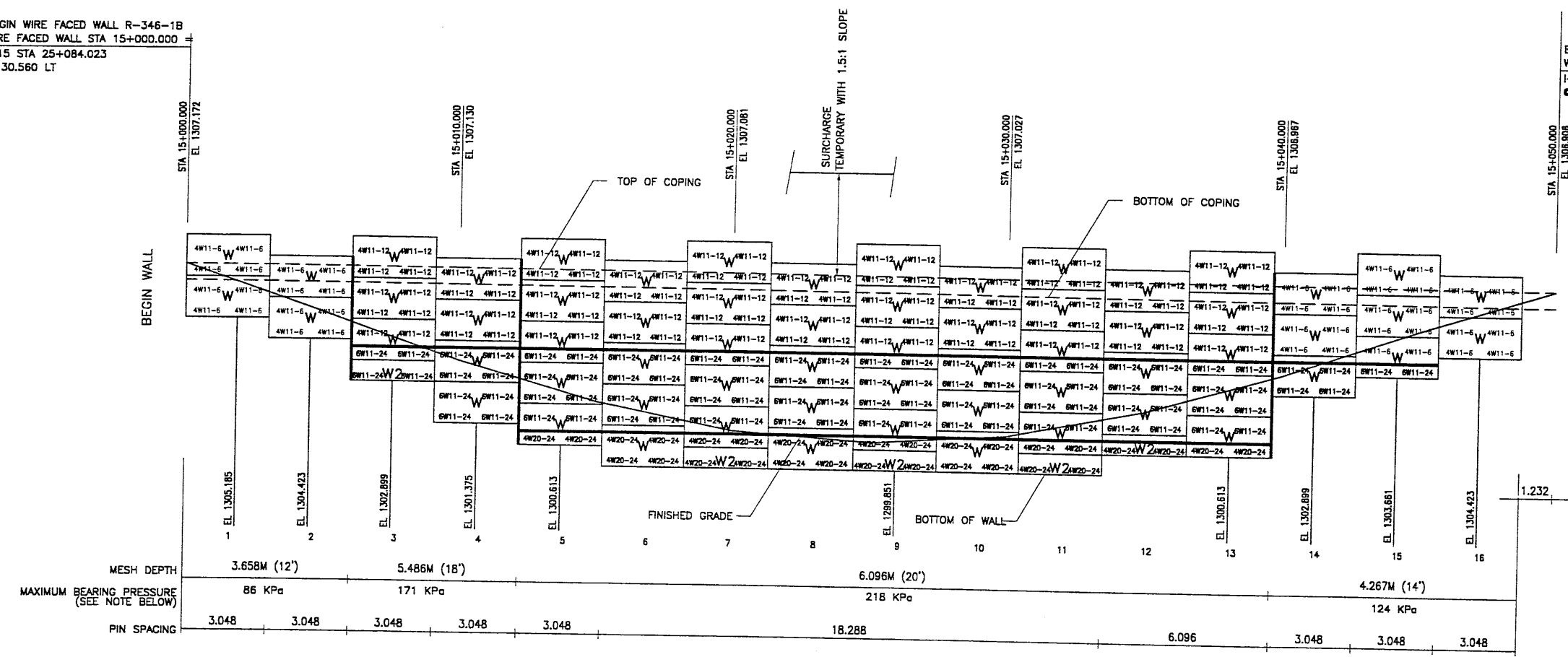


WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY <i>OV</i>

BEGIN WIRE FACED WALL R-346-1B
 WIRE FACED WALL STA 15+000.000 =
 I-15 STA 25+084.023
 ● 30.560 LT

END WIRE FACED WALL R-346-B
 WIRE FACED WALL STA 15+050.000 =
 I-15 STA 25+034.052
 ● 30.560 LT



RETAINING WALL "R-346-1B" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING, WALLS A & B = 695.10 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

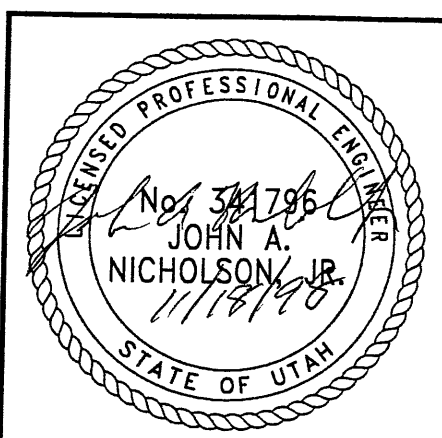
* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.

NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

WASATCH CONSTRUCTORS
DEC 0 2 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 WALL "R-346-1B" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.2R-346-1.13
 JOB NO:
 239-0007
 SHT. NO.
 RE-7

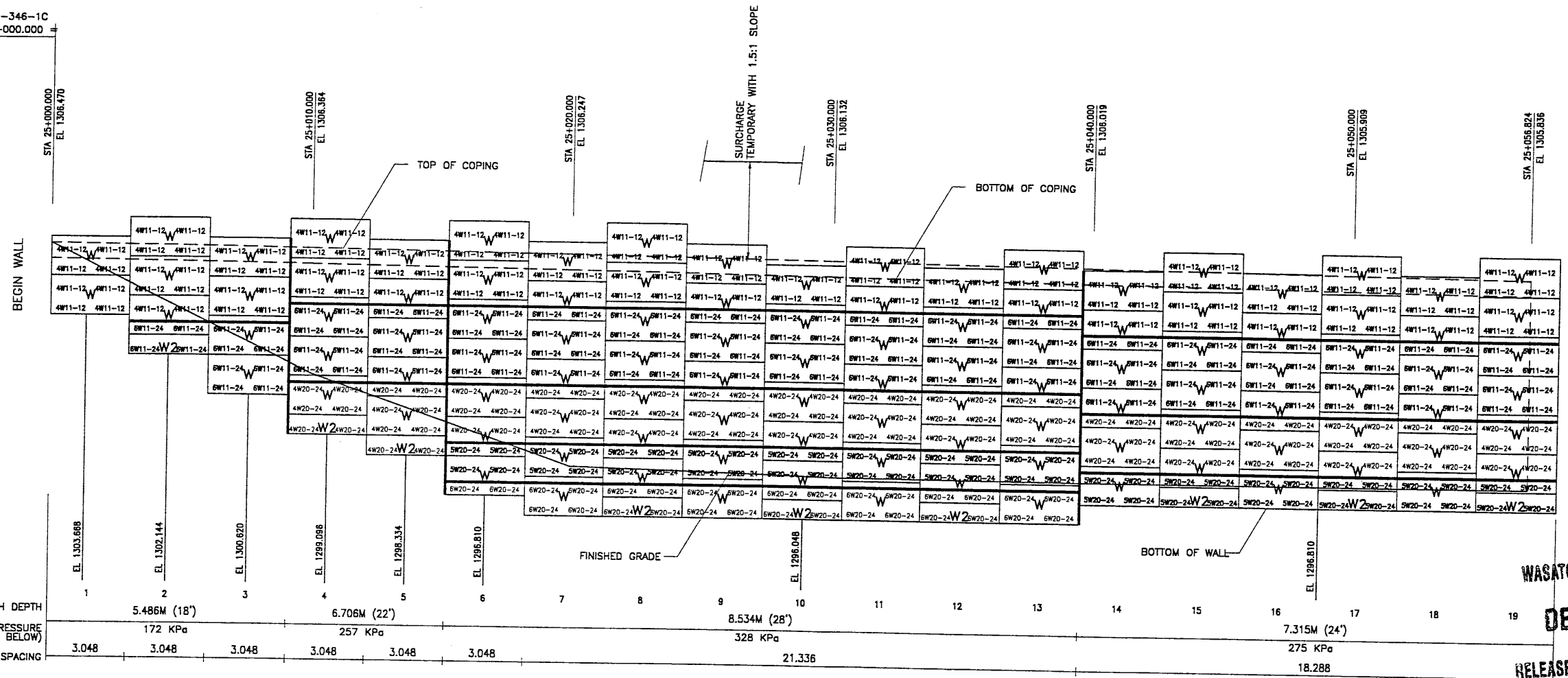
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4869

ATLANTA, GA / DULHAS, TX / BALDWIN, MS (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
JN	RSW	JN	10-30-98	10-30-98	10-30-98	CHK

BEGIN WIRE FACED WALL R-346-1C
 WIRE FACED WALL STA 25+000.000 ±
 1-15 STA 24+966.000
 ● 30.360 LT

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△ 11-18-98		RELEASE FOR 1ST STAGE CONST. ONLY



MATCH LINE #1

WASATCH CONSTRUCTORS

DEC 0 2 1998

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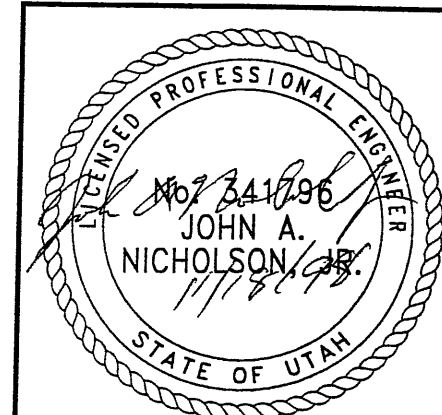
RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.

NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

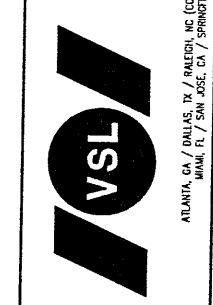
METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-1.14
JOB NO.	239-0007
SHT. NO.	RE-8

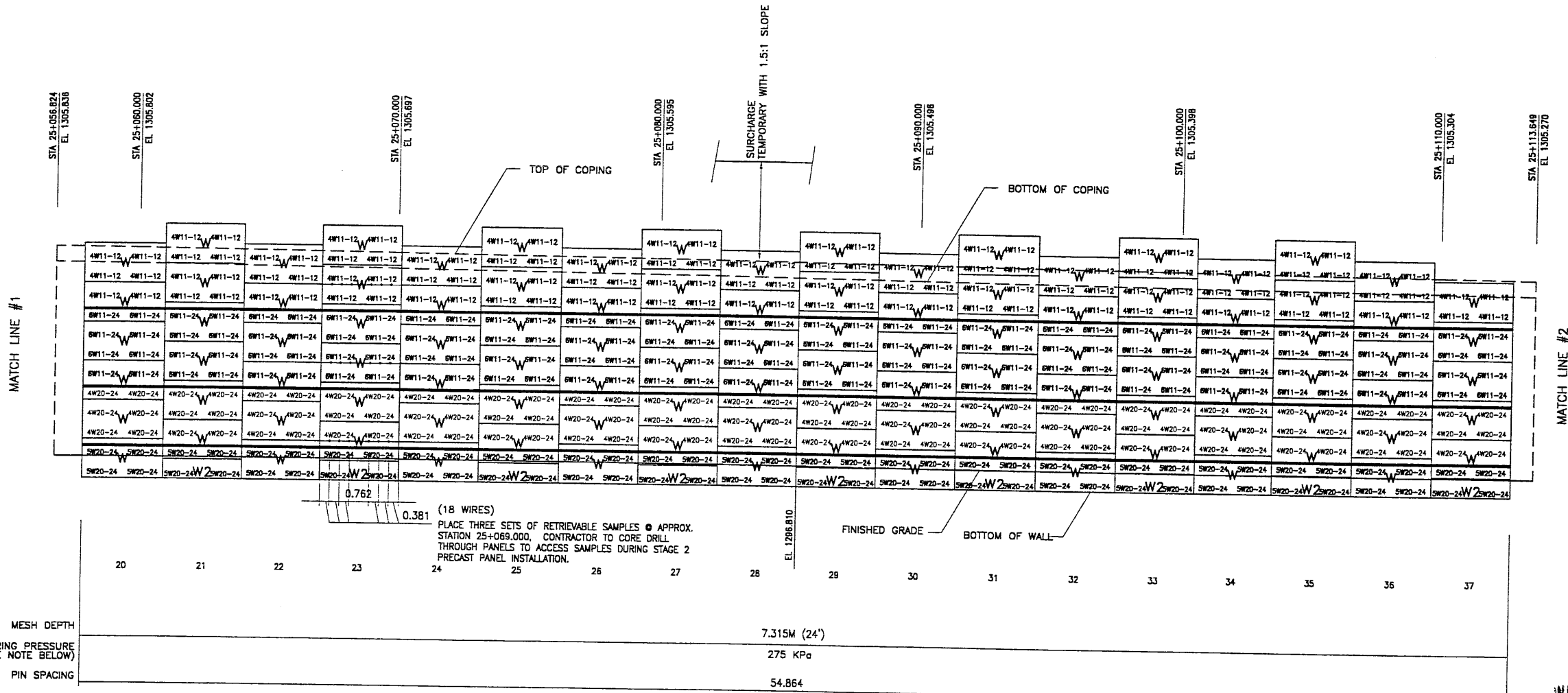


VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6859

DES.	JUN 10-30-98
DRN.	RSW 10-30-98
CHK.	JUN 10-30-98
RETAINED EARTH™	VSL

NO.	DATE	REVISION	BY	CHK

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY



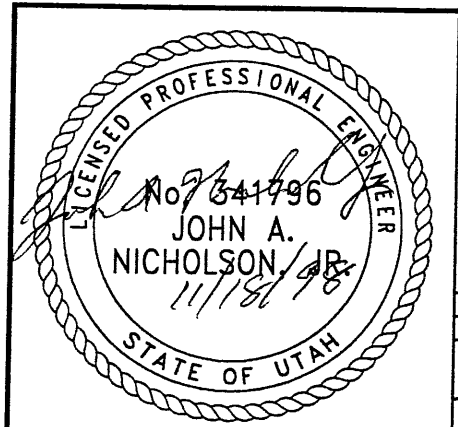
RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM) SCALE 1:200 (HALF SIZE)

METRIC

* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.

NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	BY	CHK

DES.	10-30-98	JN		
DRN	10-30-98	RSW		
CHK.	10-30-98	JN		

VSL CORPORATION
 7810 Redwood Ave., Suite 200
 Redwood, NC 27685
 Telephone: (919) 781-8272
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ALBANY, GA / DALLAS, TX / FRENCH, NC (CORPORATE OFFICE)
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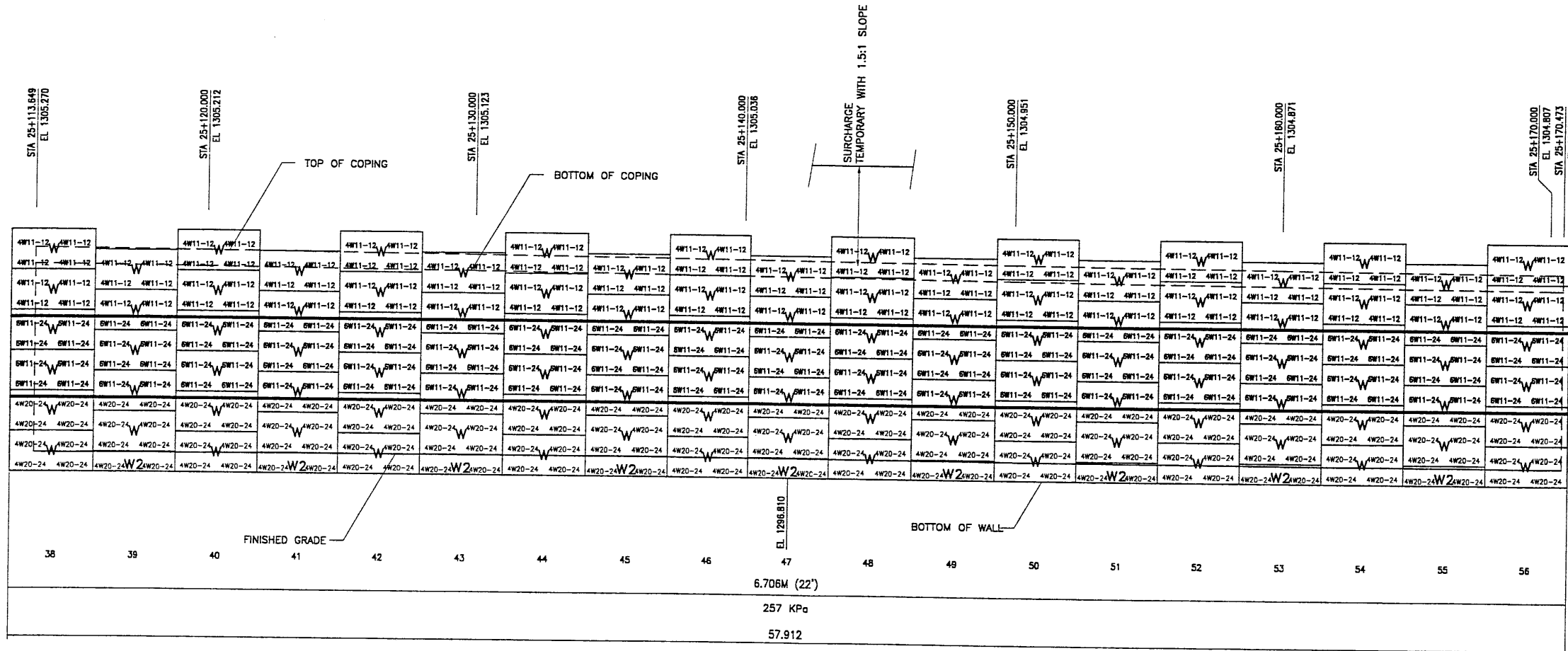
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RETAINED EARTH™ WALLS
 WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-1.15
JOB NO.	239-0007
SHT. NO.	RE-9

FINAL 10-31-98 H:\RE_EARTH\PROJECT\239-0007\1998\3SERIES\3-01C.DWG 3-01C.DWG XF 1E (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
11	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY



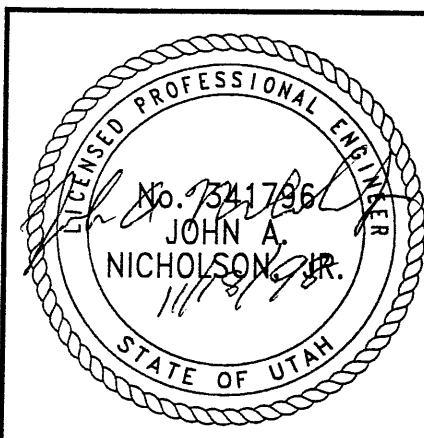
RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM) SCALE 1:200 (HALF SIZE)

METRIC

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NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

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WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	BY	CHK

DES.	10-30-98	JN
DRN.	10-30-98	RSW
CHK.	10-30-98	JN

RETAINED EARTH™

VSL CORPORATION
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 Raleigh, NC 27612
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 Fax: (919) 781-4889

VSL

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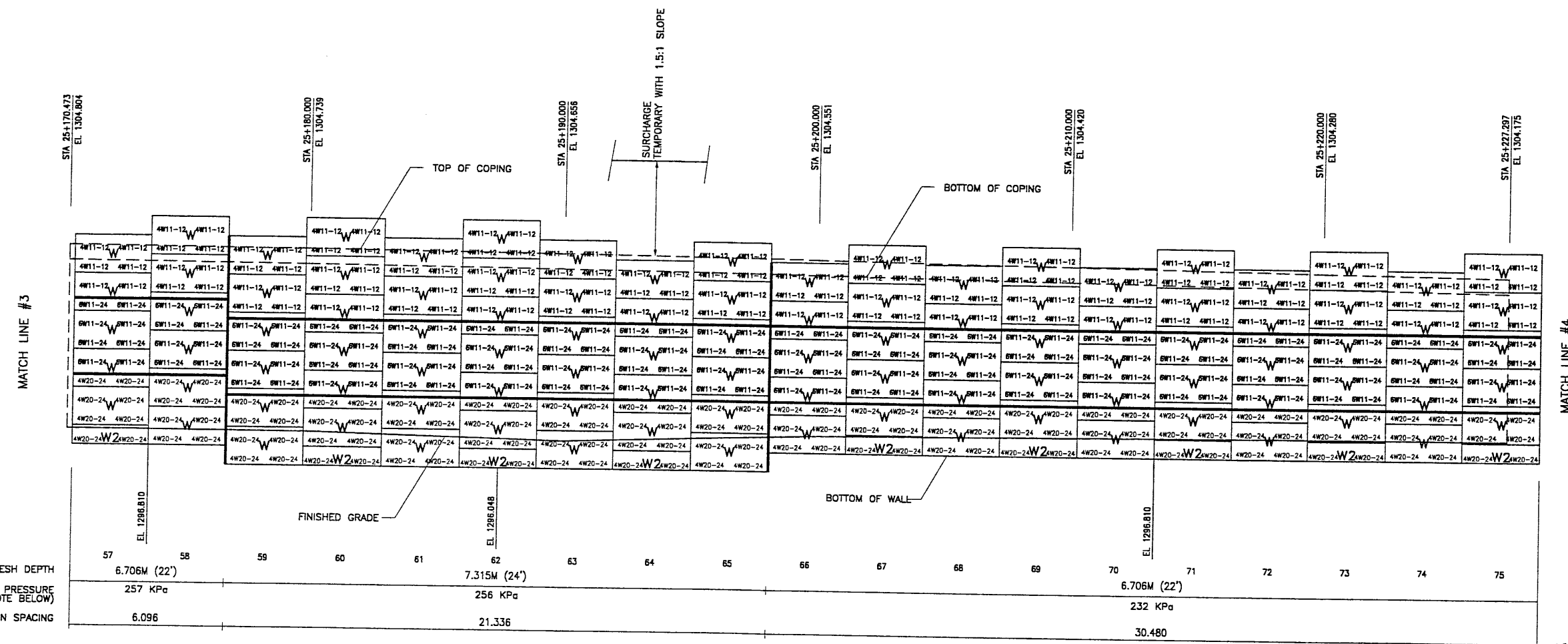
RETAINED EARTH™ WALLS
 WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 22R-346-1.16

JOB NO.
 239-0007

SHT. NO.
 RE-10

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY



MESH DEPTH	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75			
MAXIMUM BEARING PRESSURE (SEE NOTE BELOW)	257 KPa		256 KPa										232 KPa		232 KPa		232 KPa		232 KPa			
PIN SPACING	6.096		21.336										30.480		30.480		30.480		30.480		30.480	

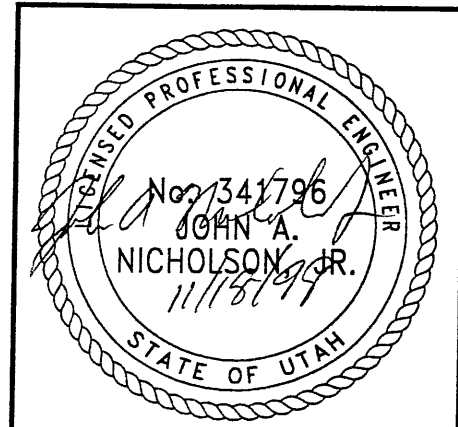
RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM) SCALE 1:200 (HALF SIZE)

* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.

NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC



WASATCH CONSTRUCTORS
DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.2R-346-1.17
JOB NO. 239-0007
SHT. NO. RE-11



VSL CORPORATION
 2810 Plaza Place, Suite 200
 Irving, TX 75039-1872
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 IRVING, TX / SAN JOSE, CA / SPRINGFIELD, VA

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NO.	DATE	DESCRIPTION	BY	CHK

DES. 10-30-98	JN
DRN. 10-30-98	RSW
CHK. 10-30-98	JN

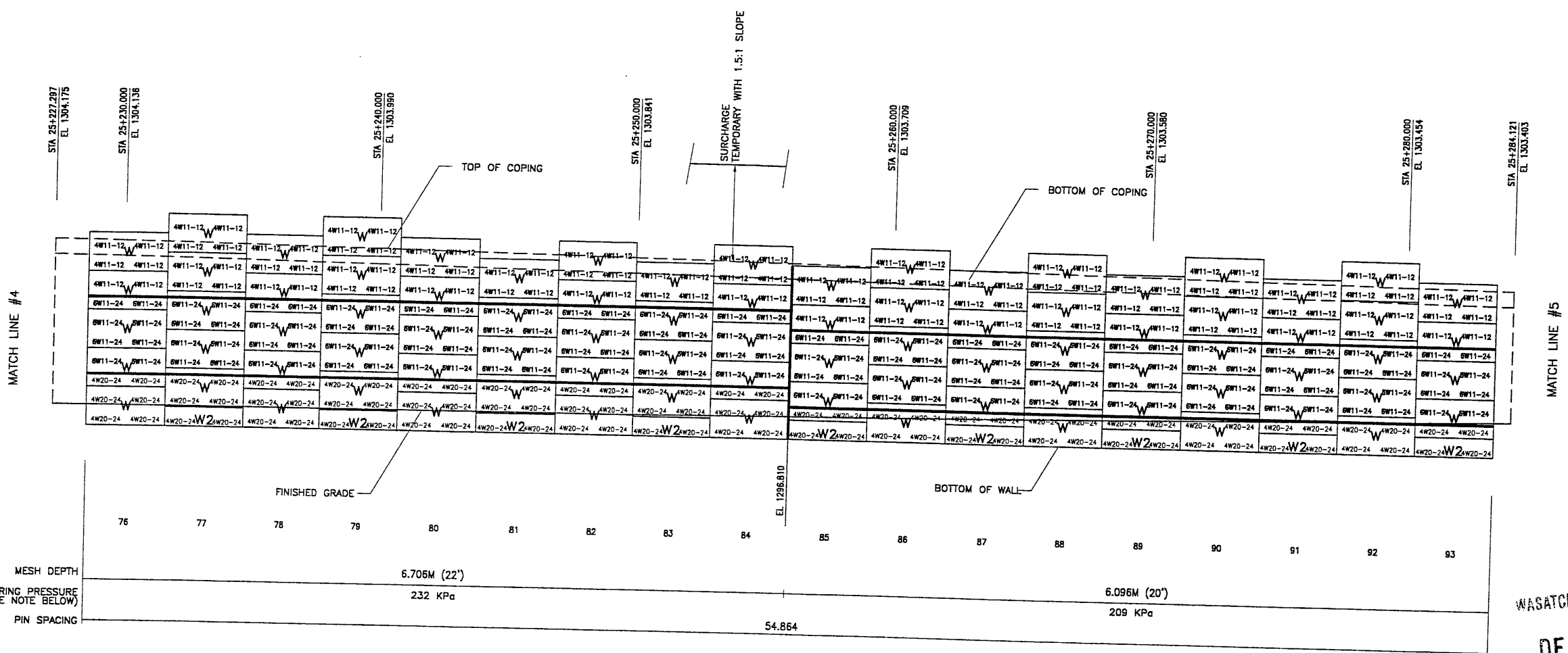
NO.	DATE	REVISION

RETAINED EARTH™

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FINAL 10-31-98 H:\RE_EARTH\PROJECT\239-0007\1998\3SERIES\3-01C.DWG XE (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY



DES:	10-30-98	JN
DRN:	10-30-98	RSW
CHK:	10-30-98	JN

VSL CORPORATION
 2840 Parkville, Suite 200
 Berkeley, CA 94705
 Telephone: (919) 781-6272
 Fax: (919) 781-6669



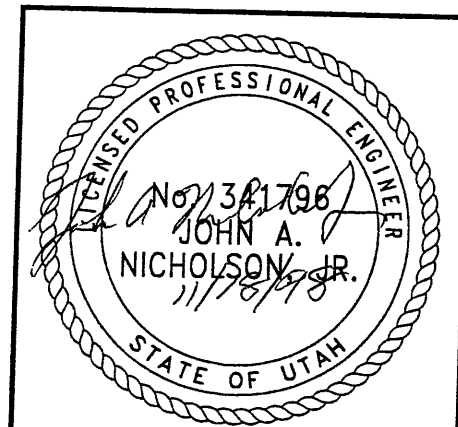
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 THE REFERENCE

WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC



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RETAINED EARTH™ WALLS	
WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL	
UTAH I-15 INTERCHANGE	
SALT LAKE COUNTY, UTAH	
UTAH DEPARTMENT OF TRANSP.	
DWG. NO.	2.2R-346-1.18
JOB NO.	239-0007
SHT. NO.	RE-12

18 of 21

* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.

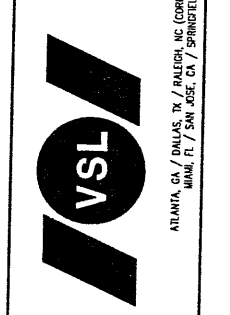
NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

FINAL 10-31-98 H:\RE_EARTH\PROJECT\239-0007\1998\33SERIES\3-01C.DWG X' (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY

NO.	DATE	REVISION

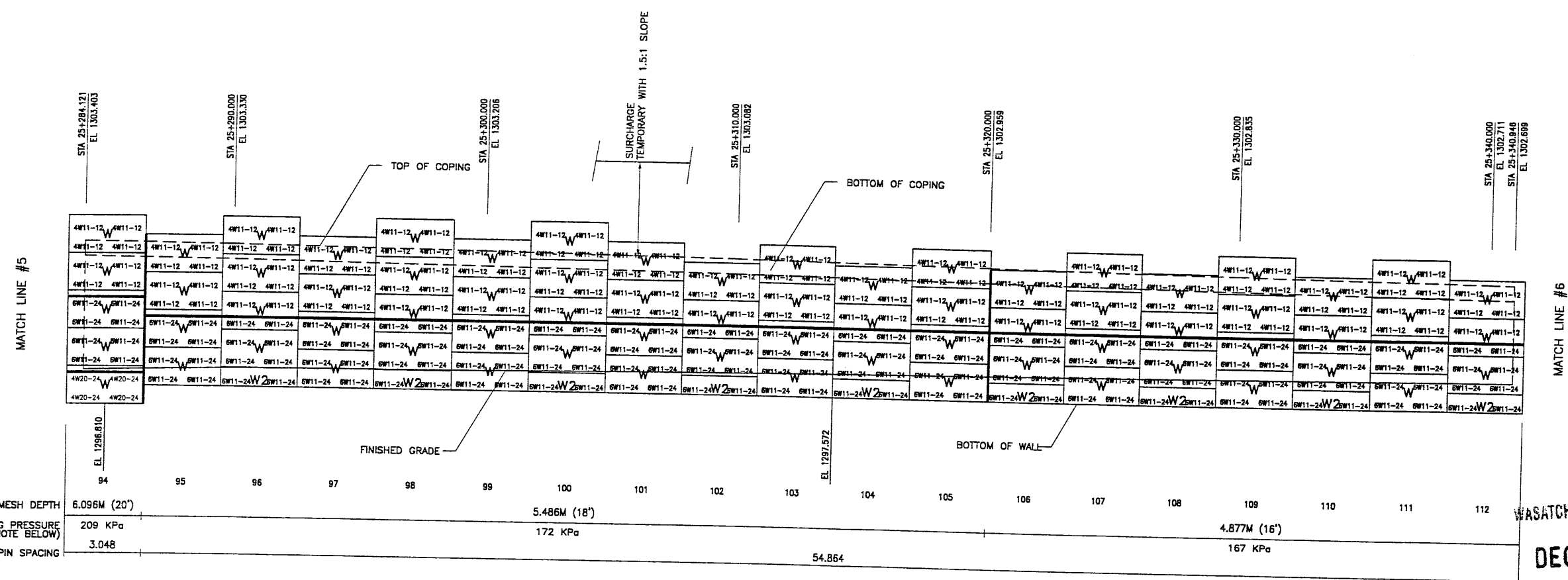
DES: 10-30-98 JN
 DRN: 10-30-98 RSW
 CHK: 10-30-98 JN



ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
 WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.2R-346-1.19
 JOB NO. 239-0007
 SHEET NO. RE-13



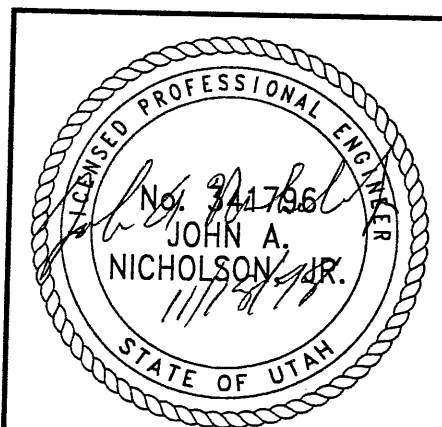
RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

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NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



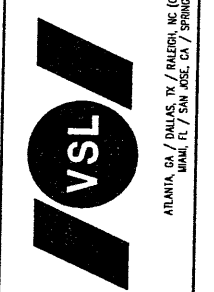
WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

19 of 21

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-18-98	RELEASE FOR 1ST STAGE CONST. ONLY

DES.	DRN.	CHK.	NO.	DATE	REVISION	BY	CHK
JN	RSW	JN					

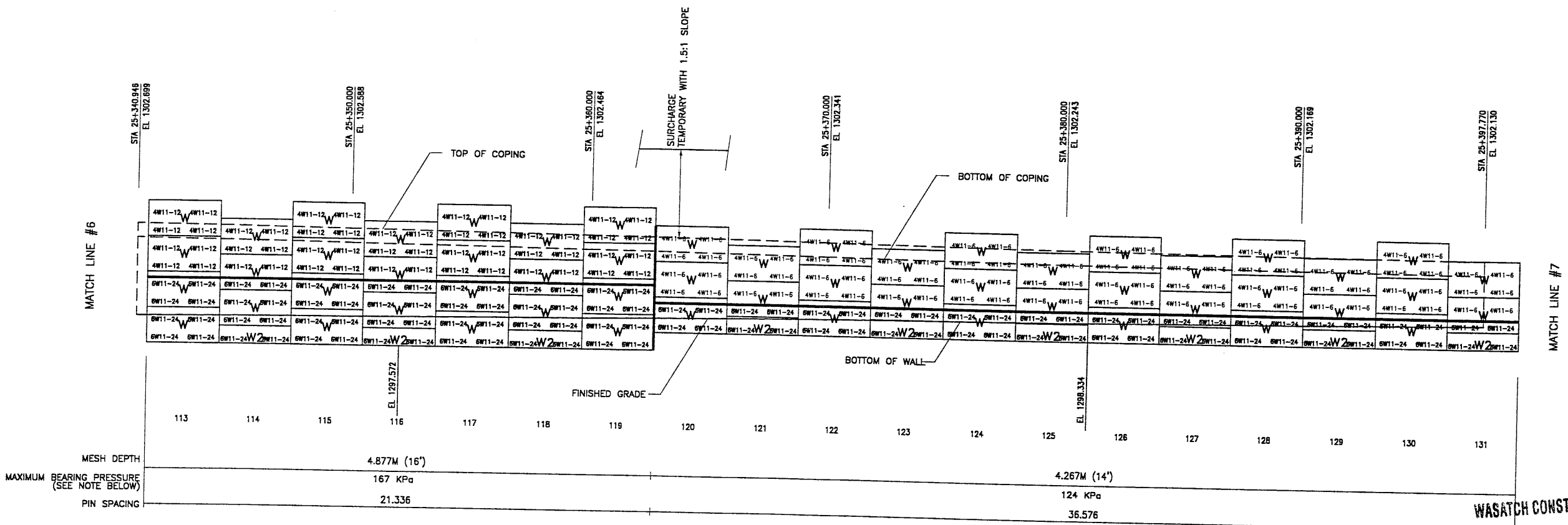
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-0959



VSL Corporation hereby certifies that the design shown on this drawing was prepared by a duly licensed Professional Engineer in the State of North Carolina. The use of this design for any other purpose or in any other jurisdiction without the written consent of VSL Corporation is strictly prohibited. Any other use is strictly prohibited. VSL CORPORATION ACCEPTS NO LIABILITY THEREFOR.

RETAINED EARTH™ WALLS
 WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

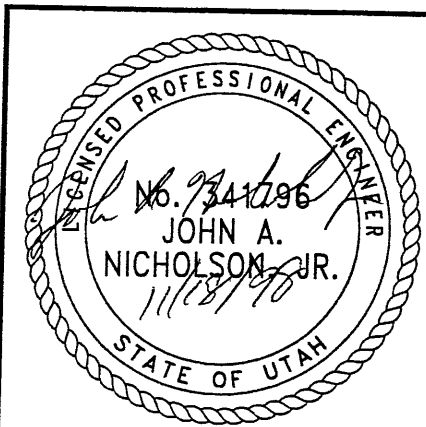
DWG. NO.	2.2R-346-1.20
JOB NO.	239-0007
SHT. NO.	RE-14



WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 3298.82 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC



CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.


NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

FINAL F 10-31-98
 H:\RE_EARTH\PROJECT\239-0007\1998\3SERIES\3-01C.DWG
 3-01C.DWG
 XF
 2E (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
11-18-98		RELEASE FOR 1ST STAGE CONST. ONLY

NO.	DATE	REVISION	CHK

VSL CORPORATION
 2810 Plaza Place, Suite 200
 Irving, TX 75039
 Tel: (972) 781-6772
 Fax: (972) 781-6869

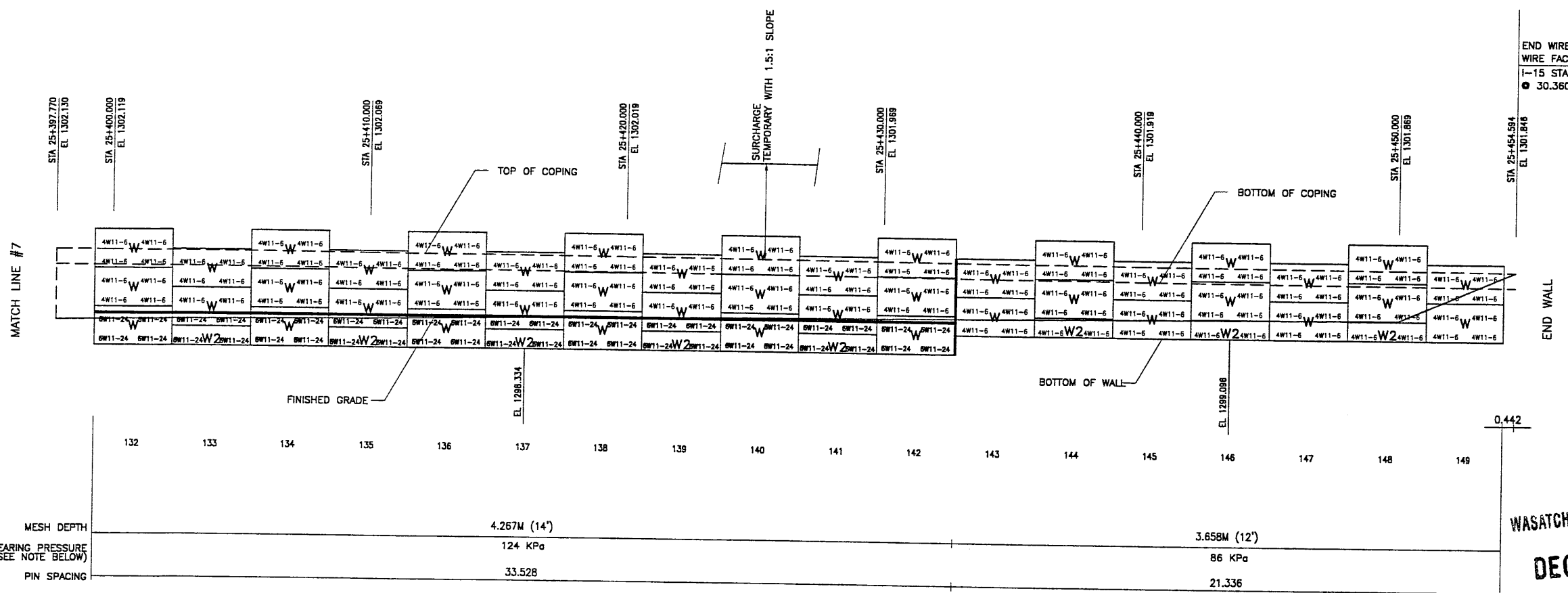


ALANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

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RETAINED EARTH™ WALLS
 WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.2R-346-1.21
 JOB NO.
 239-0007
 SHT. NO.
 RE-15



END WIRE FACED WALL R-346-1C
 WIRE FACED WALL STA 25+454.594 =
 -15 STA 24+520.000
 ● 30.360 LT

RETAINING WALL "R-346-1C" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

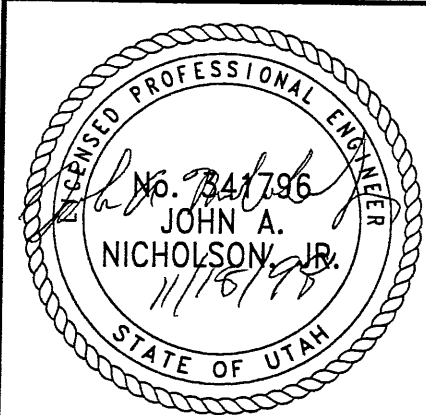
(TOTAL SURFACE AREA OF FACING = 3298.82 SM)

METRIC

* INDICATES SOIL REINFORCING TYPE
 MESH TO BE USED ON ADDITIONAL
 WIRE WALL FACING ADDED AFTER
 SETTLEMENT.

NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURES
 AT FINAL STAGE FOR STATIC LOAD CONDITION.

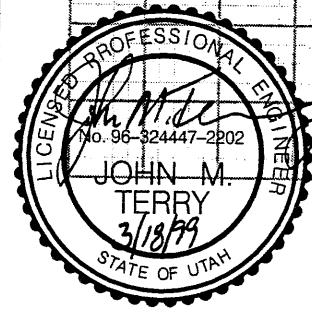
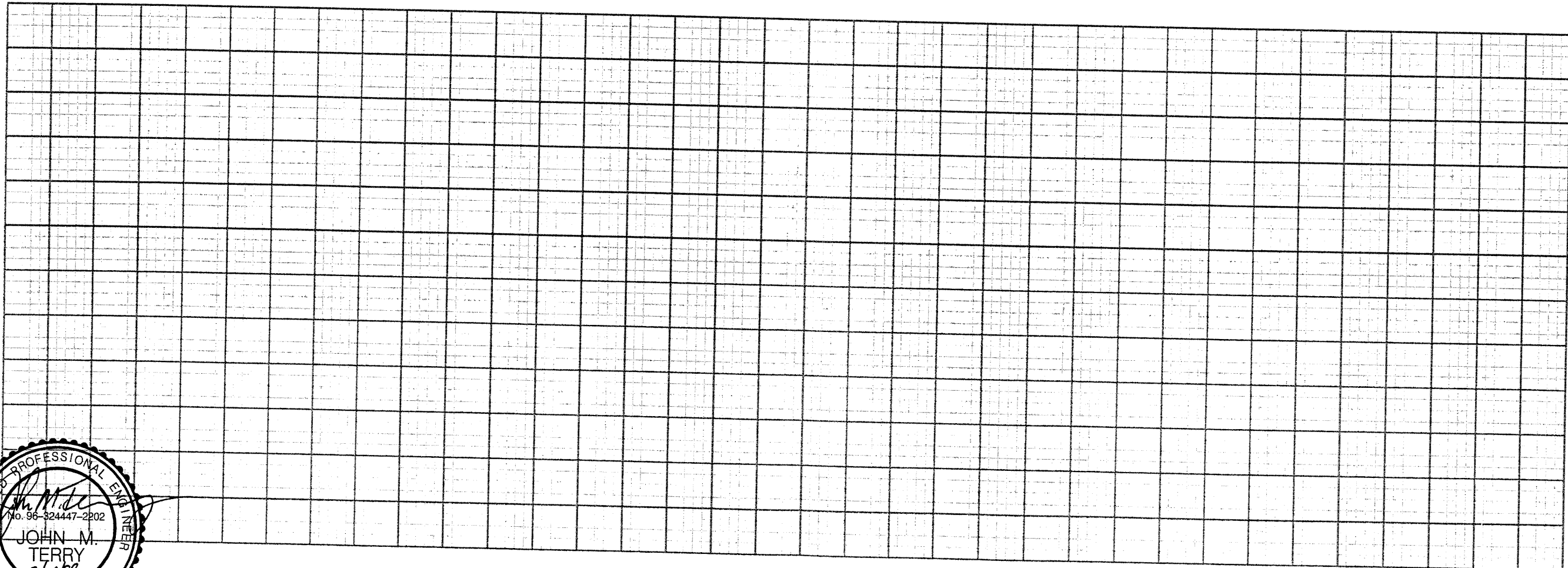
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

THE INFORMATION ON THIS SHEET HAS BEEN DELETED. SEE DWG NO 2.2R-346-3A.1 FOR GEOFOAM WALL

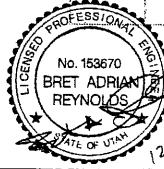
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MAR 25 1999
RELEASED FOR CONSTRUCTION



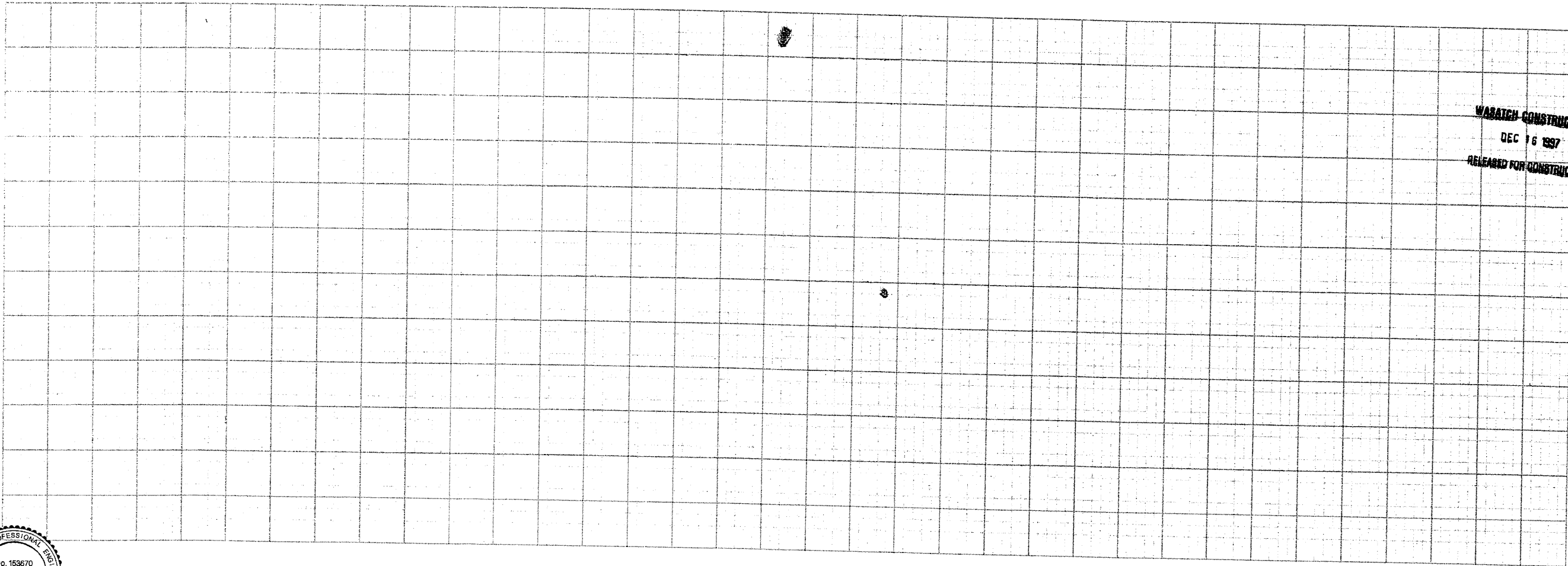
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SITUATION & LAYOUT R-346-3		MK CENTENNIAL SVERDRUP/DE LEUW		DESCRIPTION	
SECTION 2.2		DESIGN DMC 5/05/98		NO.	DATE
PROJECT NUMBER #SP-15-7(135)296		DRAW M/M 5/05/98		10/27/97	10/27/97
SALT LAKE COUNTY		CHECK CJO 5/05/98		12/12/97	12/12/97
DWG. NO. 2.2R-346-3.1		QUANT. / /		3/17/99	3/17/99
SHT. 1 OF 30		PROJECT MANAGER		WBS NO.	ORIGINAL ISSUE
REF.		DATE		2212402	REVISED ENTIRE DRAWING
		DATE		5/05/98	REVISED TOTAL SHEETS
		DATE			

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Date: 12-DEC-1997 Time: 11:55
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12-12-97



THE INFORMATION ON THIS SHEET HAS BEEN DELETED.
SEE DWG. NO. 2.2R-346-3A.1 FOR GEOFOAM WALL

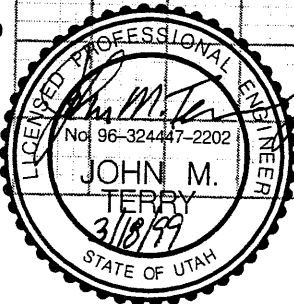
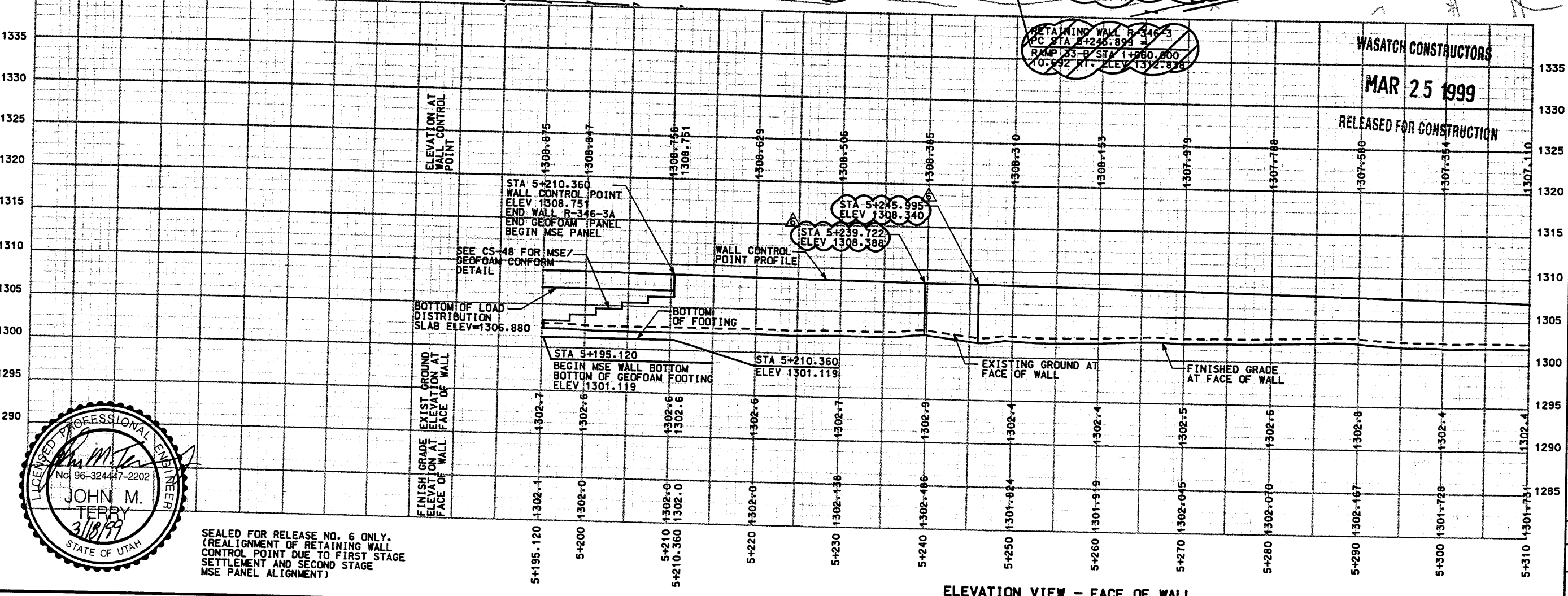
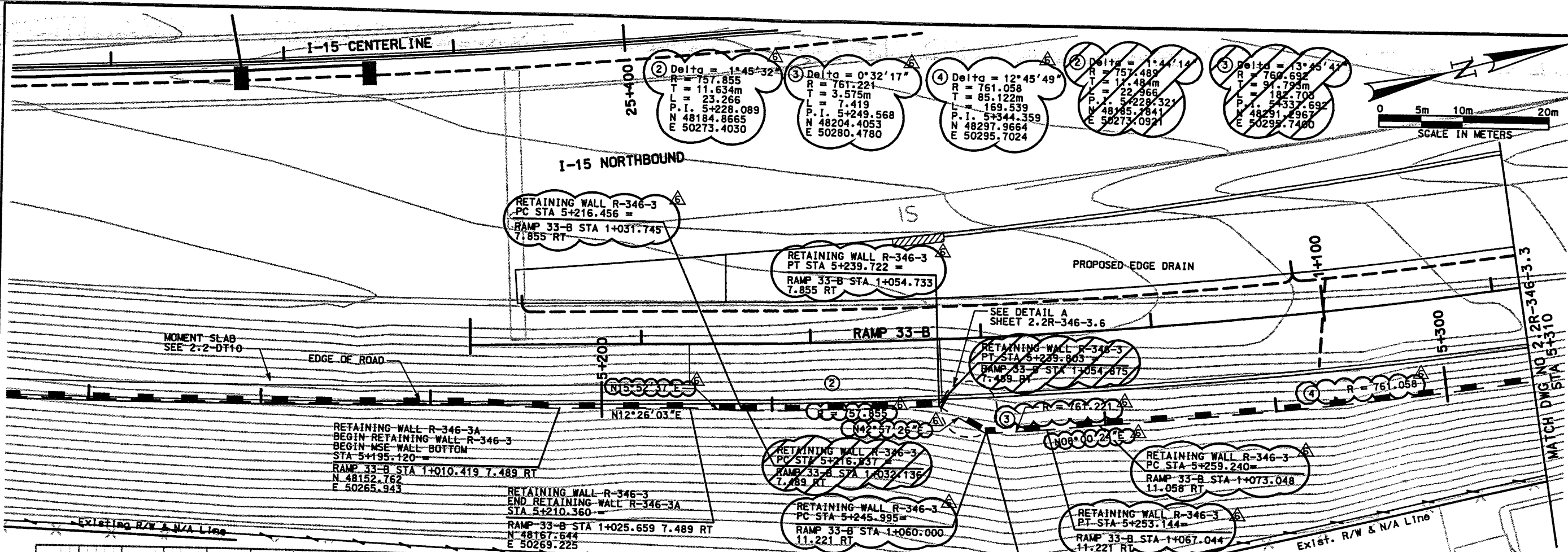
WABATEH CONSTRUCTORS
DEC 16 1997
RELEASED FOR CONSTRUCTION

I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-3 SECTION 2.2 PROJECT NUMBER *SP-15-7(135)296		UTAH DEPARTMENT OF TRANSPORTATION MIK CENTENNIAL SVERDRUP/DE LEUW		APPROVED FOR CONSTRUCTION				
SALT LAKE COUNTY	DWG. NO. 2.2R-346-3.1	APPROVAL RECORD	DATE	DESIGN DMC	CHECK CJO	9/17/97	9/17/97	WBS NO. 2212402
		9/17/97	Bret A. Reynolds PROJECT DESIGN ENGINEER	1/29/97	1/29/97			
		9/17/97	Randle L. Ross PROJECT MANAGER	1/29/97	1/29/97			
SHT. 1 OF 18	REF.							

Users: hanaonte

Date: 18-MAR-1999 Times: 13:27

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SEALED FOR RELEASE NO. 6 ONLY.
 (REALIGNMENT OF RETAINING WALL
 CONTROL POINT DUE TO FIRST STAGE
 SETTLEMENT AND SECOND STAGE
 MSE PANEL ALIGNMENT)

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
1	6/23/98	1	6/23/98
2	11/12/98	2	11/12/98
3	3/05/99	3	3/05/99
4	3/17/99	4	3/17/99

APPROVAL RECOMM.	5/05/98	STEPHEN O. SANDVI	DESIGN DMC	5/03/98	CHECK	CJO	5/05/98
APPROVED	5/05/98	RANDIE L. ROSS	PROJECT DESIGN ENGINEER	5/05/98	CHECK	CJO	5/05/98
			QUANT.	BC	5/05/98	CHECK	JAB
			DATE				

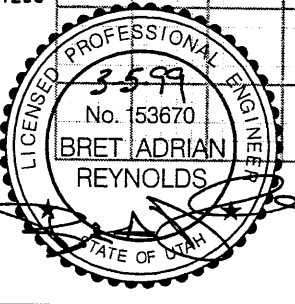
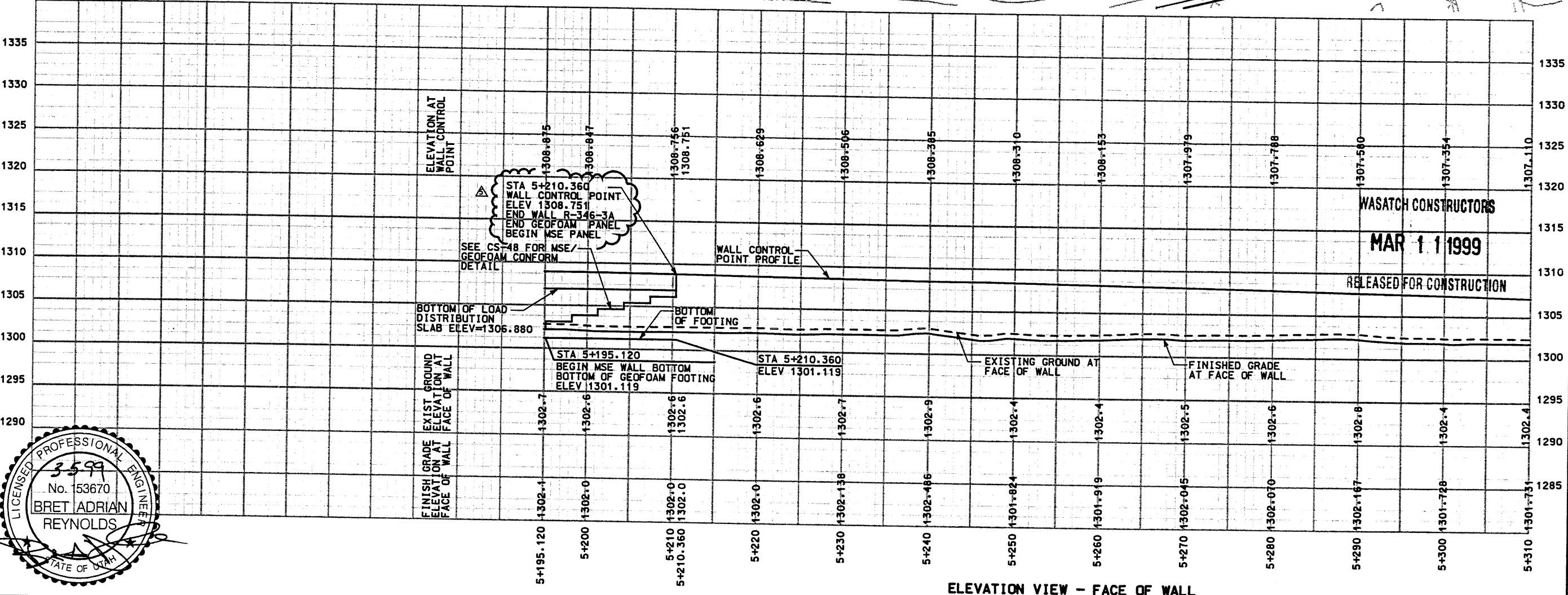
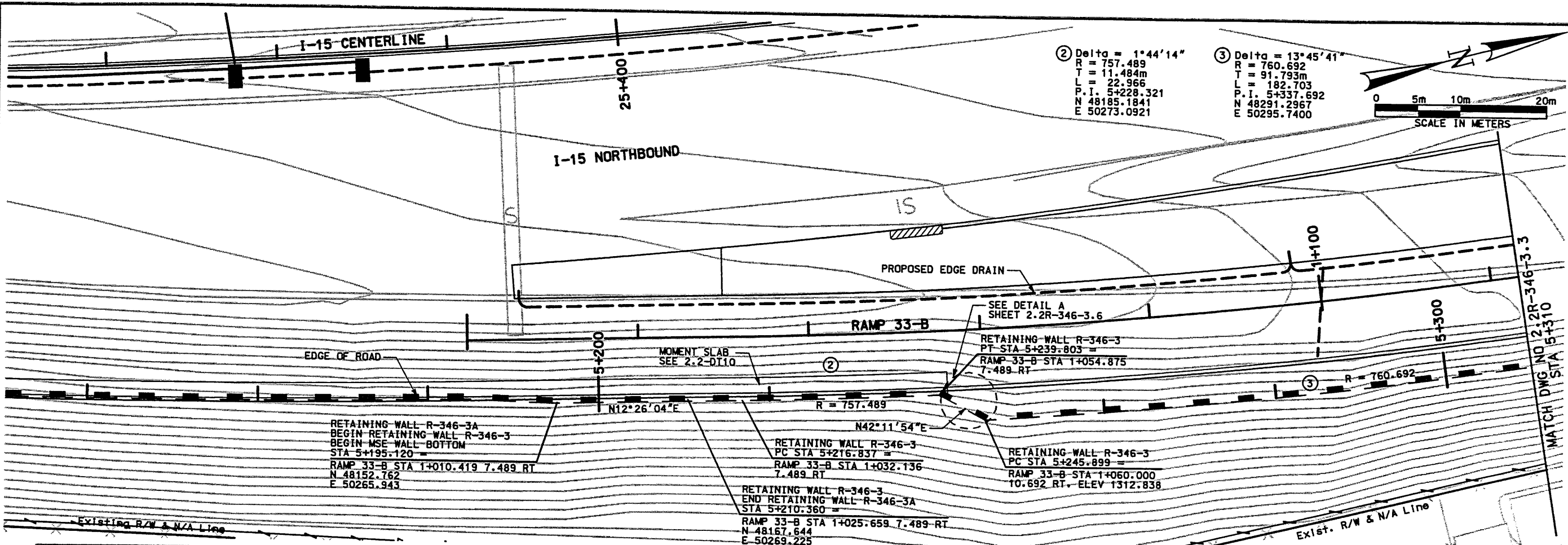
UTAH DEPARTMENT OF TRANSPORTATION	WBS NO.
MK CENTENNIAL	2212402
SVERDRUP/DE LEUW	

I-15 CORRIDOR RECONSTRUCTION	SECTION 2.2
SITUATION & LAYOUT R-346-3	PROJECT NUMBER
	#SP-15-7(135)296
SALT LAKE COUNTY	DWG. NO.
	2-2R-346-3.2
SHT. 2 OF 30	REF.

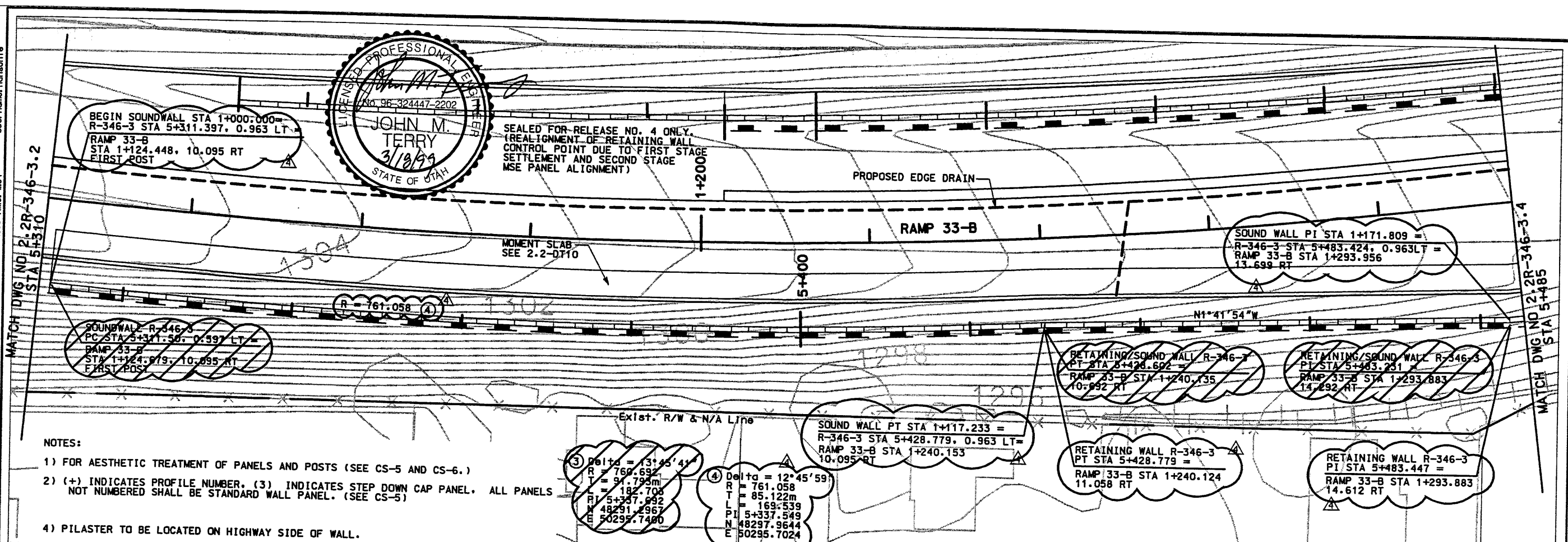
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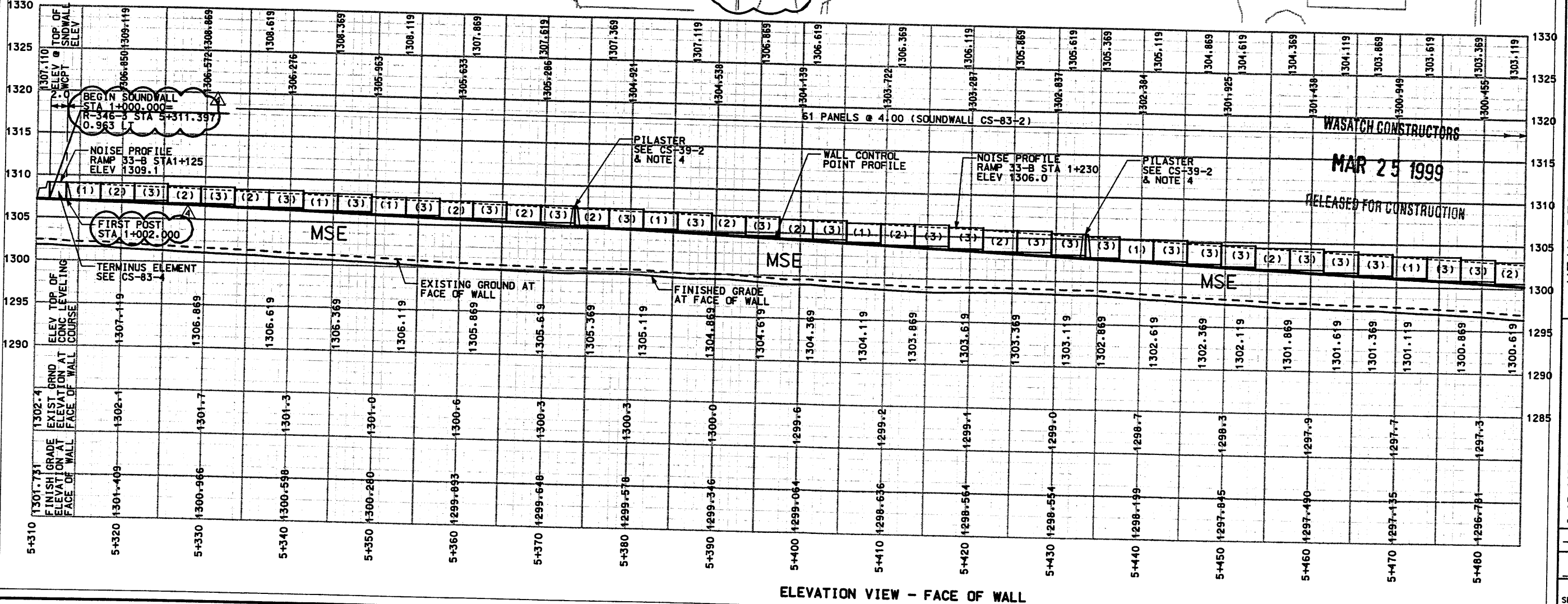
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APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
1	3/05/99	1	3/05/99
2	3/05/99	2	3/05/99
3	3/05/99	3	3/05/99
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		WBS NO. 2212402	
DESIGN DMC	5/03/98	CHECK CJO	5/05/98
DRAWN MVM	5/05/98	CHECK CJO	5/05/98
QUANT. BC	5/05/98	CHECK JAB	5/05/98
APPROVAL DATE	5/05/98	PROJECT DESIGN ENGINEER	Bret A. Reynolds
APPROVED DATE	5/05/98	PROJECT MANAGER	Randle L. Robb
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-3		SECTION 2.2	
SALT LAKE COUNTY		PROJECT NUMBER #SP-15-7(135)296	
DWG. NO. 2-2R-346-3.2		SHT. 2 OF 18	
REF.			



- NOTES:
- 1) FOR AESTHETIC TREATMENT OF PANELS AND POSTS (SEE CS-5 AND CS-6.)
 - 2) (+) INDICATES PROFILE NUMBER. (3) INDICATES STEP DOWN CAP PANEL. ALL PANELS NOT NUMBERED SHALL BE STANDARD WALL PANEL. (SEE CS-5)
 - 3) DELTA = 13° 45' 41\"/>
 - 4) PILASTER TO BE LOCATED ON HIGHWAY SIDE OF WALL.



ELEVATION VIEW - FACE OF WALL

APPROVED FOR CONSTRUCTION

UTAH DEPARTMENT OF TRANSPORTATION
MK CENTENNIAL
SVERDRUP/DE LEUW

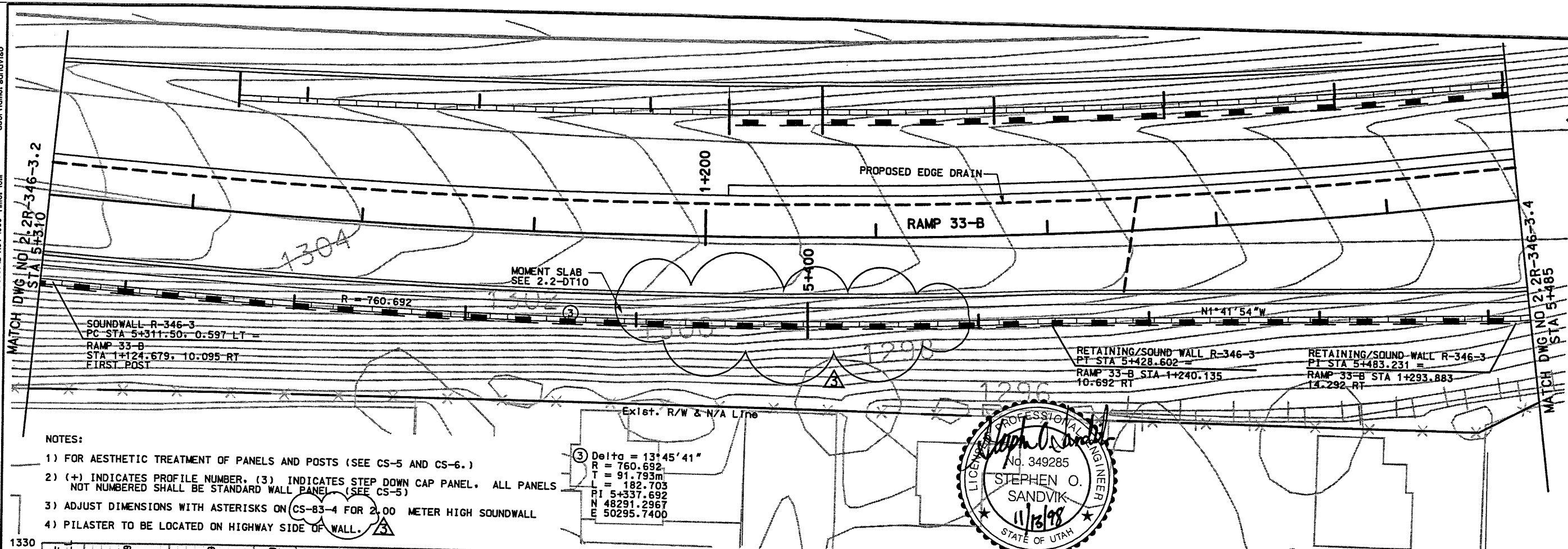
I-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-346-3
SECTION 2.2
PROJECT NUMBER #SP-15-7(135)296

DATE: 9/17/97
DESIGN: Stephen O. Sandvik
PROJECT DESIGN ENGINEER: Randle L. Ross
DATE: 9/17/97
CHECK: /
DATE: 7/31/97
CHECK: /
DATE: 11/12/98
CHECK: /
DATE: 3/17/99
CHECK: /

WBS NO. 2212402

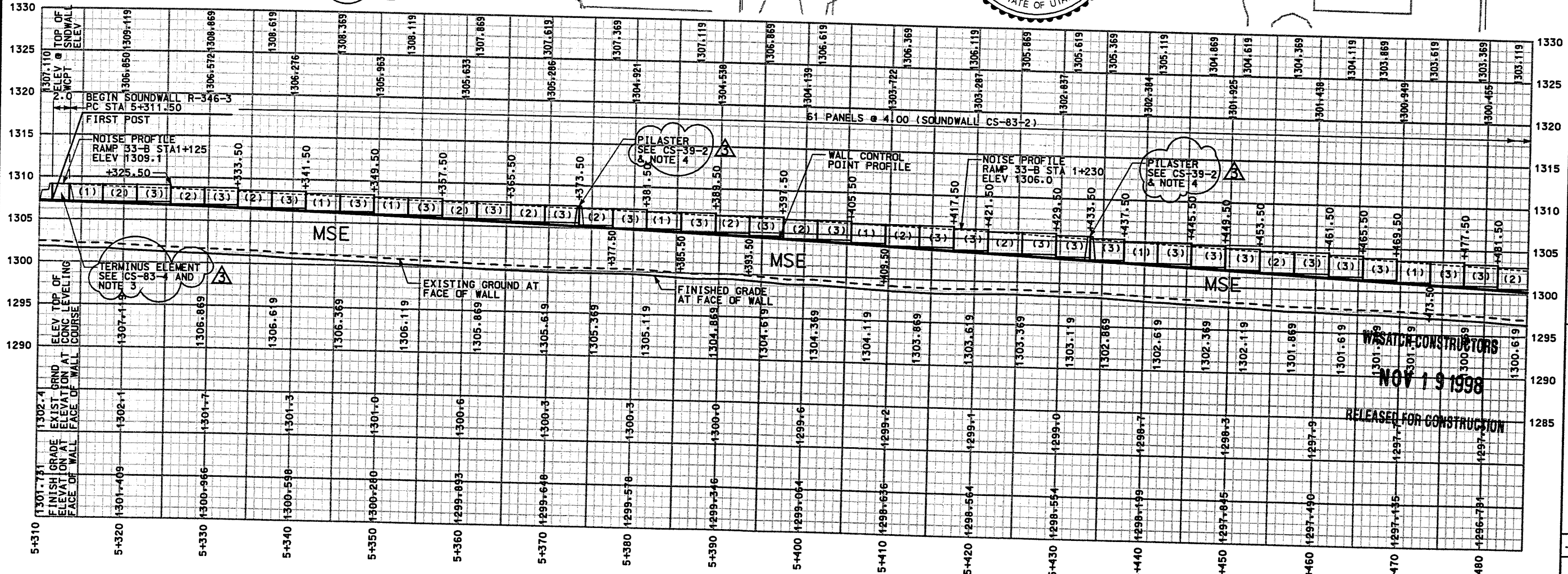
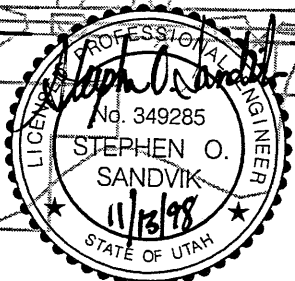
DATE: 10/27/97 ORIGINAL ISSUE
DATE: 6/23/98 RELEASED FOR SOUNDWALL
DATE: 11/12/98 REVISED PILASTER CALLOUT AND TERMINUS
DATE: 3/17/99 RELEASED FOR MSE WALL 2ND STAGE CONSTRUCTION

SALT LAKE COUNTY
DWG. NO. 2.2R-346-3.3
SHT. 3 OF 30



- NOTES:
- 1) FOR AESTHETIC TREATMENT OF PANELS AND POSTS (SEE CS-5 AND CS-6.)
 - 2) (+) INDICATES PROFILE NUMBER. (3) INDICATES STEP DOWN CAP PANEL. ALL PANELS NOT NUMBERED SHALL BE STANDARD WALL PANEL (SEE CS-5)
 - 3) ADJUST DIMENSIONS WITH ASTERISKS ON CS-83-4 FOR 2.00 METER HIGH SOUNDWALL
 - 4) PILASTER TO BE LOCATED ON HIGHWAY SIDE OF WALL.

③ Delta = 13°45'41"
 R = 760.692
 T = 91.793m
 PI = 182.703
 PI 5+337.692
 N 48291.2967
 E 50295.7400



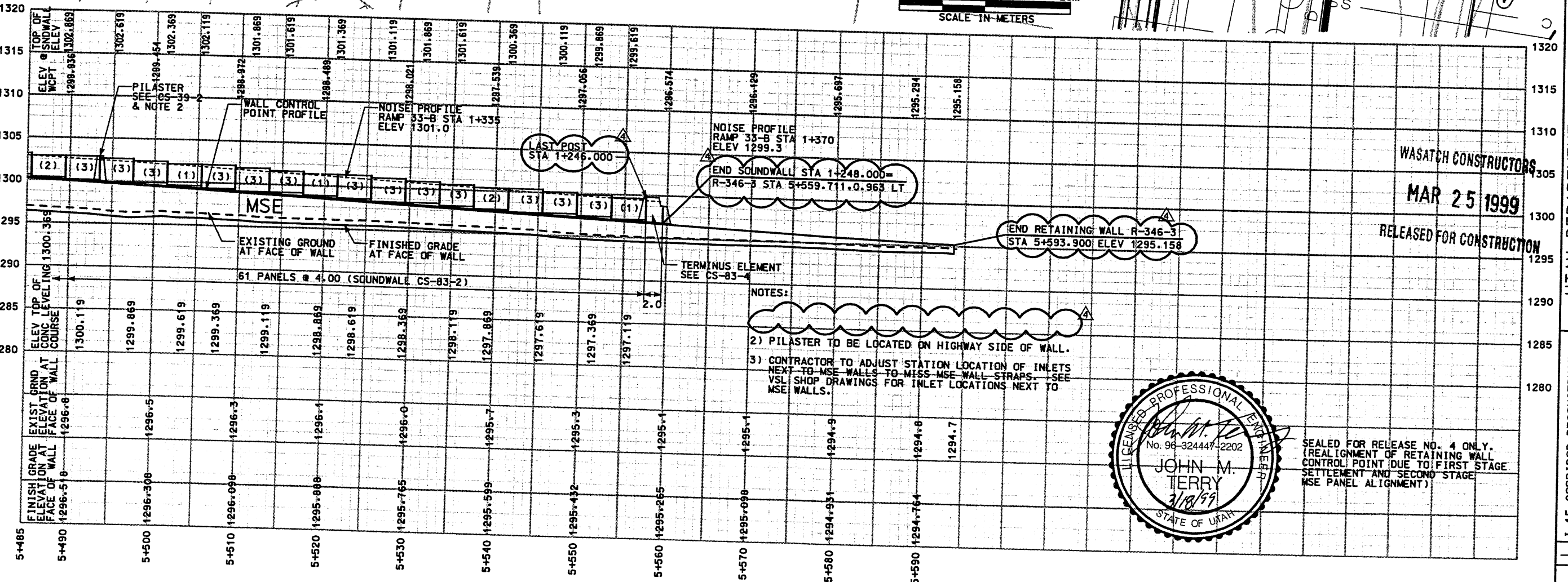
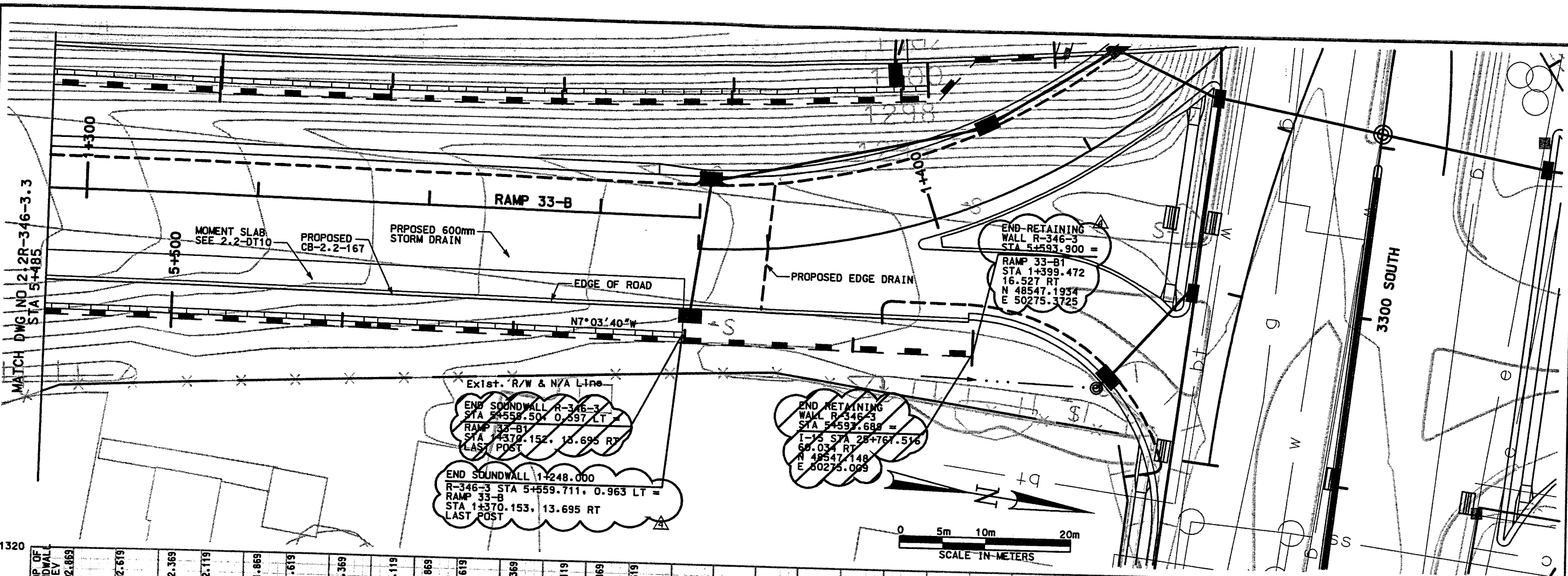
ELEVATION VIEW - FACE OF WALL

APPROVED FOR CONSTRUCTION	
NO.	DATE
Δ	10/27/97
Δ	6/23/98
Δ	11/12/98

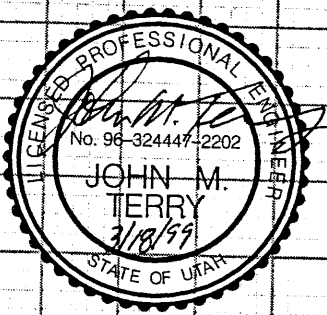
UTAH DEPARTMENT OF TRANSPORTATION	
MK CENTENNIAL	
SVRRDRUP/DE LEUW	
DESIGN DMC	CHECK CJO
7/29/97	9/17/97
DATE	PROJECT DESIGN ENGINEER
9/17/97	Stephen O. Sandvik
DATE	PROJECT MANAGER
9/17/97	Randall L. Ross

1-15 CORRIDOR RECONSTRUCTION	SALT LAKE COUNTY
SITUATION & LAYOUT R-346-3	DWG. NO. 2.2R-346-3.3
SECTION 2.2	PROJECT NUMBER #SP-15-7(135)296
WASATCH CONSTRUCTORS	NOV 19 1998
RELEASED FOR CONSTRUCTION	
SHT. 3 OF 18	

Filename: d:\gpn\115_cadd\33_97\pdc_89\sheet_files\wall\33_ret\wall-03.dwg Date: 18-MAR-1999 Time: 14:4



NOTES:
 2) PILASTER TO BE LOCATED ON HIGHWAY SIDE OF WALL.
 3) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.



SEALED FOR RELEASE NO. 4 ONLY. (REALIGNMENT OF RETAINING WALL CONTROL POINT DUE TO FIRST STAGE SETTLEMENT AND SECOND STAGE MSE PANEL ALIGNMENT)

ELEVATION VIEW - FACE OF WALL

UTAH DEPARTMENT OF TRANSPORTATION
 MK CENTENNIAL
 SVERRUP/DE LEUW

APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	10/27/98	ORIGINAL ISSUE
2	6/23/98	REVISED FOR SOUND WALL
3	11/12/98	REVISED PILASTER AND TERMINUS CALLOUT
4	3/17/99	RELEASED FOR MSE WALL 2ND STAGE CONSTRUCTION

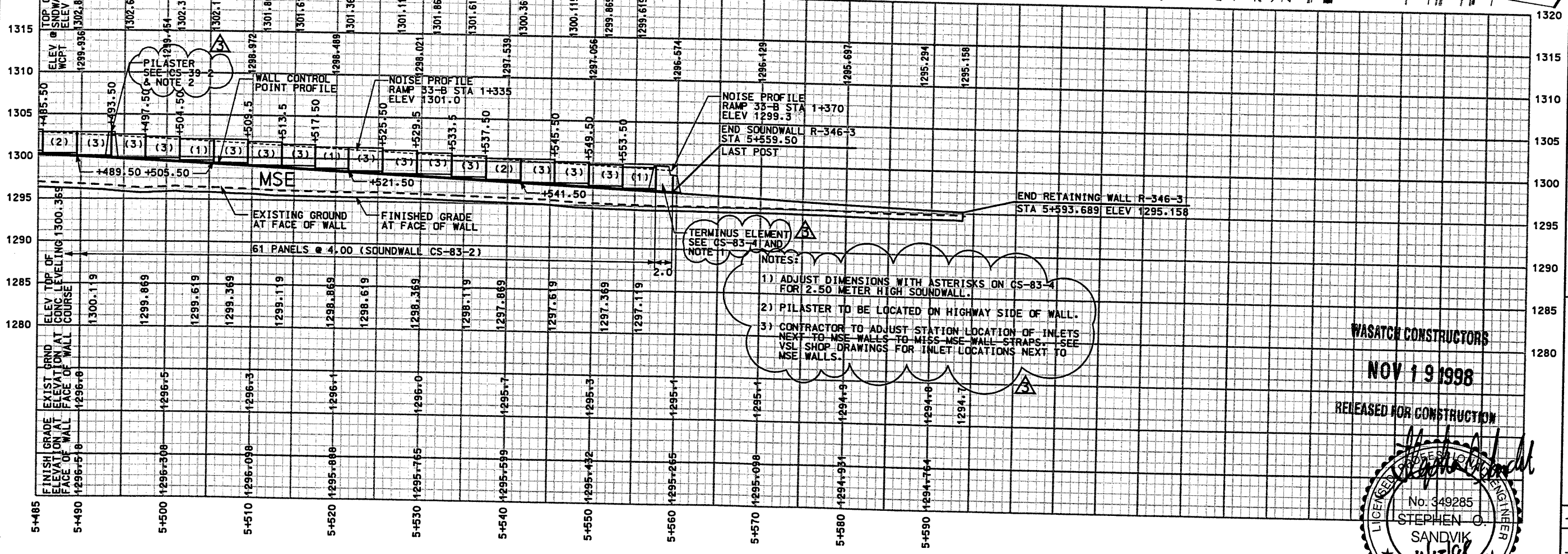
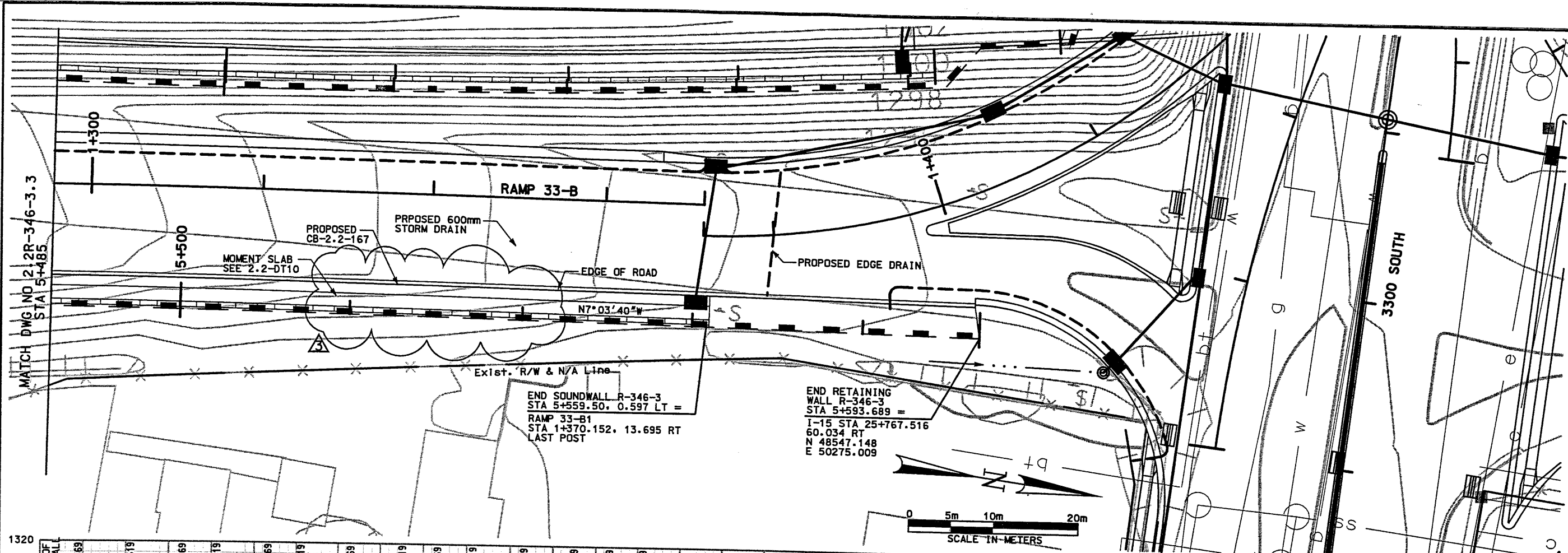
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APPROVAL RECORD:
 5/05/98 Stephen O. Sandvik DESIGN DMC 7/29/97 CHECK CJO 9/17/97
 DATE PROJECT DESIGN ENGINEER DRAWN MVM 7/31/97 CHECK CJO 9/17/97
 APPROVED 5/05/98 Randle L. Ross QUANT. BC 5/05/98 CHECK JAB 5/05/98
 DATE PROJECT MANAGER

1-15 CORRIDOR RECONSTRUCTION
 SITUATION & LAYOUT R-346-3
 SECTION 2.2
 PROJECT NUMBER #SP-15-7(135)296

SALT LAKE COUNTY
 DWG. NO. 2.2R-346-3.4
 SHT. 4 OF 30
 REF.

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 Username: sandvik



TERMINUS ELEMENT
 SEE CS-83-4 AND NOTE 11

NOTES:

- 1) ADJUST DIMENSIONS WITH ASTERISKS ON CS-83-4 FOR 2.50 METER HIGH SOUNDWALL.
- 2) PILASTER TO BE LOCATED ON HIGHWAY SIDE OF WALL.
- 3) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.

ELEVATION VIEW - FACE OF WALL

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED FOR SOUND WALL
1	10/27/98		
2	6/23/98		
3	11/12/98		

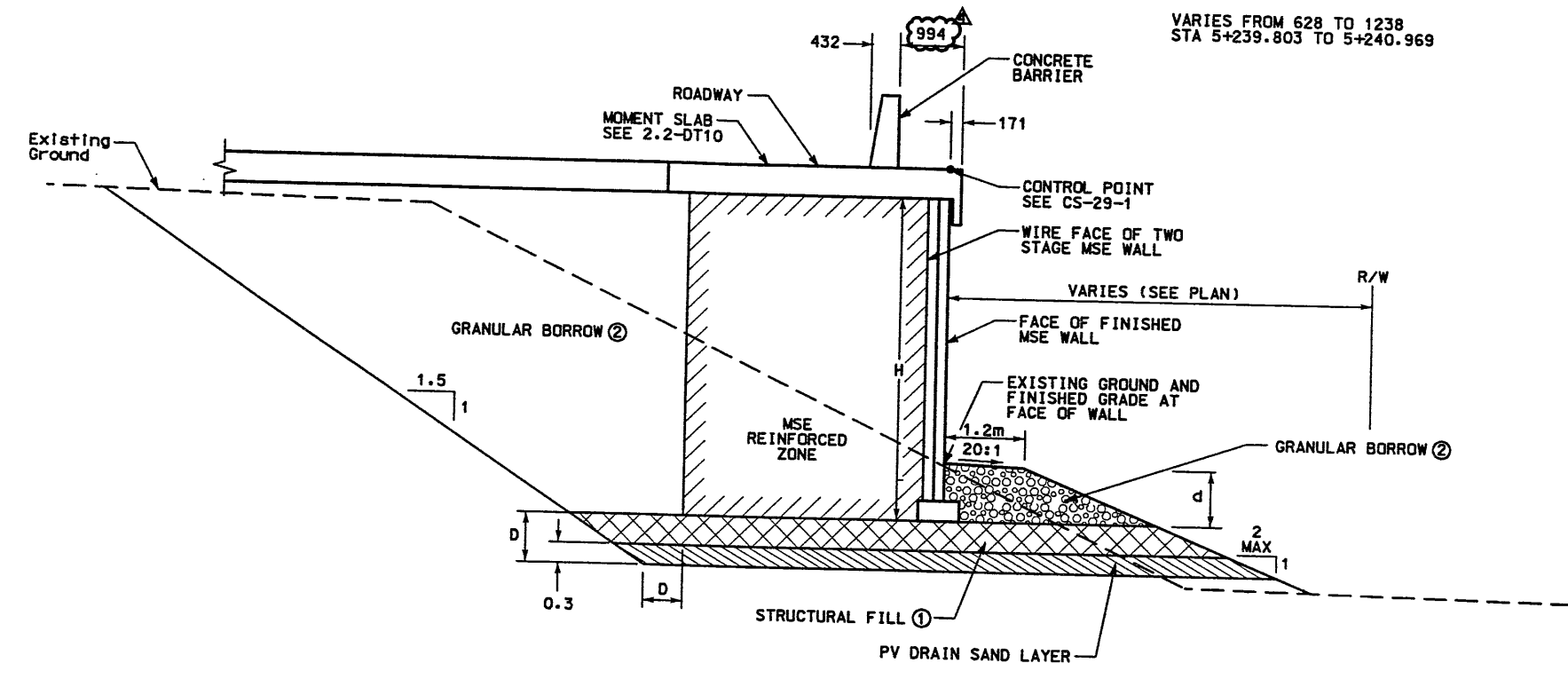
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MK CENTENNIAL		2212402	
SYVERDRUP/DE LEUW			
APPROVAL DATE	DESIGN DMC	CHECK CJD	9/17/97
5/05/98	Stephen O. Sandvik	7/29/97	
RECOMM. DATE	PROJECT DESIGN ENGINEER	CHECK CJD	9/17/97
5/05/98	Randle L. Ross	7/21/97	
APPROVED DATE	PROJECT MANAGER	CHECK JAB	5/05/98
5/05/98		BC	

I-15 CORRIDOR RECONSTRUCTION	SECTION 2.2
SITUATION & LAYOUT R-346-3	#SP-15-7(135)296
SALT LAKE COUNTY	
DWC. NO. 2.2R-346-3.4	
SHT. 4 OF 18	

WASATCH CONSTRUCTORS
 NOV 19 1998
 RELEASED FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
 No. 349285
 STEPHEN O. SANDVIK
 11/13/98
 STATE OF UTAH

Date: 18-MAR-1999 Time: 11:43 Username: honsonte
 File name: c:\vgm\15_cadd\33_97\7dc_99\sheet_files\volis\33_rctwall-03_05fdo.dgn



VARIES FROM 628 TO 1238
 STA 5+239.803 TO 5+240.969

- NOTES:
- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 FOR GRANULAR BORROW.
 - COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
 - MINIMUM TOE EMBEDMENT d EQUALS H/7 WHERE H EQUALS THE WALL HEIGHT.
 - THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEERS DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.

d = EMBEDMENT DEPTH (SEE VSL DETAILS)
 D = DESIGN DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL DETAILS)

MSE RETAINING WALL DETAIL
 STA 5+210.360 TO 5+240.179
 (2-STAGE MSE WALL)
 NTS

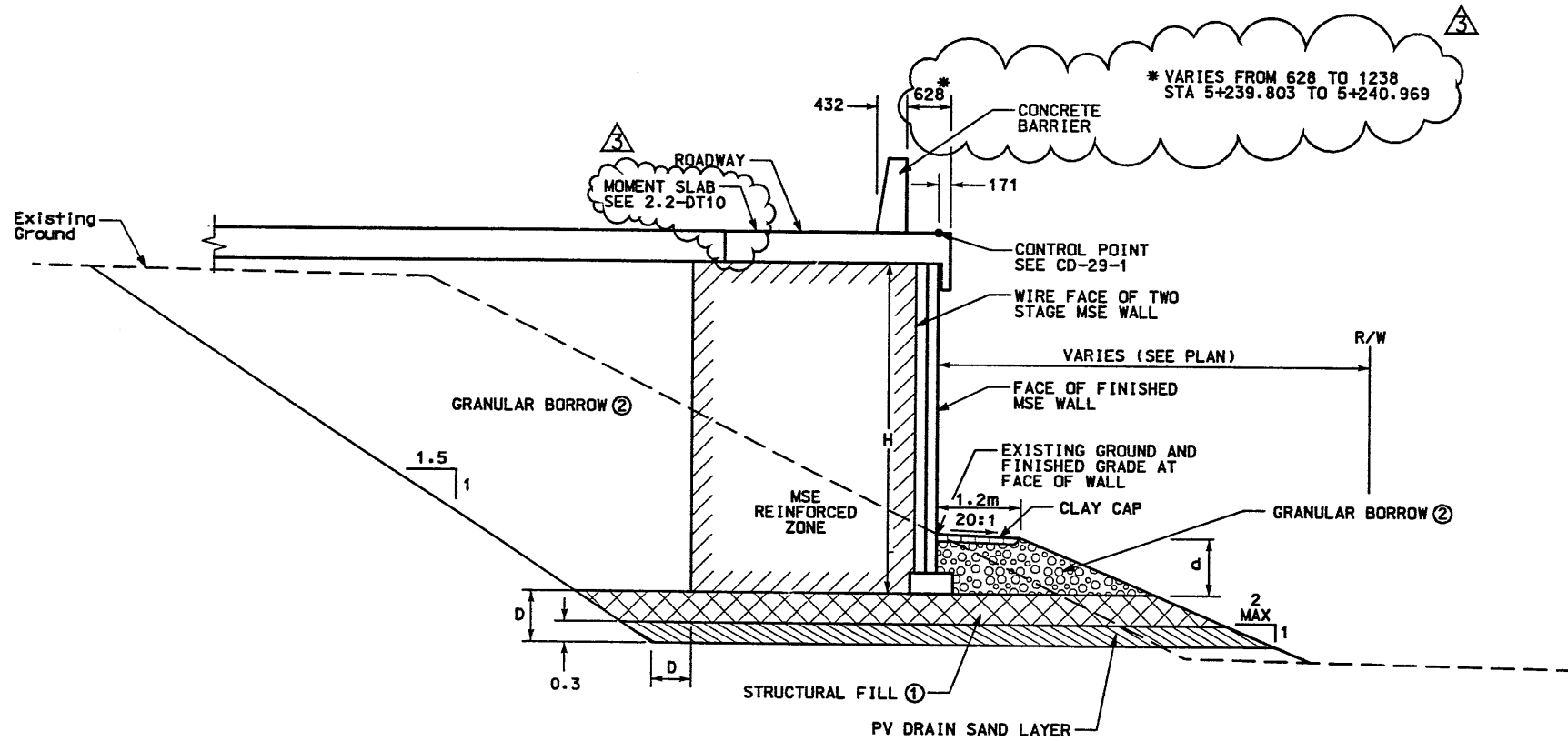


SEALED FOR RELEASE NO. 4 ONLY.
 (REALIGNMENT OF RETAINING WALL CONTROL POINT DUE TO FIRST STAGE SETTLEMENT AND SECOND STAGE MSE PANEL ALIGNMENT)

WASATCH CONSTRUCTORS
 MAR 25 1999
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED NOTES, DELETE TABLE, REVISE DESCRIPTION
Δ	10/25/97		
Δ	12/12/97		
Δ	6/23/98		RELEASED FOR SOUND WALL
Δ	3/17/99		RELEASED FOR 2ND STAGE CONSTRUCTION REMOVED CLAY CAP AND CORRESPONDING NOTE
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2212402	
MK CENTENNIAL SVERDRUP/DE LEUW		DESIGN DMC	5/05/98
		CHECK CJO	5/03/98
		DRAWN MYM	5/05/98
		CHECK CJO	5/05/98
		QUANT. BC	5/05/98
		CHECK JAB	5/05/98
APPROVAL RECOMM. 5/05/98 Stephen O. Sandvik		PROJECT DESIGN ENGINEER	
DATE 5/05/98		DATE 5/05/98	
APPROVED 5/05/98		PROJECT MANAGER	
DATE 5/05/98		DATE 5/05/98	
1-15 CORRIDOR RECONSTRUCTION		SALT LAKE COUNTY	
WALL DETAIL R-346-3		DWG. NO. 2.2R-346-3.5	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SHT. 5 OF 30		REF.	

RFC After Final Approval



NOTES:

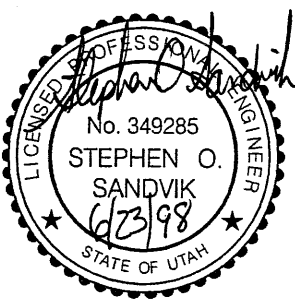
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 FOR GRANULAR BORROW.
- 2) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- 3) CONSTRUCT CLAY CAP WITH 0.3m OF LOW PLASTIC SILTY CLAY. SLOPE TO DRAIN AWAY FROM WALL, AS SHOWN.
- 4) MINIMUM TOE EMBEDMENT d EQUALS $H/7$ WHERE H EQUALS THE WALL HEIGHT.
- 5) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEERS DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.

d = EMBEDMENT DEPTH (SEE VSL DETAILS)
 D = DESIGN DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL DETAILS)

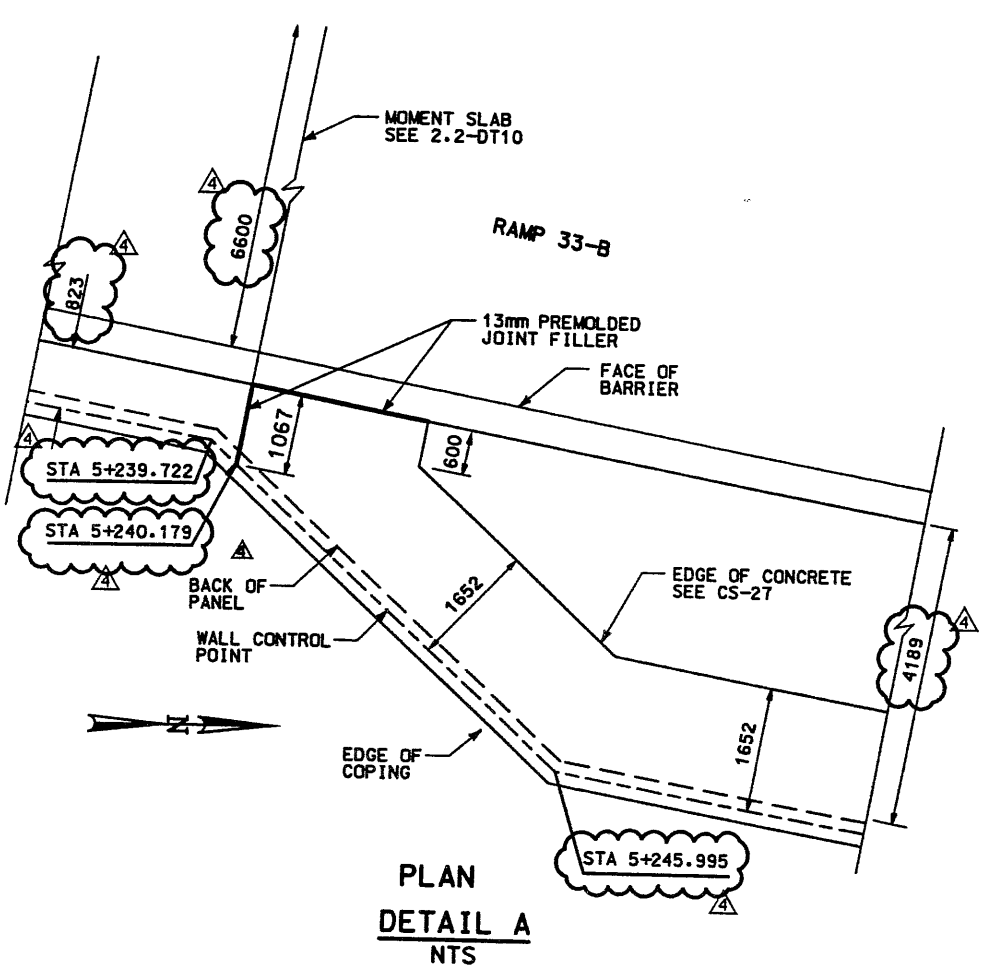
MSE RETAINING WALL DETAIL

STA 5+210.360 TO 5+240.969
 (2-STAGE MSE WALL)
 N.T.S.

WASATCH CONSTRUCTORS
 JUN 30 1998
 RELEASED FOR CONSTRUCTION



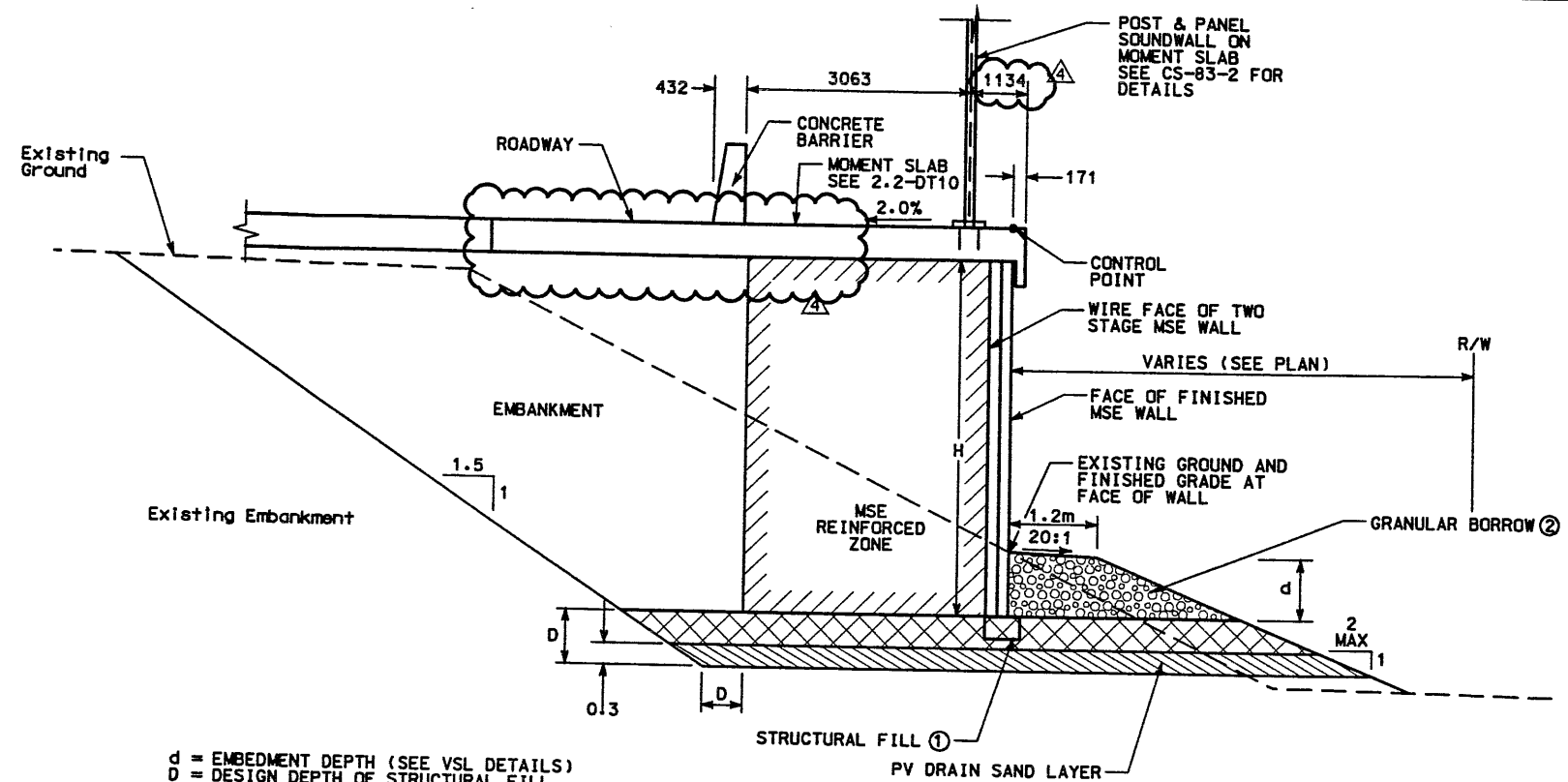
APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED NOTES, DELETE TABLE, REVISE DESCRIPTION
△	10/25/97		
△	12/12/97		
△	6/23/98		
△	/ /		
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2212600	
MK CENTENNIAL		DESIGN DMC	5/05/98
SYVERDRUP/DE LEUW		CHECK CJO	5/03/98
		DESIGN DMC	5/05/98
		CHECK CJO	5/05/98
		QUANT. BC	5/05/98
		CHECK JAB	5/05/98
		PROJECT MANAGER	
I-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-3	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-3.5	
SHT. 5 OF 18		REF.	



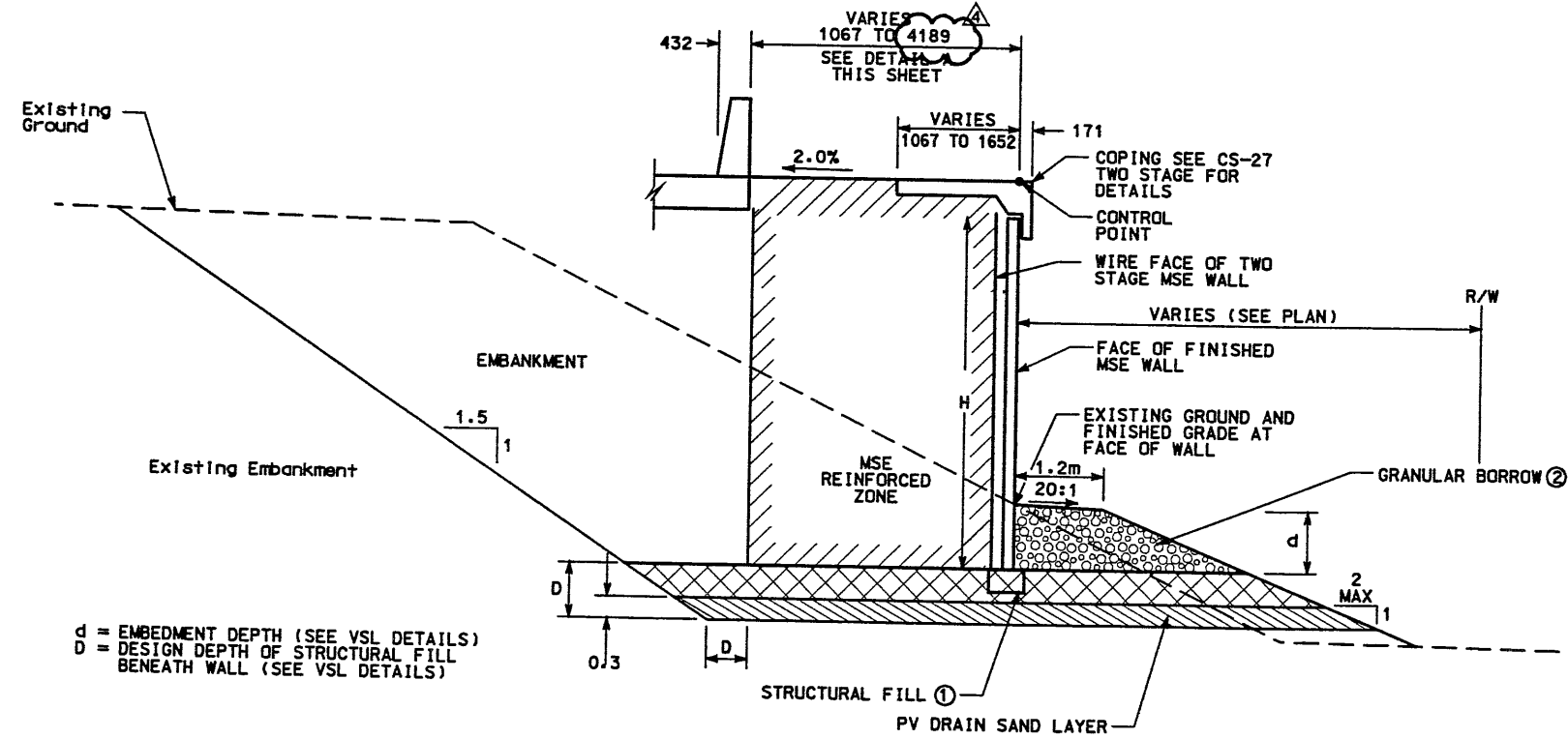
- NOTES:
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 FOR GRANULAR BORROW.
 - 2) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
 - 3) MINIMUM TOE EMBEDMENT d EQUALS H/7 WHERE H EQUALS THE WALL HEIGHT.
 - 4) MINIMUM TOE EMBEDMENT d EQUALS H/7 WHERE H EQUALS THE WALL HEIGHT.
 - 5) CONSTRUCT WALL TO DESIGN PAVEMENT ELEVATION PLUS SURCHARGE HEIGHT AND SETTLEMENT ALLOWANCE.
 - 6) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEERS DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.



SEALED FOR RELEASE NO. 4 ONLY.
(REALIGNMENT OF RETAINING WALL
CONTROL POINT DUE TO FIRST STAGE
SETTLEMENT AND SECOND STAGE
MSE PANEL ALIGNMENT)



d = EMBEDMENT DEPTH (SEE VSL DETAILS)
D = DESIGN DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL DETAILS)



d = EMBEDMENT DEPTH (SEE VSL DETAILS)
D = DESIGN DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL DETAILS)

RETAINING/SOUND WALL DETAIL
STA 5+311.397 TO 5+559.711
2 STAGE MSE WALL
NTS

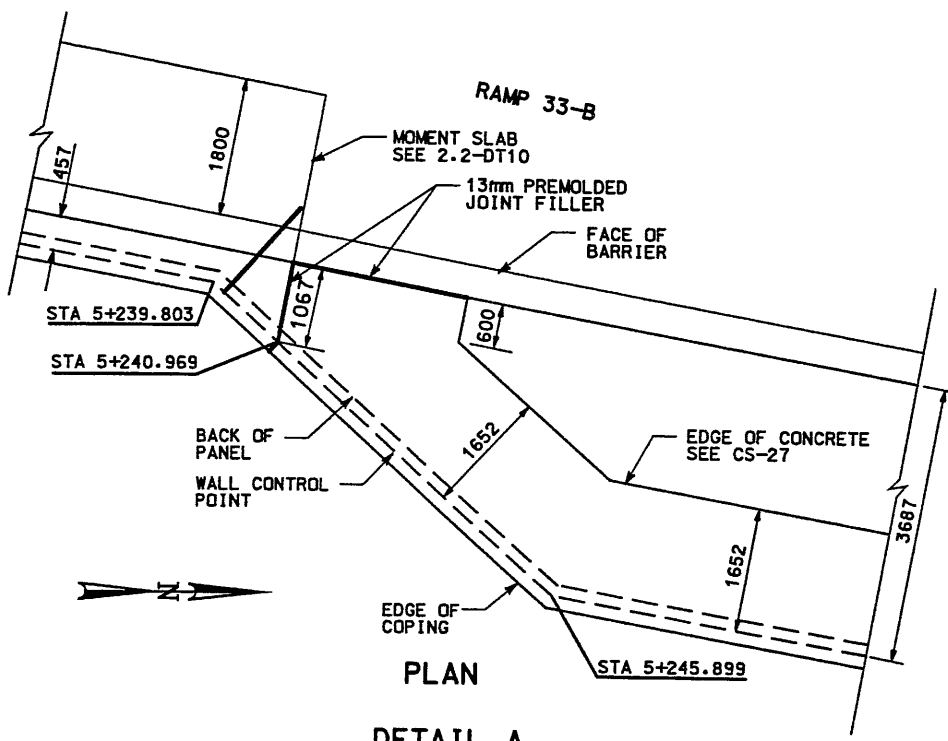
TRANSITION COPING DETAILS
STA 5+240.179 TO 5+311.397
STA 5+559.711 TO 5+593.900
2 STAGE MSE WALL
NTS

WASATCH CONSTRUCTORS
MAR 25 1999
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	
1	10/27/97	RELEASED FOR SOUND WALL	
2	6/23/98	REVISED SOUNDWALL CALLOUT	
3	11/12/98	RELEASED FOR 2ND STAGE CONSTRUCTION	
4	3/17/99	REMOVED CLAY CAP AND CORRESPONDING NOTE	

UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW	WBS NO. 2212402
APPROVAL 5/05/98 Stephen O. Sandvick DATE PROJECT DESIGN ENGINEER	CHECK C.D. 5/05/98
APPROVED 5/05/05 DATE PROJECT DESIGN ENGINEER	CHECK C.D. 5/05/98
PROJECT MANAGER Randle L. Ross	QUANT. BC 5/05/98

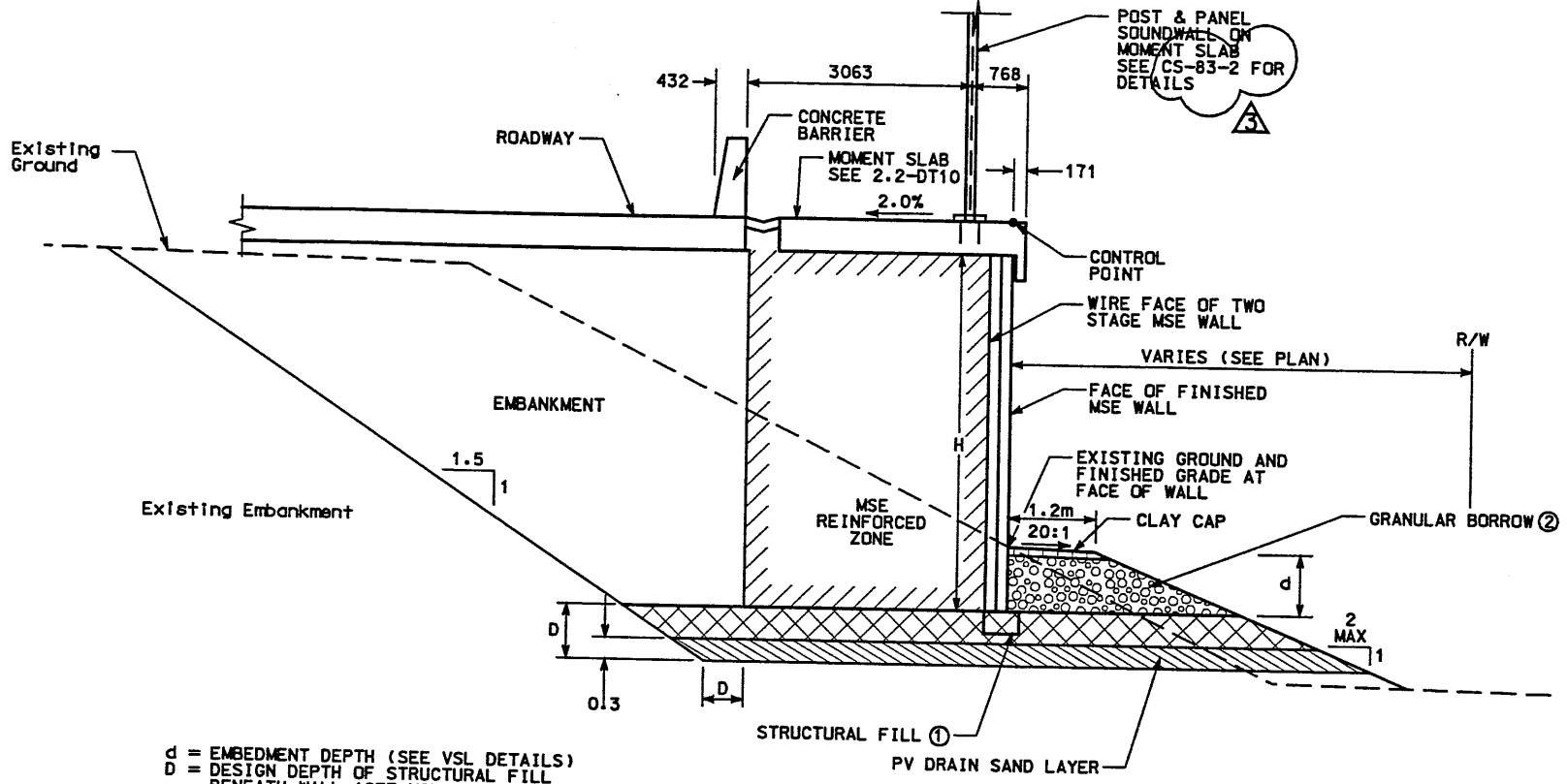
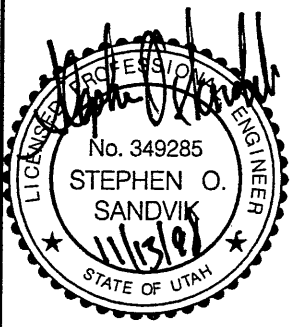
I-15 CORRIDOR RECONSTRUCTION WALL DETAIL R-346-3	SALT LAKE COUNTY
SECTION 2.2	DWG. NO. 2.2R-346-3.6
PROJECT NUMBER #SP-15-7(135)296	SHT. 6 OF 30



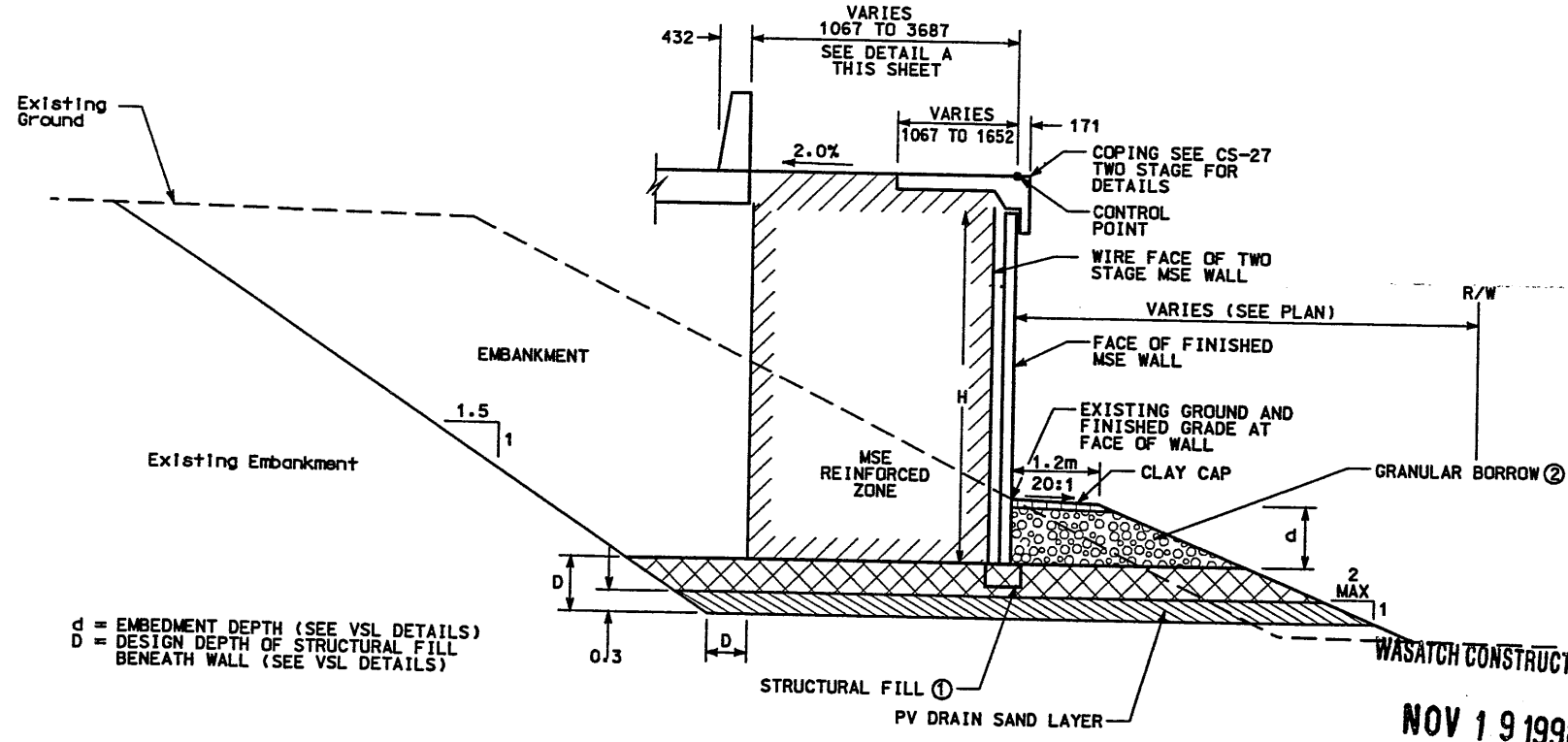
PLAN
DETAIL A
NTS

NOTES:

- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 FOR GRANULAR BORROW.
- 2) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- 3) CONSTRUCT CLAY CAP WITH 0.3m OF LOW PLASTIC SILTY CLAY. SLOPE TO DRAIN AWAY FROM WALL, AS SHOWN.
- 4) MINIMUM TOE EMBEDMENT d EQUALS H/7 WHERE H EQUALS THE WALL HEIGHT.
- 5) CONSTRUCT WALL TO DESIGN PAVEMENT ELEVATION PLUS SURCHARGE HEIGHT AND SETTLEMENT ALLOWANCE.
- 6) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEERS DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.



RETAINING/SOUND WALL DETAIL
STA 5+310.000 TO 5+562.000
(2 STAGE MSE WALL)
NTS



TRANSITION COPING DETAILS
STA 5+240.969 TO 5+310.000
STA 5+562.000 TO 5+593.689
(2 STAGE MSE WALL)
NTS

APPROVED FOR CONSTRUCTION	
NO.	DATE
1	10/27/97
2	6/23/98
3	11/12/98

UTAH DEPARTMENT OF TRANSPORTATION					
MK CENTENNIAL					
SYVERDRUP/DE LEUW					
DESIGN	DMC	5/03/98	CHECK	CJO	5/05/98
DRAWN	MVM	5/05/98	CHECK	CJO	5/05/98
QUANT.	BC	5/05/98	CHECK		
WBS NO.	2212402				

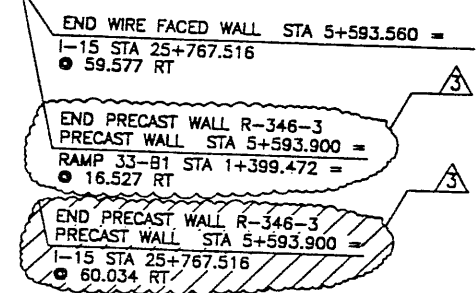
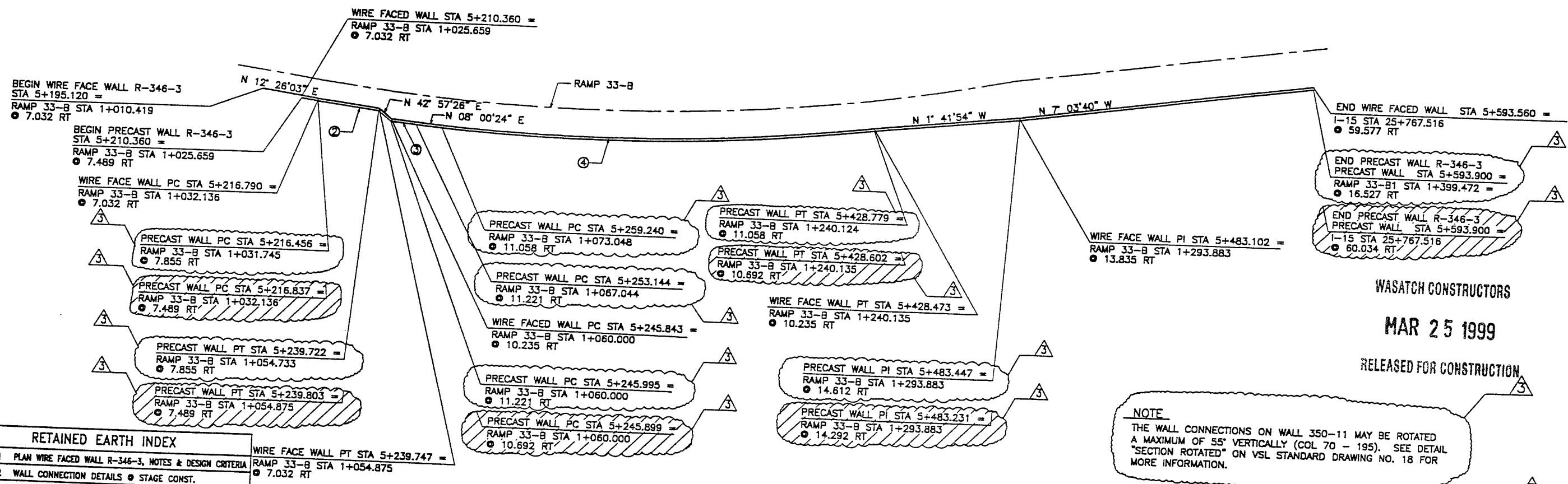
1-15 CORRIDOR RECONSTRUCTION	WALL DETAIL R-346-3	SECTION 2.2	PROJECT NUMBER	#SP-15-7(135)296
SALT LAKE COUNTY		DWG. NO.	2.2R-346-3.6	
SHT.	6	OF	18	

NOV 19 1998
RELEASED FOR CONSTRUCTION

WASATCH CONSTRUCTORS

REFERENCE (X-UTAH) DM

APPROVED FOR CONSTRUCTION		NO.	DATE	DESCRIPTION	BY	CHK
▲	10-09-97			RELEASE FOR CONSTRUCTION		
▲	12-08-97			LOCATED MSE WALL/GEOFOAM INTERFACE		
▲	03-09-99			RELEASE FOR 2ND. STAGE CONSTRUCTION		



WASATCH CONSTRUCTORS
 MAR 25 1999
 RELEASED FOR CONSTRUCTION

NOTE
 THE WALL CONNECTIONS ON WALL 350-11 MAY BE ROTATED A MAXIMUM OF 55° VERTICALLY (COL 70 - 195). SEE DETAIL "SECTION ROTATED" ON VSL STANDARD DRAWING NO. 18 FOR MORE INFORMATION.

2ND STAGE DESIGN
 BASED ON POST SETTLEMENT SURVEY OF THE WIRE FACE, LATERAL OUTWARD DISPLACEMENTS RANGED FROM -54mm TO 373mm MEASURED AT THE BASE OF THE WALL.

RETAINED EARTH INDEX	
RE-1	PLAN WIRE FACED WALL R-346-3, NOTES & DESIGN CRITERIA
RE-2	WALL CONNECTION DETAILS @ STAGE CONST.
RE-3	TYPICAL DETAILS
RE-4	TYPICAL CROSS SECTIONS @ WIRE FACED WALL
RE-5	TYPICAL CROSS SECTION
RE-6	WIRE FACED WALL R-346-3
RE-7	WIRE FACED WALL R-346-3
RE-8	WIRE FACED WALL R-346-3
RE-9	WIRE FACED WALL R-346-3
RE-10	WIRE FACED WALL R-346-3
RE-11	WIRE FACED WALL R-346-3
RE-12	WIRE FACED WALL R-346-3
RE-13	PRECAST WALL R-346-3
RE-14	PRECAST WALL R-346-3
RE-15	PRECAST WALL R-346-3
RE-16	PRECAST WALL R-346-3
RE-17	PRECAST WALL R-346-3
RE-18	PRECAST WALL R-346-3
RE-19	PRECAST WALL R-346-3
RE-20	SPECIAL PANEL DETAILS
RE-21	SPECIAL PANEL DETAILS
RE-22	SPECIAL PANEL DETAILS
RE-23	SPECIAL PANEL DETAILS
RE-24	SPECIAL PANEL DETAILS

PLAN VIEW MSE WALL "R-346-3"

SCALE: 1=250 (FULL SIZE)
 SCALE: 1=500 (HALF SIZE)

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 34°	
ANGLE OF INTERNAL FRICTION (BASE) = 30°	
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°	
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)	
TRAFFIC SURCHARGE = 250 PSF	
SEISMIC ACCELERATION COFF. = 0.25g (TYP)	
SEISMIC ACCELERATION COFF. = 0.65g (AT BRIDGE ABUTMENTS)	

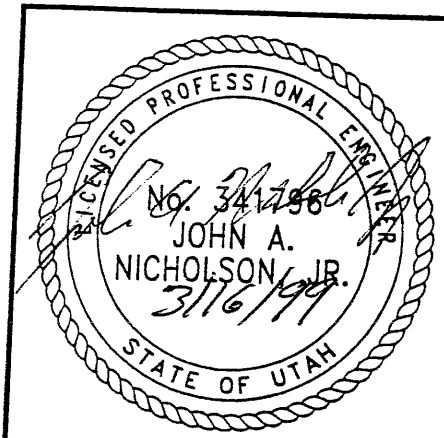
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

CURVE DATA				
No.	RADIUS	LENGTH	TANGENT	Δ
②	757.855	23.266	11.634	1°45'32"
③	761.221	7.419	3.575	0°32'17"
④	761.058	169.539	85.122	12°45'49"

All Dimensions Are in Meters Unless Noted Otherwise

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS	DWG. NO.
PLAN VIEW MSE WALL "R-346-3"	2.2R-346-3.7
UTAH I-15 INTERCHANGE	JOB NO.
SALT LAKE COUNTY, UTAH	239-0007
UTAH DEPARTMENT OF TRANSP.	SHT. NO.
	RE-1

VSL CORPORATION
 2810 Pharis Road, Suite 200
 Raleigh, NC 27615
 Telephone: (919) 781-6272
 Fac: (919) 781-6869

ALANTA, GA / DALLAS, TX / DENVER, CO (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, IL

RFC After Final Approval

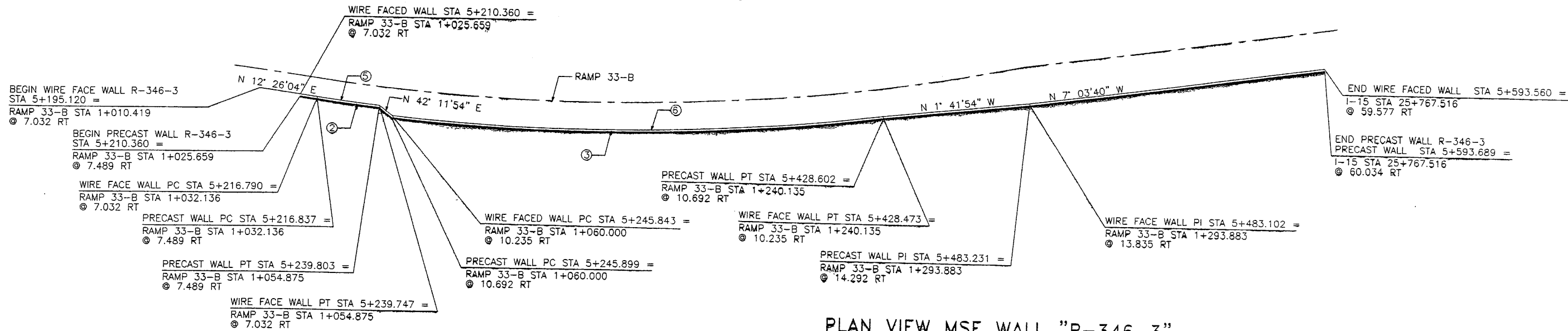
SUBMITL-2\RE-1

H:\RE_EARTH\PROJECT\239-0007\33SERIES

-08-97

FINAL PLC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION
2	12-08-97	LOCATED MSE WALL/GEOFOAM INTERFACE



PLAN VIEW MSE WALL "R-346-3"

SCALE: 1=250 (FULL SIZE)
SCALE: 1=500 (HALF SIZE)

RETAINED EARTH INDEX	
RE-1	PLAN WIRE FACED WALL R-346-3, NOTES & DESIGN CRITERIA
RE-2	WALL CONNECTION DETAILS @ STAGE CONST.
RE-3	TYPICAL DETAILS
RE-4	TYPICAL CROSS SECTIONS @ WIRE FACED WALL
RE-5	TYPICAL CROSS SECTION
RE-6	WIRE FACED WALL R-346-3
RE-7	WIRE FACED WALL R-346-3
RE-8	WIRE FACED WALL R-346-3
RE-9	WIRE FACED WALL R-346-3
RE-10	WIRE FACED WALL R-346-3
RE-11	WIRE FACED WALL R-346-3
RE-12	WIRE FACED WALL R-346-3

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 34°	
ANGLE OF INTERNAL FRICTION (BASE) = 30°	
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°	
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)	
TRAFFIC SURCHARGE = 250 PSF	
SEISMIC ACCELERATION COFF. = 0.25g (TYP)	
SEISMIC ACCELERATION COFF. = 0.65g (AT BRIDGE ABUTMENTS)	
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

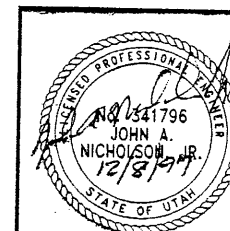
CURVE DATA				
No.	RADIUS	LENGTH	TANGENT	Δ
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3	760.692	182.703	91.793	13°45'41"
5	757.032	22.957	XX.XXX	1°44'14"
6	760.235	182.630	XX.XXX	13°45'41"

All Dimensions Are In Meters Unless Noted Otherwise

WASATCH CONSTRUCTORS
DEC 16 1997
RELEASED FOR CONSTRUCTION

7 of 18 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-346-3"
UTAH 1-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
SCALE: 2.2R-346-3.7
JOB NO: 239-0007
RE-1

VSL
ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

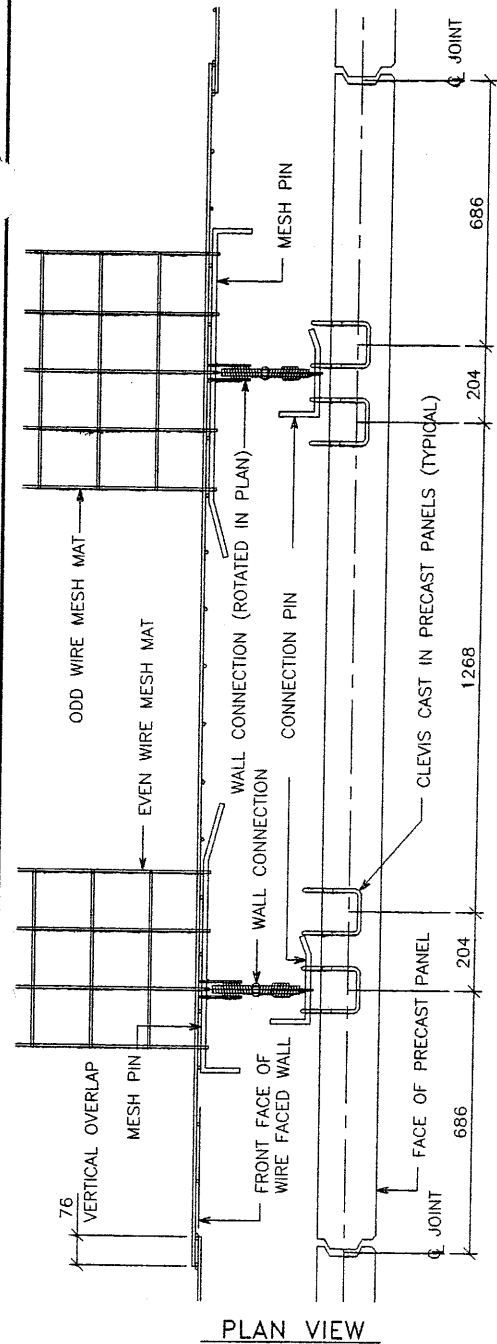
VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6772
Fax: (919) 781-4969

DES.	MM	LOP	MM	RETAINED EARTH™	NO.	DATE
09-10-97						
09-10-97						
09-10-97						

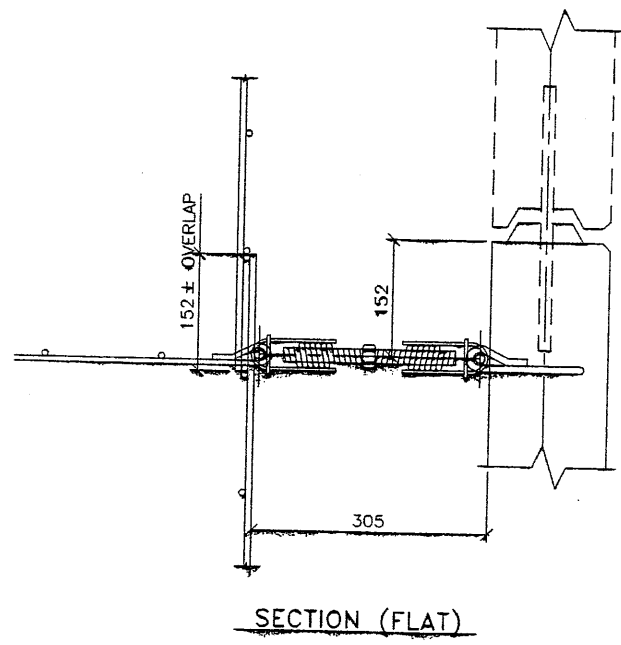
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J-09-97

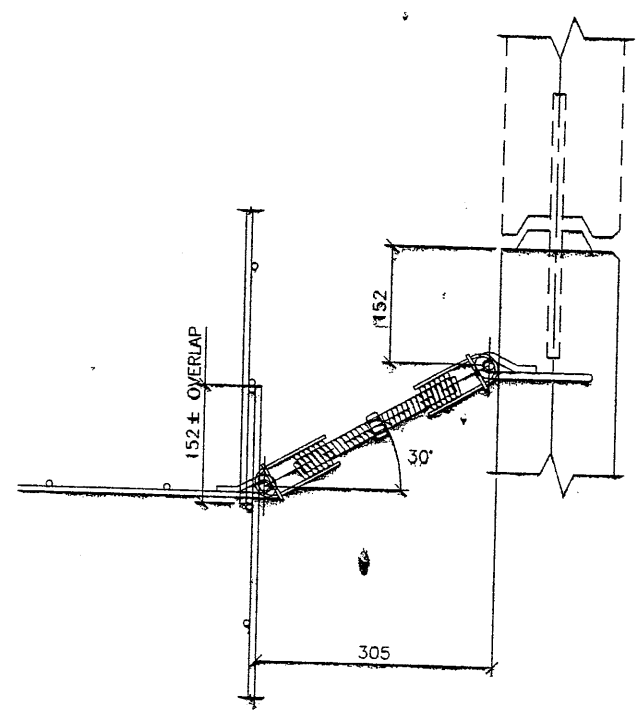
FINAL F



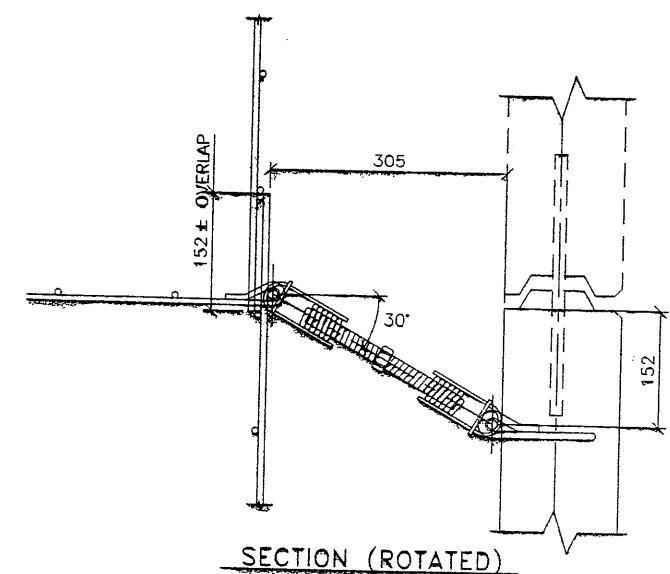
PLAN VIEW



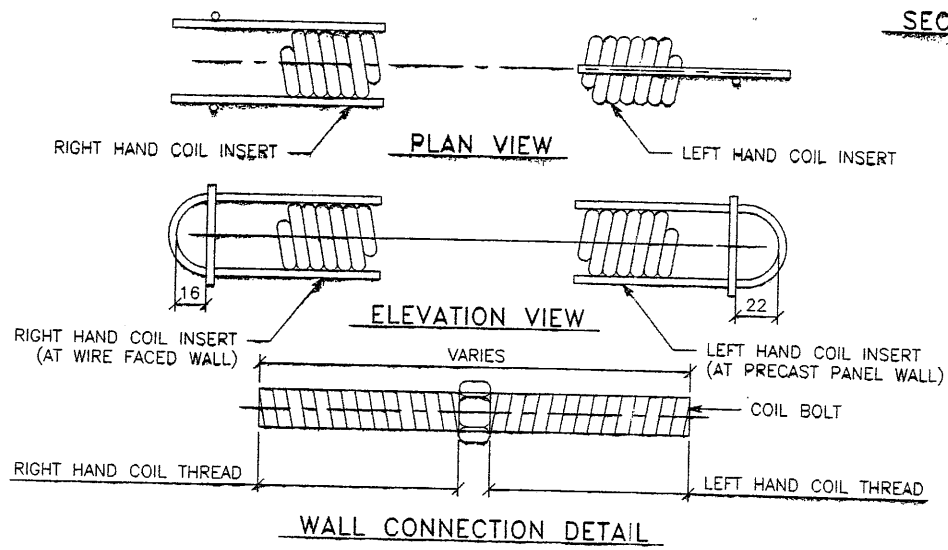
SECTION (FLAT)



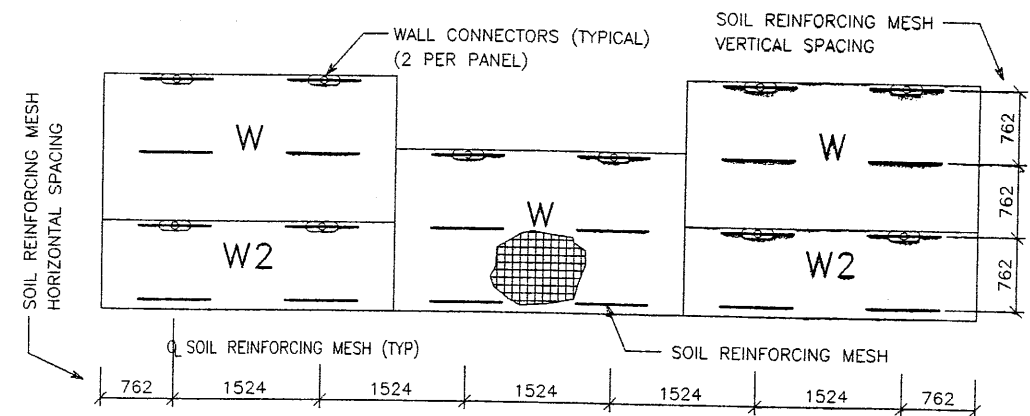
SECTION (ROTATED)



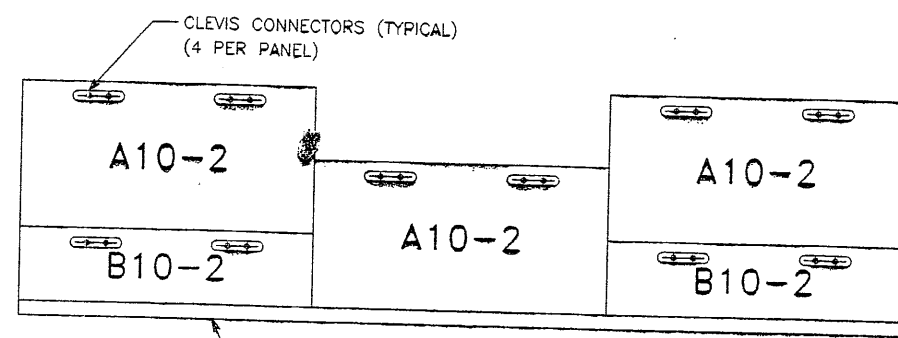
SECTION (ROTATED)



WALL CONNECTION DETAIL



TYPICAL WIRE FACED WALL ELEVATION (WIRE FACE PANELS)

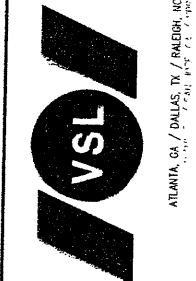


TYPICAL PRECAST WALL ELEVATION (PRECAST PANELS)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-09-97	RELEASE FOR CONSTRUCTION <i>OK</i>

WARATCH CONSTRUCTORS
 OCT 30 1997
 RELEASE FOR CONSTRUCTION

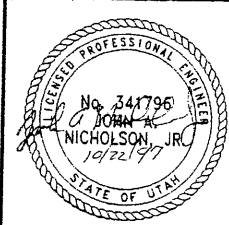
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4869



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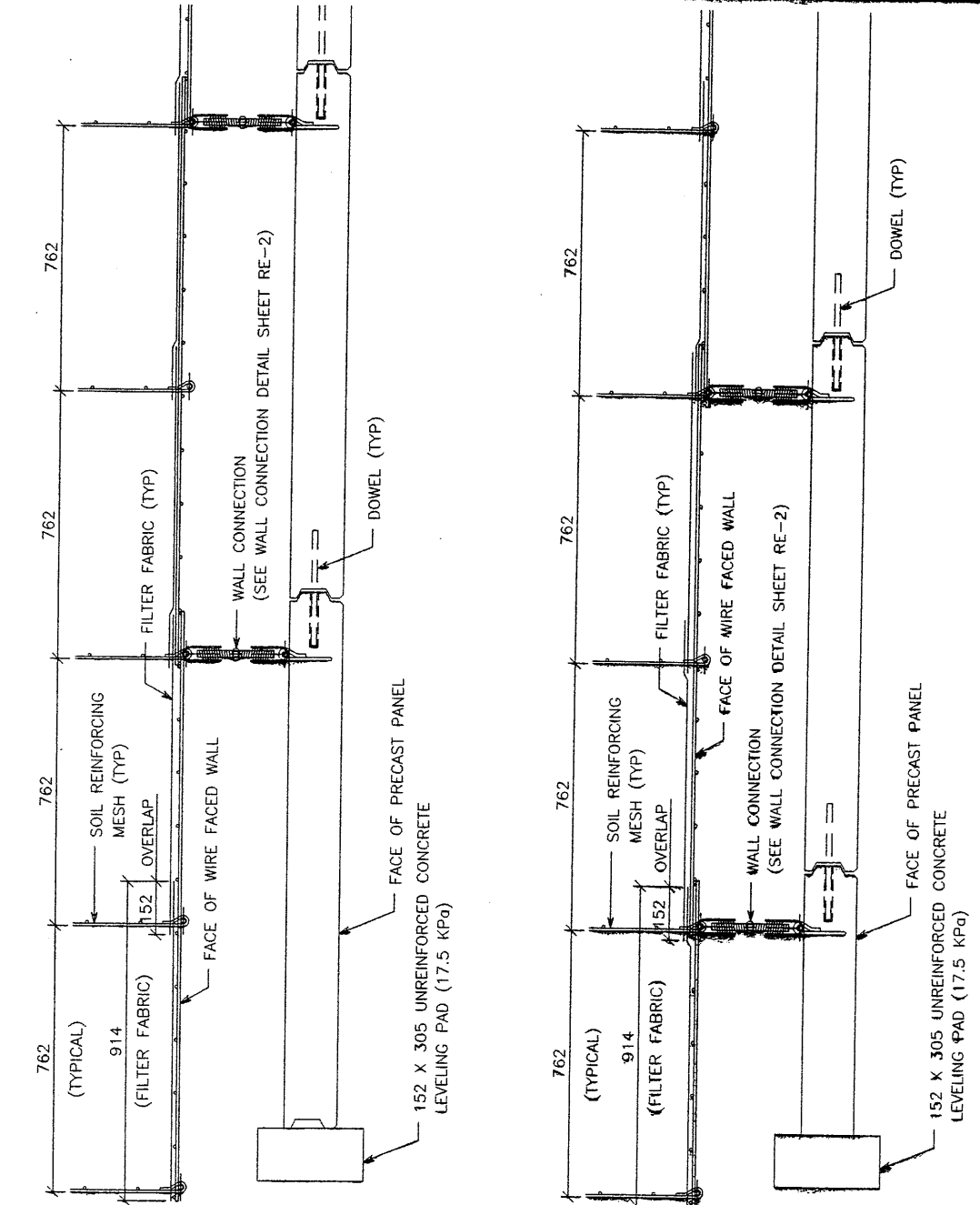
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-3"
 WALL CONNECTION DETAILS @ STAGE CONST.
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

8 of 18 METRIC



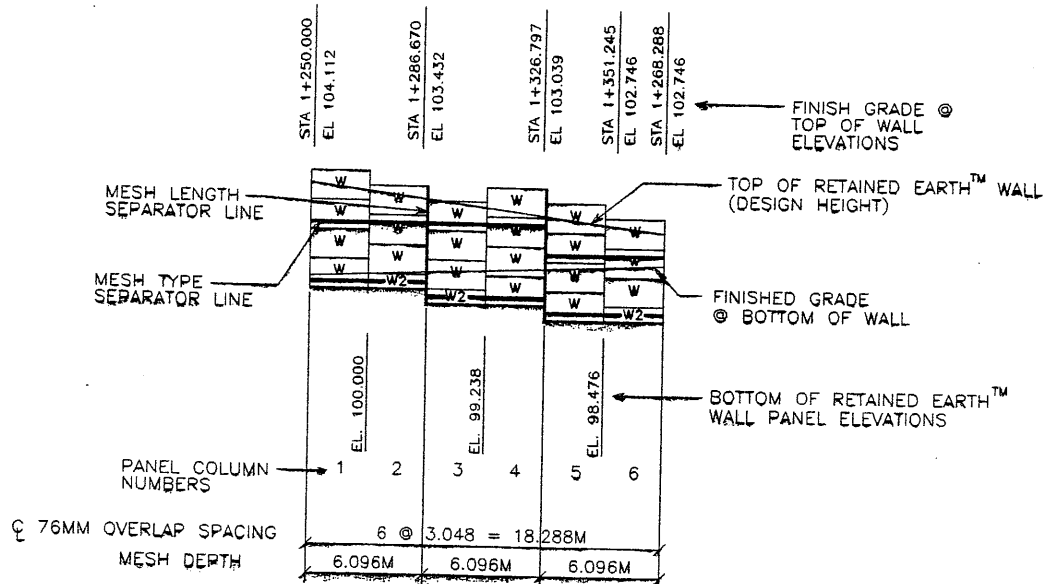
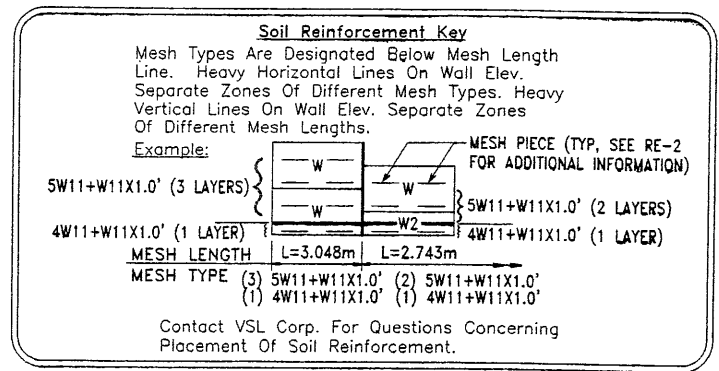
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

SCALE:	2.2R-346.3.8
JOB NO:	239-0007
	RE-2

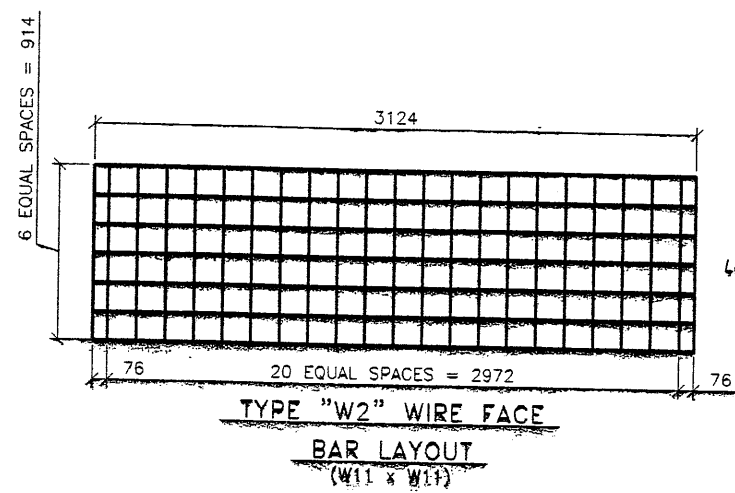


SECTION AT WIRE FACE PANEL TYPE "W"

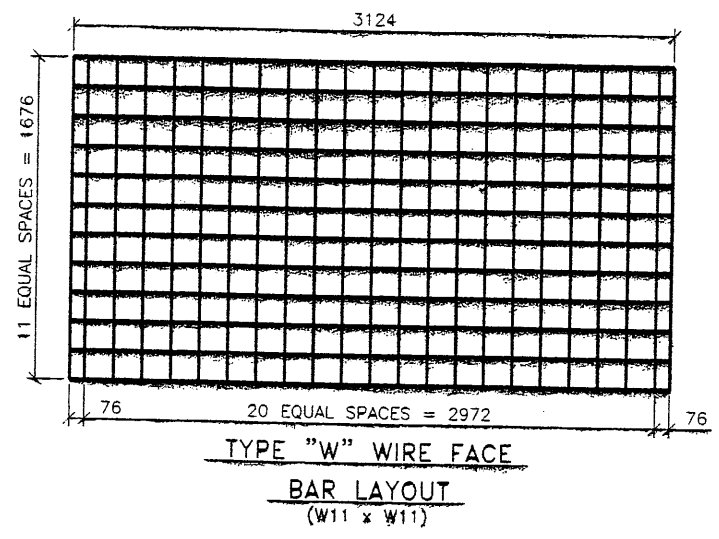
SECTION AT WIRE FACE PANEL TYPE "W2"



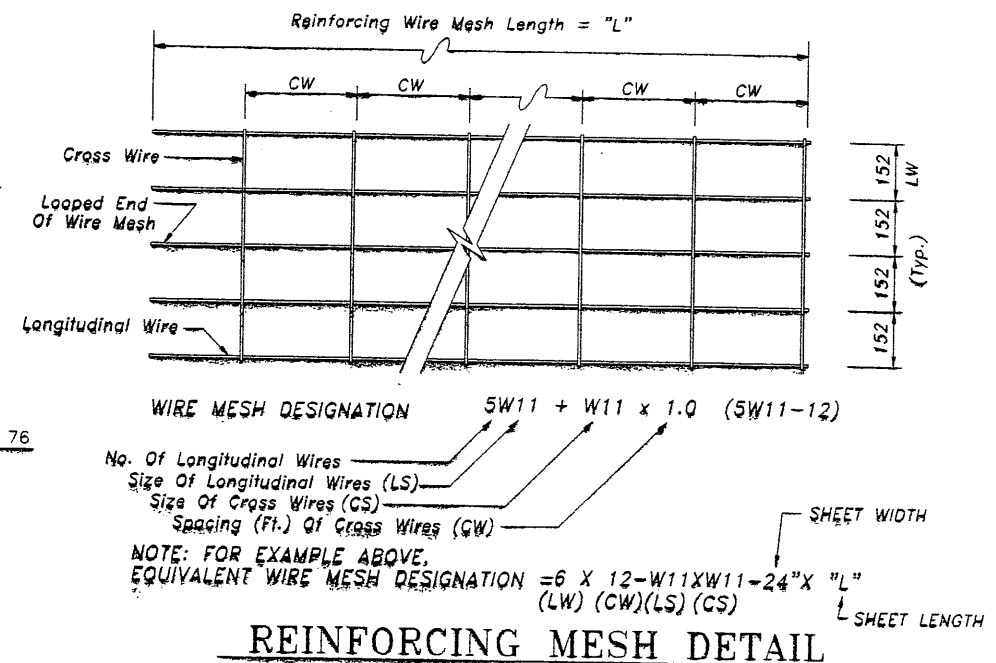
1 WIRE FACED WALL ELEVATION KEY (FRONT FACE SHOWN)



TYPE "W2" WIRE FACE BAR LAYOUT (W11 x W11)



TYPE "W" WIRE FACE BAR LAYOUT (W11 x W11)



REINFORCING MESH DETAIL

NOTE: W11 (71 sq mm) And W20 (129 sq mm) Steel Wire Material And Welding Of Cross Wires And Loops Shall Conform To ASTM A82 And ASTM 185, Fy = 448 MPa. Mesh Shall Be Galvanized To ASTM A-123 To A Minimum Effective Thickness Of 0.086 mm.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-09-97	RELEASE FOR CONSTRUCTION <i>SE</i>

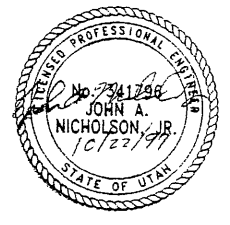
WARATCH CONSTRUCTORS
OCT 30 1997
RELEASED FOR CONSTRUCTION

VSL CORPORATION
2840 Plaza Flare, Suite 200
Raleigh, NC 27612
Telephone (919) 781-8272
Fax (919) 781-4900



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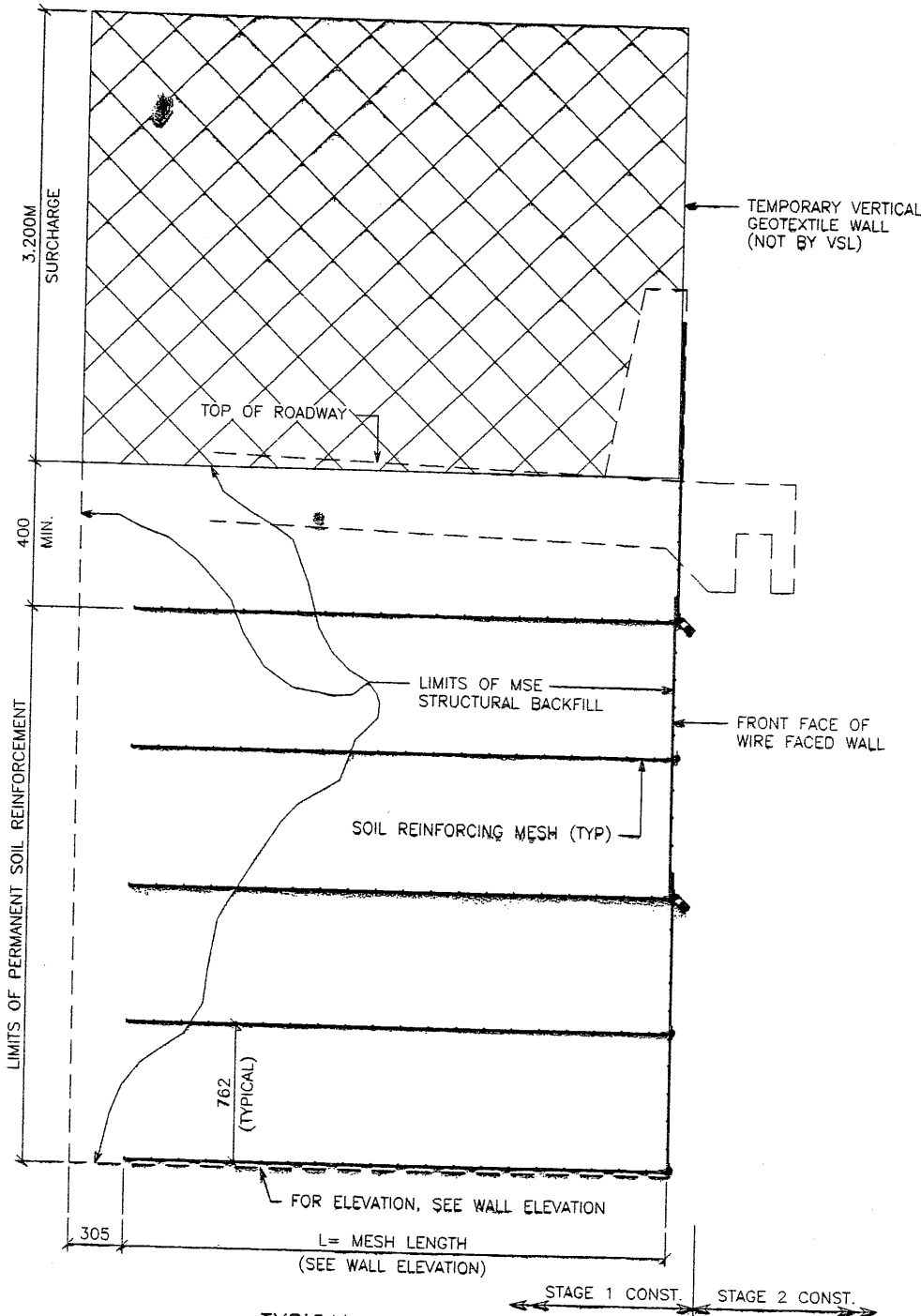
RETAINED EARTH™ WALLS
WIRE FACED WALL "R-346-3"
TYPICAL DETAILS
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSPORTATION



CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

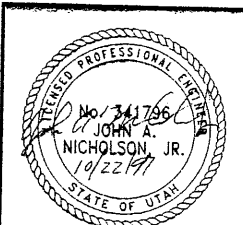
9 of 18 METRIC

SCALE:	2.2R-346-3.9
JOB NO.:	239-0007
	RE-3



TYPICAL CROSS SECTION
AT FINAL PHASE OF WIRE FACE WALL
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

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10 of 18 METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-09-97	RELEASE FOR CONSTRUCTION <i>OK</i>

WARATCH CONSTRUCTORS
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RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-3"
 TYPICAL SECTIONS @ WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:
 2.2R-346-3.10
 JOB NO:
 239-0007
 RE-4

VSL CORPORATION
 2640 Plaza Place, Suite 200
 Raleigh, NC 27617
 Phone: (919) 791-6272
 Fax: (919) 791-0685

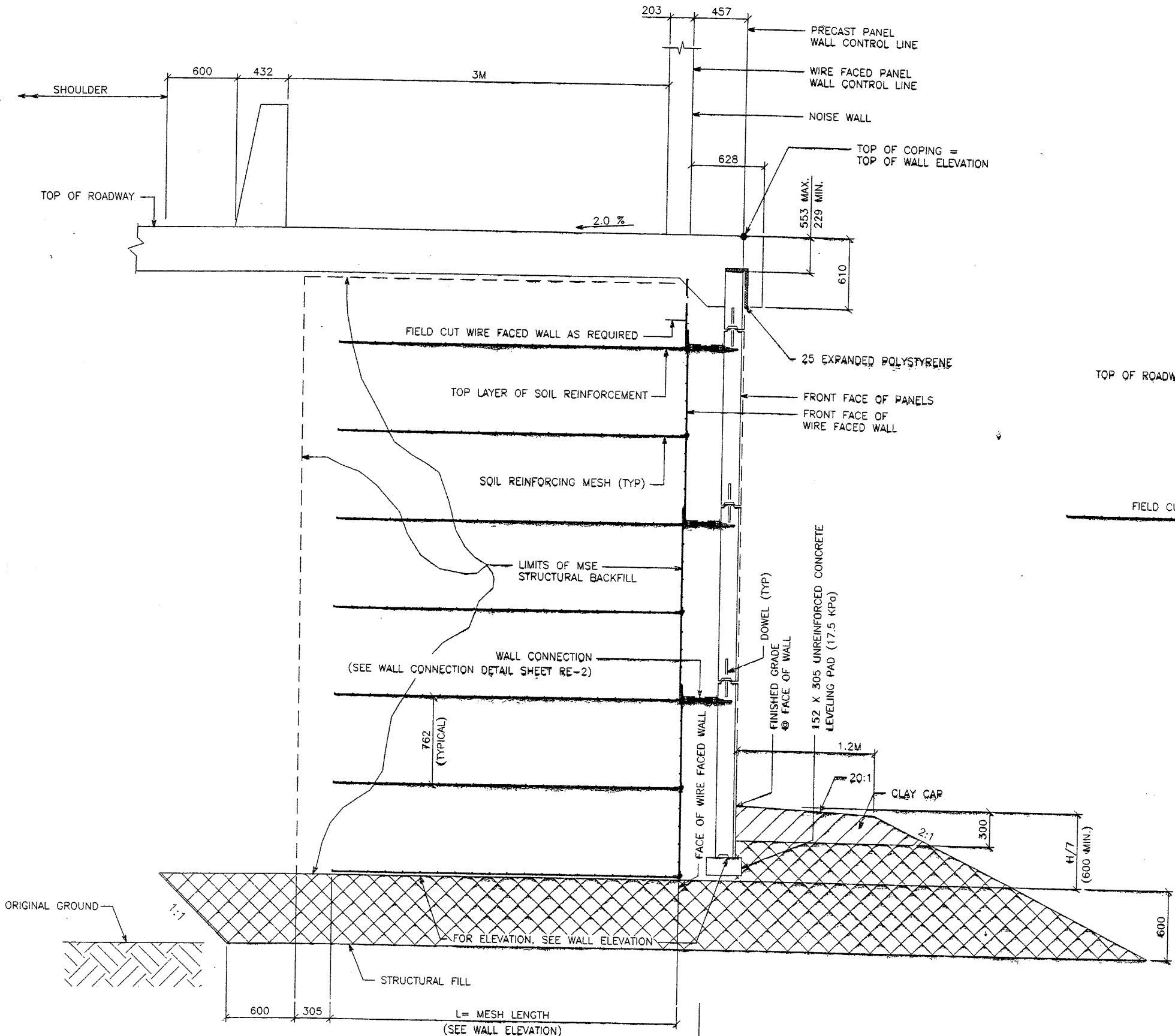


DES.	MM	MM	MM	RETAINED EARTH™	DATE	BY
DRN.	09-10-97	09-10-97	09-10-97	<input checked="" type="checkbox"/>		
CHK.						

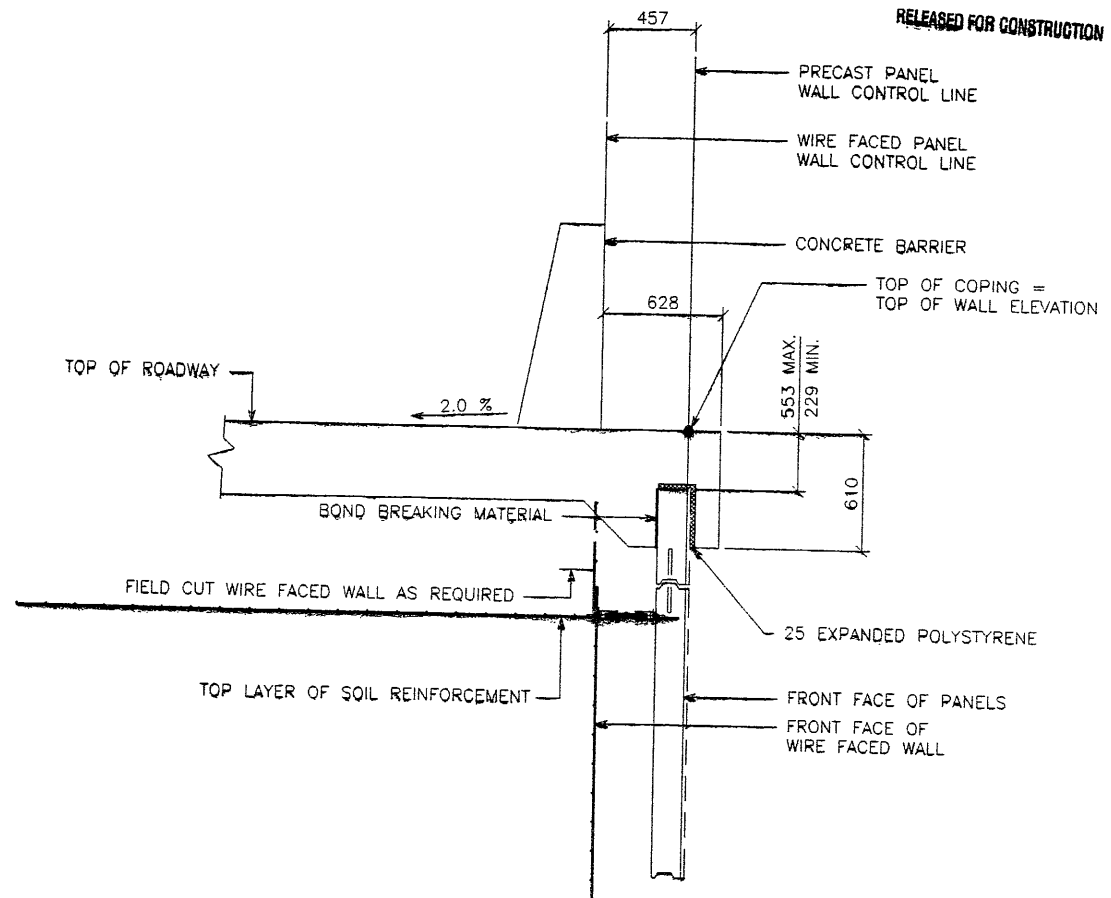
E:\PROJECT\239-0007\33SERIES\33-03

3-09-97

FINAL



CROSS SECTION STA 5+245.899 TO 5+594.000
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)



TOP OF WALL STA 5+215.000± TO 5+294.899
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

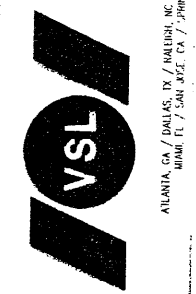
NOTE:
 SEE MK CENTENNIAL DRAWINGS
 FOR LIMITS & EXTENTS OF
 GEOFOAM AND PV DRAINS

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION

WARATCH CONSTRUCTORS
 OCT 30 1997
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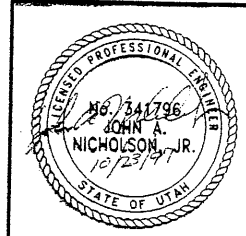
NO.	DATE	REVISION

VSL CORPORATION
 2610 Plaza Place, Suite 200
 Irving, TX 75039
 Tel: (972) 781-4272
 Fax: (972) 781-4889



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RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-3"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.



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SCALE: 2.2R-346-3.11
 JOB NO: 239-0007
 RE-5

11 of 18 METRIC

2\W33-03

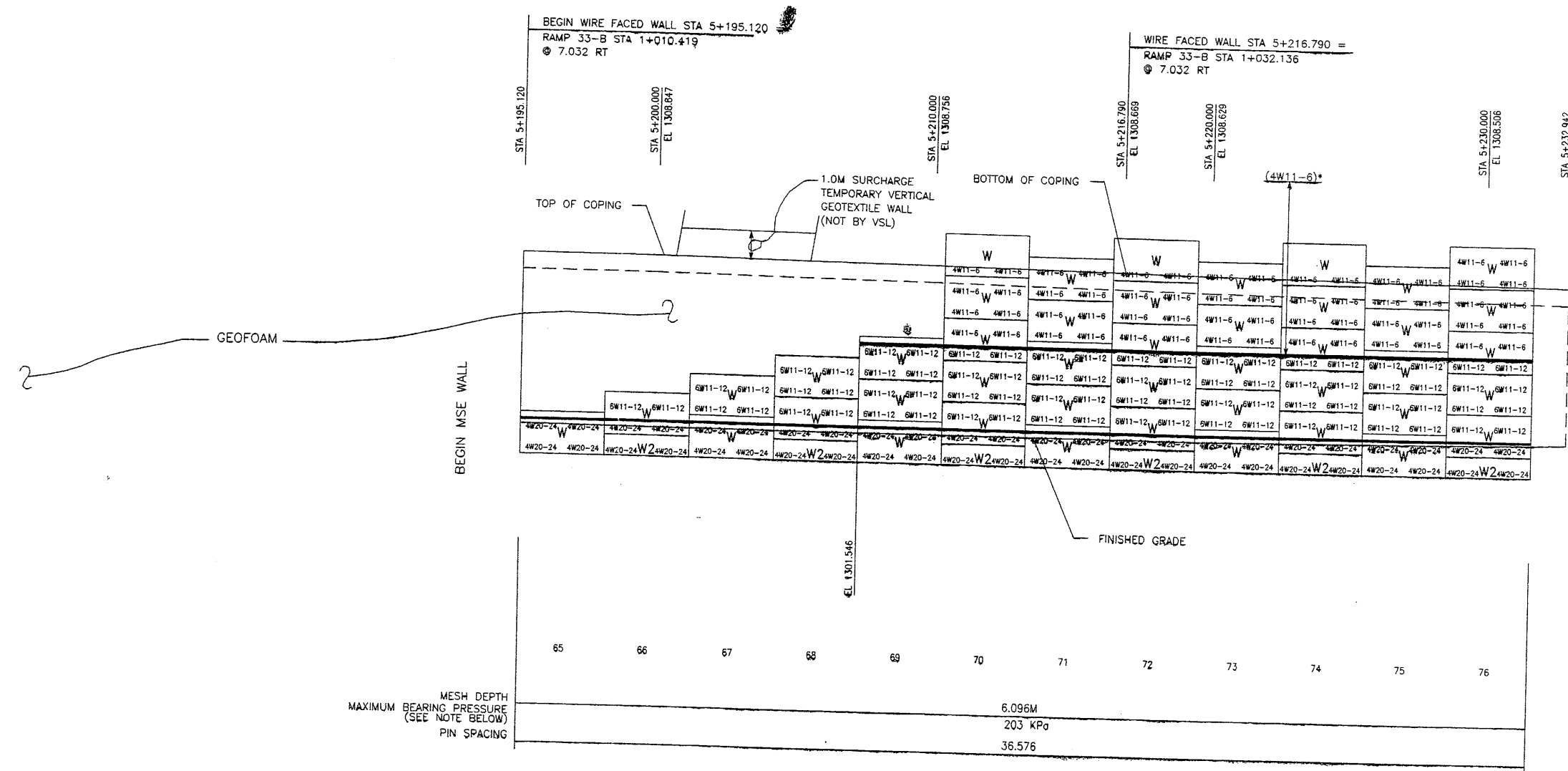
H:\RE_EARTH\PROJECT\239-0007\33SERIES\33-F

-08-97

FINAL P

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION
2	12-08-97	LOCATED MSE WALL/GEOFOAM INTERFACE

DES.	NO.	DATE	REVISION
08-10-97	MM		
09-10-97	LOP		
09-10-97	MM		



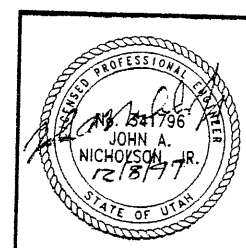
RETAINING WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2,285.18 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

WARATCH CONSTRUCTORS
 DEC 16 1997
 RELEASED FOR CONSTRUCTION

12 of 18 METRIC

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 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 UTAH 1-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE: 2.2R-346-3.12
 JOB NO: 239-0007
 RE-6


Call out Wall
 3A

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION

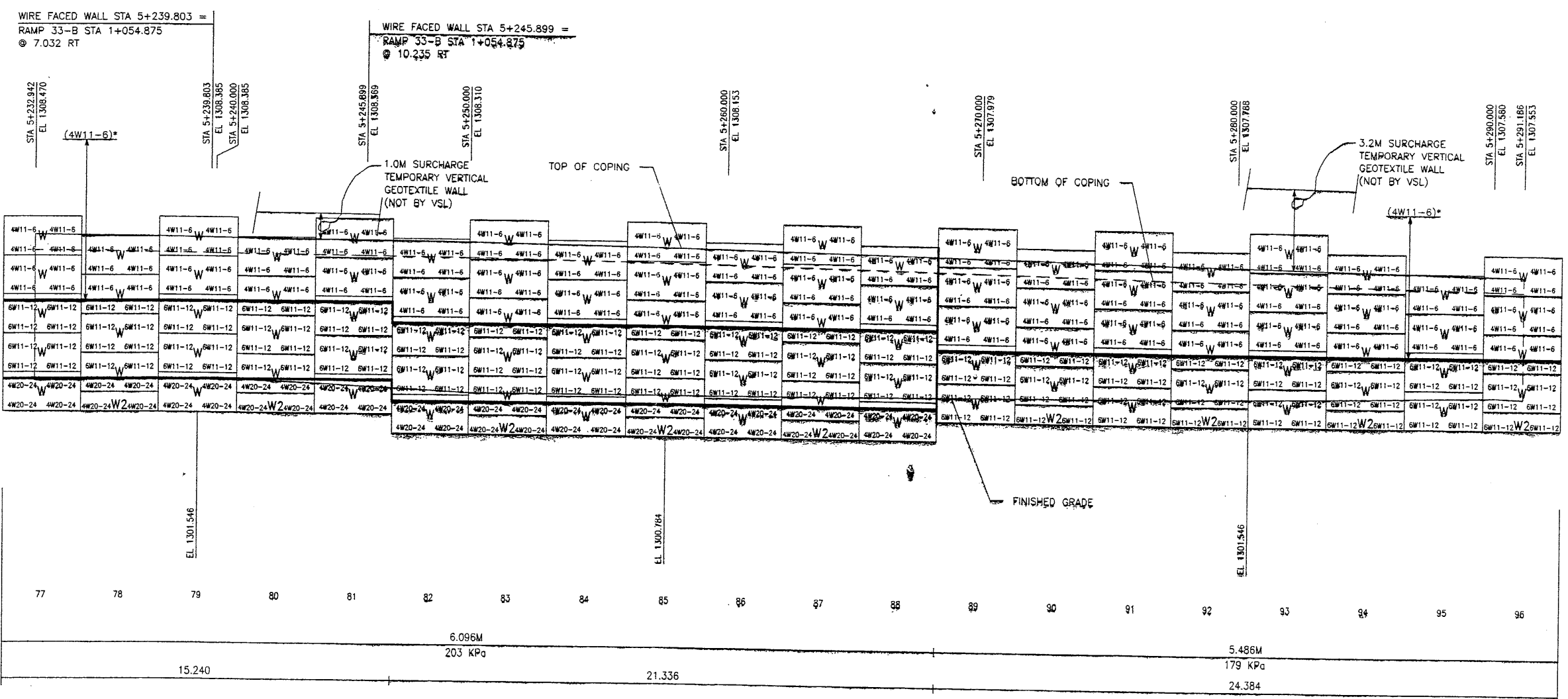
WASATCH CONSTRUCTORS
OCT 30 1997
RELEASED FOR CONSTRUCTION

NO.	DATE	REVISION

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4869

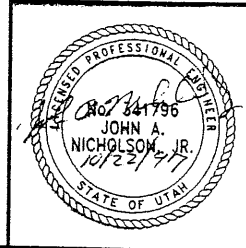


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RETAINING WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2,285.18 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

13 of 18 METRIC



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RETAINED EARTH™ WALLS
 WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:	2.2R-346-3.13
JOB NO:	239-0007
	RE-7

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FINAL PL 0-09-97

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0-09-97

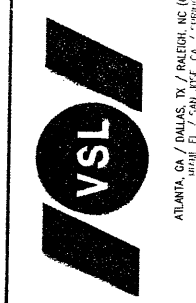
FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION

WARATCH CONSTRUCTORS
 OCT 30 1997
 RELEASED FOR CONSTRUCTION

DES.	DRN.	CHK.	MM	LOP	MM	RETAINED EARTH™	NO.	DATE	DESCRIPTION

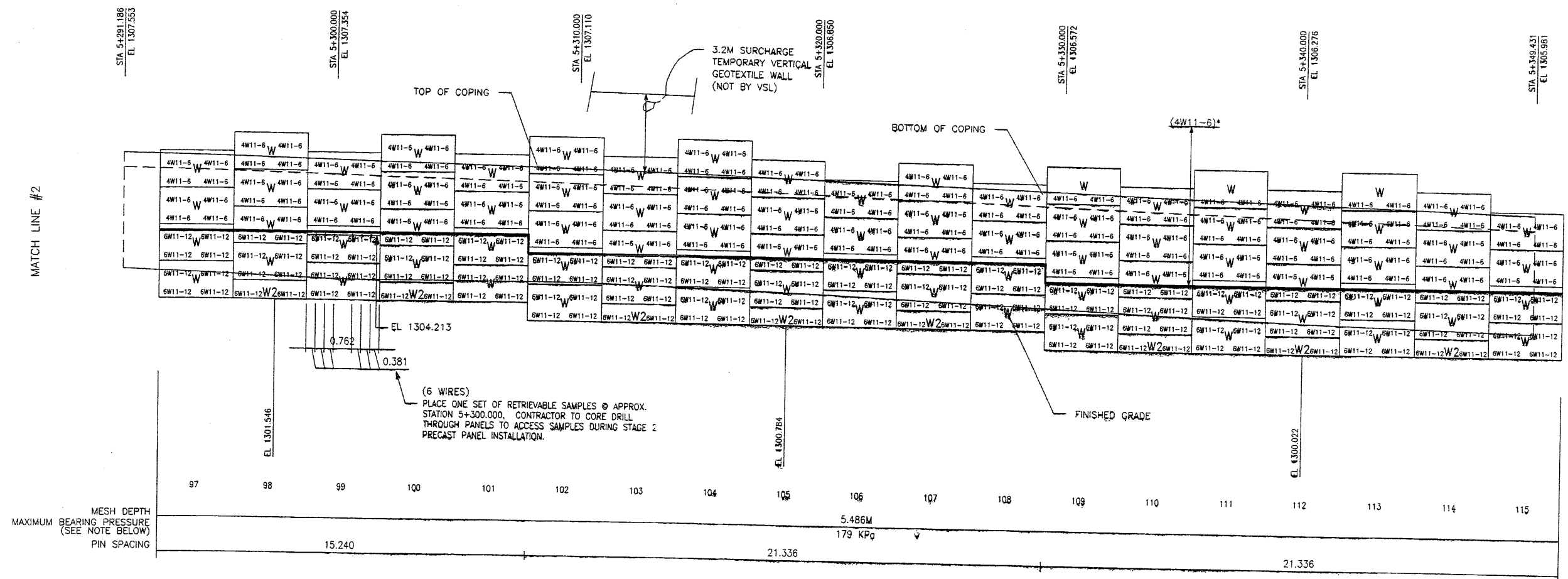
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RETAINED EARTH™ WALLS
 WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

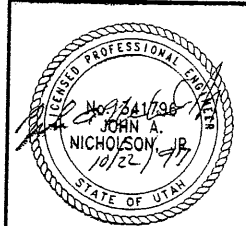
SCALE:	2.2R-346-3.14
JOB NO:	239-0007
RE-	8



RETAINING WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2,285.18 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES ARE INDICATED BELOW "MESH DEPTH LINE". REVIEWER TO VERIFY MAXIMUM BEARING CAPACITY OF FOUNDATION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



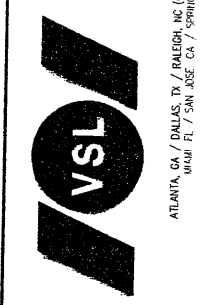
14 of 19 METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
 OCT 30 1997
 RELEASED FOR CONSTRUCTION

DES.	MM	DRN.	CHK.	NO.	DATE	DESCRIPTION
09-10-97	MM	09-10-97	MM			
09-10-97	LOP	09-10-97	MM			
09-10-97	MM	09-10-97	MM			

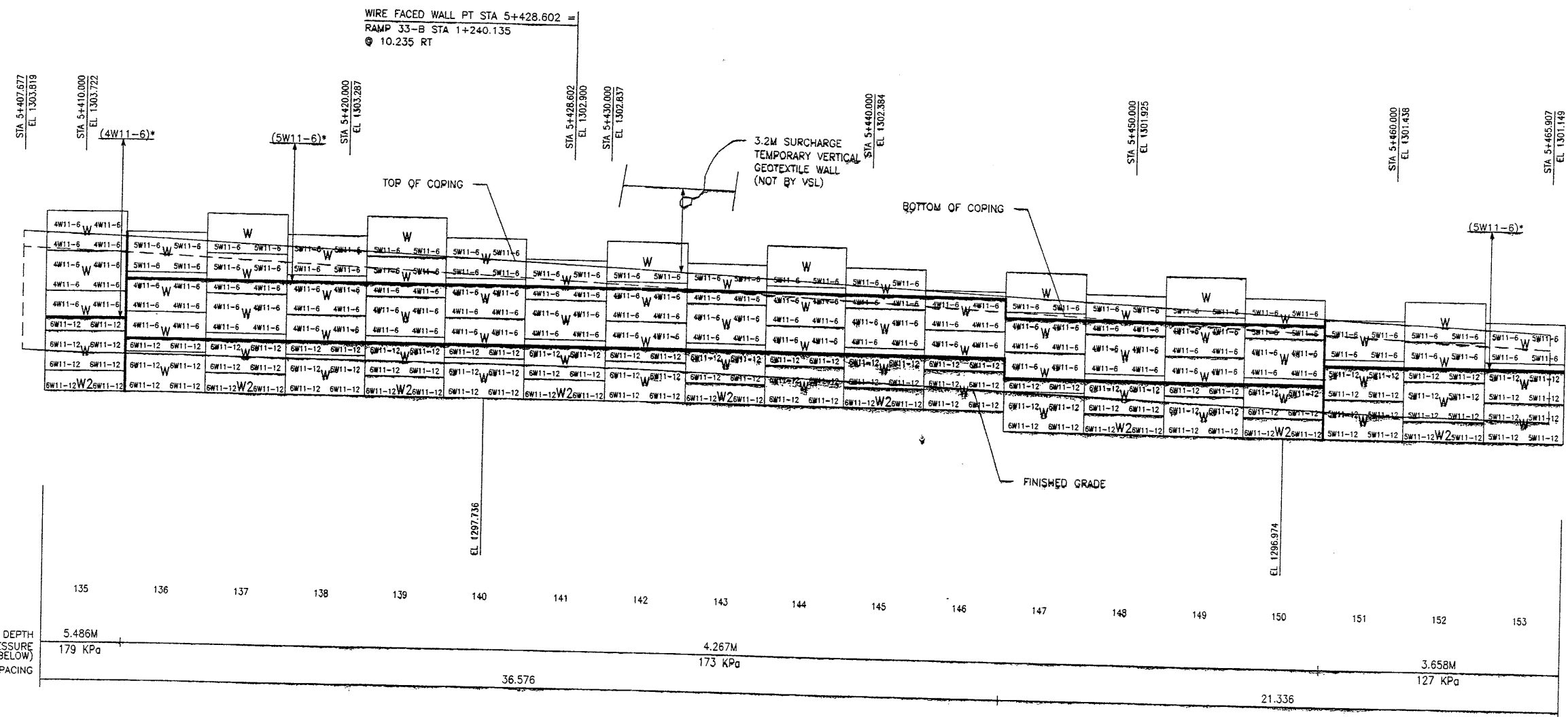
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RETAINED EARTH™ WALLS
 WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:	2.2R-346-3.16
JOB NO.:	239-0007
	RE-10

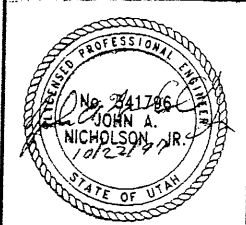


RETAINING WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2,285.18 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

16 of 18 METRIC

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



FINAL E 10-09-97 E:\PROJECT\239-0007\33SERIES\33-03\W33-

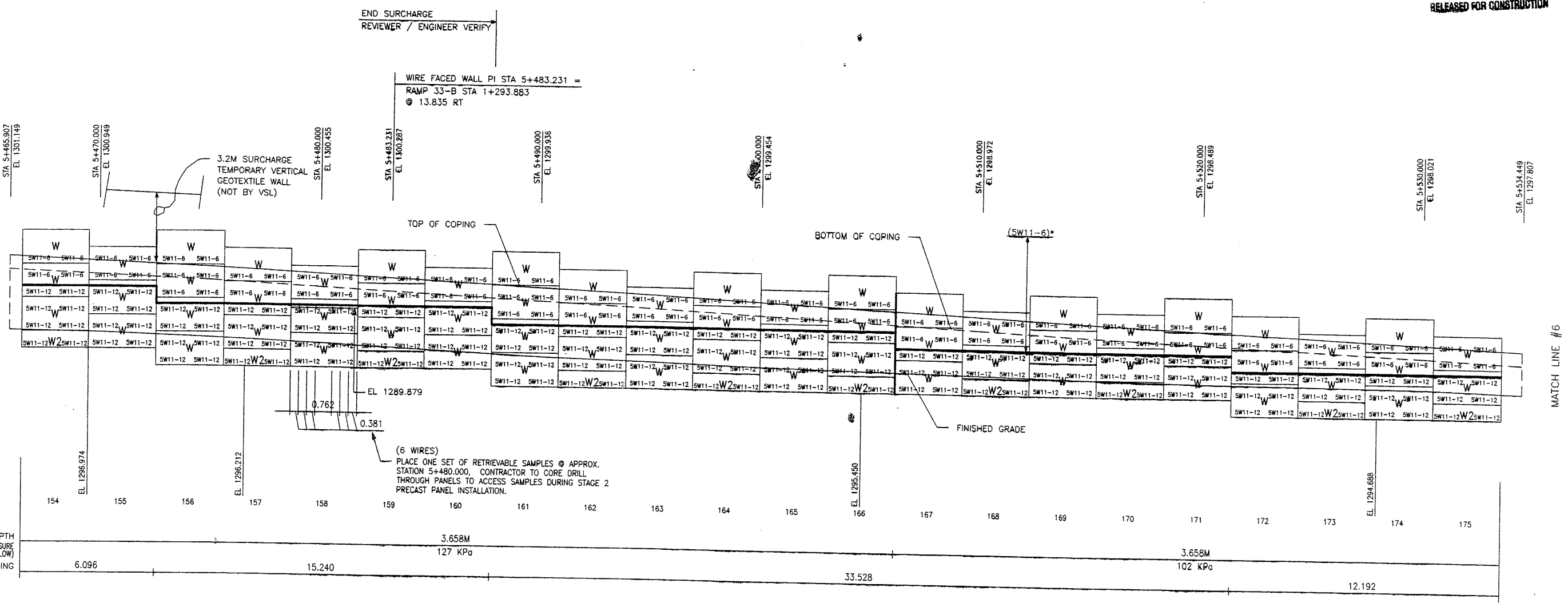
E:\PROJECT\239-0007\33SERIES\33-03\W33-C

0-21-97

FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-09-97	RELEASE FOR CONSTRUCTION <i>OK</i>

WADATCH CONSTRUCTORS
 OCT 30 1997
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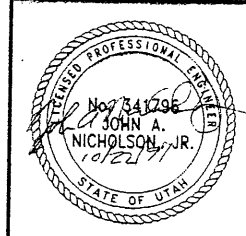


RETAINING WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL

(FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2,285.18 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



17 of 18 METRIC

RETAINED EARTH™ WALLS
 WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

SCALE: 2.2R-346-3.17
 JOB NO: 239-0007
 RE-11



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 Fax: (919) 781-4969

DES.	MM	DRN.	MM	CHK.	MM	RETAINED EARTH™
09-10-97	MM	09-10-97	LOP	09-10-97	MM	(VSL)

E:\PROJECT\239-0007\3SERIES\33-03\W33

FINA 0-21-97

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR CONSTRUCTION <i>OK</i>

WARATCH CONSTRUCTORS
 OCT 30 1997
 RELEASED FOR CONSTRUCTION

END WIRE FACED WALL R-346-3
 WIRE FACED WALL STA 5+593.689 =
 1-15 STA 25+767.516
 @ 60.034 RT

DES:	09-10-97	MM
DRN:	09-10-97	LOP
CHK:	09-10-97	MM

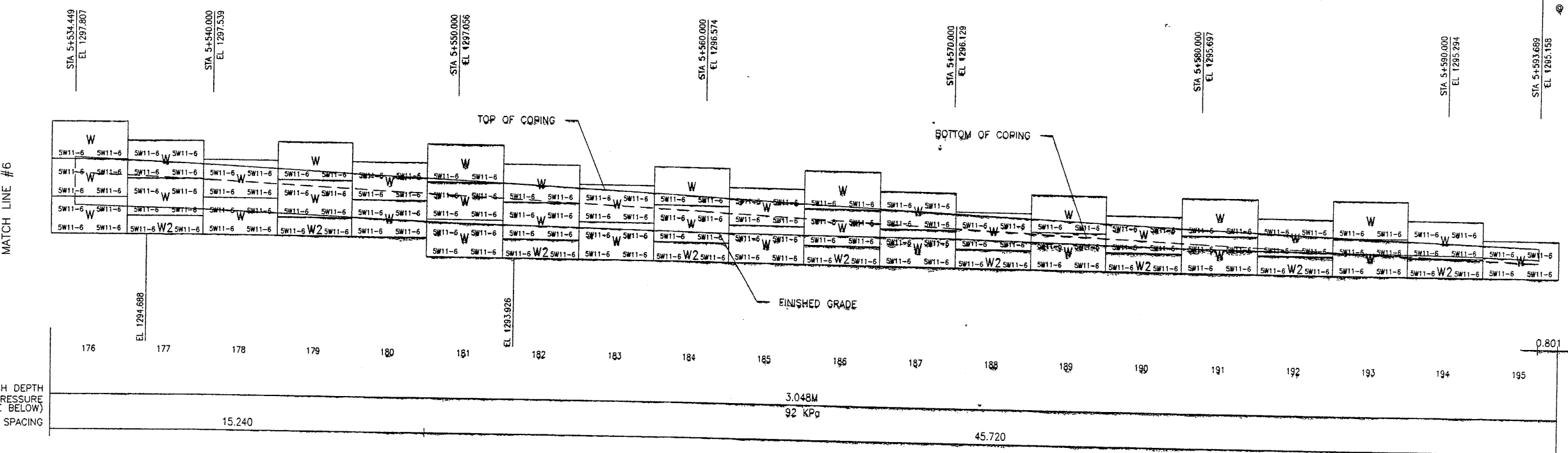
VSL CORPORATION
 2800 Plaza Place, Suite 200
 Raleigh, NC 27617-7814-6772
 For: (919) 781-4669



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RETAINED EARTH™ WALLS
 WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH,
 UTAH DEPARTMENT OF TRANSPORTATION

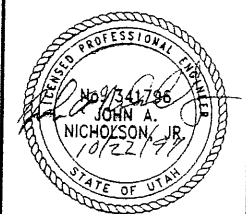
SCALE:	2.2R-346-3.18
JOB NO:	239-0007
	RE-12



RETAINING WALL "R-346-3" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2,285.18 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

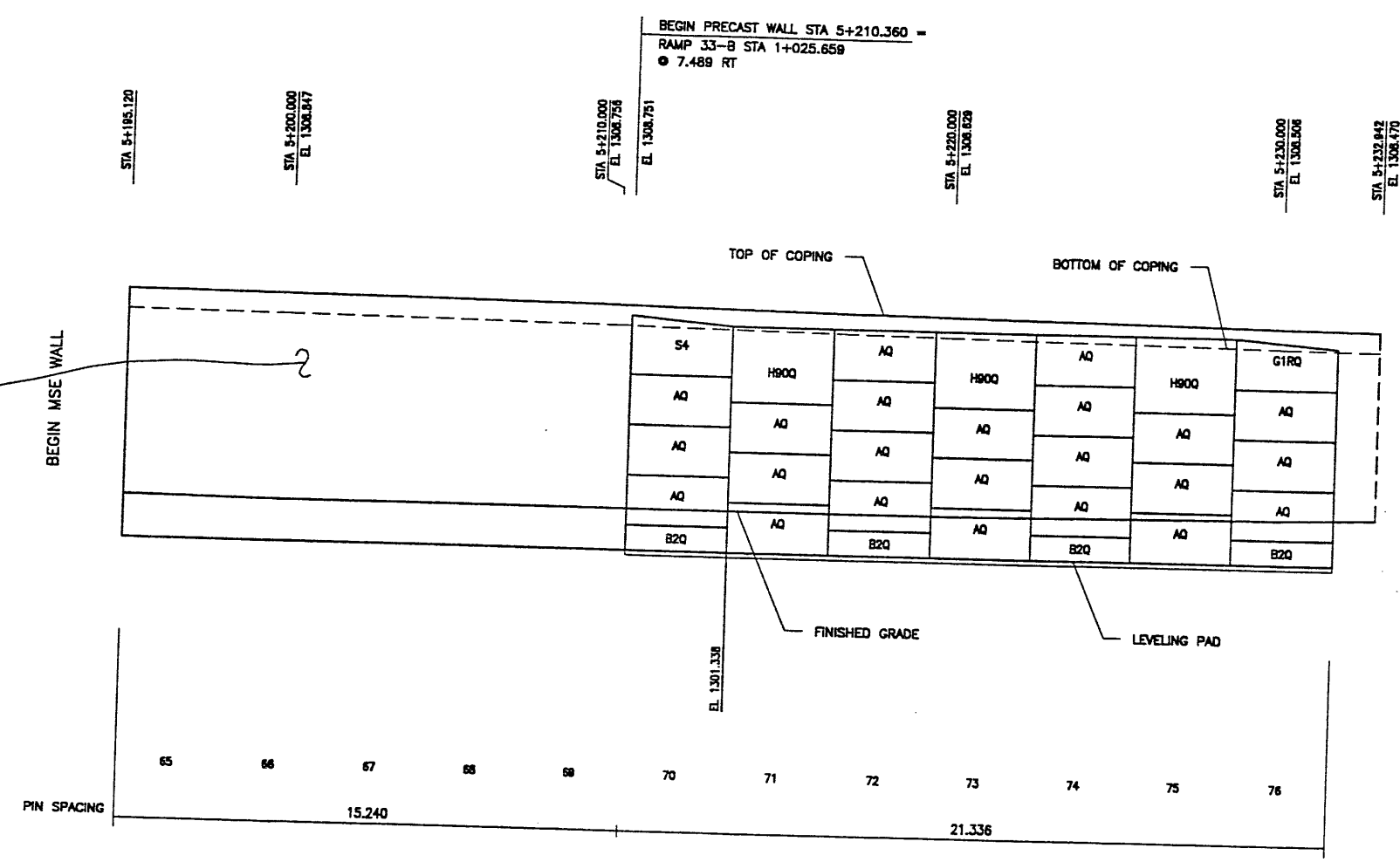
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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



18 of 18 METRIC

FINAL PLOT 03-09-99
 C:\V\DWG\33-SERIES\33-03\33-03
 REFERENCE (X-UTAH)DWG

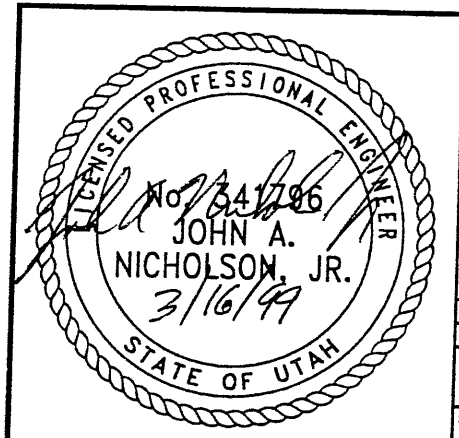
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION



RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,864.85 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

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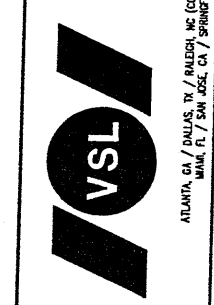


WASATCH CONSTRUCTORS
MAR 25 1999
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-3.19
JOB NO.	239-0007
SHT. NO.	RE-13

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DES.	DRN.	CHK.	NO.	DATE	REVISION	BY	CHK.
MM	DSW	MM					

RFC After Final Approval

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
Δ 03-09-99		RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION	BY	CHK

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 2810 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4669

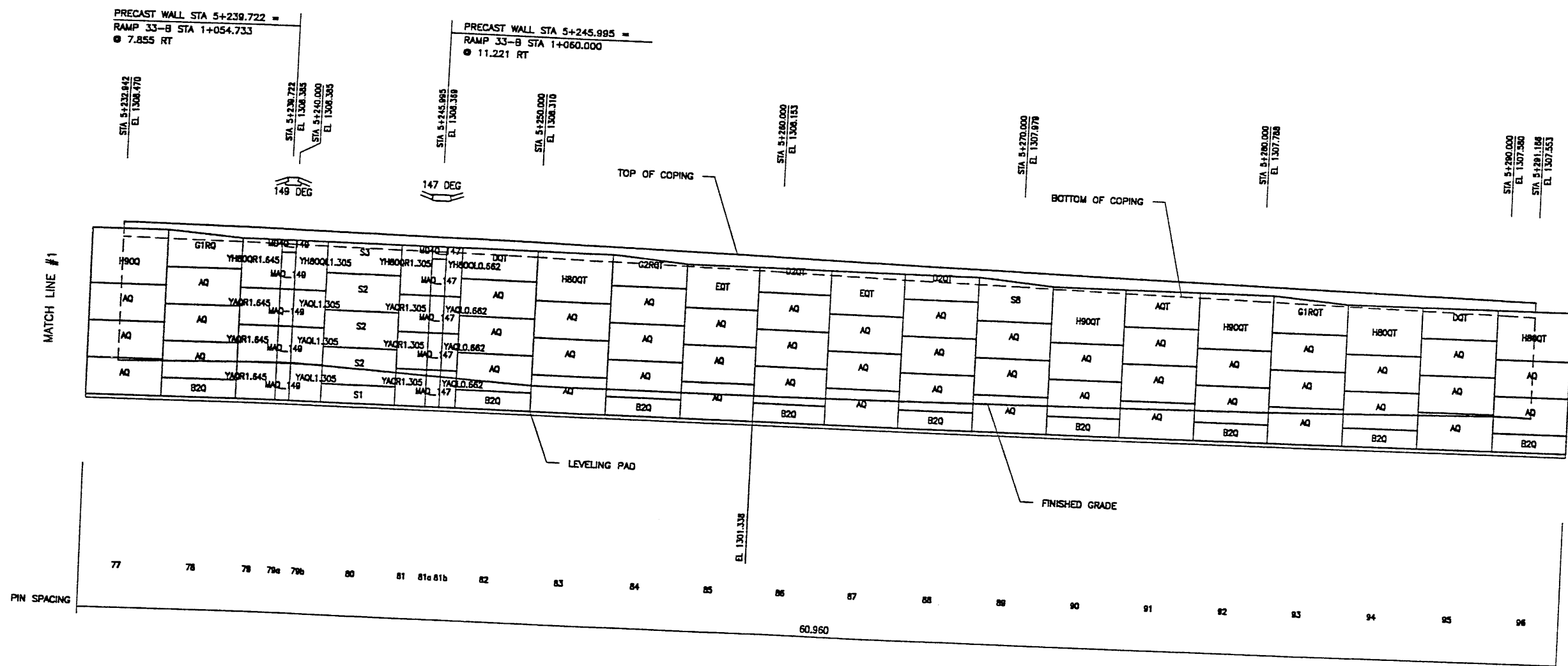
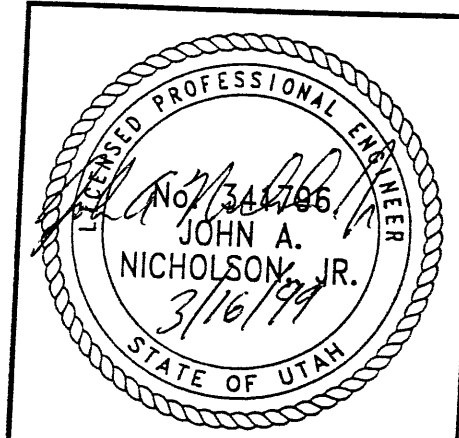
ATLANTA, GA / DANIA, TX / RALEIGH, NC (CORPORATE OFFICE)
 MINN. P. / SAN JOSE, CA / SPRINGFIELD, VA

VSL

WASATCH CONSTRUCTORS
MAR 25 1999
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-3.20
JOB NO.	239-0007
SHT. NO.	RE-14



RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,864.85 SM)

SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

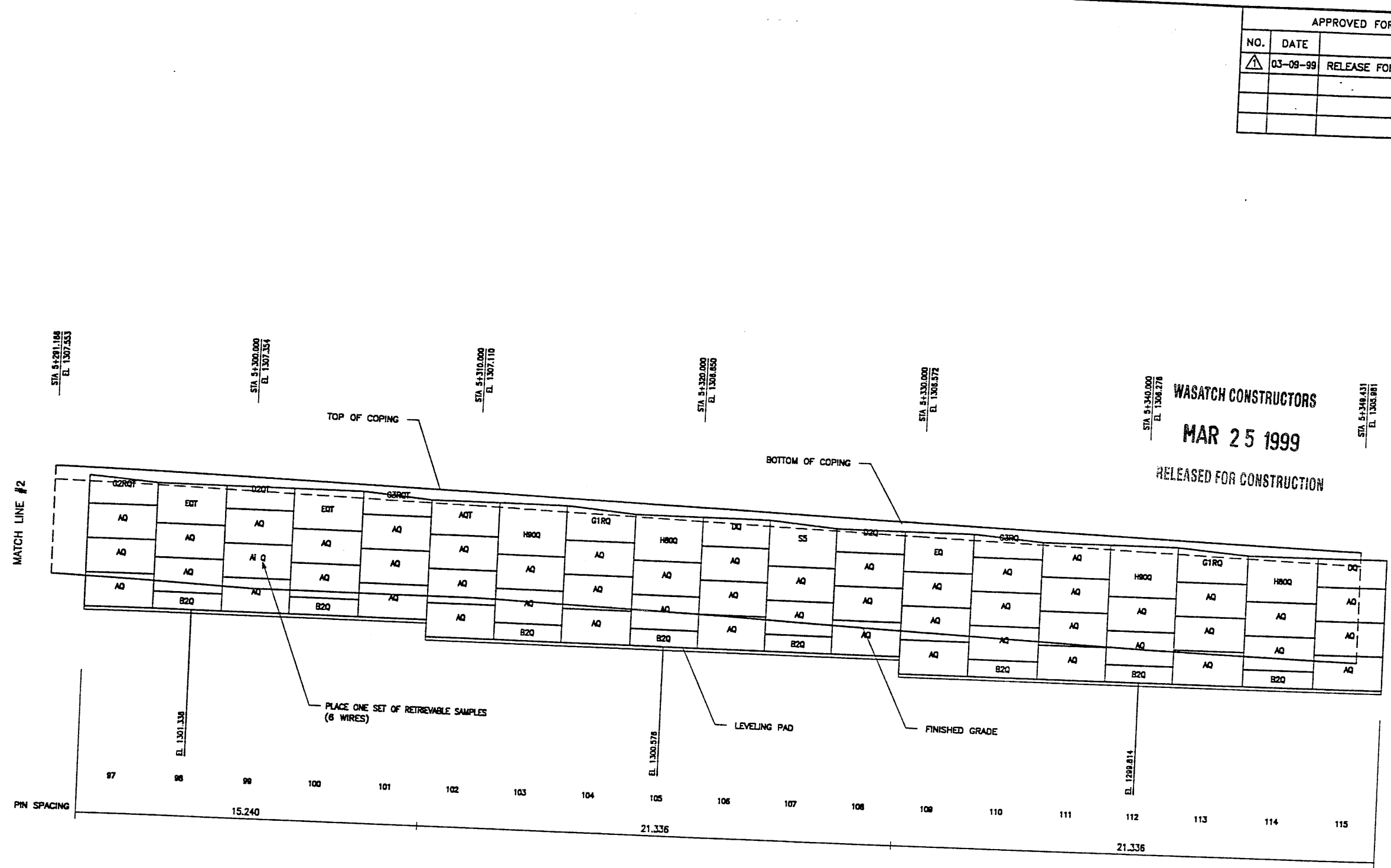
METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RFC After Final Approval

C:\MSE-DWG\33-SERIES\33-03\33-03

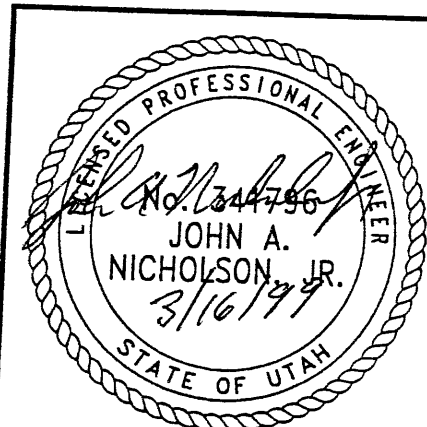
REFERENCE (X-UTAH.DWG)



RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,884.85 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION

WASATCH CONSTRUCTORS
MAR 25 1999
 RELEASED FOR CONSTRUCTION



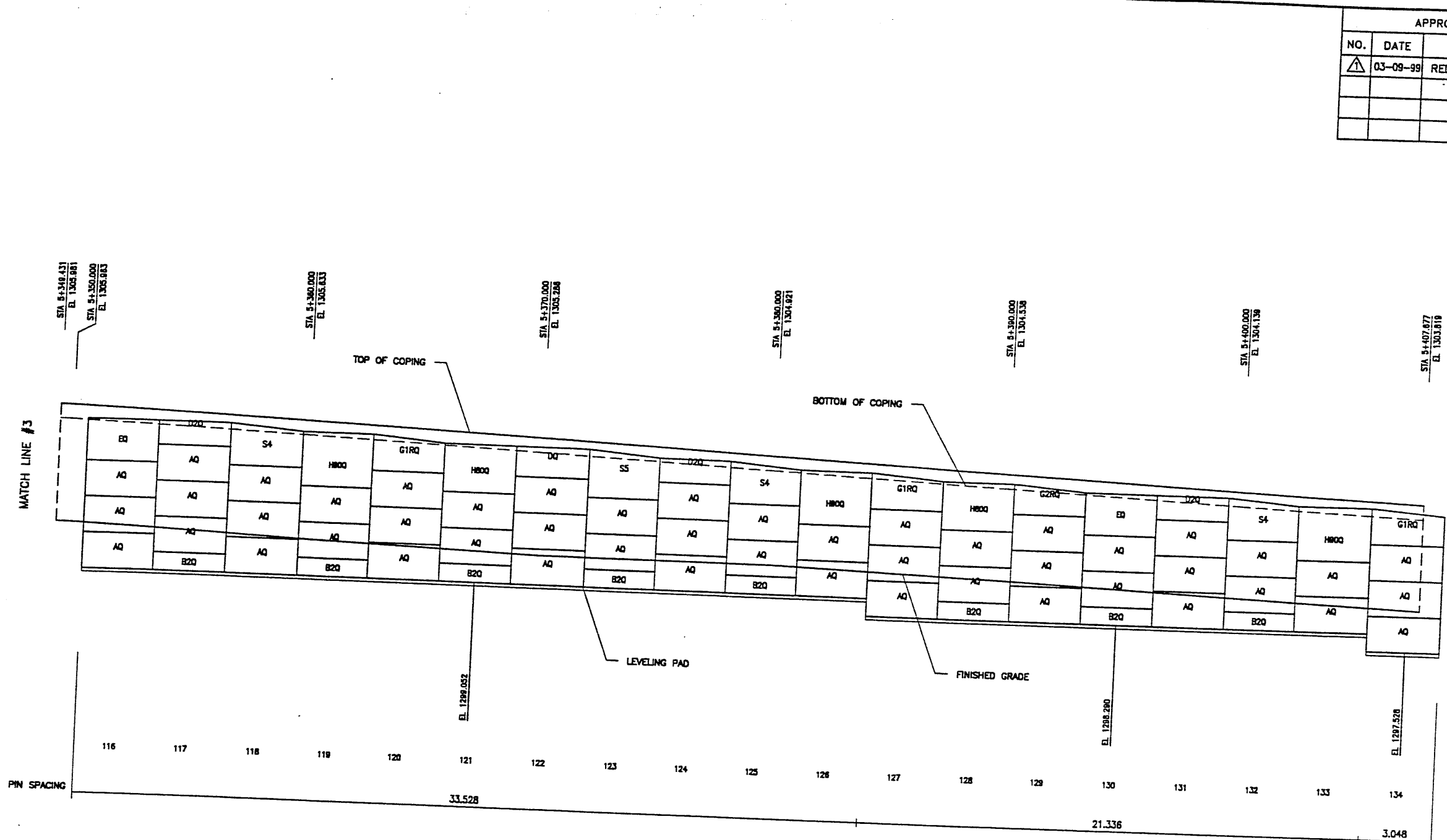
VSL CORPORATION
 2840 Pico Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4869

VSL Corporation (VSL) does a direct proprietary design and construction of retaining walls and related structures. Such information is made available to the public for their use in any engineering or construction project. The user assumes all liability for the use of this information. VSL does not assume any liability for the use of this information.

RETAINED EARTH™ WALLS
 WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.2R-346-3.21
 JOB NO.
 239-0007
 SH. NO.
 RE-15

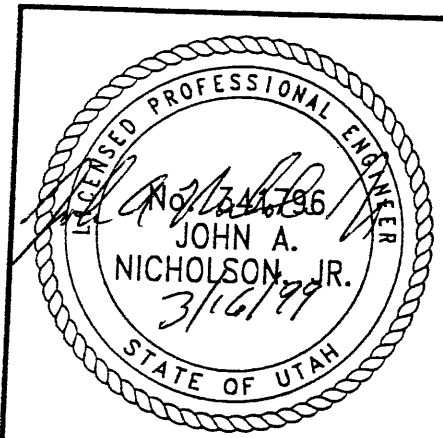
RFC After Final Approval



RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,864.85 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
MM	MM	MM				
DSW	DSW	DSW				
MM	MM	MM				

VSL CORPORATION
 2840 Post Price, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8172
 Fax: (919) 781-1669

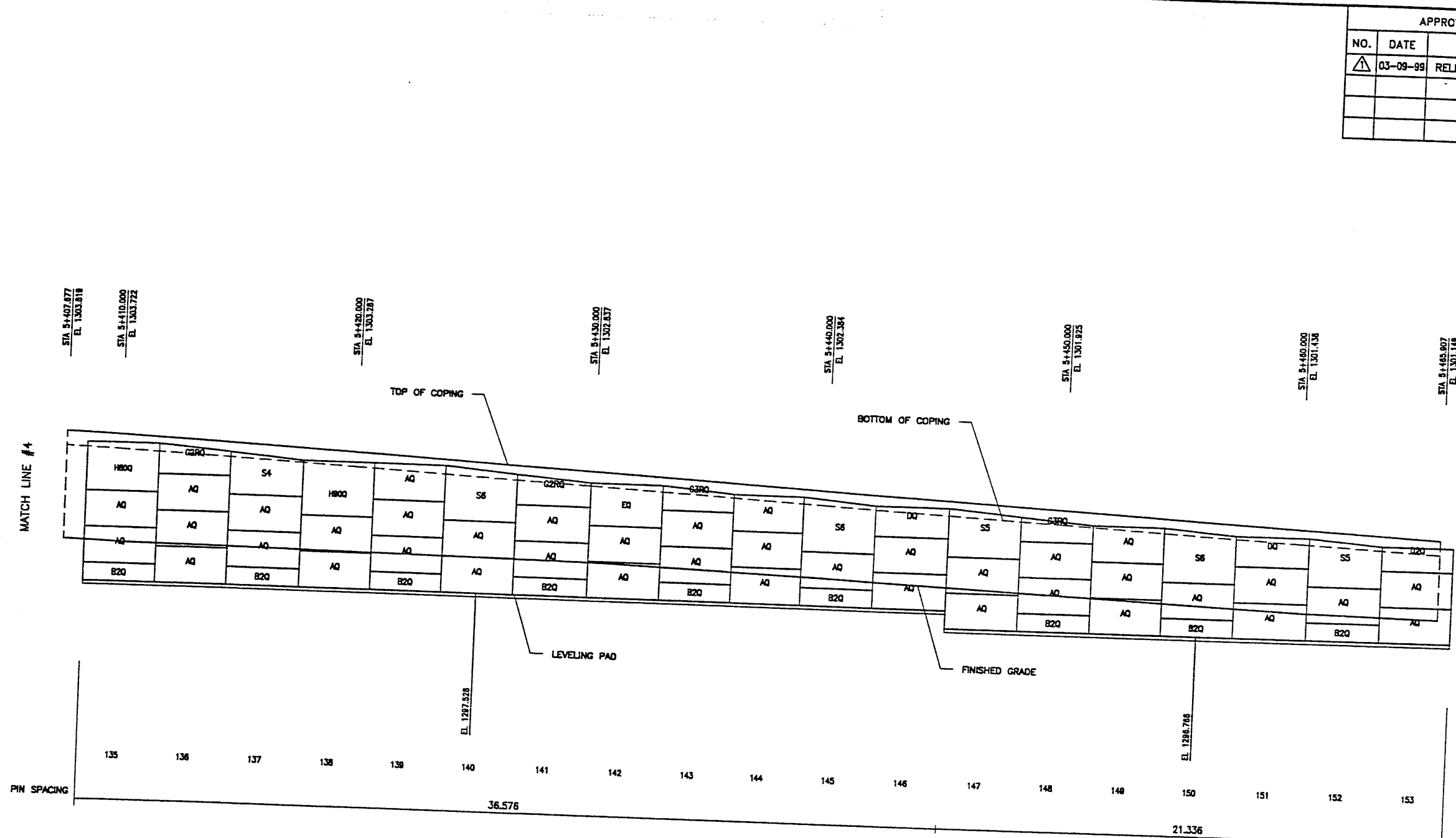
ATLANTA, GA / DALLAS, TX / BALTIMORE, MD (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
MAR 25 1999
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-3.22
JOB NO.	239-0007
SHT. NO.	RE-16

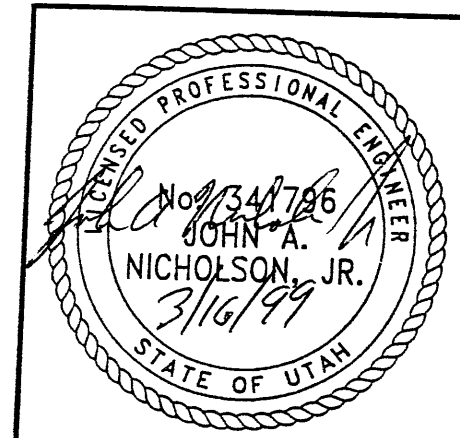
RFC After Final Approval



RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,864.85 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



APPROVED FOR CONSTRUCTION	
NO.	DATE
03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
MM	DSW	MM				
MM	DSW	MM				
MM	DSW	MM				

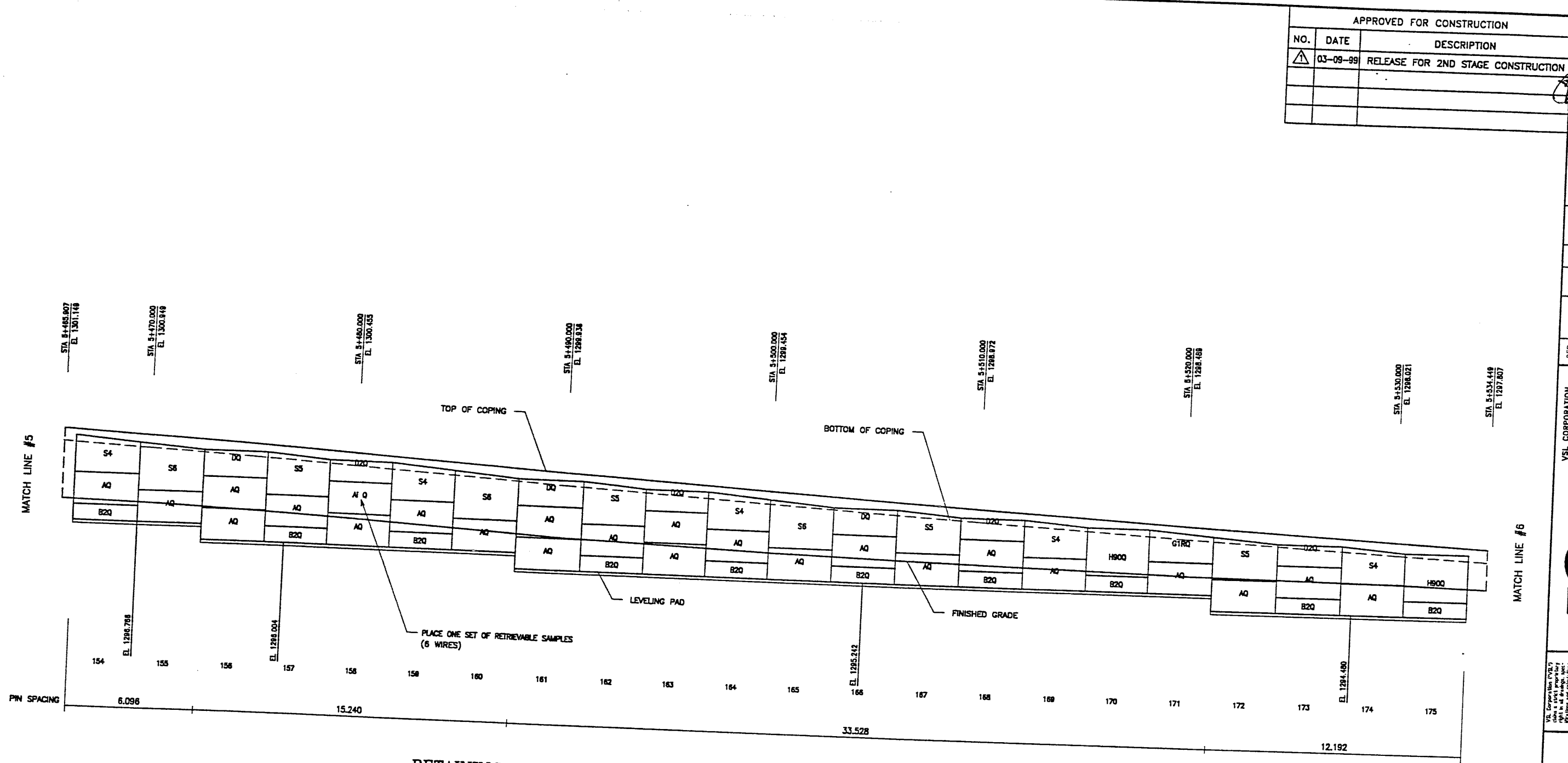
VSL CORPORATION
 2840 Potts Plaza, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-1889

ALABAMA, GA / DALLAS, TX / FALCON, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
MAR 25 1999
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
WALL "R-346-3" - 2ND STAGE: PRECAST WALL
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO.
2.2R-346-3.23
JOB NO.
239-0007
SHT. NO.
RE-17

RFC After Final Approval



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION

VSL CORPORATION
 7840 Peachtree Place, Suite 200
 Atlanta, GA 30342
 Telephone: (919) 781-6272
 Fac: (919) 781-6889



ALANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MINN. IA / SAN JOSE, CA / SPRINGFIELD, VA

VSL Corporation (VSL) warrants that the design and construction of the retaining wall shown on this drawing is in accordance with the design and construction specifications of the manufacturer of the retaining wall. VSL is not responsible for the design and construction of the retaining wall or for any other work that may be required for the retaining wall. VSL is not responsible for the design and construction of the retaining wall or for any other work that may be required for the retaining wall. VSL is not responsible for the design and construction of the retaining wall or for any other work that may be required for the retaining wall.

RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,864.85 SM)

SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

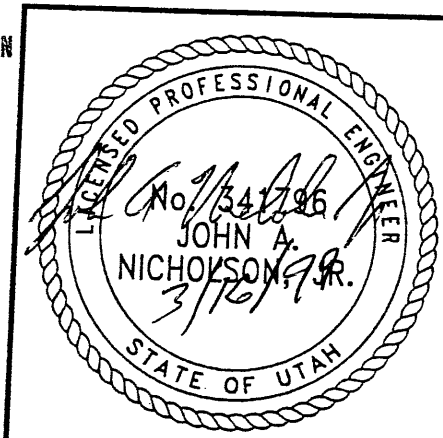
WASATCH CONSTRUCTORS

MAR 25 1999

RELEASED FOR CONSTRUCTION

METRIC

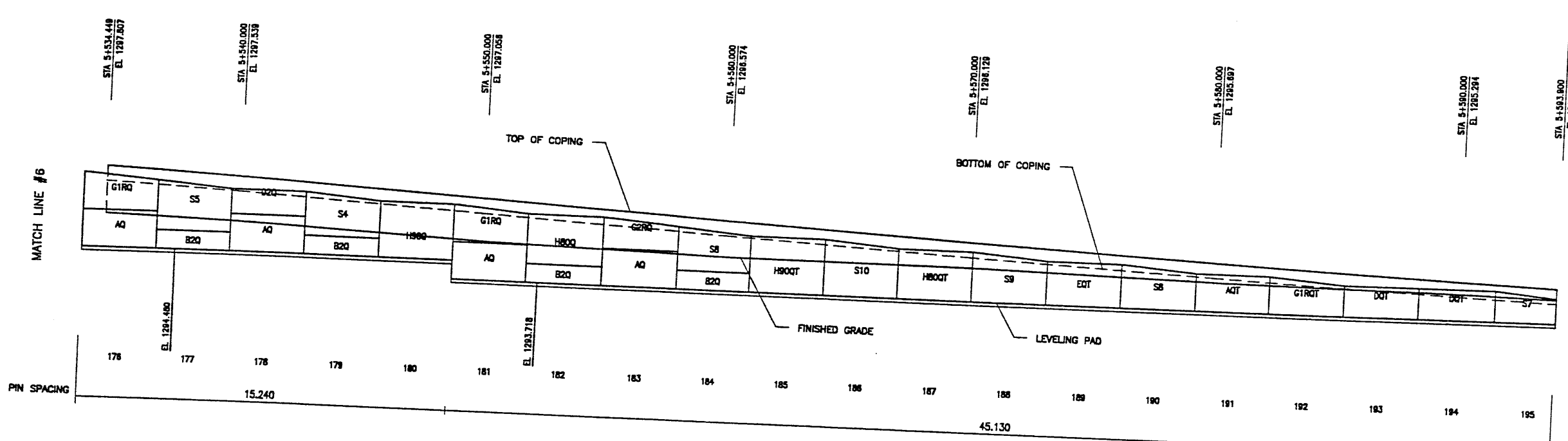
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	22R-346-3.24
JOB NO.	239-0007
SHT. NO.	RE-18

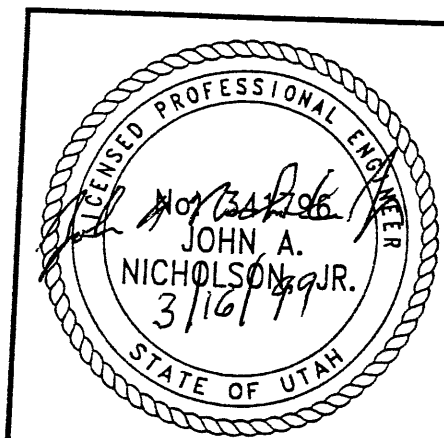
RFC After Final Approval



RETAINING WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1,864.85 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

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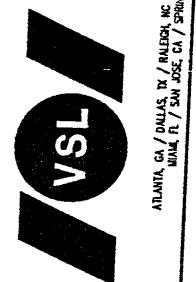
RFC After Final Approval

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION	CHK

END PRECAST WALL R-346-3
 PRECAST WALL STA 5+593.900 =
 RAMP 33-91 STA 1+399.472
 ● 16.527 RT

VSL CORPORATION
 2800 Plaza Plaza, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4989



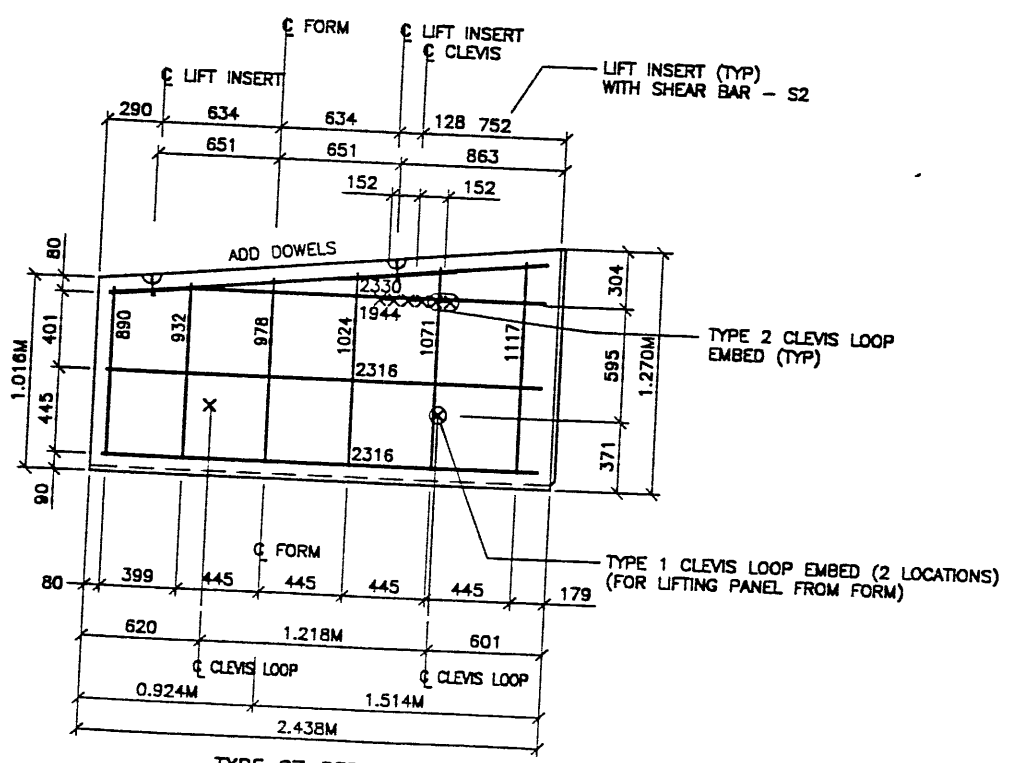
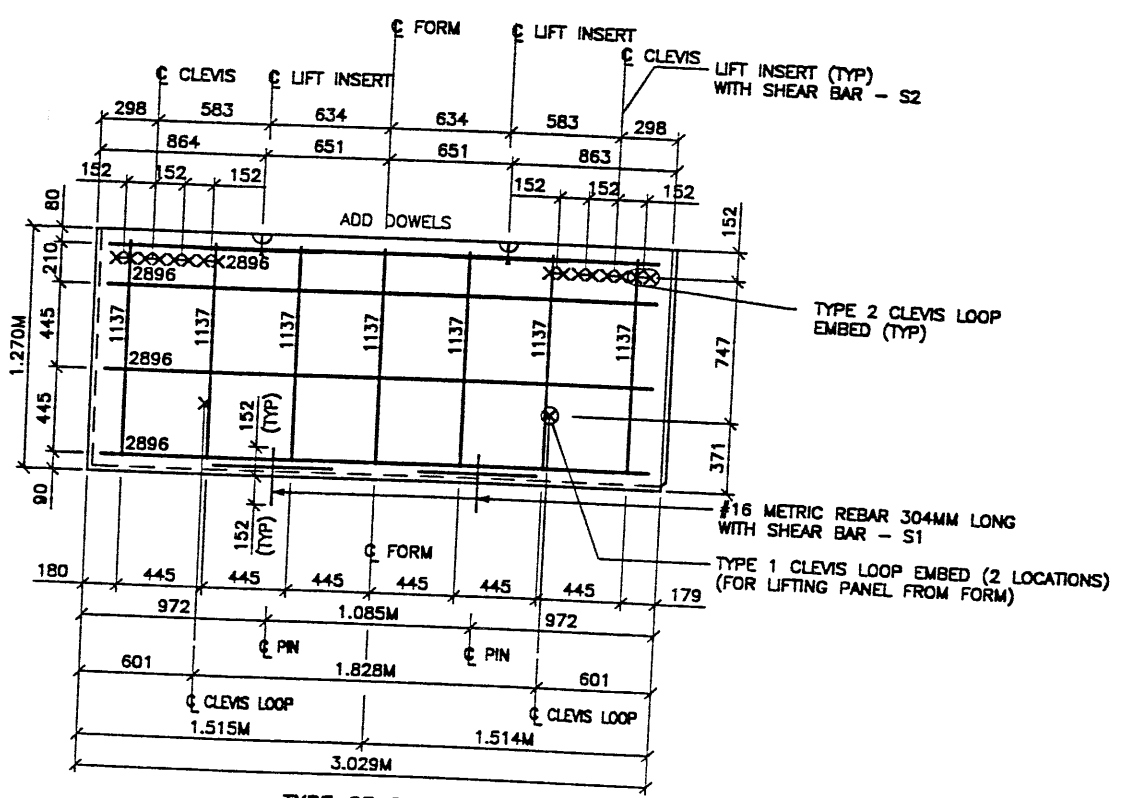
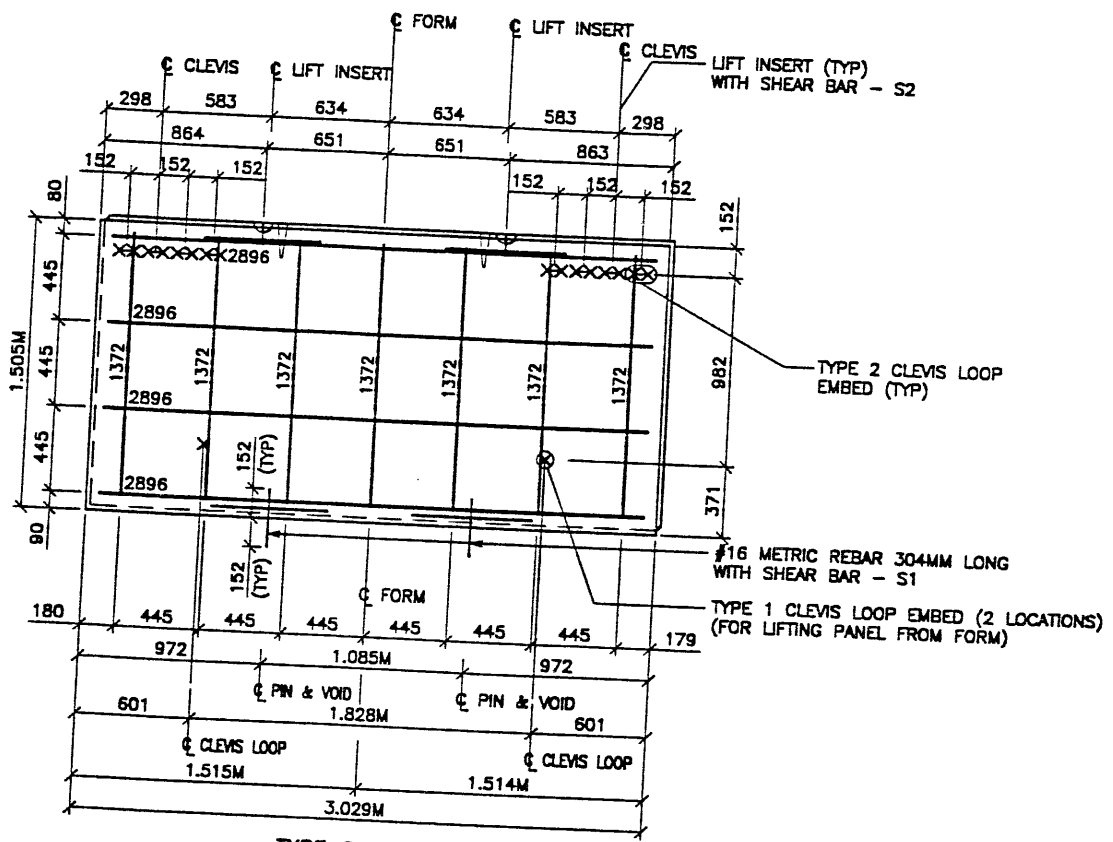
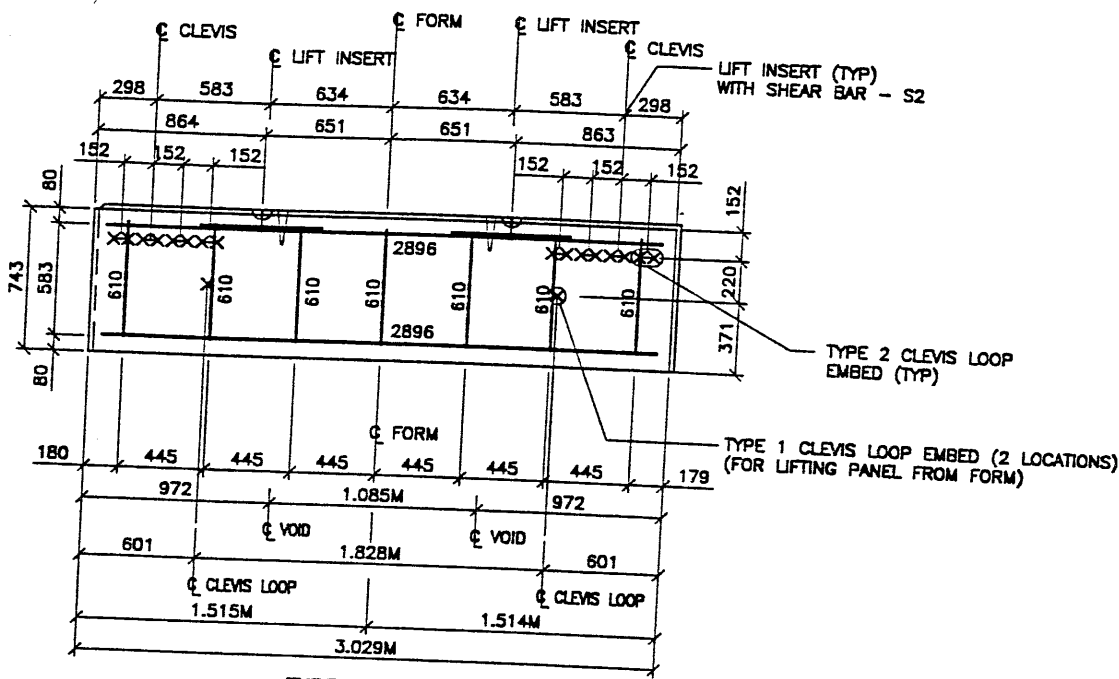
ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MOBILE, AL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 MAR 25 1999
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 WALL "R-346-3" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-3.25
JOB NO.	239-0007
SHT. NO.	RE-19

REFERENCE (X-UTAILDWG)



APPROVED FOR CONSTRUCTION			
NO.	DATE	DESCRIPTION	BY
1	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION	[Signature]

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 787 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 25,200 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm# WIDE CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL.
 - PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.
 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS.

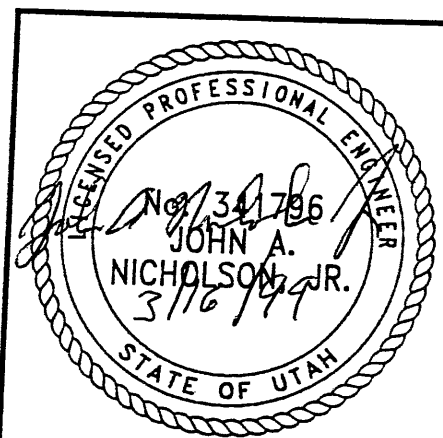
DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
03-09-99	MM					
03-09-99	DSW					
03-09-99	MM					

VSL CORPORATION
2840 River Road, Suite 200
Baltimore, MD 21286
Telephone: (410) 781-6372
Fac: (410) 781-6888



ATLANTA, GA / DALLAS, TX / BALTIMORE, MD (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
MAR 25 1999
RELEASED FOR CONSTRUCTION



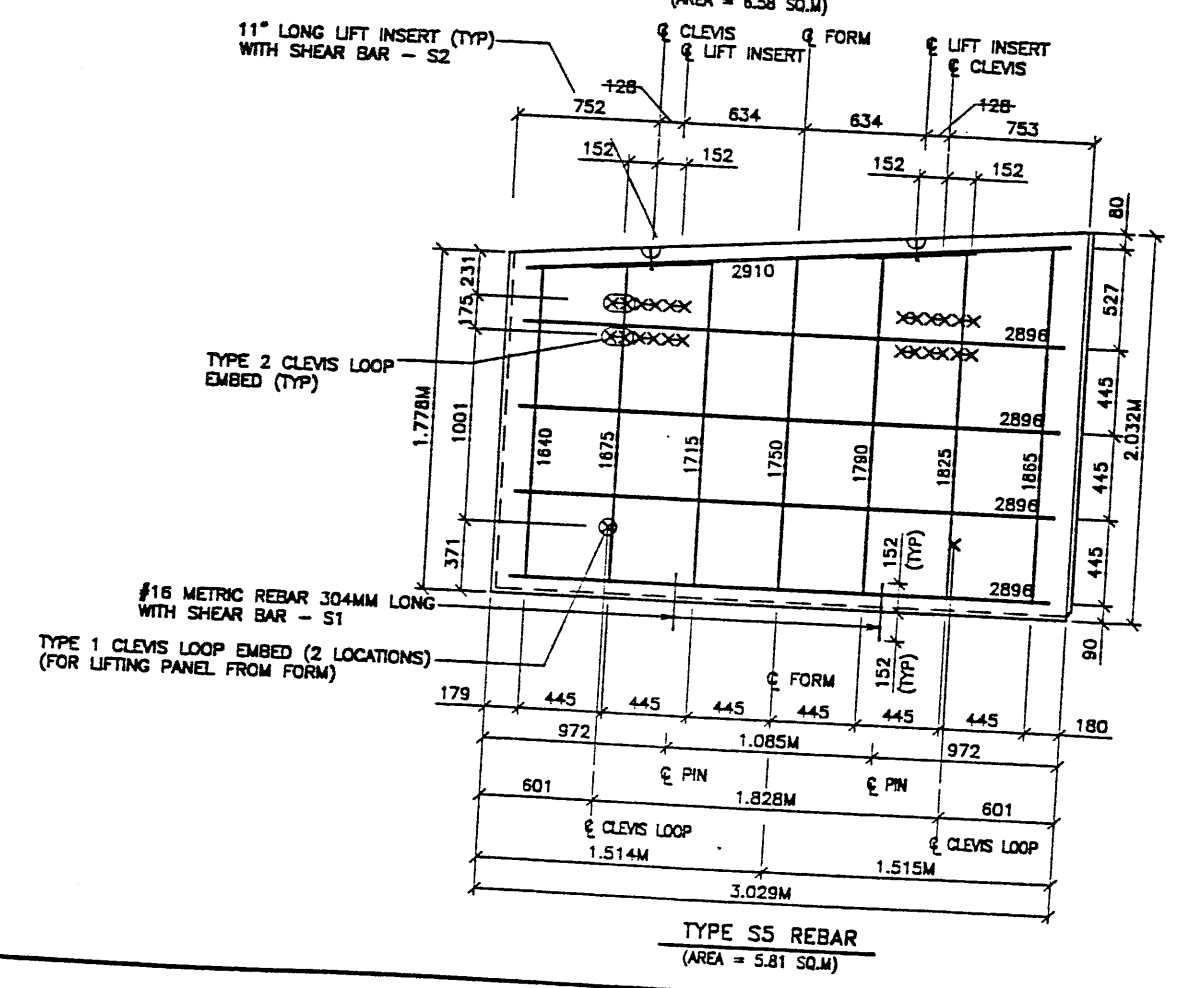
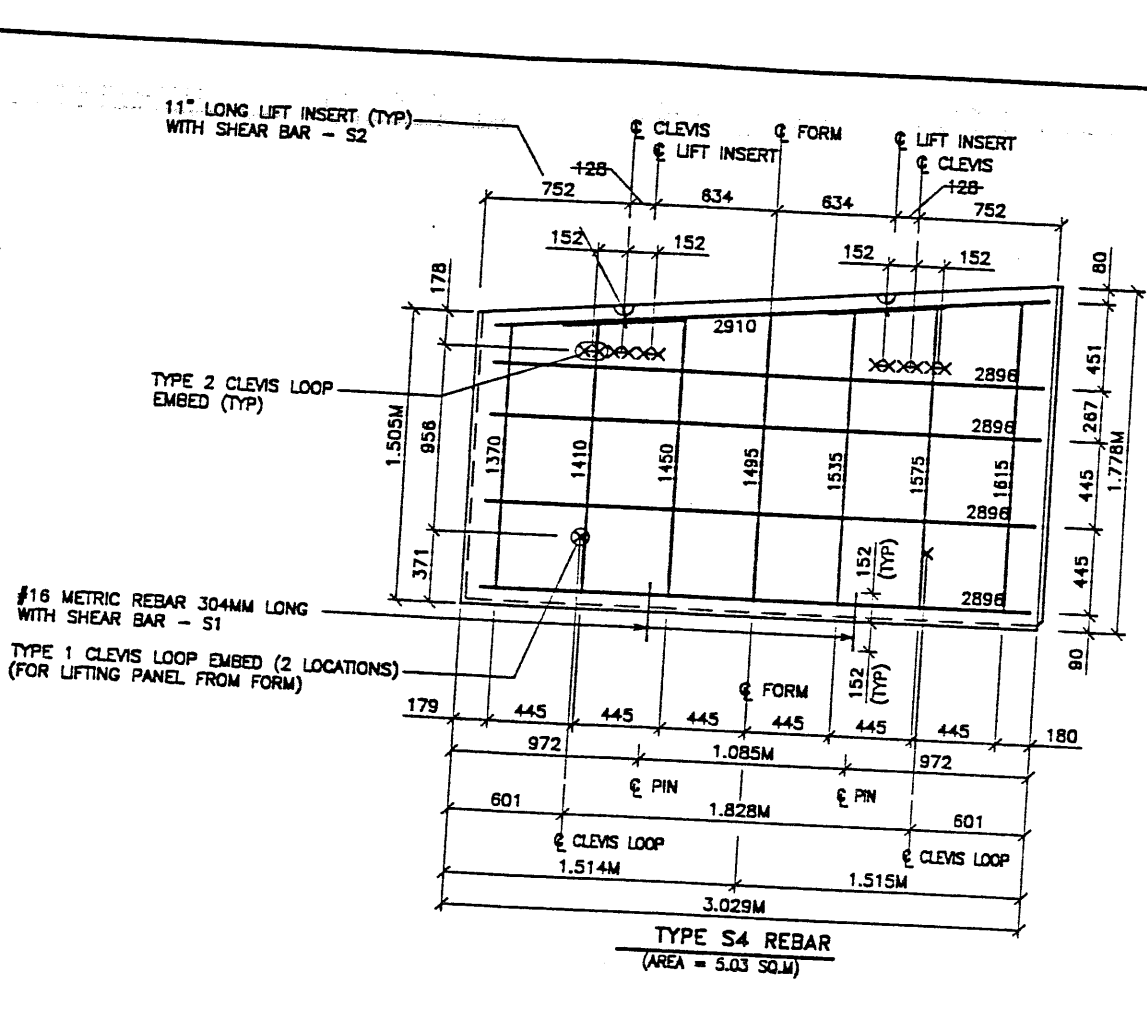
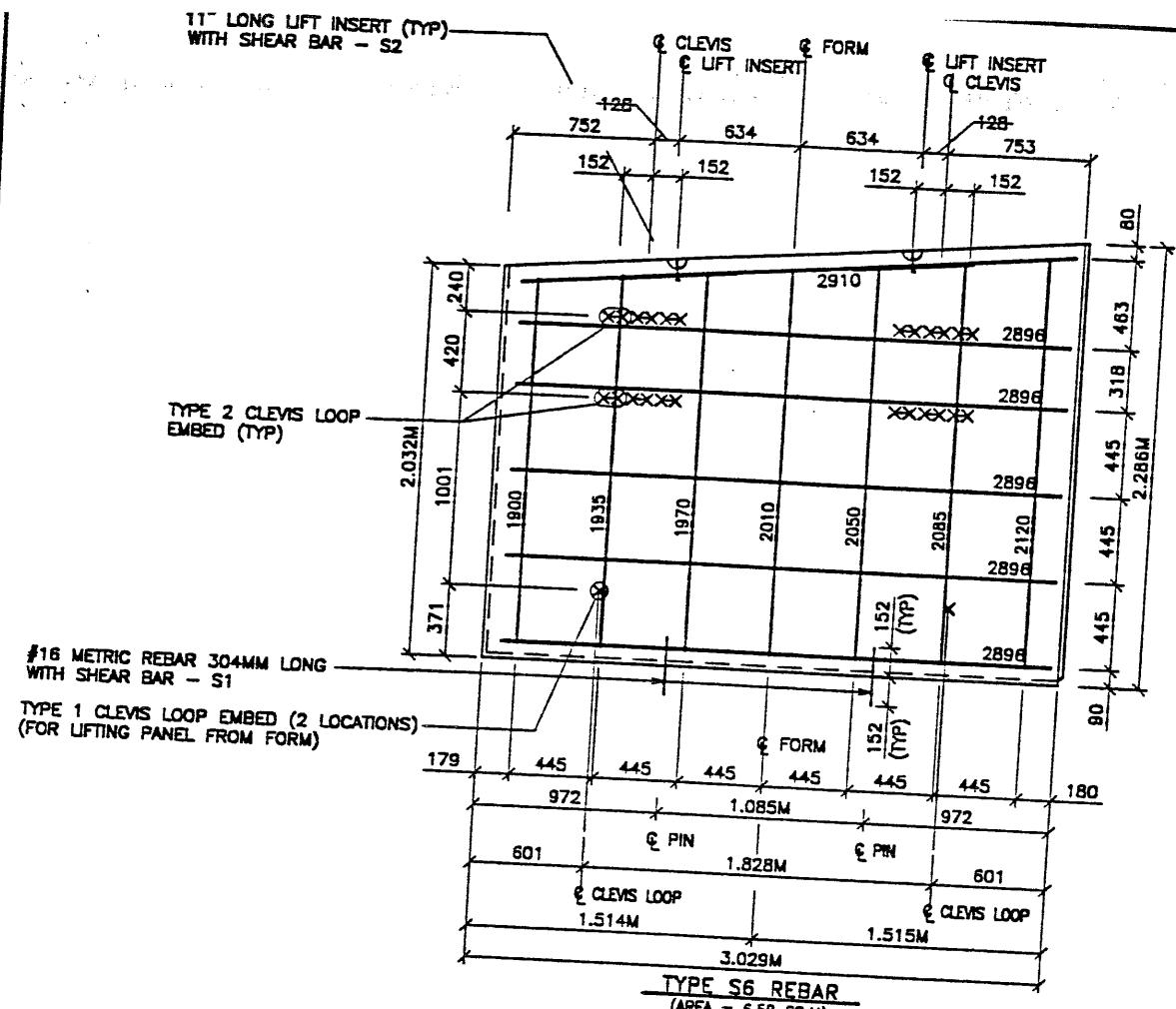
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

RETAINED EARTH™ WALLS
WALL "R-346-3"
2-STAGE PANEL REINFORCEMENT
600 NORTH / I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO. 22R-R346-3.26
JOB NO. 239-0007
SHT. NO. RE-20

RFC After Final Approval



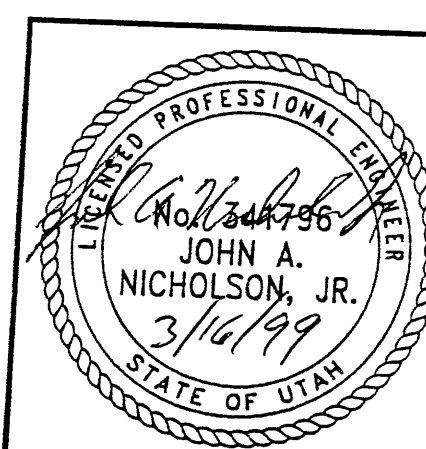
APPROVED FOR CONSTRUCTION			
NO.	DATE	DESCRIPTION	CHK
1	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION	

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
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 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
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 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 25,200 KPa.
 - EQUVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm WIDE CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL.
 - PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.
 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS.

VSL CORPORATION
 2800 Pavia Plaza, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 791-6272
 Fax: (919) 791-6889



WASATCH CONSTRUCTORS
 MAR 25 1999
 RELEASED FOR CONSTRUCTION



METRIC

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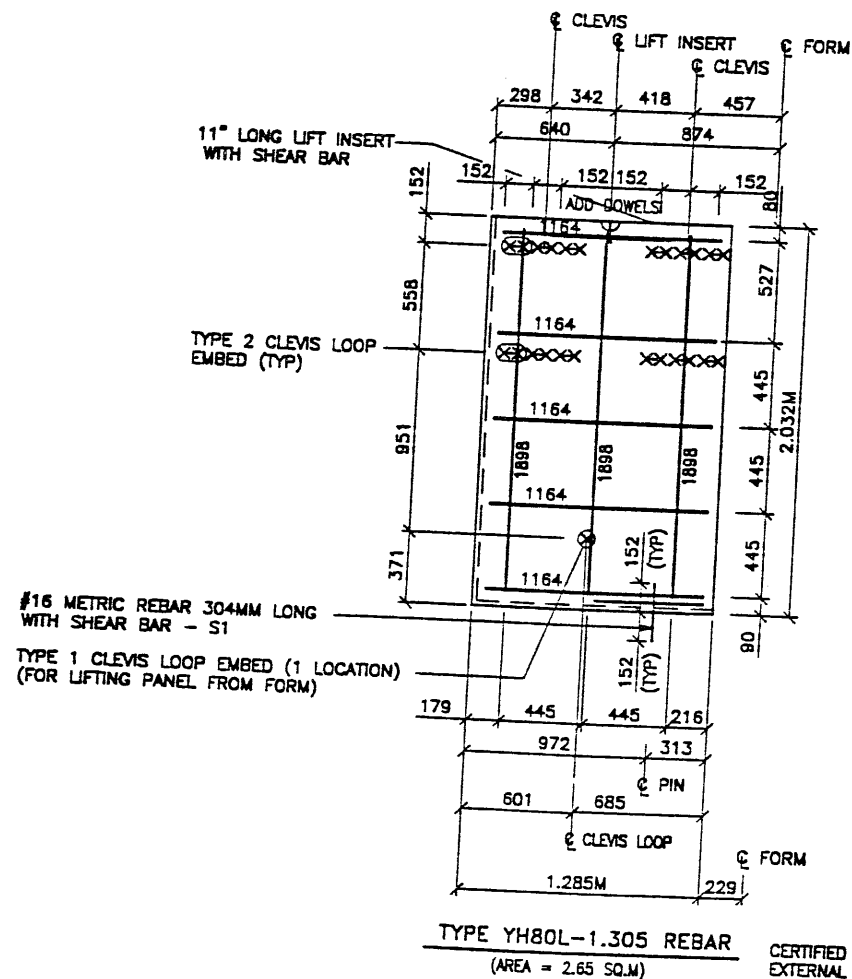
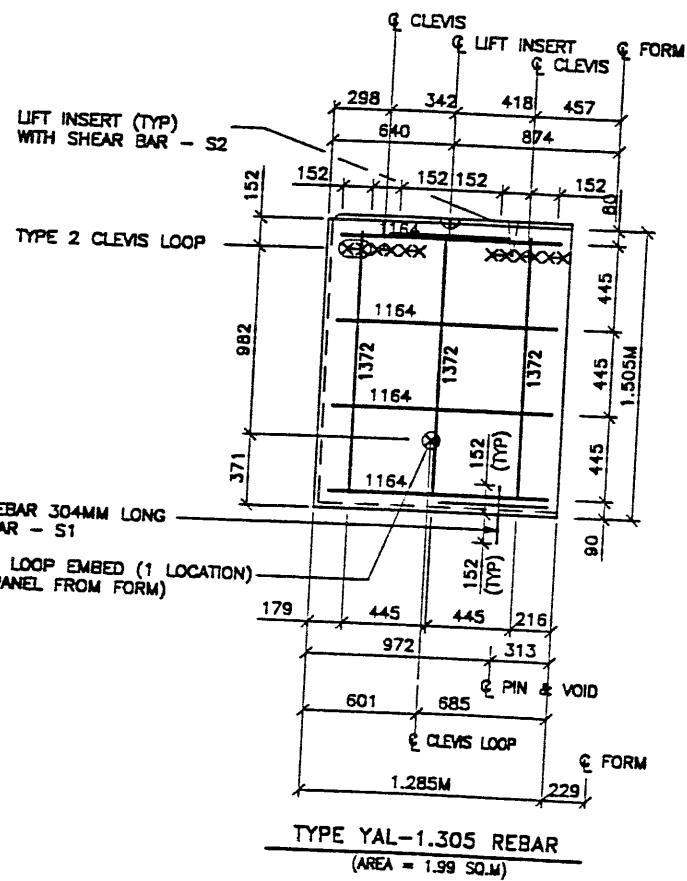
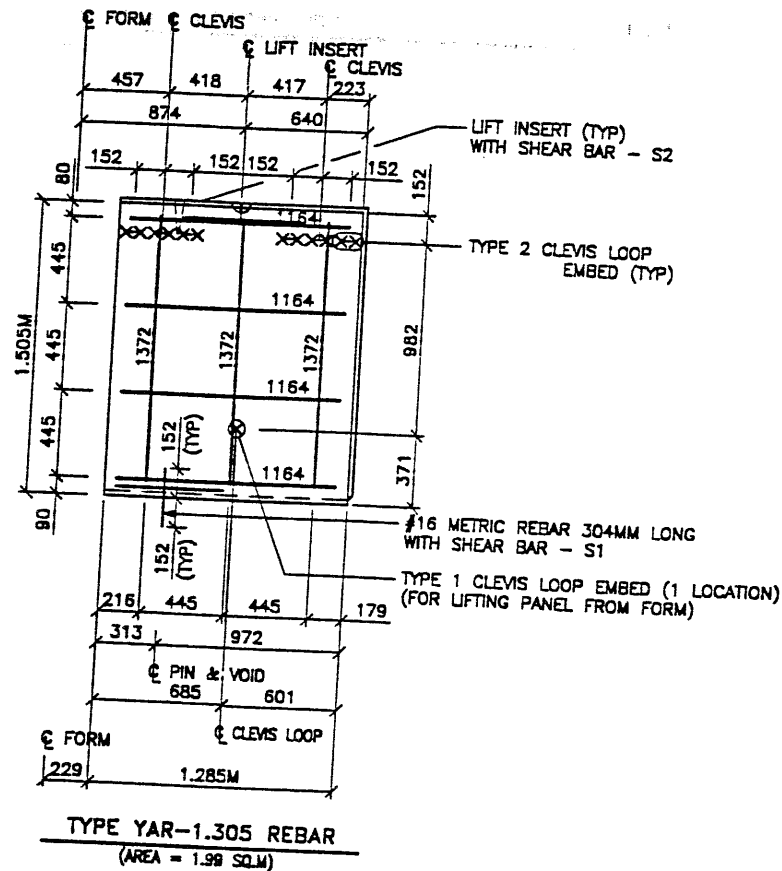
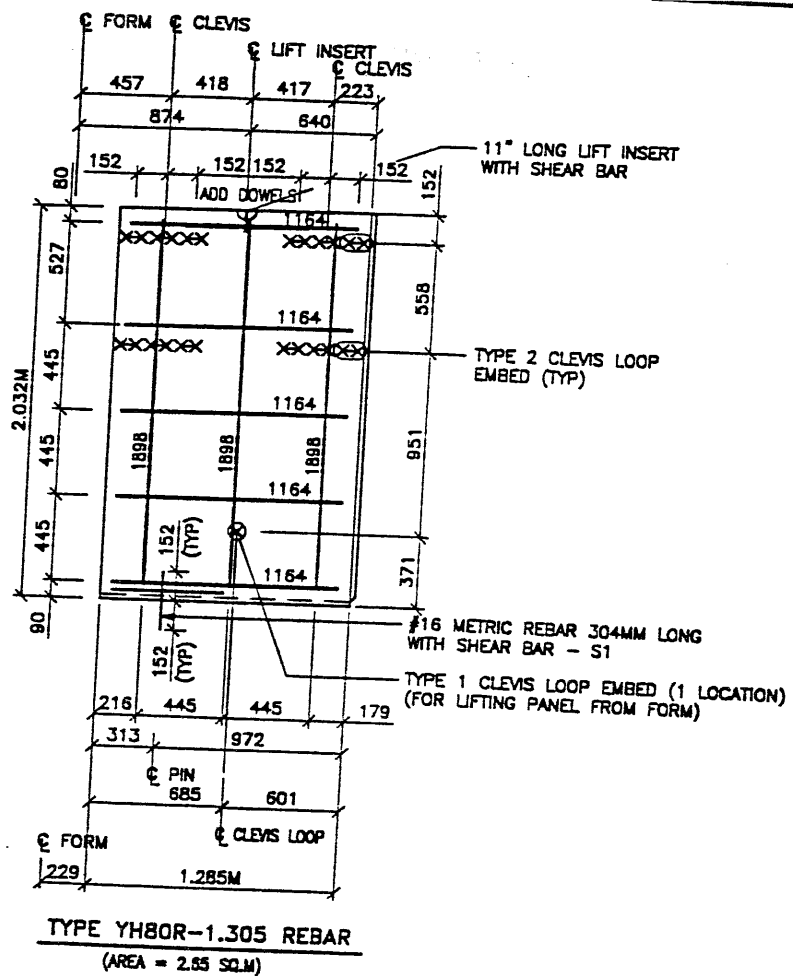
RETAINED EARTH™ WALLS
 WALL "R-346-3"
 2-STAGE PANEL REINFORCEMENT
 600 NORTH / I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
2.2R-R346-3.27

JOB NO.
239-0007

SHW. NO.
RE-21

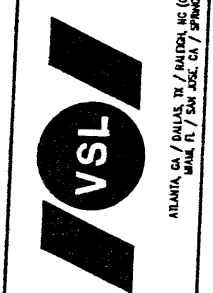
RFC After Final Approval



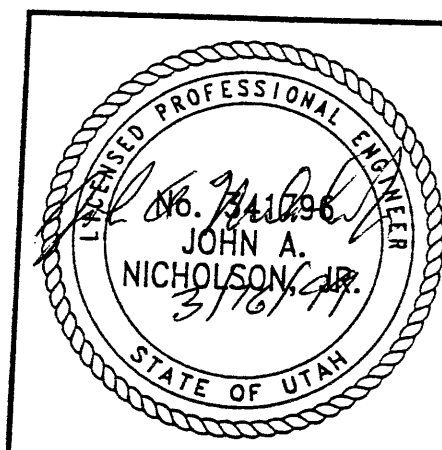
APPROVED FOR CONSTRUCTION		NO.	DATE	DESCRIPTION	BY	CHK
△	03-09-99			RELEASE FOR 2ND STAGE CONSTRUCTION		

- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
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VSL CORPORATION
2810 Plaza Place, Suite 200
Raleigh, NC 27617 (919) 781-8272
Telephone: (919) 781-8272
Fax: (919) 781-4989



WASATCH CONSTRUCTORS
MAR 25 1999
RELEASED FOR CONSTRUCTION



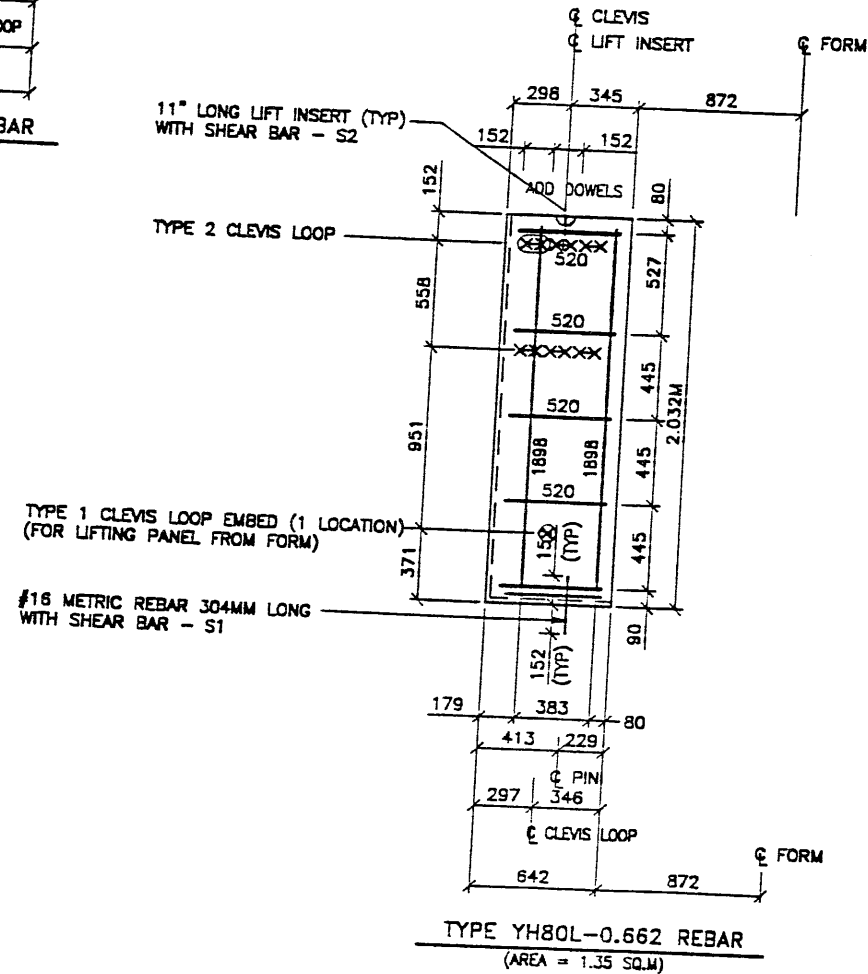
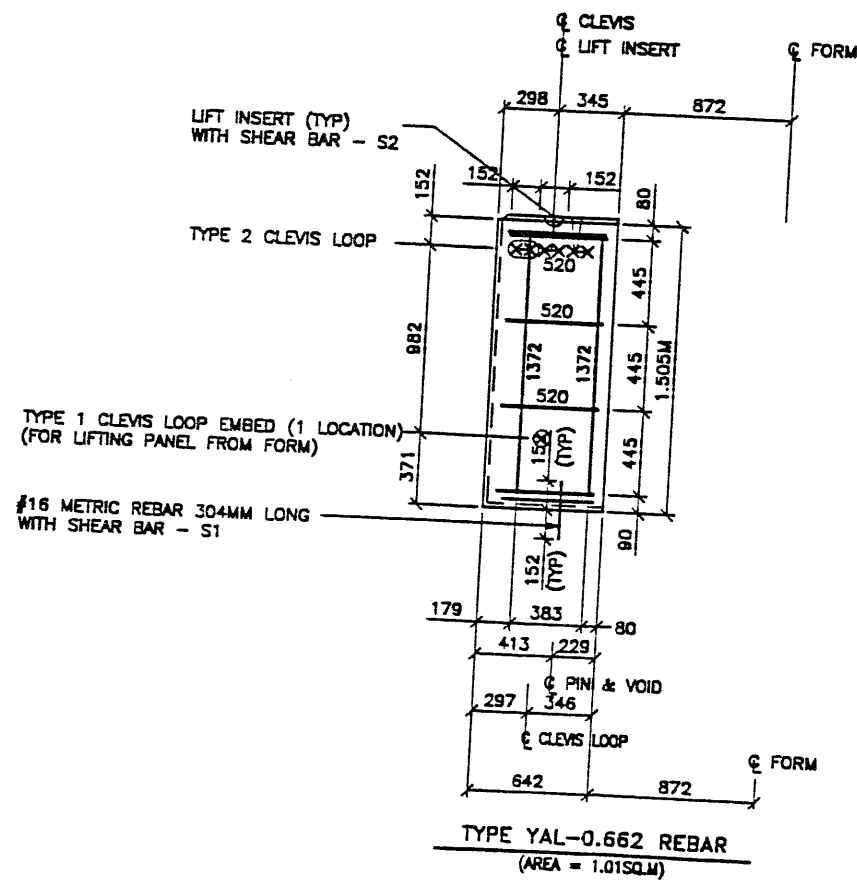
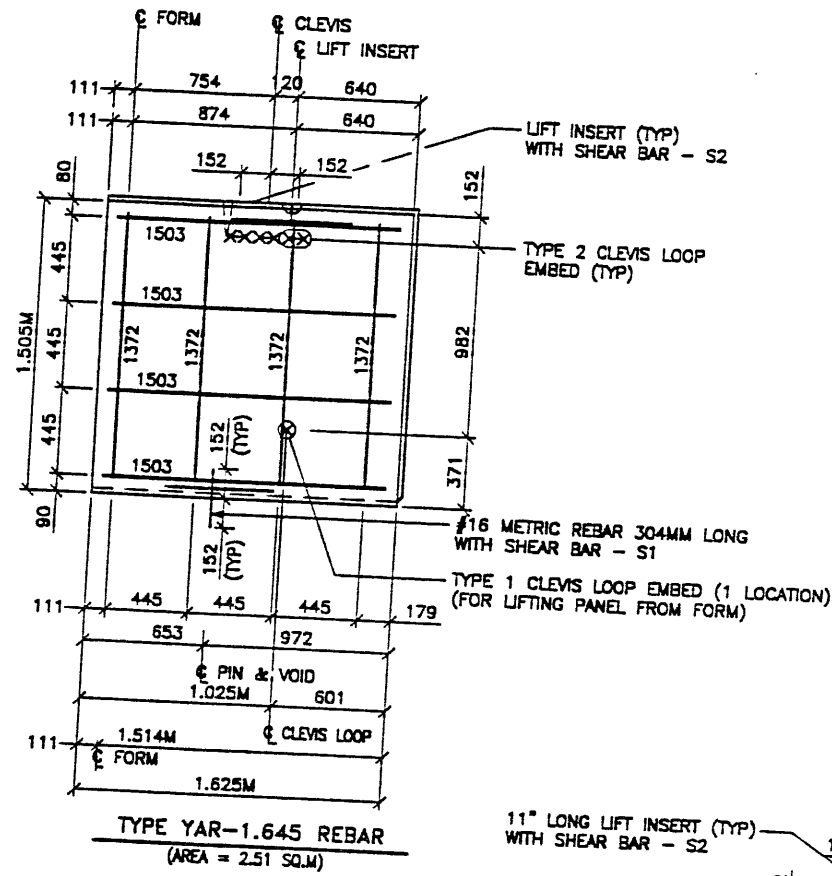
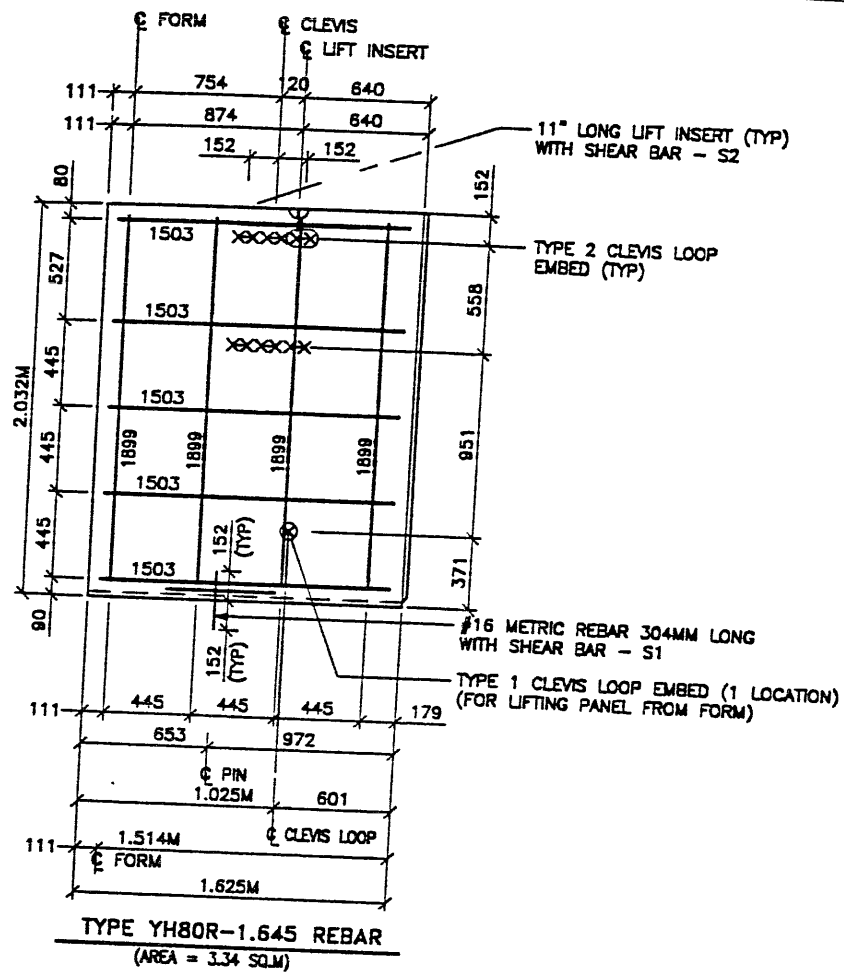
RETAINED EARTH™ WALLS
WALL "R-346-3"
2-STAGE PANEL REINFORCEMENT
600 NORTH / I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.
2.2R-346-3.2B
JOB NO.
239-0007
SHT. NO.
RE-22

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RFC After Final Approval



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 25,200 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm# WIDE CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.
 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS

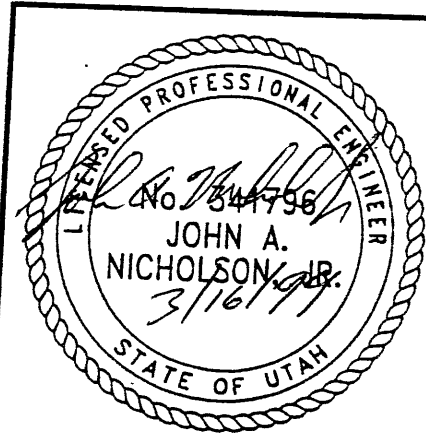
NO.	DATE	REVISION

VSL CORPORATION
2810 Pava Place, Suite 200
Boulder, CO 80501
Tel: (303) 440-5272
Fax: (303) 440-1688

VSL

ALUMINUM, GA. / DALLAS, TX. / WASHINGTON, DC (CORPORATE OFFICE)
MIAMI, FL. / SAN JOSE, CA. / SPRINGFIELD, VA.

WASATCH CONSTRUCTORS
MAR 25 1999
RELEASED FOR CONSTRUCTION

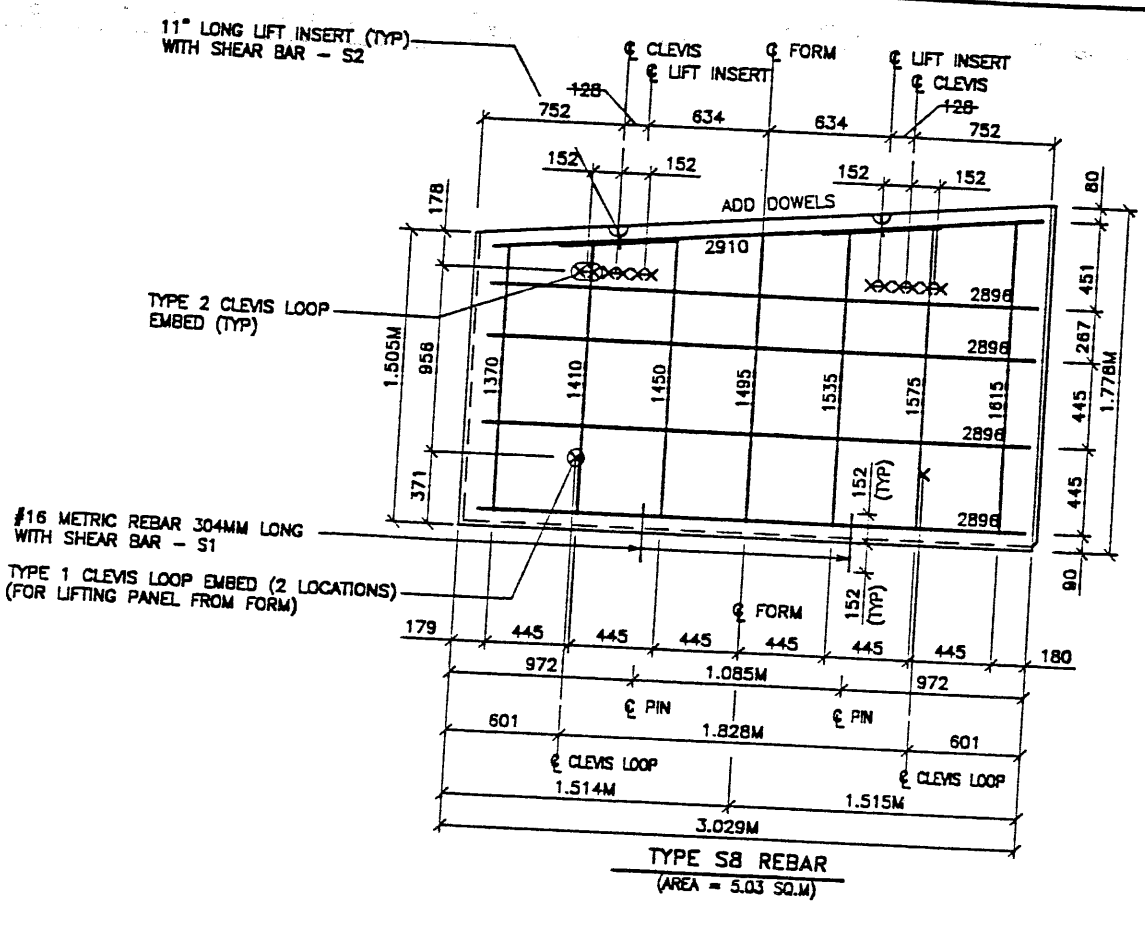
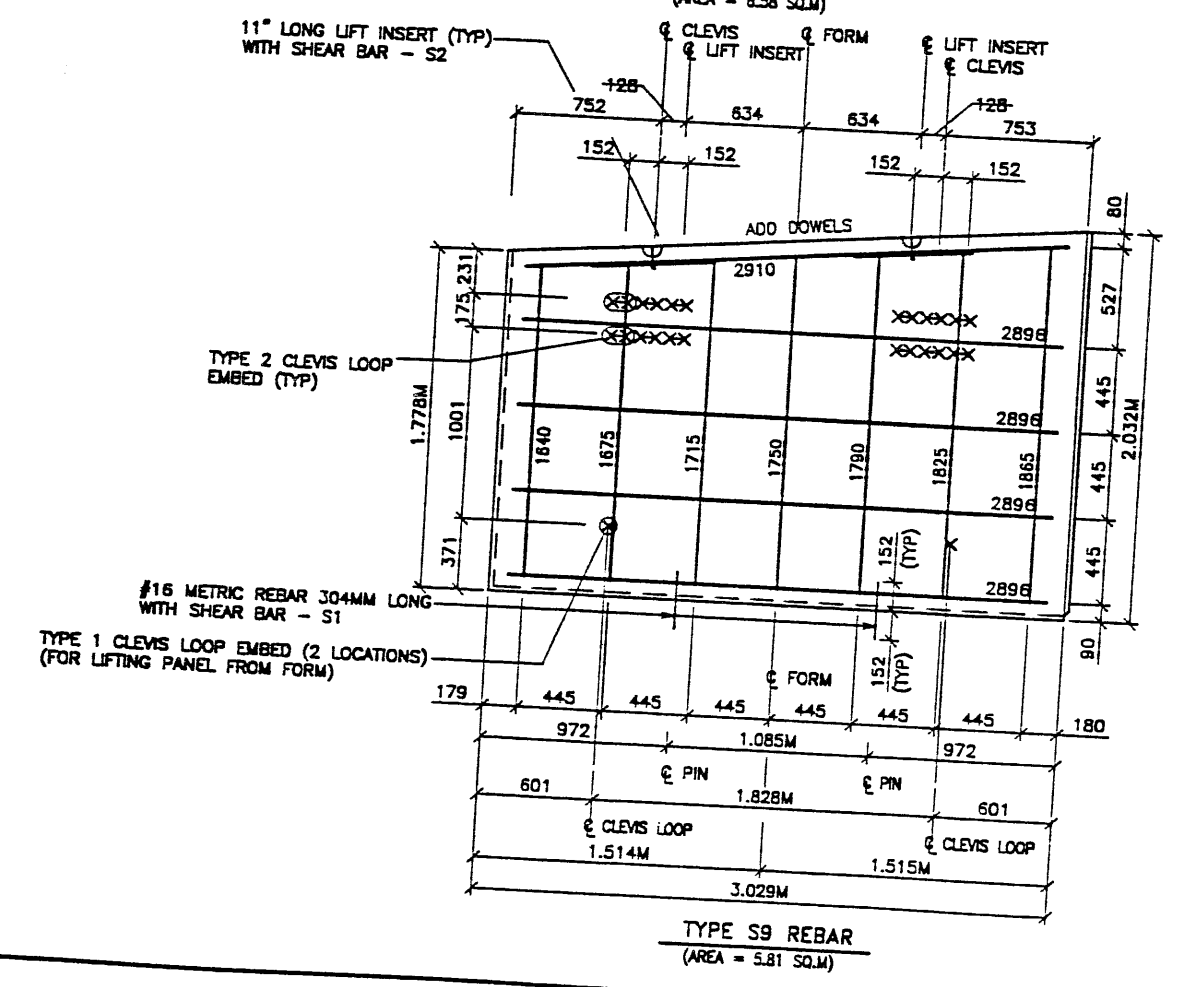
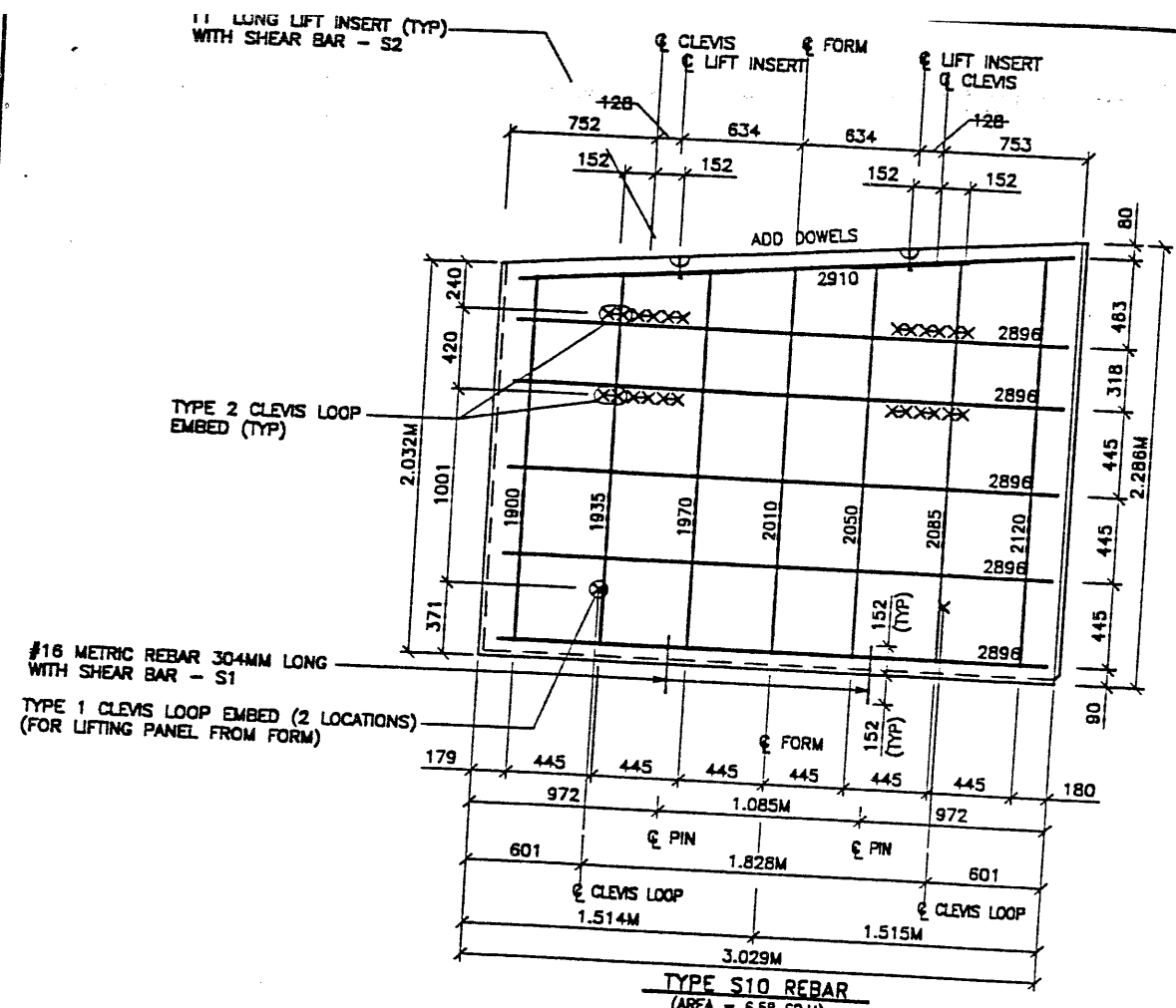


RETAINED EARTH™ WALLS
WALL "R-346-3"
2-STAGE PANEL REINFORCEMENT
600 NORTH / I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-R346-3.29
JOB NO.	239-0007
SHT. NO.	RE-23

RFC After Final Approval

REFERENCE (X-UTAH)



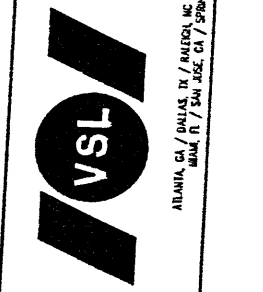
APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	BY	CHK
1	03-09-99	RELEASE FOR 2ND STAGE CONSTRUCTION		

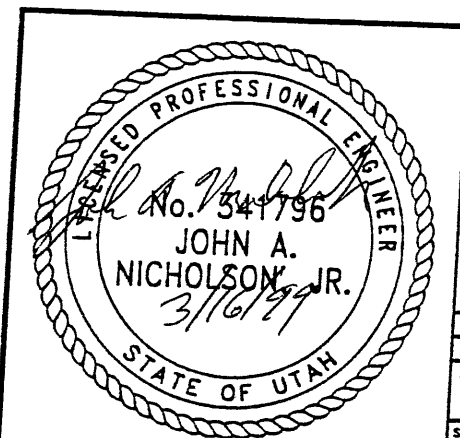
- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 25,200 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm WIDE CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL.
 - PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.
 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS.

DES.	MM	RSW	MM	NO.	DATE	REVISION
08-19-98						
08-19-98						
08-19-98						

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617 781 6272
 Telephone: (919) 781-6272
 Fax: (919) 781-4989



WASATCH CONSTRUCTORS
 MAR 25 1999
 RELEASED FOR CONSTRUCTION



CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

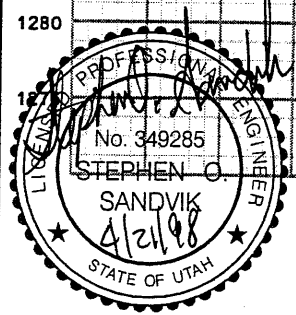
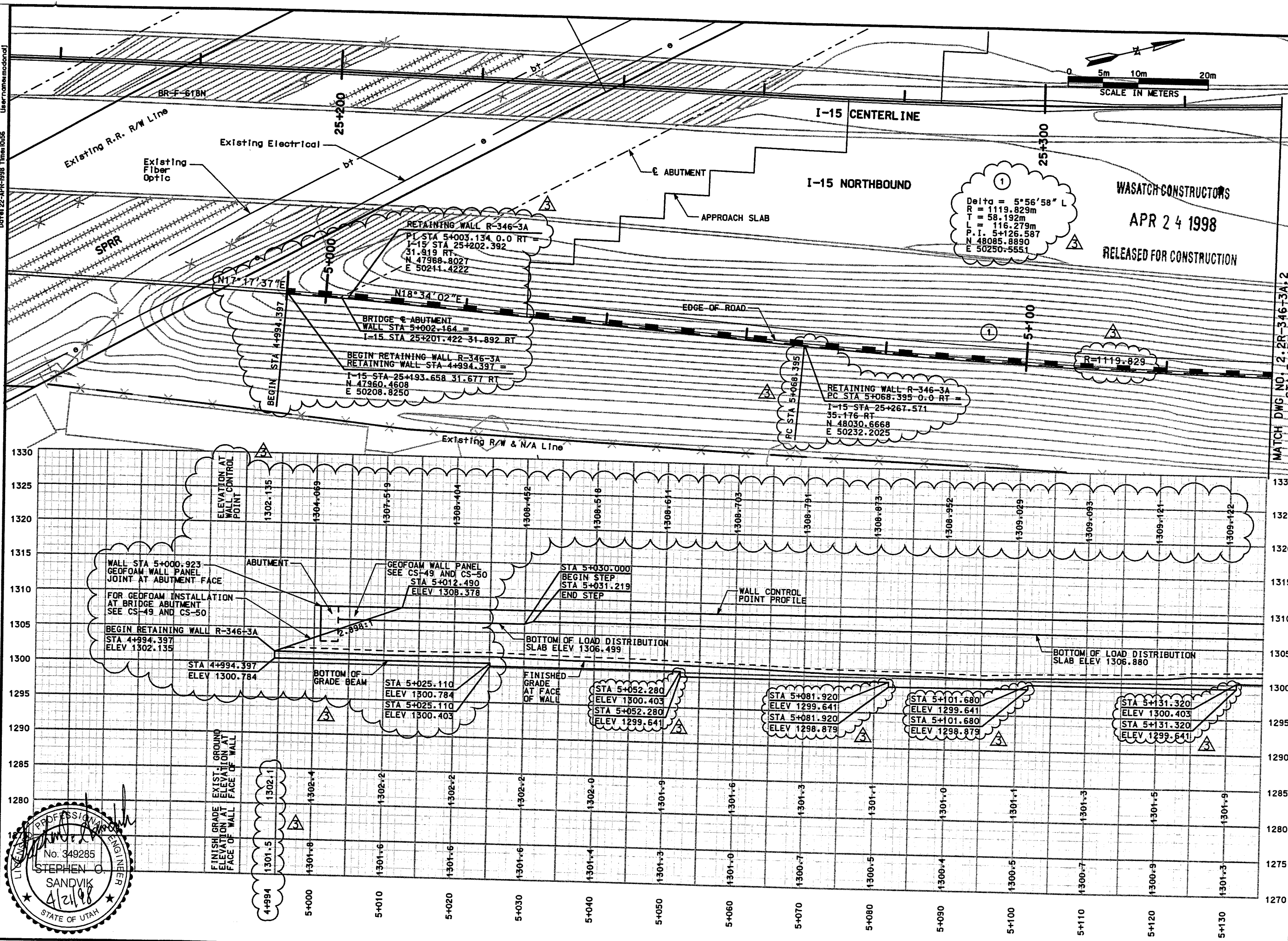
RETAINED EARTH™ WALLS
 WALL "R-346-3"
 2-STAGE PANEL REINFORCEMENT
 600 NORTH / I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

OWG. NO.	2.2R-R346-3.30
JOB NO.	239-0007
SHR. NO.	RE-24

RFC After Final Approval

Date: 22-APR-1998 Time: 09:56 User: mmmacdonald

Filename: c:\dgn\lib_cadd\35_97\rev\slon_files\wall\ca3\wall-03a.dgn



WASATCH CONSTRUCTORS
APR 24 1998
RELEASED FOR CONSTRUCTION

UTAH DEPARTMENT OF TRANSPORTATION
 MK CENTENNIAL
 SVERDRUP/DE LEUW

I-15 CORRIDOR RECONSTRUCTION
 SITUATION & LAYOUT R-346-3A
 SECTION 2.2
 PROJECT NUMBER *SP-15-7(135)296

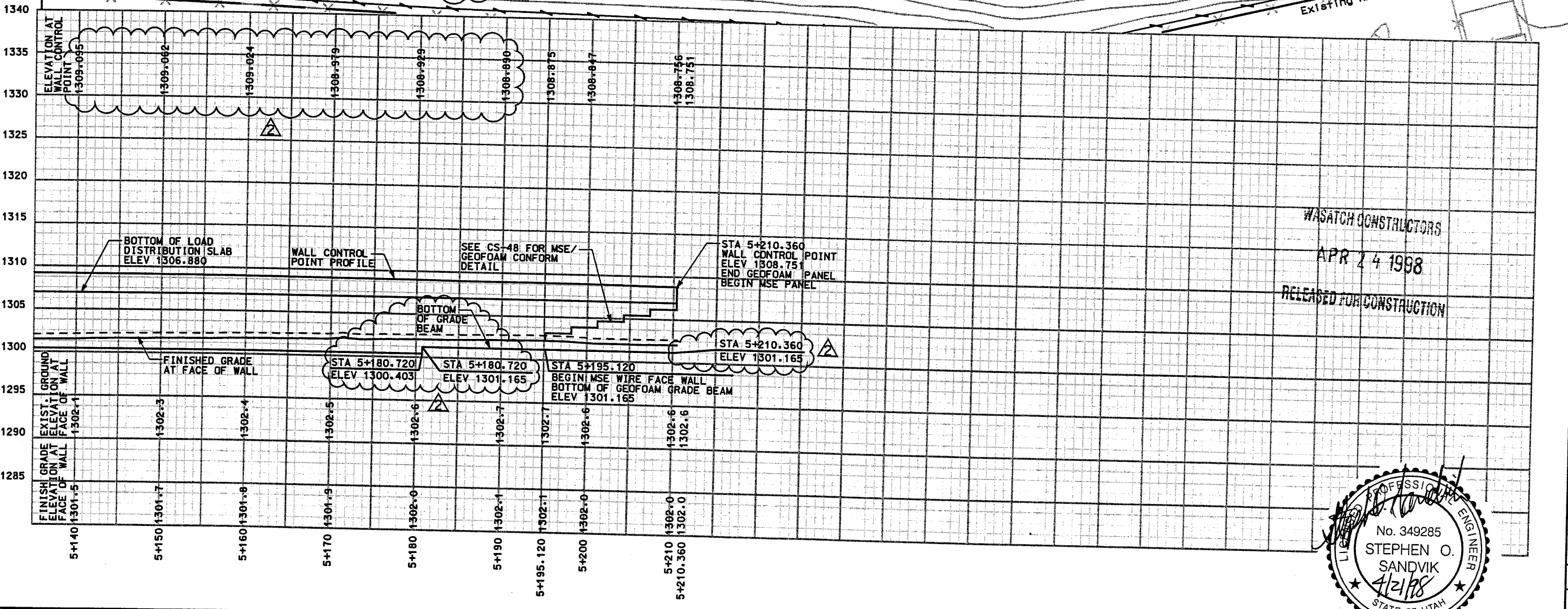
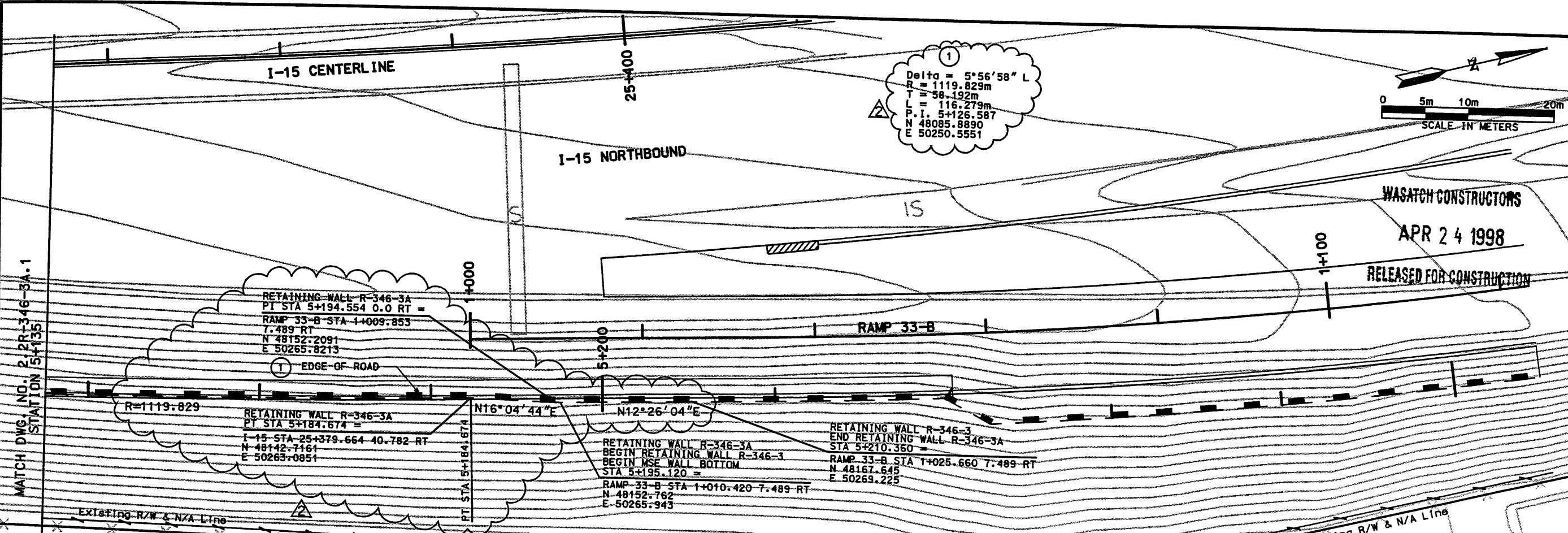
SALT LAKE COUNTY
 DWG. NO.
2.2R-346-3A.1
 SHT. 1 OF 5

NO.	DATE	DESCRIPTION
1	12/12/97	ORIGINAL ISSUE
2	3/03/98	RELEASE ABUT/GEFOAM FOR CONSTRUCTION
3	4/21/98	REVISED GEFOAM WALL GEOMETRY

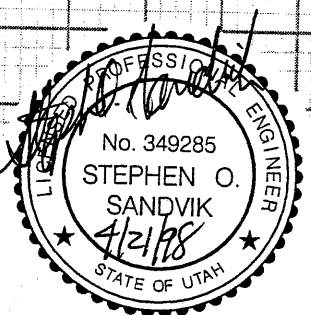
MATCH DWG NO. 2.2R-346-3A.2
 STA 5+135

Date: 21-APR-98 Time: 19:02 User: ramesh.r.1654d

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WASATCH CONSTRUCTORS
 APR 24 1998
 RELEASED FOR CONSTRUCTION

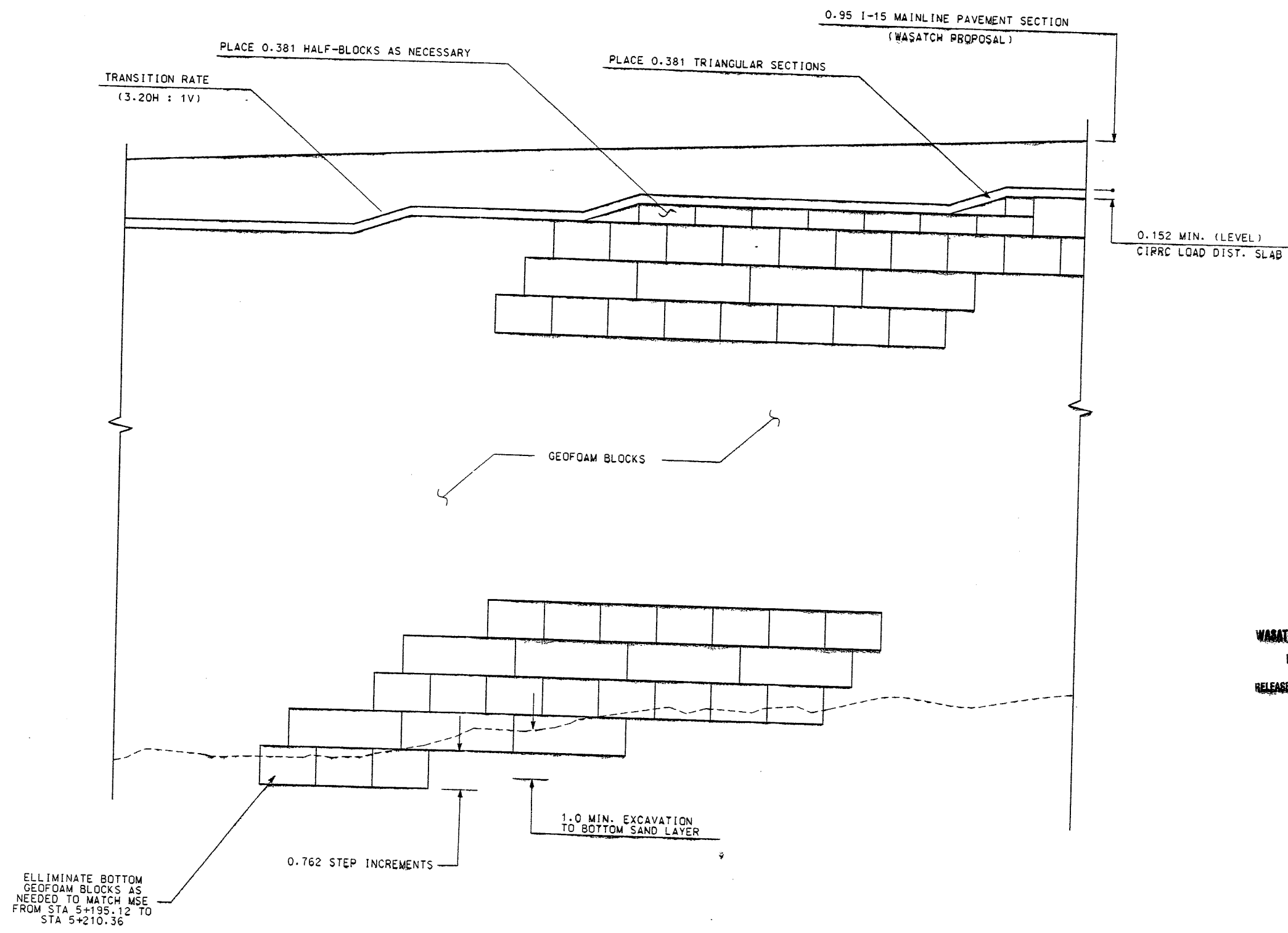


APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
1	12/12/97	1	12/12/97
2	4/21/98	2	4/21/98
3		3	
4		4	
UTAH DEPARTMENT OF TRANSPORTATION		MK CENTENNIAL	
SVERDRUP/DE LEUW		DESIGN JOB	
APPROVAL 12/12/97		DESIGN JOB	
RECORD 12/12/97		DESIGN JOB	
DATE 12/12/97		DESIGN JOB	
PROJECT DESIGN ENGINEER		DRAWN	
STEPHEN O. SANDVIK		M/M	
DATE 12/12/97		CHECK	
PROJECT NUMBER		CHECK	
#SP-15-7(135)296		QUANT.	
SECTION 2.2		SECTION MANAGER	
I-15 CORRIDOR RECONSTRUCTION		SECTION MANAGER	
SITUATION & LAYOUT R-346-3A		SECTION MANAGER	
SECTION 2.2		SECTION MANAGER	
SALT LAKE COUNTY		SECTION MANAGER	
DWG. NO.		SECTION MANAGER	
2.2R-346-3A.2		SECTION MANAGER	
SHT. 2 OF 5		SECTION MANAGER	

Scale: 50,000/1000
 Rotor: 1080, 000000
 Pen: Tablet, V5 VP
 Queue: \CVI51P2\

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 Third Reference File: Levels
 Fourth Reference File: Levels
 Fifth Reference File: Levels

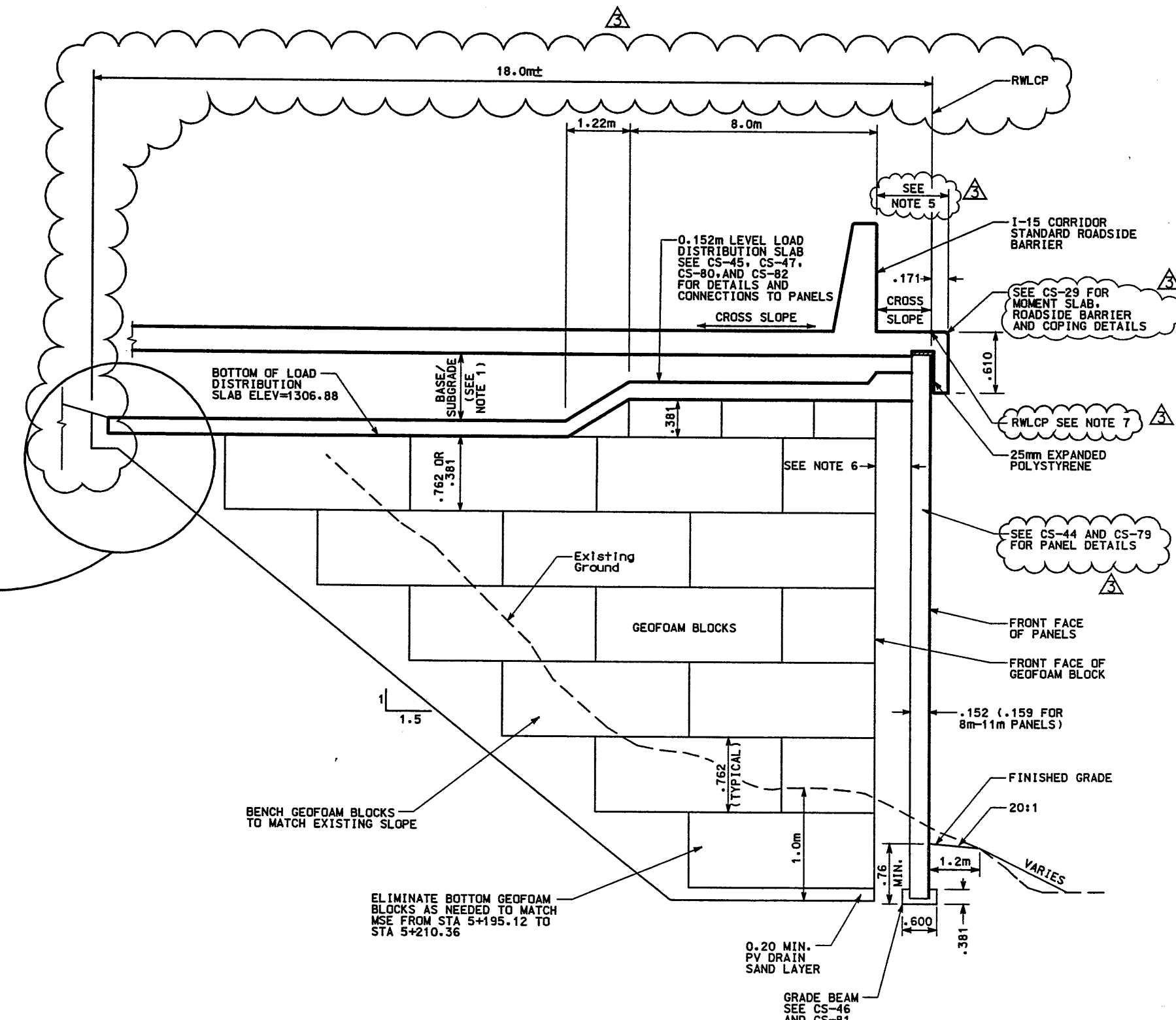
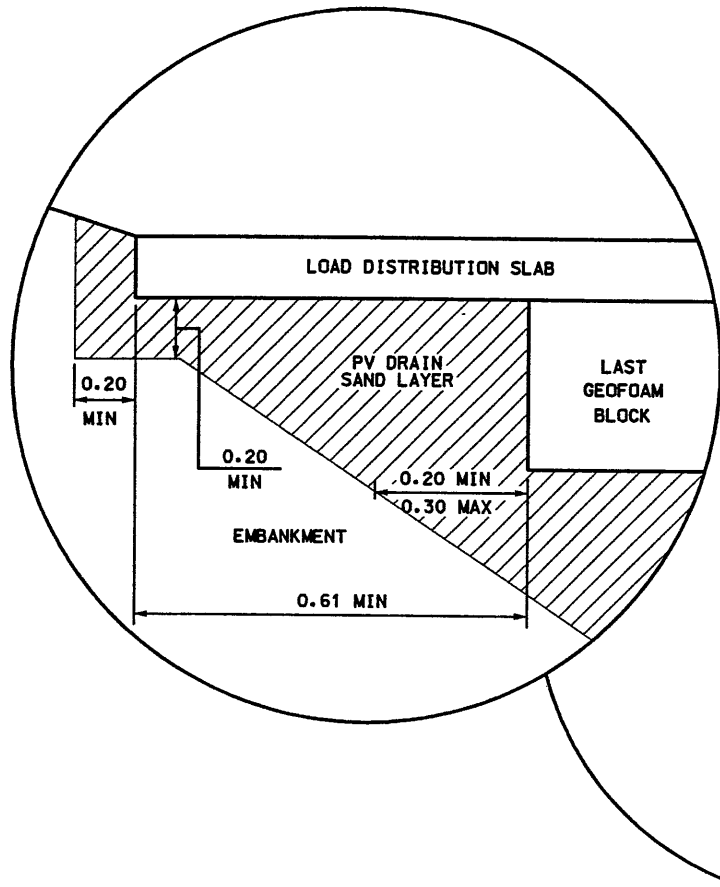
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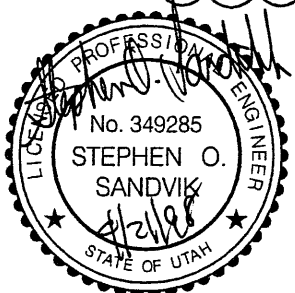
TYPICAL SECTION WALL DETAIL
 STA. 5+030± TO STA. 5+210.36
 (GEOFOAM WALL)
 (N.T.S.)

WASATCH CONSTRUCTORS
 DEC 16 1997
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	
△	12/12/97		
△	/ /		
△	/ /		
△	/ /		
UTAH DEPARTMENT OF TRANSPORTATION		DESIGN	WBS NO.
MK CENTENNIAL		JBW 11/14/97	2212402
SVERDRUP/DE LEUW		DRWN	
		LJM 11/17/97	
		QUANT.	
		/ /	
		CHECK	
		/ /	
		CHECK	
		/ /	
I-15 CORRIDOR RECONSTRUCTION		SECTION 2-2	
WALL DETAIL R-346-3A		PROJECT NUMBER *SP-15-7 (135)296	
SALT LAKE COUNTY		DWG. NO.	
		2.2R-346-3A.3	
SHT. 3 OF 5			



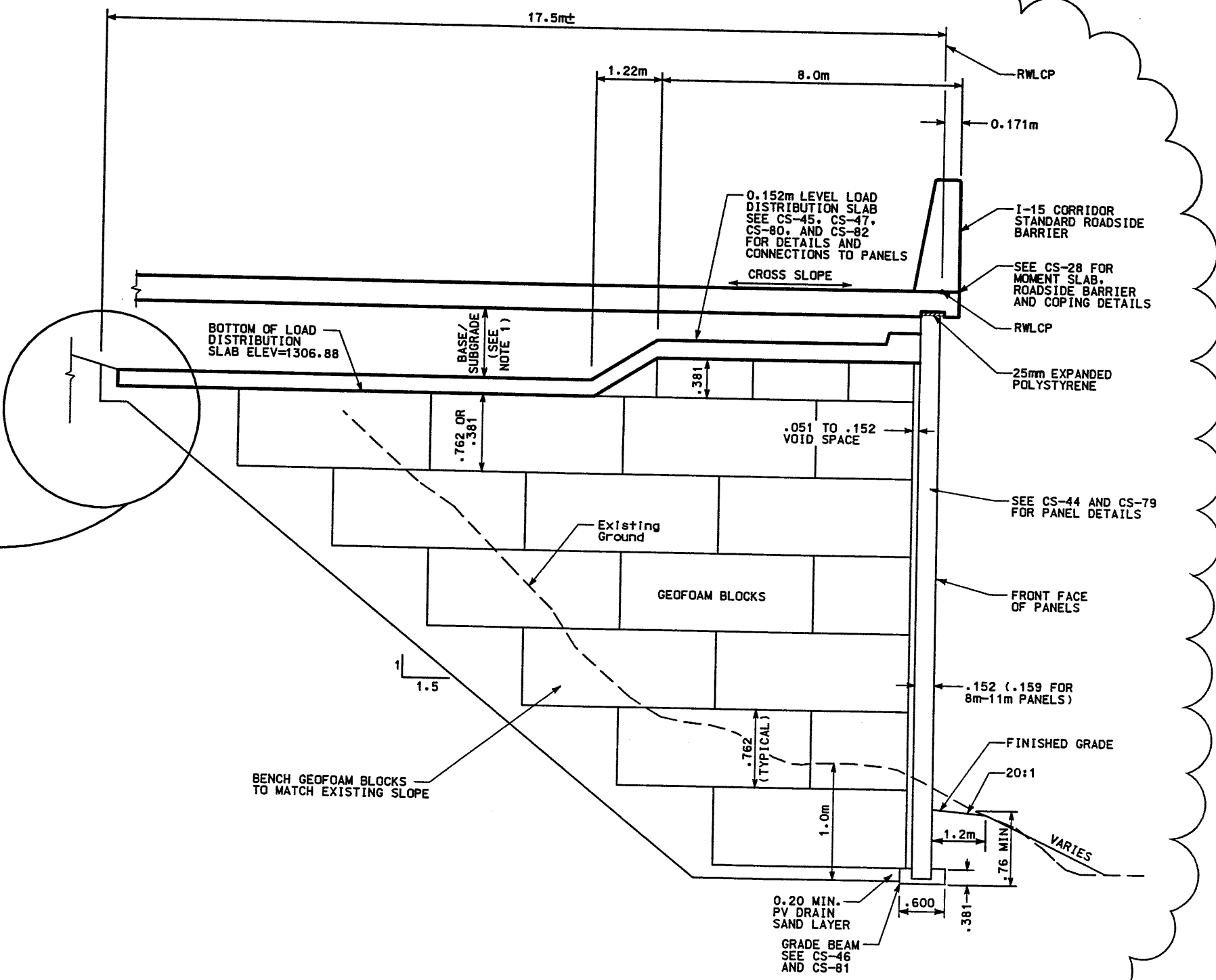
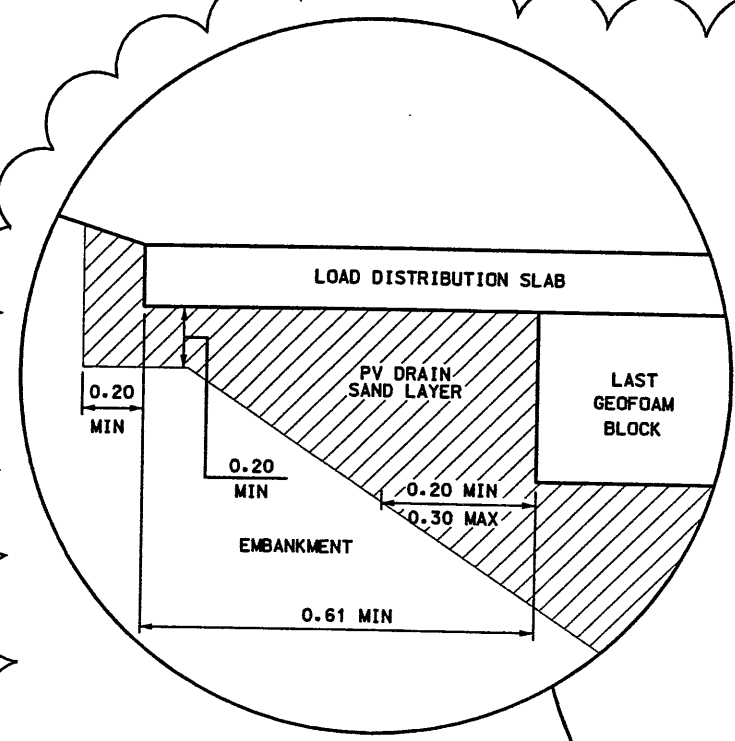
- NOTES:**
- 1) THE AMOUNT OF BASE/SUBGRADE EXCEEDED PER CS-45 (CS-80 FOR 8m-11m PANELS) IS ADDED TO THE MINIMUM OVEREXCAVATION AT THE BASE OF THE FOAM BLOCKS.
 - 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) SEE ALL GEOFOAM CORRIDOR STANDARD DRAWINGS FOR ADDITIONAL DETAILS (CS-42 THROUGH CS-53, CS-77 THROUGH CS-81, CS-91 AND CS-92).
 - 4) USE TYPE VIII GEOFOAM BLOCKS PER SPEC 226.
 - 5) VARIES 0 TO 0.628 STA 5+184.674 TO STA 5+194.554
0.628 STA 5+194.554 TO STA 5+210.360
 - 6) VARIES 0.051 TO 0.305 MIN STA 5+184.674 TO STA 5+194.554
0.305 MIN STA 5+194.554 TO STA 5+210.360
 - 7) LOCATION OF RWLCP TRANSITIONS FROM LOCATION SHOWN ON DWG. 3A.5 TO LOCATION SHOWN BETWEEN STA 5+184.674 TO STA 5+194.554, RESPECTIVELY.



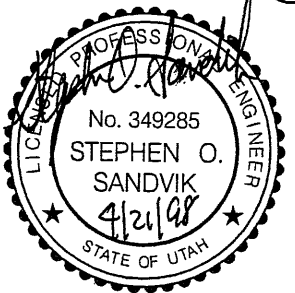
GEOFOAM WALL DETAIL
 STA. 5+184.674 TO STA. 5+210.36
 (GEOFOAM WALL)
 N.T.S.

WASATCH CONSTRUCTORS
 APR 24 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION
TE	2/97	ORIGINAL ISSUE
	3/98	REVISE NOTES
	1/98	REVISED GEOFOAM WALL GEOMETRY
UTAH DEPARTMENT OF TRANSPORTATION MK OENTENNIAL SVERDRUP/DE LEUW <i>Sketch sheets</i> <i>4 of 5</i> <i>All Section cut</i> <i>MSE</i>		
REVISION	DATE	DESIGNER
12/12/97	11/14/97	Stephen O. Sandvik
APPROVED	DATE	PROJECT DESIGN ENGINEER
12/12/97	11/14/97	Raidle L. Ropp
	DATE	PROJECT MANAGER
	DATE	QUANT.
		1 / 1
I-15 CORRIDOR RECONSTRUCTION		
WALL DETAIL R-346-3A		
SECTION 2.2		
PROJECT NUMBER #SP-15-7(135)296		
SALT LAKE COUNTY		
DWG. NO. 2.2R-346-3A.4		
SHT. 4 OF 5		
REF.		



- NOTES:
- 1) THE AMOUNT OF BASE/SUBGRADE EXCEEDED PER CS-45 (CS-80 FOR 8m-11m PANELS) IS ADDED TO THE MINIMUM OVEREXCAVATION AT THE BASE OF THE FOAM BLOCKS.
 - 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) SEE ALL GEOFOAM CORRIDOR STANDARD DRAWINGS FOR ADDITIONAL DETAILS (CS-42 THROUGH CS-53, CS-77 THROUGH CS-81, CS-91 AND CS-92).
 - 4) USE TYPE VIII GEOFOAM BLOCKS PER SPEC 226.

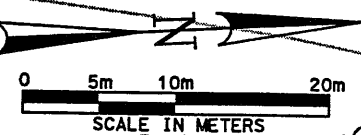
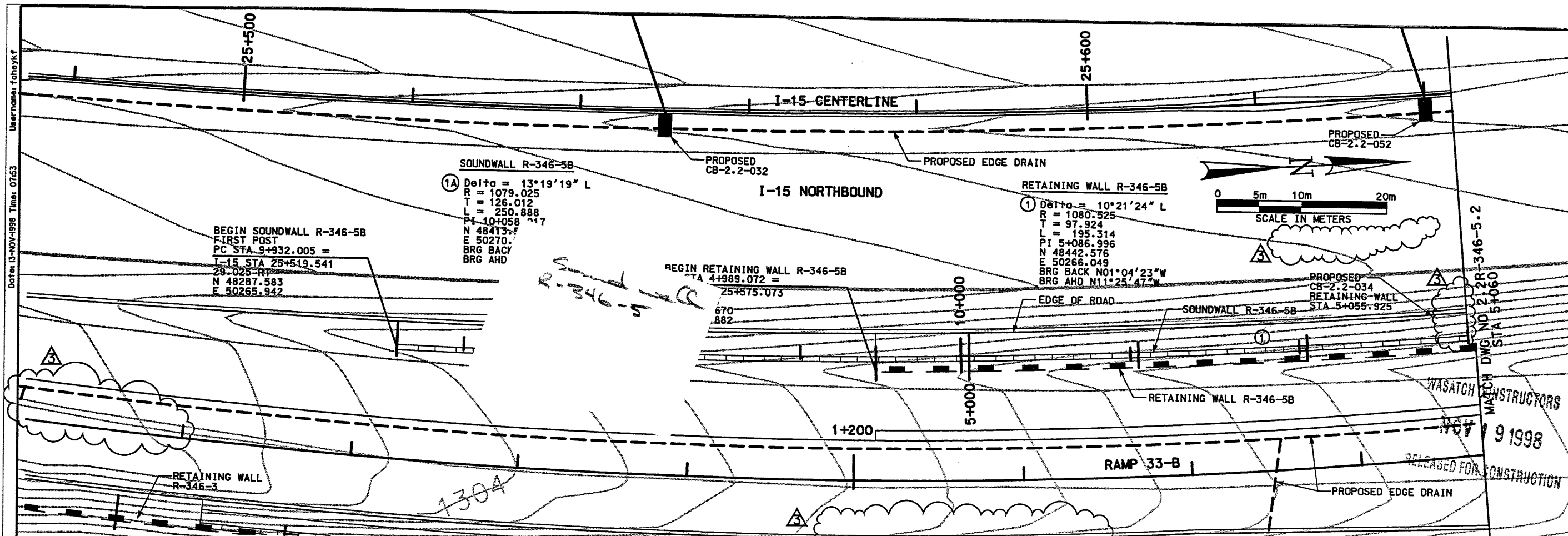


GEOFOAM WALL DETAIL
 STA. 5+030± TO STA. 5+184.674
 (GEOFOAM WALL)
 N.T.S.

WASATCH CONSTRUCTORS
 APR 24 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED GEOFOAM WALL GEOMETRY
1	12/12/97		
2	3/03/98		
3	4/21/98		
UTAH DEPARTMENT OF TRANSPORTATION			
MK CENTENNIAL SVERDRUP/DE LEUW			
DESIGN	CHKD	CJD	12/05/97
DRWN	MW	11/11/97	12/05/97
PROJECT MANAGER	QUANT.		
3/03/98	Stephen O. Sandvik		
DATE	PROJECT DESIGN ENGINEER		
APPROVED	3/03/98	Randy L. Ropp	
DATE	PROJECT MANAGER		
I-15 CORRIDOR RECONSTRUCTION		WBS NO. 2212402	
WALL DETAIL R-346-3A			
SECTION 2.2			
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWC. NO. 2.2R-346-3A.5			
SHT.	5	OF	5
REF.			

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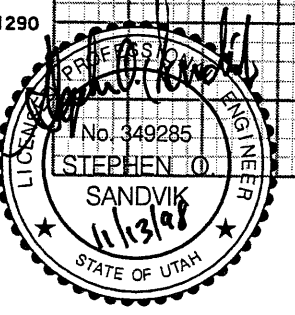
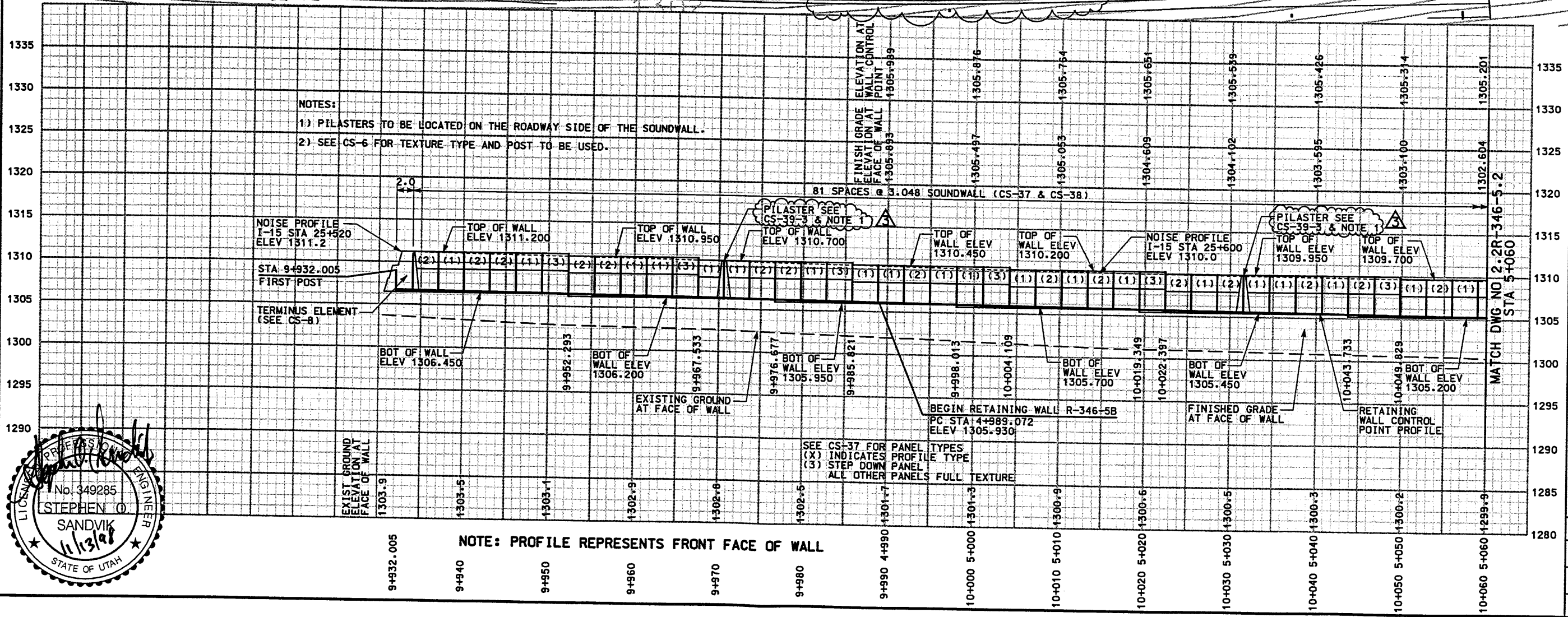
① Delta = 13°19'19" L
 R = 1079.025
 T = 126.012
 L = 250.888
 PI = 10+058.247
 N 48413.7
 E 50270.
 BRG BACY
 BRG AHD

① Delta = 10°21'24" L
 R = 1080.525
 T = 97.924
 L = 195.314
 PI 5+086.996
 N 48442.576
 E 50266.049
 BRG BACK N01°04'23"W
 BRG AHD N11°25'47"W

BEGIN SOUNDWALL R-346-5B
 FIRST POST
 PC STA 9+932.005 =
 T-15 STA 25+519.541
 29.025 RT
 N 48287.583
 E 50265.942

BEGIN RETAINING WALL R-346-5B
 STA 4+989.072 =
 25+575.073
 670
 882

PROPOSED
 CB-2.2-034
 RETAINING WALL
 STA 5+055.925



UTAH DEPARTMENT OF TRANSPORTATION
MK CENTENNIAL
SVERDRUP/DE LEUW

I-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-346-5
SECTION 2.2
***SP-15-7(135)296**

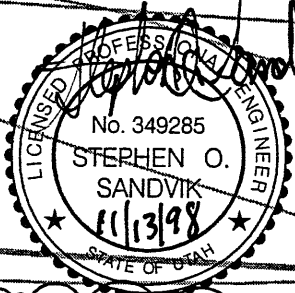
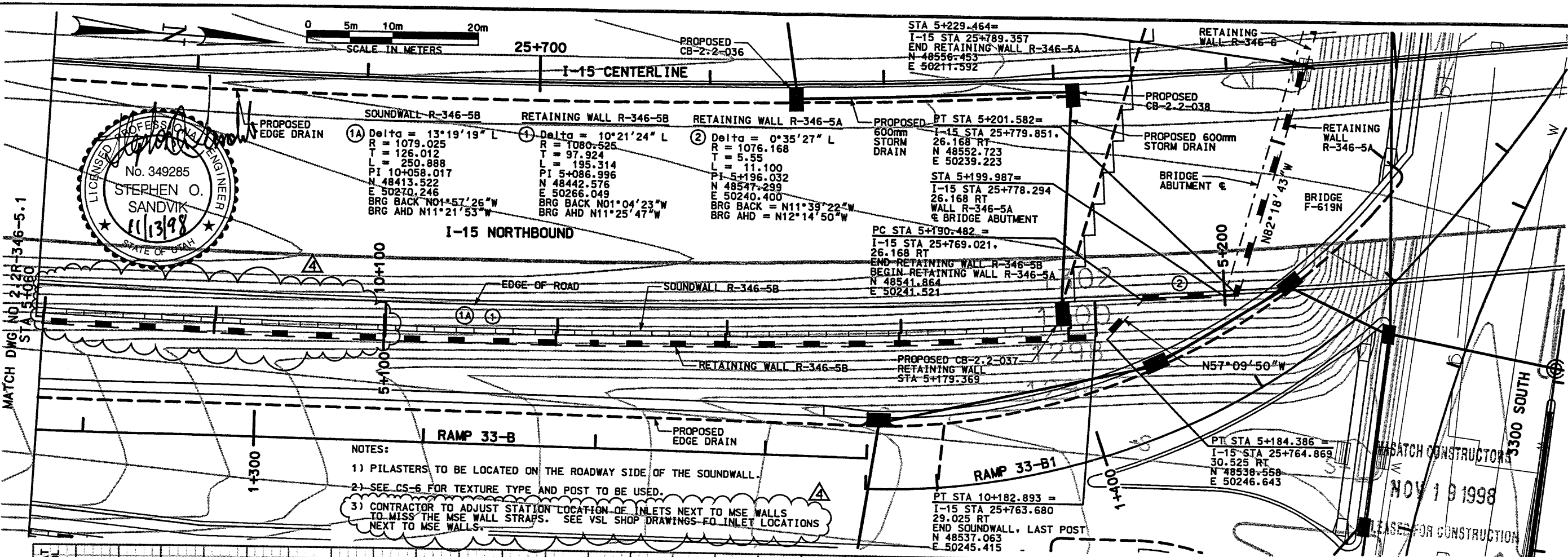
APPROVED FOR CONSTRUCTION
DESCRIPTION
NO. DATE
ORIGINAL ISSUE
REVISED WALL TO SINGLE STAGE
REVISED PILASTER CALLOUTS

APPROVAL
 5/05/98 Stephen O. Sandvik DESIGN DAF / / 798 CHECK
 DATE PROJECT DESIGN ENGINEER
 APPROVED 5/05/98 Randle L. Ross DRAWN DAF / / 798 CHECK
 DATE PROJECT MANAGER

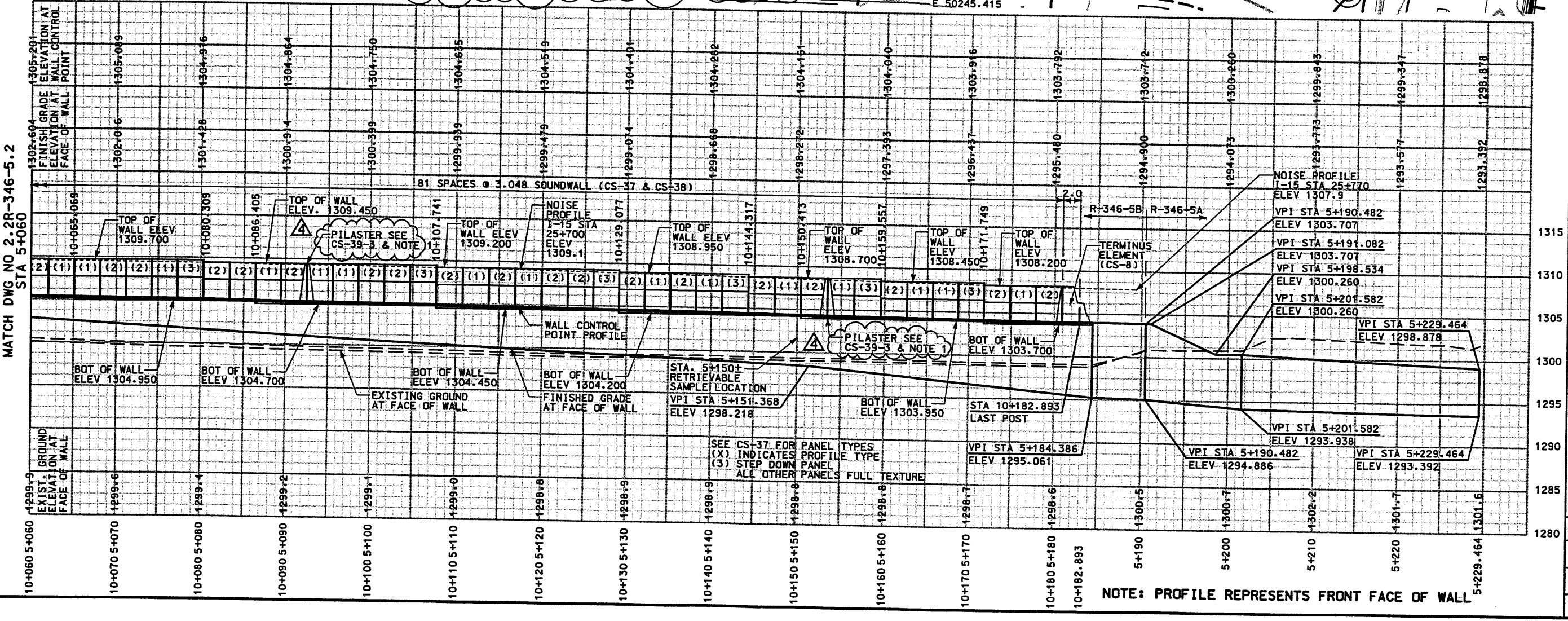
SALT LAKE COUNTY
DWG. NO.
2.2R-346-5.1

SHT. 1 OF 26
REF.

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 Date: 13-NOV-1998 Time: 13:48
 User: name coburnrnm



- NOTES:
- 1) PILASTERS TO BE LOCATED ON THE ROADWAY SIDE OF THE SOUNDWALL.
 - 2) SEE CS-6 FOR TEXTURE TYPE AND POST TO BE USED.
 - 3) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.

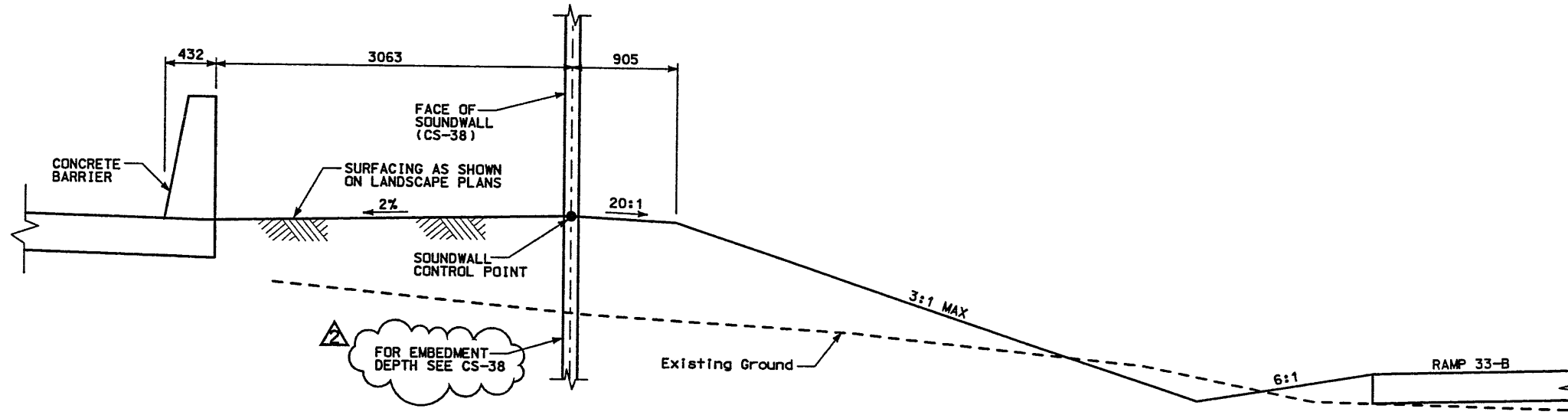


MATCH DWG NO 2.2R-346-5.2
 STA 5+060

MATCH DWG NO 2.2R-346-5.1
 STA 25+060

UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		APPROVED FOR CONSTRUCTION	
NO.	DATE	DESCRIPTION	DATE
1	11/03/98	ORIGINAL ISSUE	
2	3/09/98	REVISED WALL TO SINGLE STAGE	
3	9/01/98	RELEASED FOR RETAINING WALL R-346-5B	
4	11/12/98	REVISED PILASTER CALLOUTS	
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		DESIGN BAR	7/20/98
APPROVAL RECORD:		CHECK BAR	7/20/98
7/20/98 Stephen O. Sandvik		DESIGN DAF	7/20/98
PROJECT DESIGN ENGINEER		CHECK DAF	7/20/98
DATE		CHECK DAF	7/20/98
7/20/98		CHECK BAR	7/20/98
PROJECT NUMBER		CHECK BAR	7/20/98
#SP-15-7(135)296		CHECK BAR	7/20/98
PROJECT NUMBER		CHECK BAR	7/20/98
2.2R-346-5.2		CHECK BAR	7/20/98
SALT LAKE COUNTY		CHECK BAR	7/20/98
DWG. NO.		CHECK BAR	7/20/98
2.2R-346-5.2		CHECK BAR	7/20/98
SHT. 2 OF 26		CHECK BAR	7/20/98
REF.		CHECK BAR	7/20/98

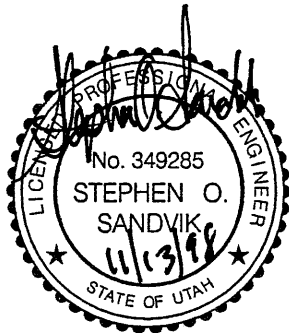
RETAINING WALL DETAIL
SECTION 2.2 WALL R-346-5B
(SOUNDWALL)
 NTS



DETAIL A
 STA 9+932.005 to STA 9+989.072

- NOTES:
 1) DIMENSIONS ARE IN MILLIMETERS.
 2) SEE CS-37 FOR SOUNDWALL TEXTURE.

WASATCH CONSTRUCTORS
 NOV 19 1998
 RELEASED FOR CONSTRUCTION

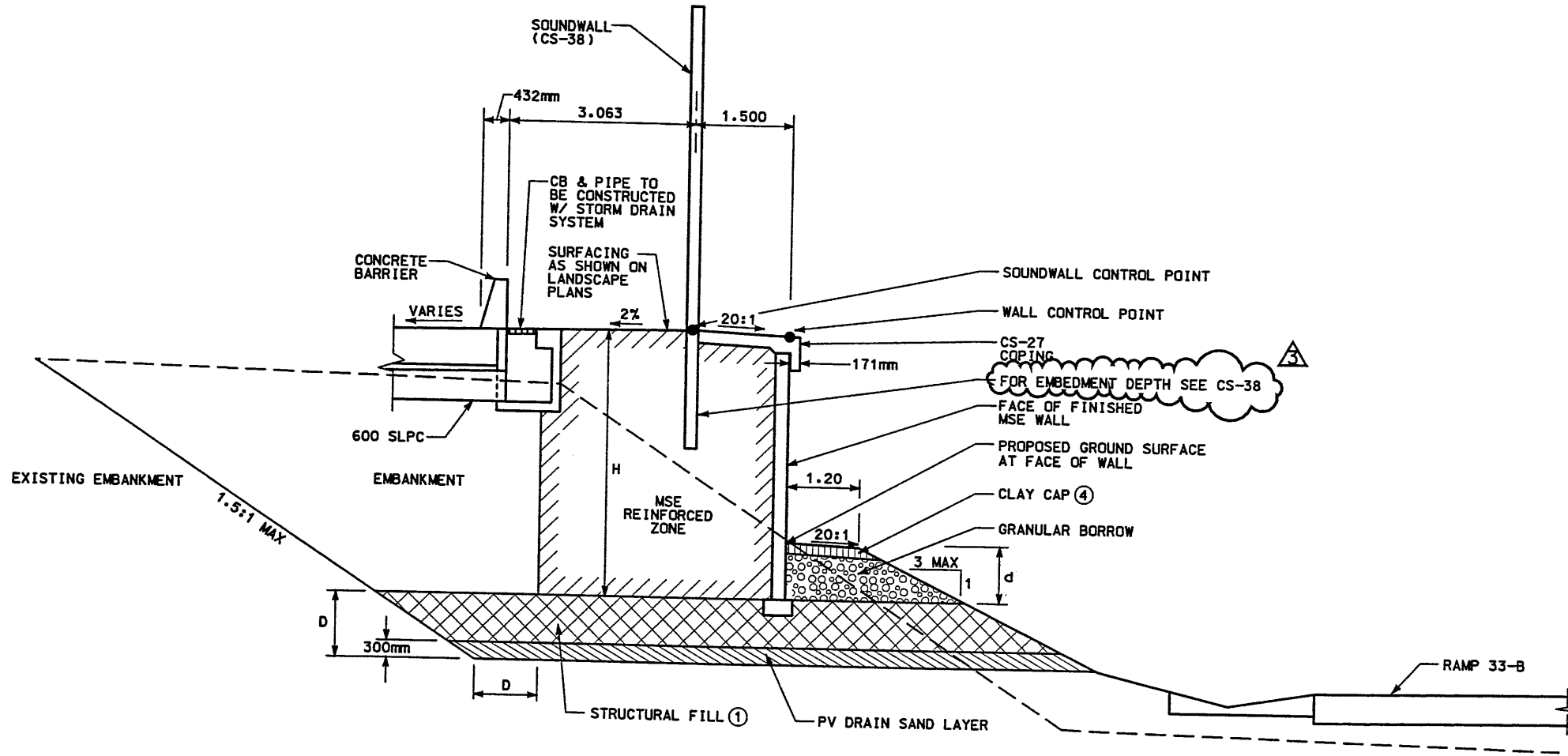


APPROVED FOR CONSTRUCTION		DESCRIPTION
NO.	DATE	
△	9/01/98	ORIGINAL ISSUE
△	11/12/98	ADDED EMBEDMENT NOTE
△	/ /	
△	/ /	

UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW				WBS NO.	2213402
APPROVAL RECORD:	7/20/98	Stephen O. Sandvik	DESIGN DAF	7/20/98	CHECK BAR
DATE	7/20/98	PROJECT DESIGN ENGINEER	DRAMA DAF	7/20/98	CHECK BAR
APPROVED	7/20/98	Randie L. Ross	QUANT.	/ /	CHECK
DATE		PROJECT MANAGER			

I-15 CORRIDOR RECONSTRUCTION	SALT LAKE COUNTY
WALL DETAIL R-346-5	DWG. NO.
SECTION 2.2	2.2R-346-5.2A
PROJECT NUMBER	#SP-15-(135)296
SHT. 3 OF 26	
REF.	

RETAINING WALL DETAIL
SECTION 2.2 WALL R-346-5B
(SINGLE STAGE MSE WALL W/SOUNDWALL)



d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

DETAIL A-1

RETAINING WALL STA 4+989.072 to STA 5+183.162
 SOUNDWALL STA 9+989.072 to STA 10+182.893
 (INLETS LOCATED AT RETAINING WALL STA 5+055.925 & STA 5+179.369)
 (NTS)

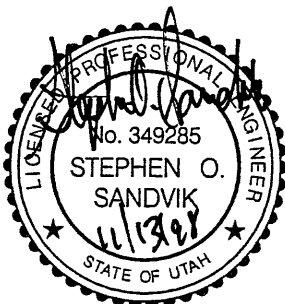
NOTES:

- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 0.6m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
- 2) THE FOUNDATION BEARING MATERIALS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
- 3) COMPACTED EMBANKMENT. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- 4) CONSTRUCT CLAY CAP PER SPEC 526 (0.3m THICK).
- 5) SEE CS-37 FOR SOUNDWALL TEXTURE.
- 6) CONTRACTOR TO VERIFY SOUNDWALL POST SPACING VERSUS MSE MESH LOCATION WHEN CONSTRUCTING MSE WALL.

WASATCH CONSTRUCTORS

NOV 19 1998

RELEASED FOR CONSTRUCTION



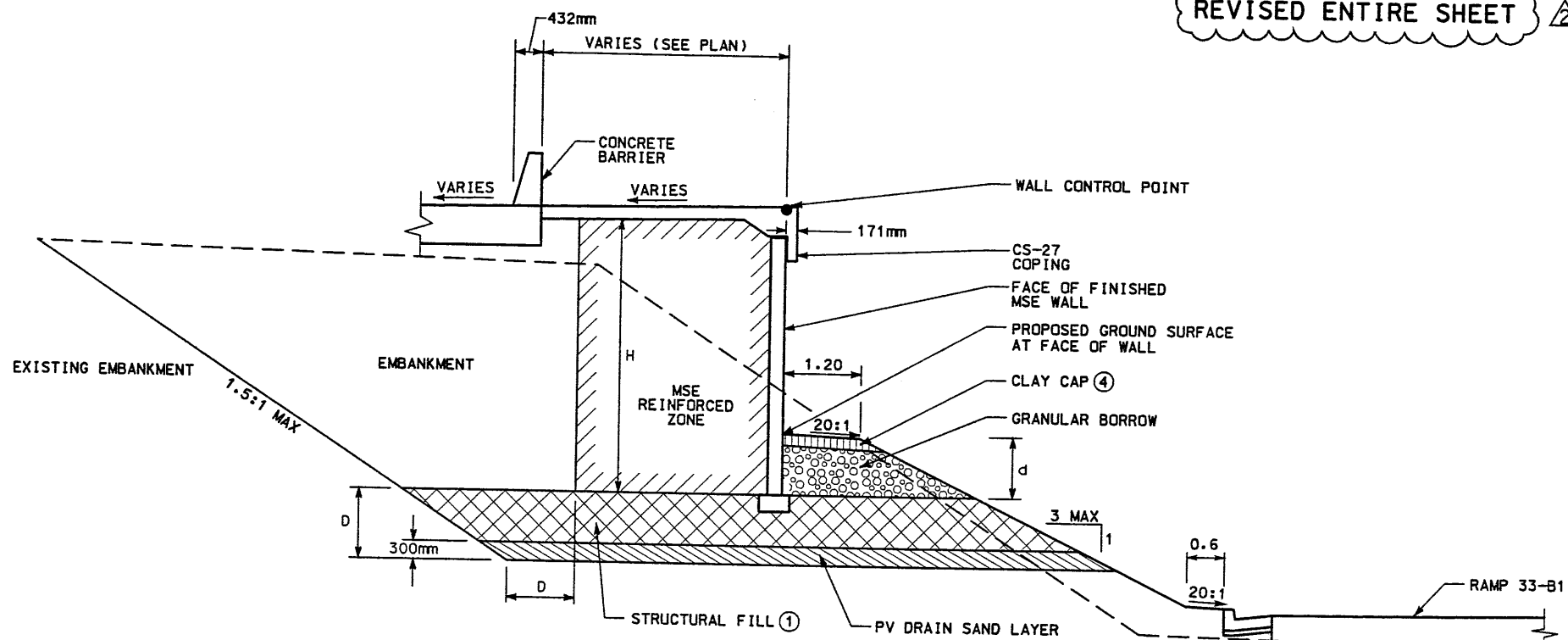
APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISION
1	10/27/97	ORIGINAL ISSUE	
2	9/01/98	REVISED WALL TO SINGLE STAGE	
3	11/12/98	ADDED EMBEDMENT NOTE	

UTAH DEPARTMENT OF TRANSPORTATION		MK CENTENNIAL		WBS NO. 2213402	
SYVERDRUP/DE LEUW		CHECK BAR	CHECK BAR	CHECK BAR	CHECK BAR
7/20/98	Stephen O. Sandvik	7/20/98	7/20/98	7/20/98	7/20/98
DATE	DESIGN ENGINEER	DATE	DESIGN ENGINEER	DATE	DESIGN ENGINEER
7/20/98	Stephen O. Sandvik	7/20/98	Stephen O. Sandvik	7/20/98	Stephen O. Sandvik
DATE	PROJECT DESIGN ENGINEER	DATE	PROJECT DESIGN ENGINEER	DATE	PROJECT DESIGN ENGINEER
7/20/98	Randle L. Ross	7/20/98	Randle L. Ross	7/20/98	Randle L. Ross
DATE	PROJECT MANAGER	DATE	PROJECT MANAGER	DATE	PROJECT MANAGER

1-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-5		SECTION 2.2	
PROJECT NUMBER #SP-15-(135)296		SALT LAKE COUNTY		DWG. NO. 2.2R-346-5.3	
SHT. 4 OF 26		REF.			

RETAINING WALL DETAIL
SECTION 2.2 WALL R-346-5B
(SINGLE STAGE MSE WALL)

REVISED ENTIRE SHEET



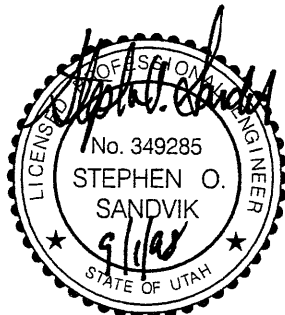
d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

DETAIL A-2
STA 5+183.162 to STA 5+190.482
(NTS)

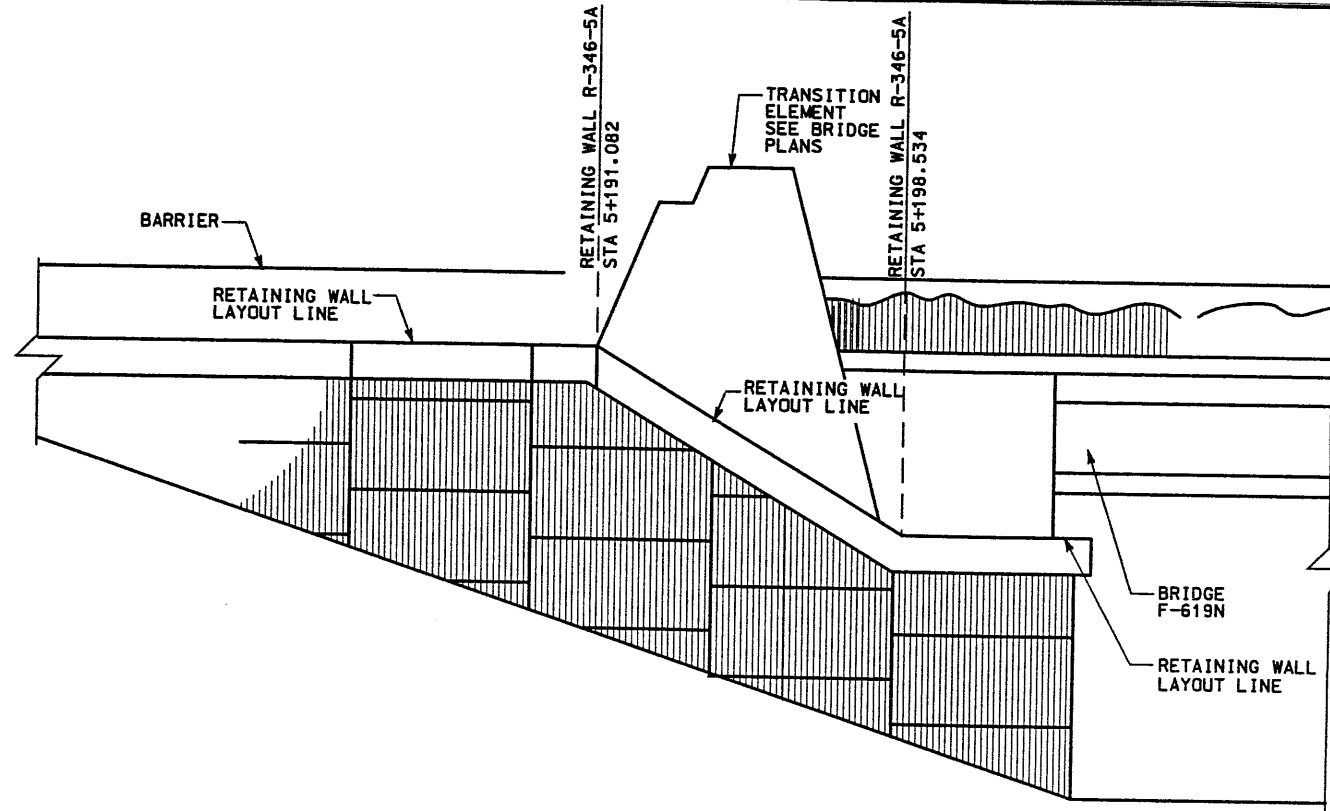
NOTES:

- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 0.6m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
- THE FOUNDATION BEARING MATERIALS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
- COMPACTED EMBANKMENT. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- CONSTRUCT CLAY CAP PER SPEC 526 (0.3m THICK).

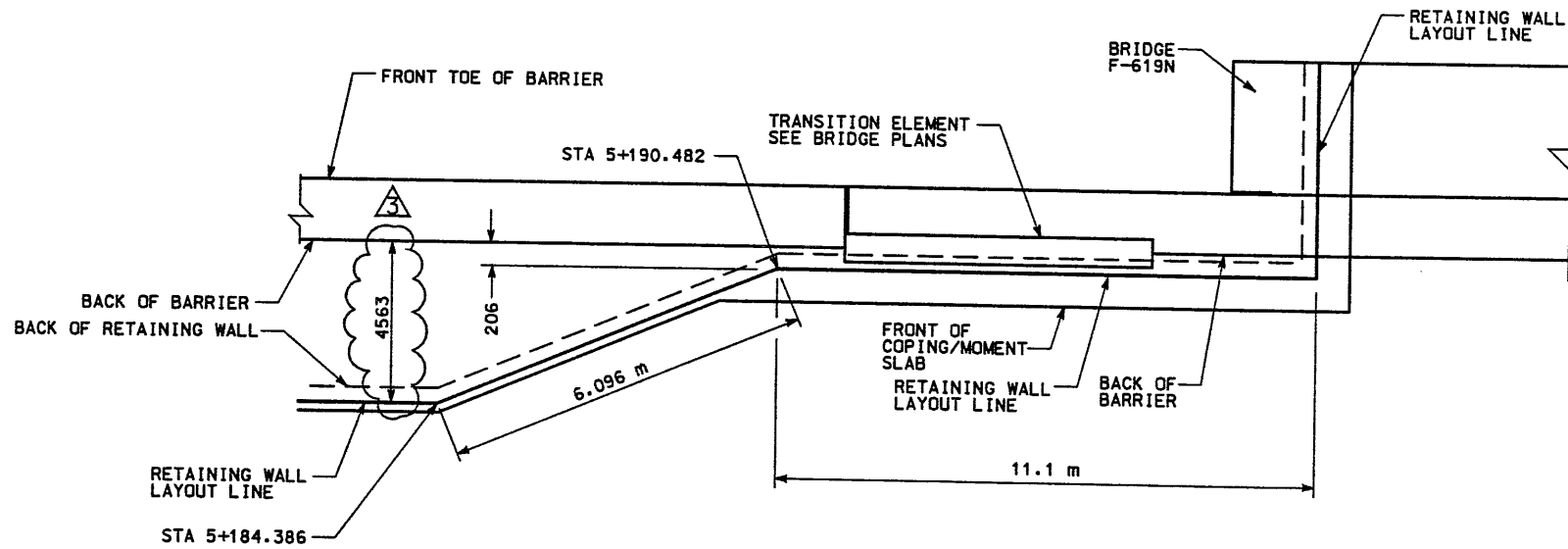
SEP 04 1998
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED WALL TO SINGLE STAGE
△	10/27/91	△	9/01/98
△	///	△	///
△	///	△	///
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 22134.02	
MK CENTENNIAL SVERDRUP/DE LEUW		CHECK BAR	7/20/98
DESIGN DAF	7/20/98	CHECK BAR	7/20/98
DRAWN DAF	7/20/98	CHECK BAR	7/20/98
QUANT. JBW	///	CHECK JAB	///
PROJECT ENGINEER	DATE	PROJECT ENGINEER	DATE
Stephen O. Sandvik	7/20/98	Randall L. Ross	7/20/98
PROJECT MANAGER	DATE	PROJECT MANAGER	DATE
SVERDRUP/DE LEUW	7/20/98	SVERDRUP/DE LEUW	7/20/98
I-15 CORRIDOR RECONSTRUCTION	WALL DETAIL R-346-5	SECTION 2.2	PROJECT NUMBER #SP-15-(135)296
SALT LAKE COUNTY		DWG. NO. 2.2R-346-5.4	
SHT. 5	OF 26	REF.	



VERTICAL LAYOUT LINE TRANSITION DETAIL
STA 5+191.082 to STA 5+198.534



HORIZONTAL LAYOUT LINE TRANSITION DETAIL
STA 5+184.386 to STA 5+190.482

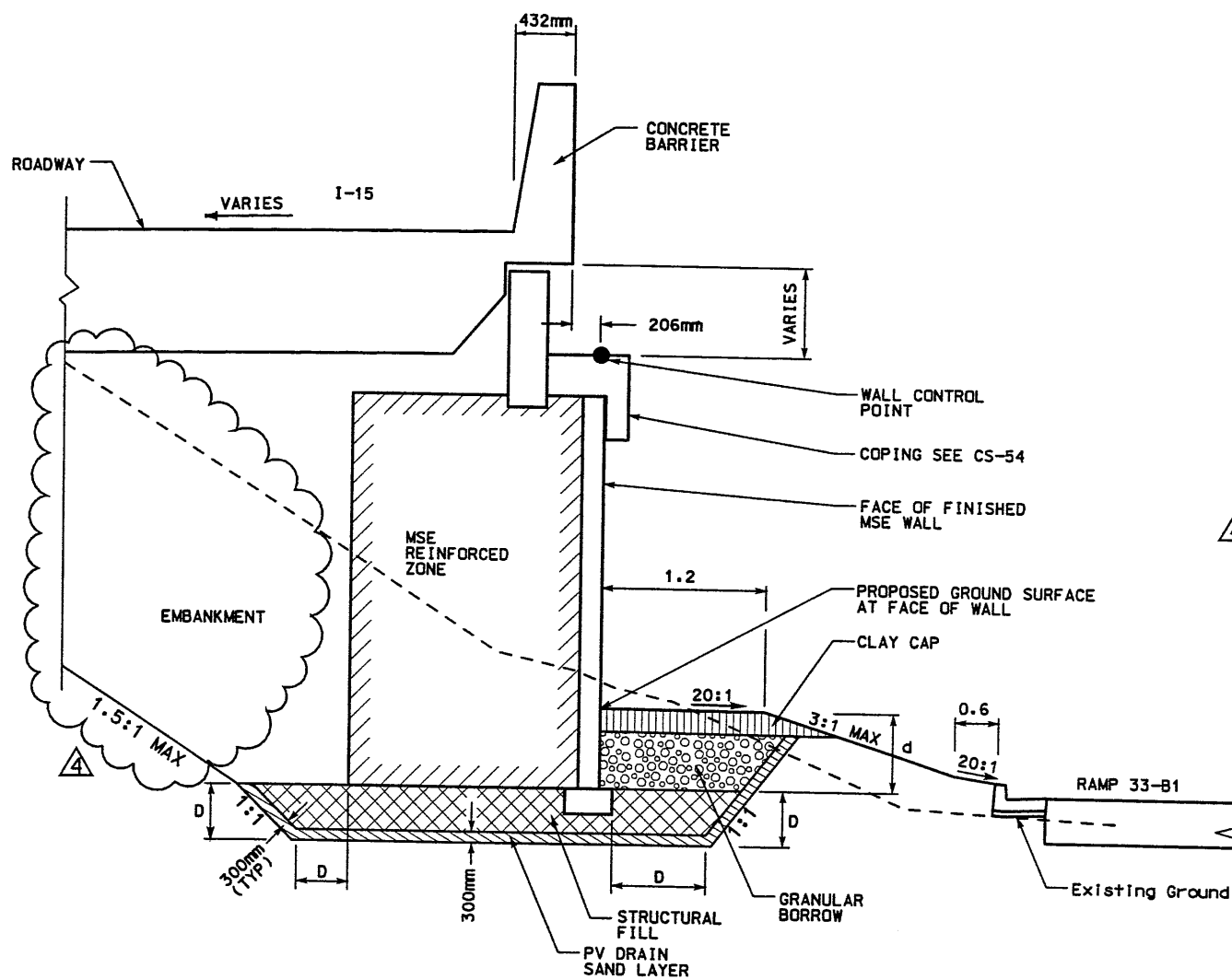


WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION

NOTES:
1) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED
2) FOR COPING DETAILS SEE CS-54 AND CS-27.

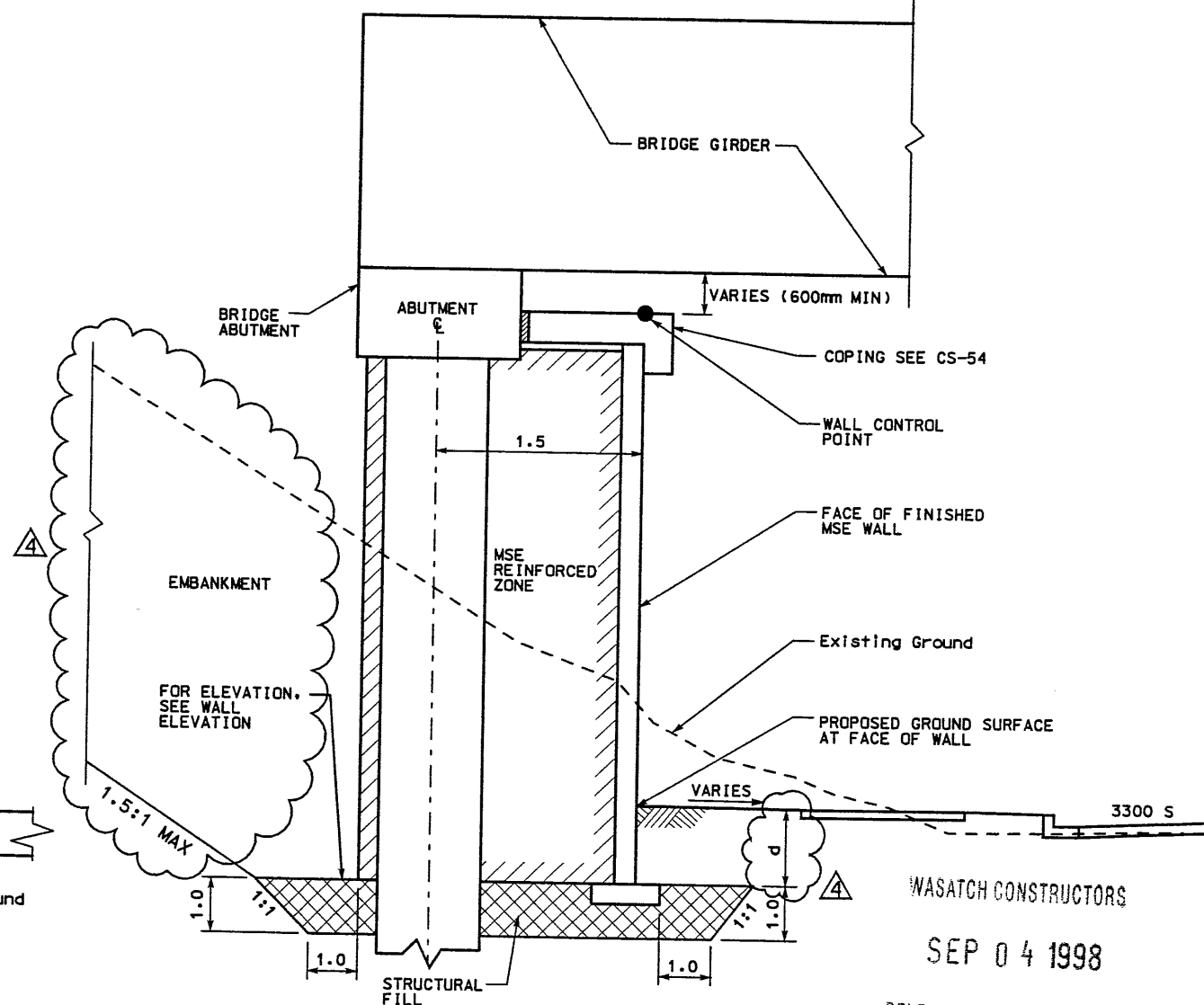
APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	
△	10/27/91	REVISE STATIONING, CHANGED TO SINGLE STAGE WALL	
△	3/05/98	RELEASED FOR RETAINING WALL R-346-5B	
△	9/01/98		
△	/ /		
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213402	
MK CENTENNIAL SVERDRUP/DE LEUW		CHECK BAR	7/20/98
DESIGN DATE	7/20/98	CHECK BAR	7/20/98
DESIGN BY	Stephen O. Sandvik	CHECK JAB	/ /
DATE	7/20/98	QUANT.	JBW
PROJECT DESIGN ENGINEER	Reandle L. Ross	PROJECT MANAGER	
APPROVED	7/20/98	DATE	
I-15 CORRIDOR RECONSTRUCTION		SALT LAKE COUNTY	
WALL DETAIL R-346-5		DWG. NO. 2.2R-346-5.5	
SECTION 2.2		PROJECT NUMBER #SP-15-11351296	
SHT. 6 OF 26		REF.	

RETAINING WALL DETAIL
 SECTION 2.2 WALL NO. R-346-5A
 (1 STAGE MSE WALL)
 (NTS)



DETAIL B
 STA 5+190.482 TO STA 5+201.582
 (NTS)

d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL
 BENEATH WALL (SEE VSL PLANS)

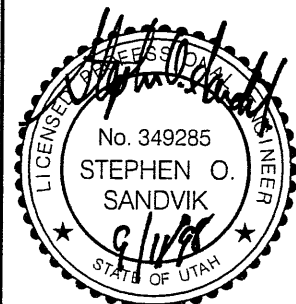


DETAIL C
 STA 5+201.582 TO STA 5+228.464
 (NTS)

NOTES:

- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
- SEE CORRIDOR STANDARD SPECIFICATION 221 FOR SPECIAL EXCAVATION REQUIREMENTS WHERE GROUNDWATER IS EXPECTED AT OR ABOVE THE REQUIRED EXCAVATION.
- SEE CORRIDOR STANDARD SPECIFICATION 210 FOR SPECIAL EXCAVATION AND BACKFILL REQUIREMENTS WHERE SOFT CLAYS OF OTHER SOFT AND/OR WET CONDITIONS ARE ENCOUNTERED.
- COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- CONSTRUCT CLAY CAP WITH OF LOW PLASTIC SILTY CLAY (0.3m THICK).

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



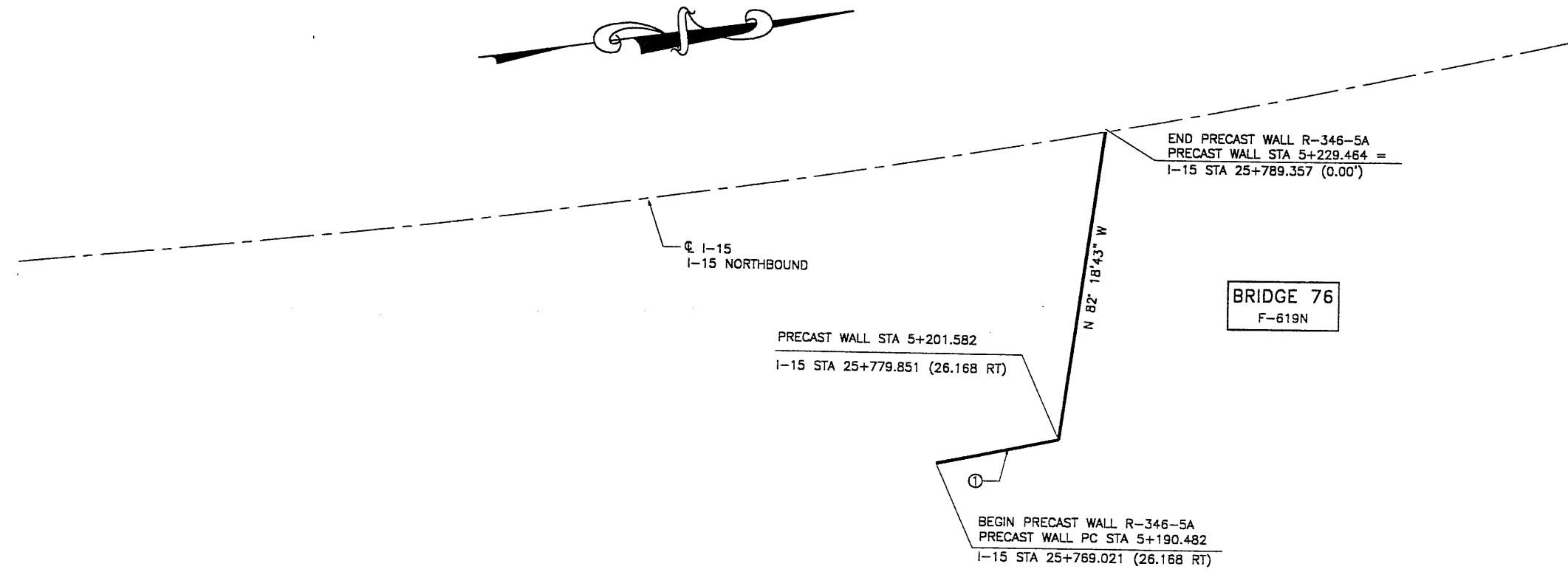
APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
Δ	10/21/97	Δ	ORIGINAL ISSUE
Δ	3/09/98	Δ	REVISED TO SINGLE STAGE MSE WALL DETAILS
Δ	5/12/98	Δ	REVISED OVEREXCAVATION LIMITS
Δ	9/01/98	Δ	RELEASED FOR RETAINING WALL R-346-5B

UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		WBS NO. 2213402
APPROVAL RECORD:	DESIGN SOS	CHECK CJO
7/20/98	Stephen O. Sandvik	7/20/98
DATE	PROJECT DESIGN ENGINEER	CHECK CJO
7/20/98	Randle L. Ross	7/20/98
APPROVED	QUANT. RVC	CHECK JAB
7/20/98	7/20/98	7/20/98
DATE	PROJECT MANAGER	

I-15 CORRIDOR RECONSTRUCTION	WALL DETAIL R-346-5
SECTION 2.2	PROJECT NUMBER #SP-15-7(135)296
SALT LAKE COUNTY	DWG. NO. 2.2R-346-5.6
SHT. 7 OF 26	REF.

△ CHANGED ENTIRE SHEET

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10/09/97	RELEASED FOR 1ST STAGE CONST. ONLY
△	3/6/98	SINGLE STAGE MODIFICATION



PLAN VIEW MSE WALL "R-346-5A"

SCALE: 1=250 (FULL SIZE)
SCALE: 1=500 (HALF SIZE)

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST WALL R-346-5A, NOTES & DESIGN CRITERIA
RE-5	TYP. CROSS SECTION
RE-9	PRECAST WALL R-346-5A
RE-10	SPECIAL PANELS
RE-11	SPECIAL PANELS

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT)	= 34°
ANGLE OF INTERNAL FRICTION (BASE)	= 30°
ANGLE OF INTERNAL FRICTION (RANDOM)	= 34°
UNIT WEIGHT BACKFILL	= 135 PCF. (21.2 KN/M ³)
TRAFFIC SURCHARGE	= 250 PSF
SEISMIC ACCELERATION COFF. (TYP)	= 0.25g
SEISMIC ACCELERATION COFF. (AT BRIDGE ABUTMENTS)	= 0.65g
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING)	= 2.0
SAFETY FACTOR (SLIDING)	= 1.5
SAFETY FACTOR (PULLOUT)	= 1.5
DESIGN LIFE	= 75 YEARS

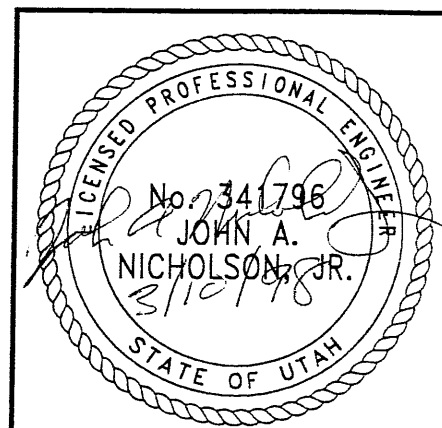
CURVE DATA				
No.	RADIUS	LENGTH	TANGENT	△
①	1076.168	11.100	5.55	0°35'27"

All Dimensions Are In Meters Unless Noted Otherwise

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

WASATCH CONSTRUCTORS
MAR 24 1998
RELEASED FOR CONSTRUCTION



VSL CORPORATION
2840 Plaza Drive, Suite 200
Raleigh, NC 27617
Telephone: (919) 881-8272
Fax: (919) 881-4959

ALABAMA, GA / DALAS, TX / FALCON, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-346-5A"
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

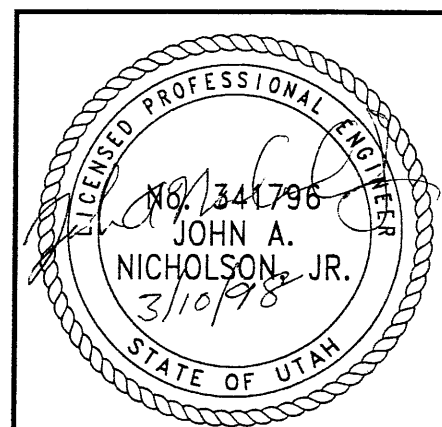
DWG. NO.	2.2R-346-5A.7
JOB NO.	239-0007
SHEET NO.	RE-1

NO.	DATE	DESCRIPTION	REVISION	DATE	BY	CHK

THIS SHEET NO LONGER NEEDED

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10/09/97	RELEASED FOR 1ST STAGE CONST., ONLY
▲	3/6/98	SINGLE STAGE MODIFICATION <i>OL</i>

WASATCH CONSTRUCTORS
 MAR 24 1998
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DES.	03-10-98	JL	NO.	DATE	BY	CHK
DRN.	03-10-98	RSW	NO.	DATE	BY	CHK
CHK.	03-10-98	JL	NO.	DATE	BY	CHK
RETAINED EARTH™						
VSL CORPORATION 2810 Pico Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-6272 Fax: (919) 81-4869						
VSL Corporation (VSL) is a service provider for the design and construction of retaining walls. The design and construction of retaining walls is a complex task that requires the use of specialized software and equipment. VSL provides a comprehensive range of services, including design, construction, and maintenance of retaining walls.						
RETAINED EARTH™ WALLS WIRE FACED WALL "R-346-5A" WALL CONNECTION DETAILS @ STAGE CONST.						
UTAH 1-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.						
DWG. NO. 1.1R-346-5A.8						
JOB NO. 239-0007						
SH. NO. RE-2						

THIS SHEET NO LONGER NEEDED

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10/09/97	RELEASED FOR 1ST STAGE CONST. ONLY
△	3/6/98	SINGLE STAGE MODIFICATION

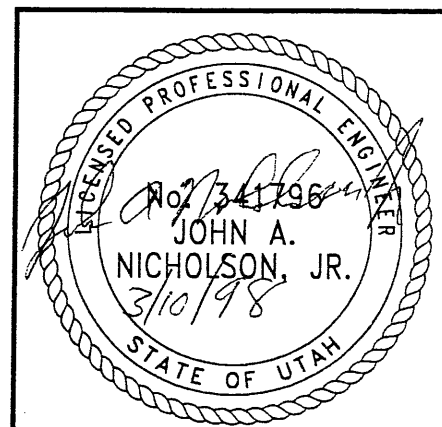
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6772
 Fax: (919) 781-4889



ATLANTA, GA / DALLAS, TX / BALFOUR, NC (CORPORATE OFFICE)
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RETAINED EARTH™ WALLS WIRE FACED WALL "R-346-5A" TYPICAL DETAILS	DWG. NO. 1.1R-346-5A.9
UTAH 1-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.	JOB NO. 239-0007
	SHT. NO. RE-3

THIS SHEET NO LONGER NEEDED

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10/09/97	RELEASED FOR 1ST STAGE CONST. ONLY
△	3/6/98	SINGLE STAGE MODIFICATION

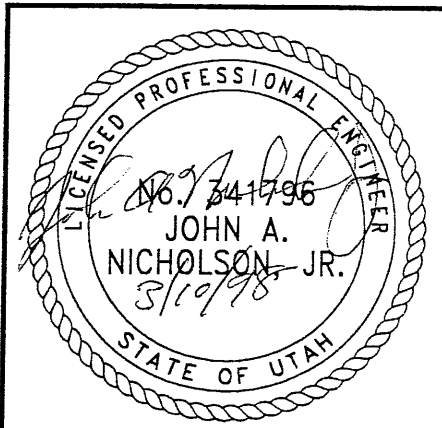
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8777
 Fax: (919) 781-8959



ATLANTA, GA / DALLAS, TX / BALDWIN, NC (CORPORATE OFFICE)
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 prohibited. VSL CORPORATION
 DISCLAIMS ANY LIABILITY
 THEREFOR.

WASATCH CONSTRUCTORS
 MAR 24 1998
 RELEASED FOR CONSTRUCTION

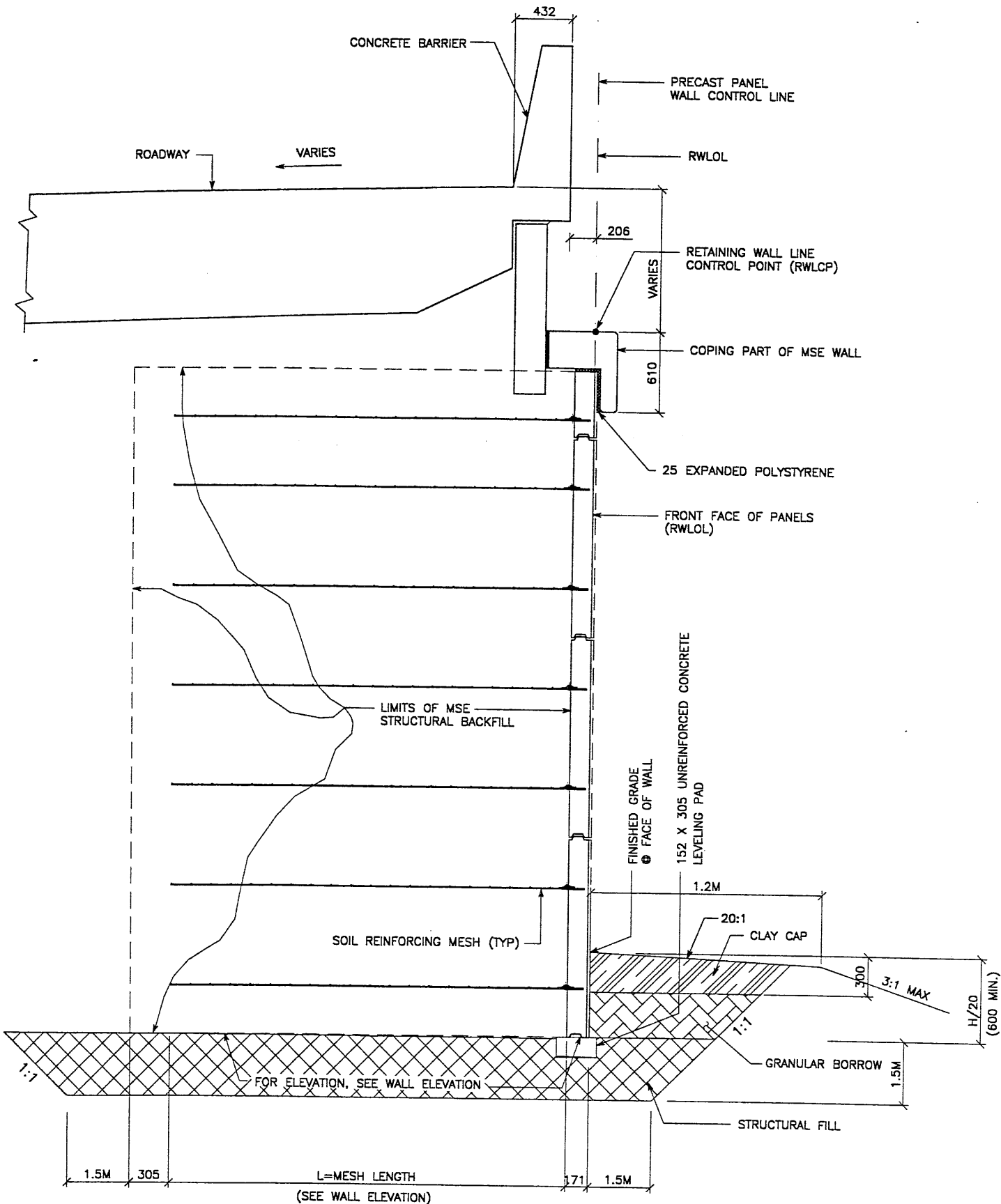


RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-5A"
 TYPICAL SECTIONS @ WIRE FACED WALL
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

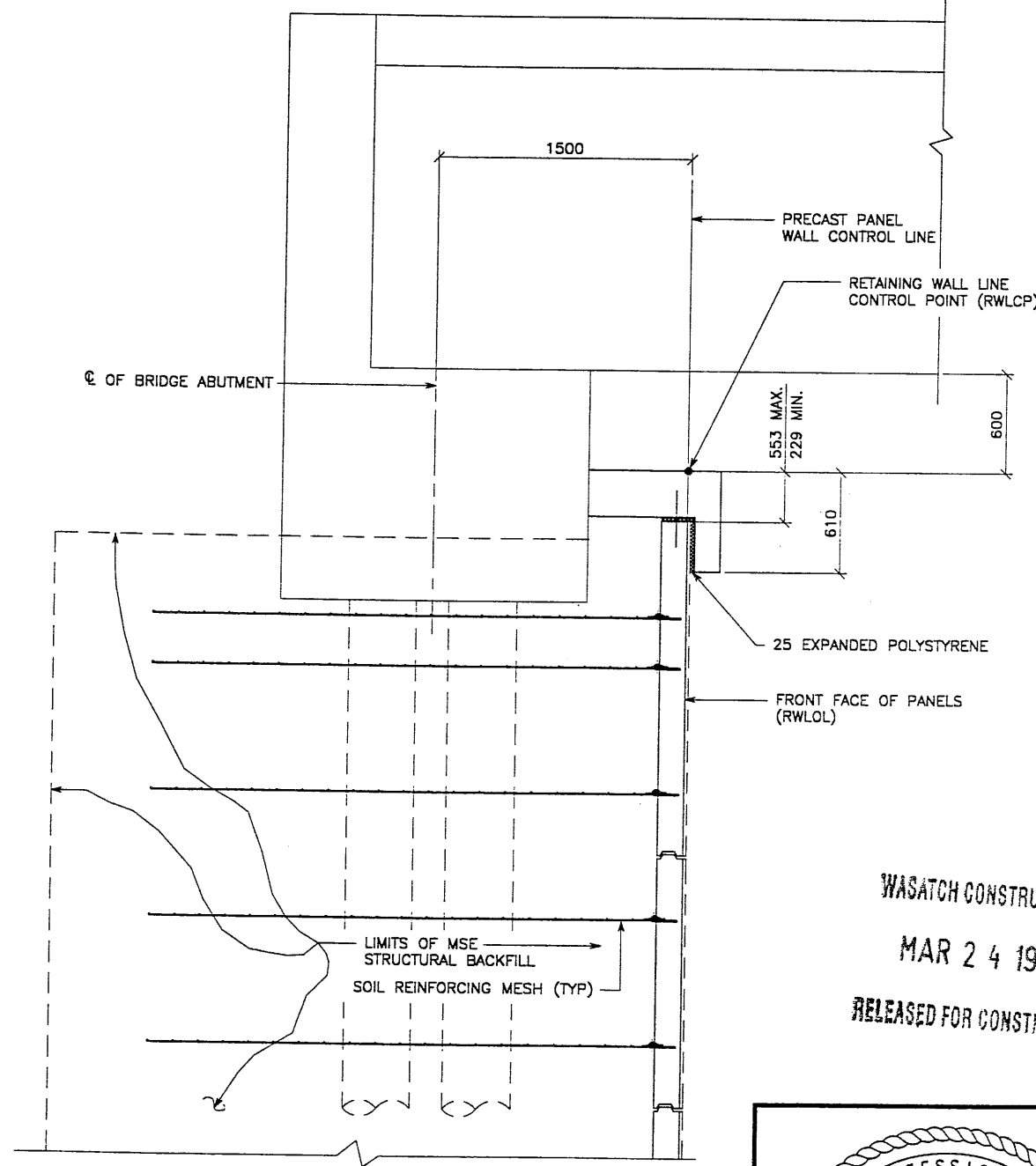
DWG. NO.
 1.1R-346-5A.10
 JOB NO.
 239-0007
 SH. NO.
 RE-4

METRIC
 CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

H:\RE_EARTH\PROJECTS\2007\1997\33SERIES\33-05A\STAGE-1R\RE-2
 03-09-98
 FINAL



TYPICAL CROSS SECTION - STA 5+190.482 TO 5+201.582
 (SEE DWG. NO. 2.2R-346-5.6 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 5+201.582 TO 5+229.464
 (SEE DWG. NO. 2.2R-346.5.6 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10/09/97	RELEASED FOR 1ST STAGE CONST. ONLY
△	3/6/98	SINGLE STAGE MODIFICATION

△ CHANGED ENTIRE SHEET

NO.	DATE	REVISION	BY

VSL CORPORATION
 2640 Pluto Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 461-6272
 Fax: (919) 461-4969

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 MAR 24 1998
 RELEASED FOR CONSTRUCTION

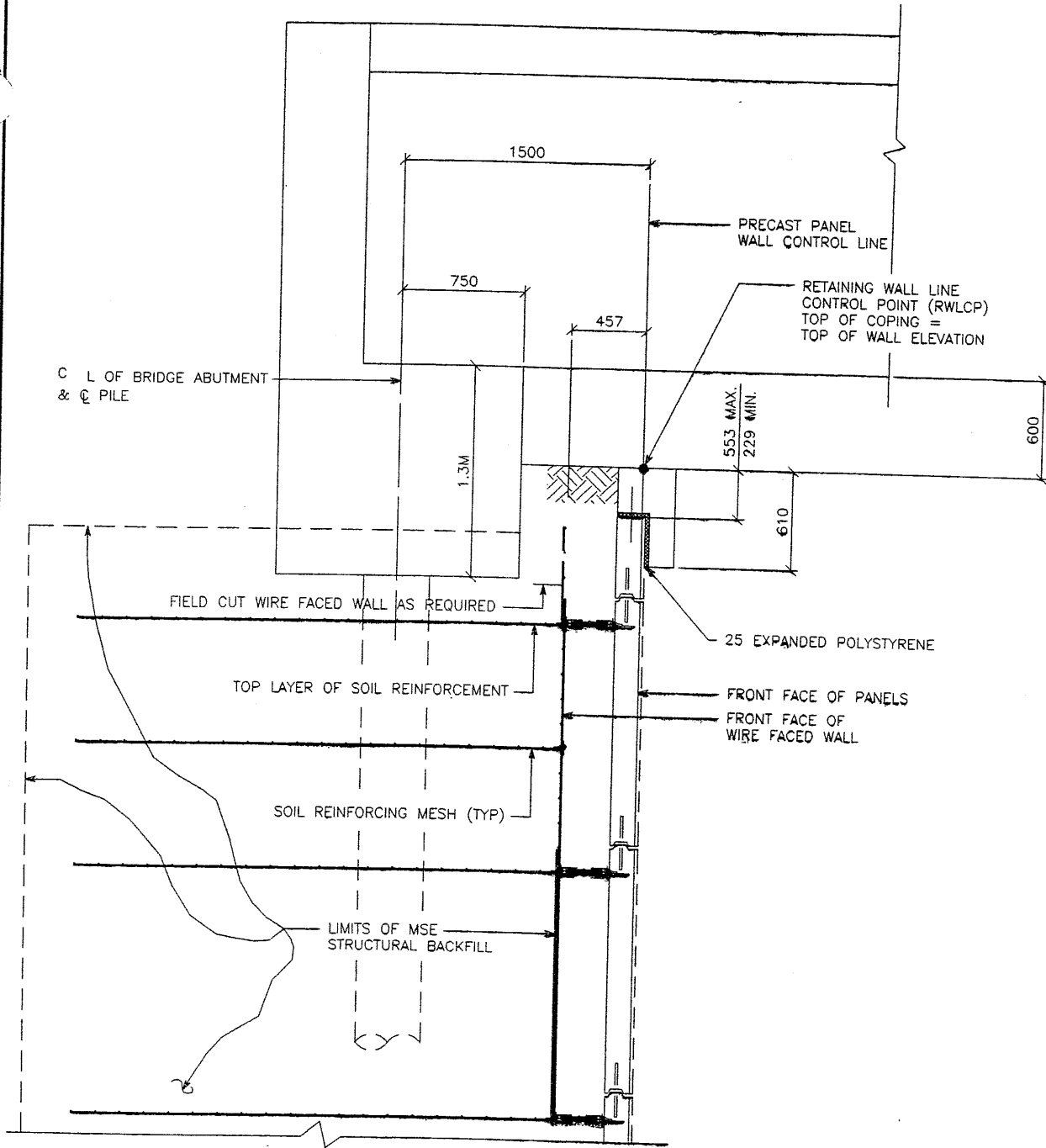
RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-5A"
 TYPICAL CROSS SECTION
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	1.1R-346-5A.11
JOB NO.	239-0007
SHT. NO.	RE-5

E:\PROJECT\239-0007\33SERIES\33-05

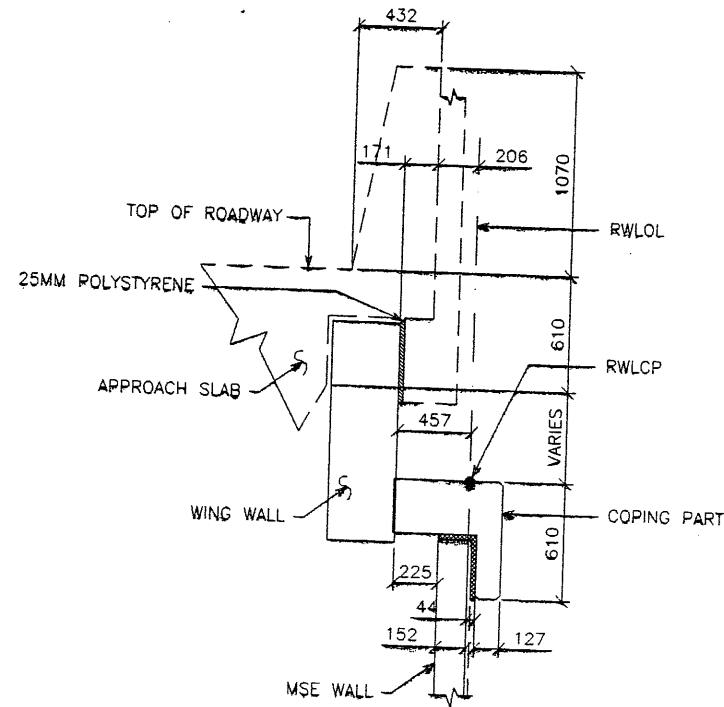
3-09-97

FINAL



TYPICAL CROSS SECTION - STA 5+201.335 TO 5+229.484

SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)



TYPICAL SECTION - STA 5+190.235 TO 5+201.335

SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)

SEE WALL S & L FOR TRANSITION DETAIL BETWEEN STA 5+184.139 & 5+190.235

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-09-97	RELEASE FOR 1ST STAGE CONST. ONLY

WASATCH CONSTRUCTORS
NOV 14 1997
RELEASED FOR CONSTRUCTION

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6272
Fax: (919) 781-4968

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RETAINED EARTH™ WALLS
WIRE FACED WALL "R-346-5A"
TYPICAL CROSS SECTIONS

UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

SCALE:
2.2R-346-5A.12
JOB NO:
239-0007
RE-6

130 of 26

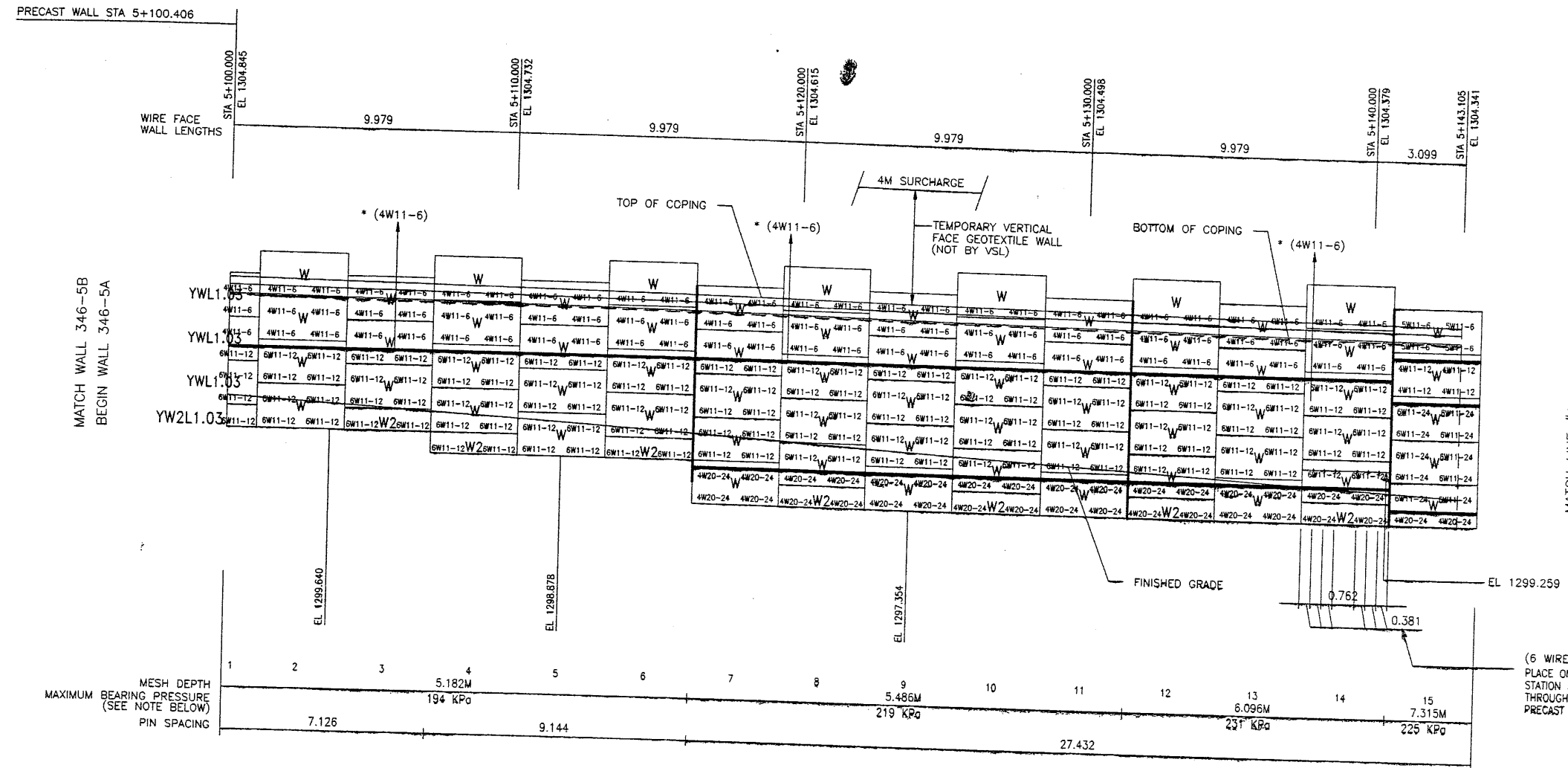
-2 W33-05

H:\RE_EARTH\PROJECT\239-0007\33SERIES\33-C

-03-97

FINAL P

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-11-97	RELEASE FOR 1ST STAGE CONST. ONLY
2	11-03-97	REVISED FINISHED GRADE BOTTOM OF WALL FACING OUR



WASATCH CONSTRUCTORS
 NOV 14 1997
 RELEASED FOR CONSTRUCTION

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6969

ATLANTA, GA / DALLAS, TX / BALTIMORE, MD

RETAINING WALL "R-346-5A" - 1ST STAGE: WIRE FACED WALL

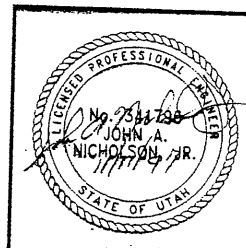
(FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1060.94 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

* INDICATES SOIL REINFORCING TYPE
 MESH TO BE USED ON ADDITIONAL
 WIRE WALL FACING ADDED AFTER
 SETTLEMENT.

14 of 26 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 WALL R-346-5A - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:
 2:23 R-346-5A.13
 JOB NO:
 239-0007
 RE-7

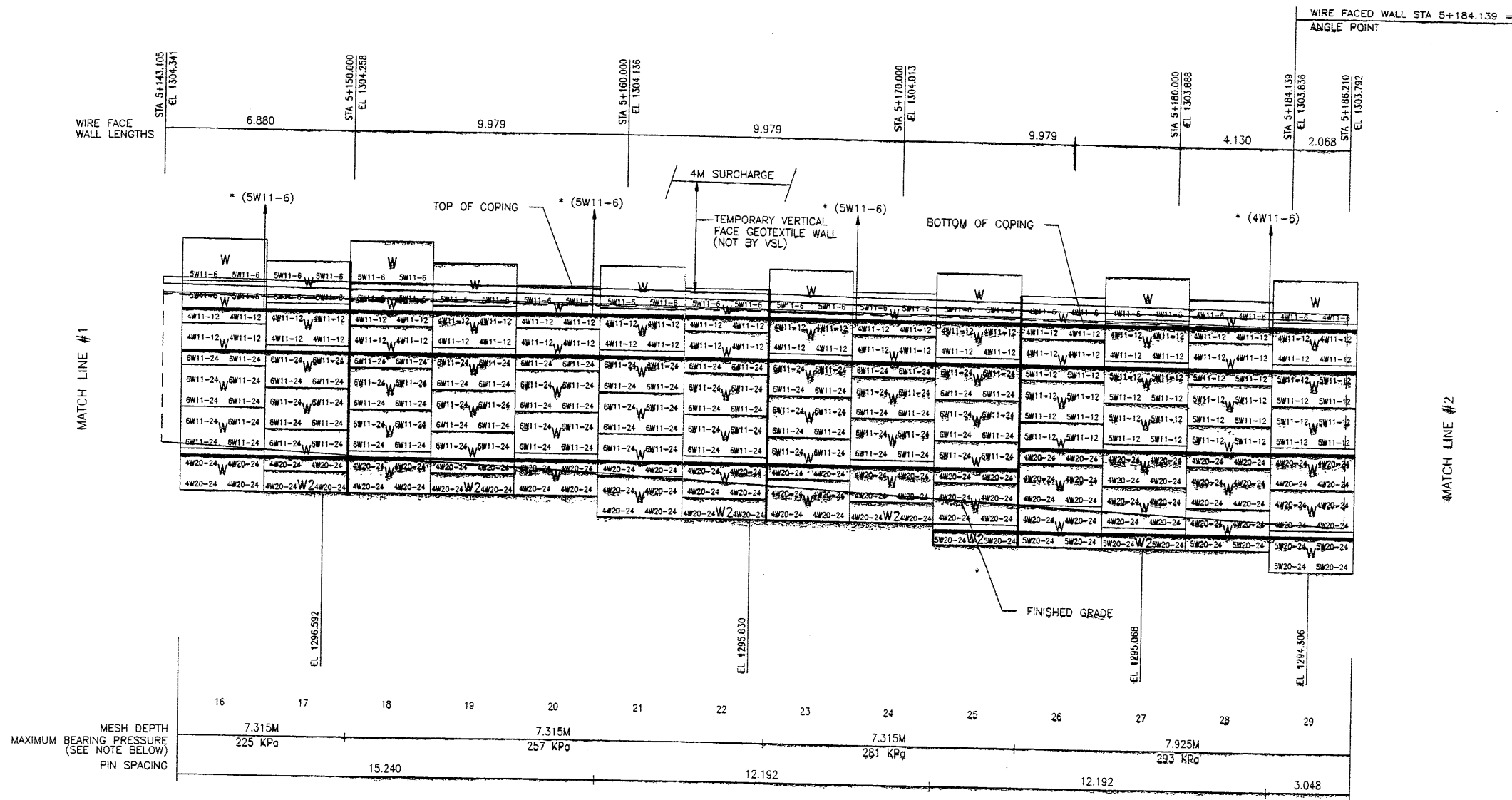
2\W33-05

H:\RE_EARTH\PROJECT\239-0007\33SERIES\33-05

-03-97

FINAL PL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-11-97	RELEASE FOR 1ST STAGE CONST. ONLY
2	11-07-97	REVISED FINISHED GRADE BOTTOM OF WALL FACING CHG.



RETAINING WALL "R-346-5A" - 1ST STAGE: WIRE FACED WALL

(FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1060.94 SM)
 SCALE 1:100 (FULL SIZE);
 SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 NOV 14 1997
 RELEASED FOR CONSTRUCTION

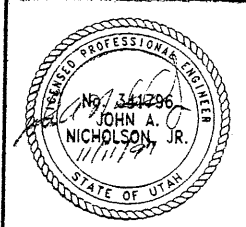


VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4869

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

* INDICATES SOIL REINFORCING TYPE
 MESH TO BE USED ON ADDITIONAL
 WIRE WALL FACING ADDED AFTER
 SETTLEMENT.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



15 of 26 METRIC

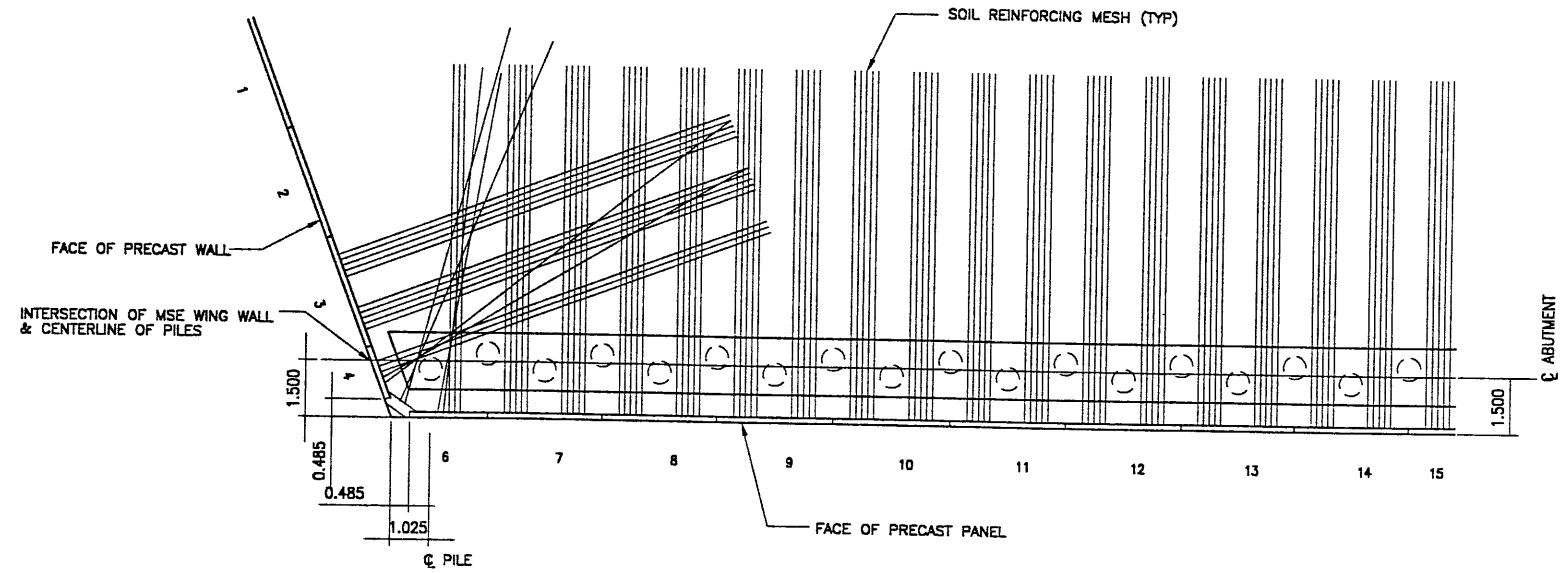
RETAINED EARTH™ WALLS WALL "R-346-5A" - 1ST STAGE: WIRE FACED WALL
UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
SCALE: 2.25:1 R-346-5A.14
JOB NO: 239-0007
RE-8

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XP... (X-UTAH.DWG) ... 1R33-05A ... 1997\33SERIES\33 ... 23-09-98 ... FINAL P

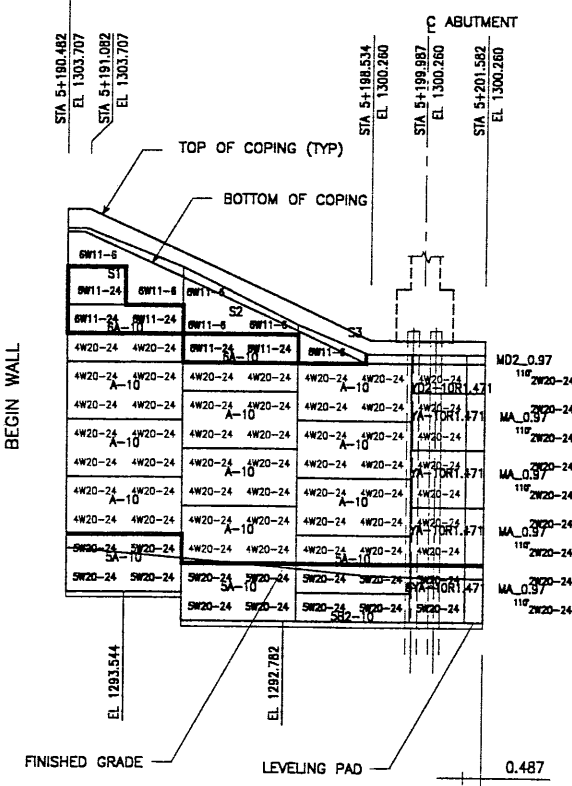
CHANGED ENTIRE SHEET

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
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▲	3/6/98	SINGLE STAGE MODIFICATION



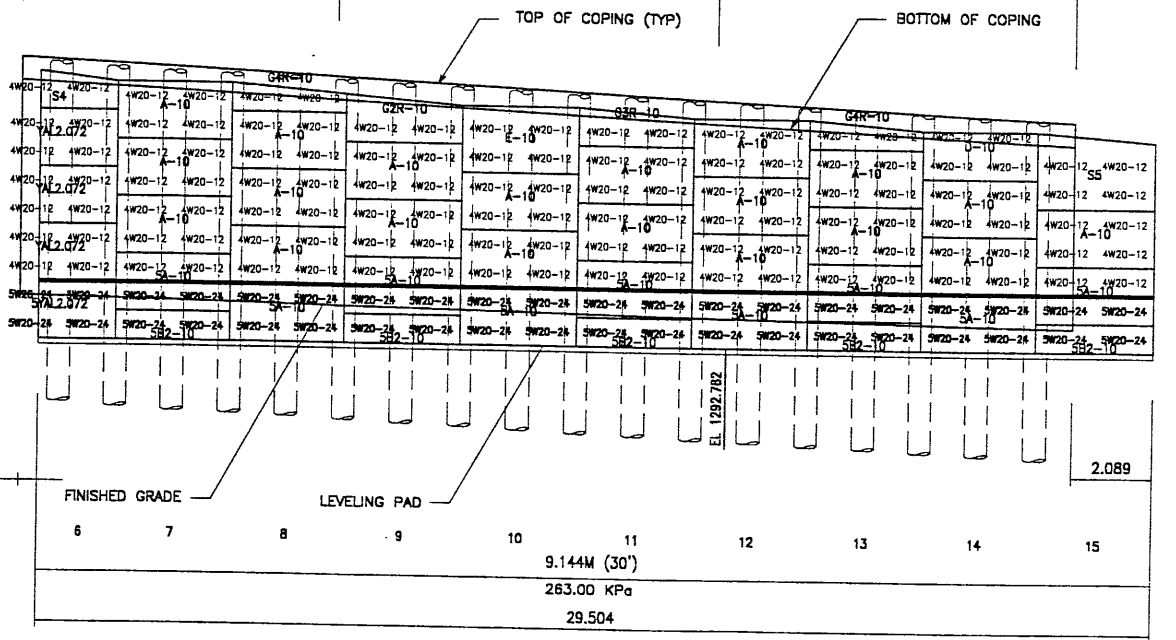
PLAN PRECAST WALL R-346-5A
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

BEGIN WALL R-346-5A
 WALL STA 5+190.482 =
 I-15 STA 25+769.021 (26.168 RT)
 NOMINAL PANEL FACE (RWLOL)



WALL STA 5+201.582 =
 I-15 STA 25+779.851 (26.168 RT)
 NOMINAL PANEL FACE (RWLOL)

BEND WALL R-346-05A
 WALL STA 5+229.464 =
 I-15 STA 25+789.357
 ● 0.000 LT
 NOMINAL PANEL FACE (RWLOL)



ELEVATION PRECAST WALL R-346-5A
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 278.41 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

MESH DEPTH 10.973M (36")
 MAXIMUM BEARING PRESSURE (SEE NOTE BELOW) 250.00 KPa
 PIN SPACING 3.048 8.052

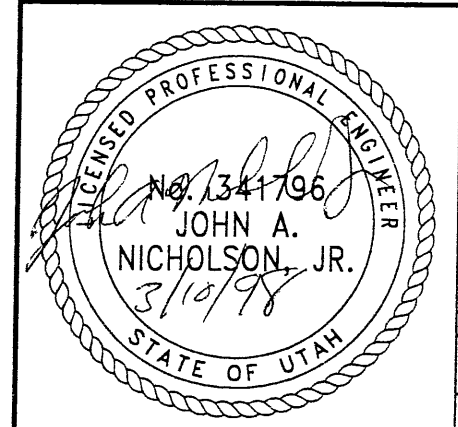
MESH DEPTH 9.144M (30")
 MAXIMUM BEARING PRESSURE (SEE NOTE BELOW) 263.00 KPa
 PIN SPACING 29.504

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES ARE INDICATED BELOW "MESH DEPTH LINE". REVIEWER TO VERIFY MAXIMUM BEARING CAPACITY OF FOUNDATION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

WASATCH CONSTRUCTORS
 MAR 24 1998
 RELEASED FOR CONSTRUCTION

16 of 26

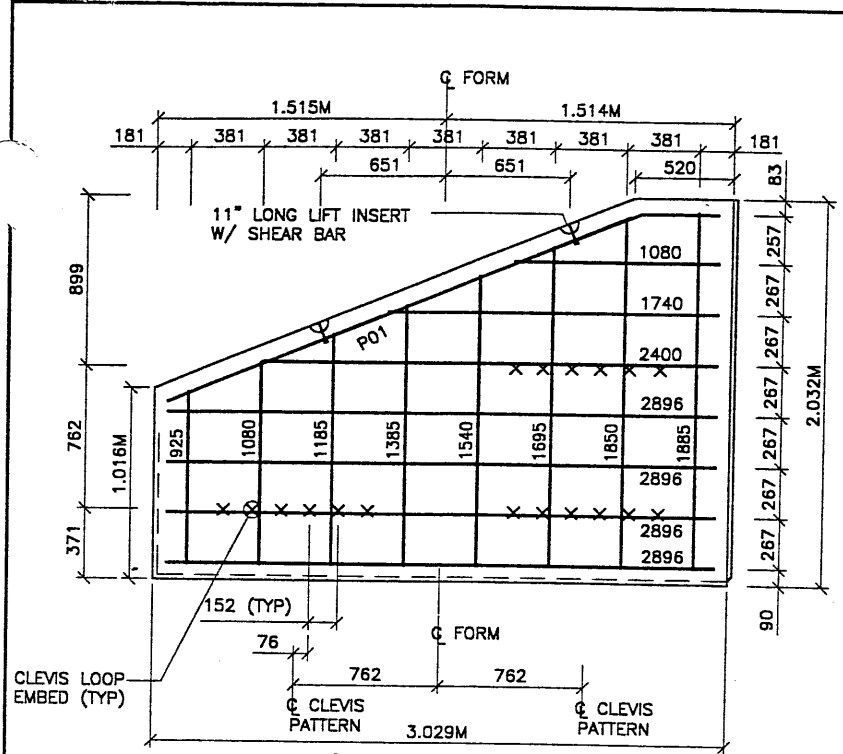


RETAINED EARTH™ WALLS PRECAST WALL "R-346-05A" UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.	DWG. NO. 2.2R-346-5A.15 JOB NO. 239-0007 SHEET NO. RE-9
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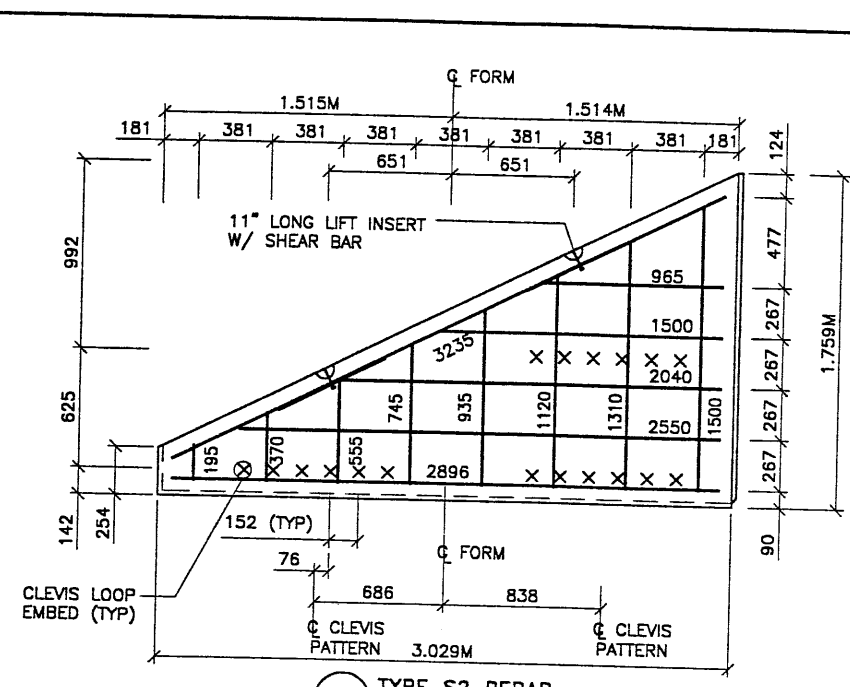
VSL CORPORATION
 2610 Plano Place, Suite 200
 Raleigh, NC 27617
 Phone: (919) 279-1488
 Fax: (919) 461-1685

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

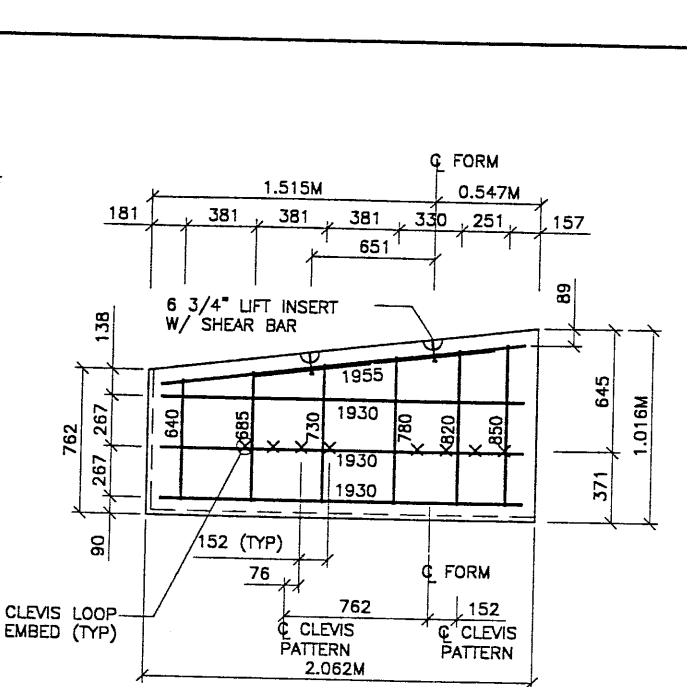
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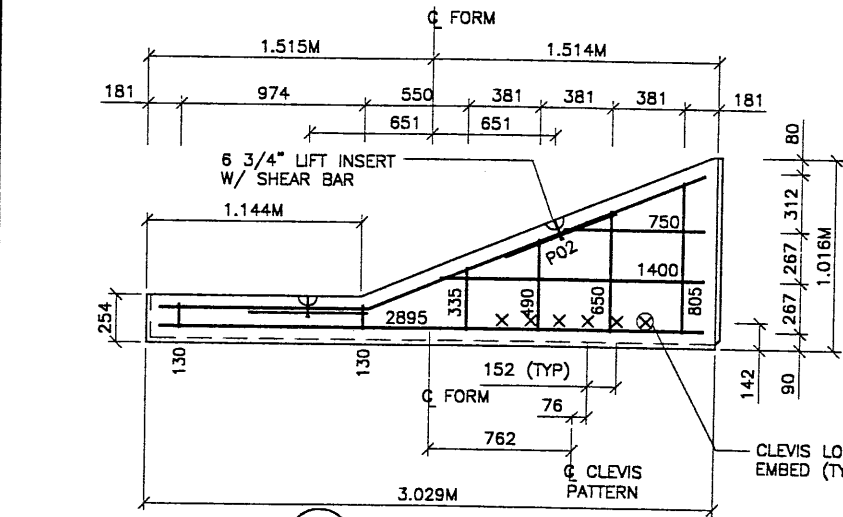
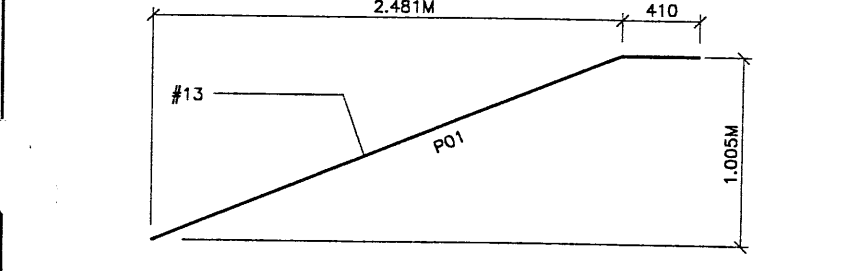
S1 TYPE S1 REBAR
(AREA = 4.91 SQ.M)



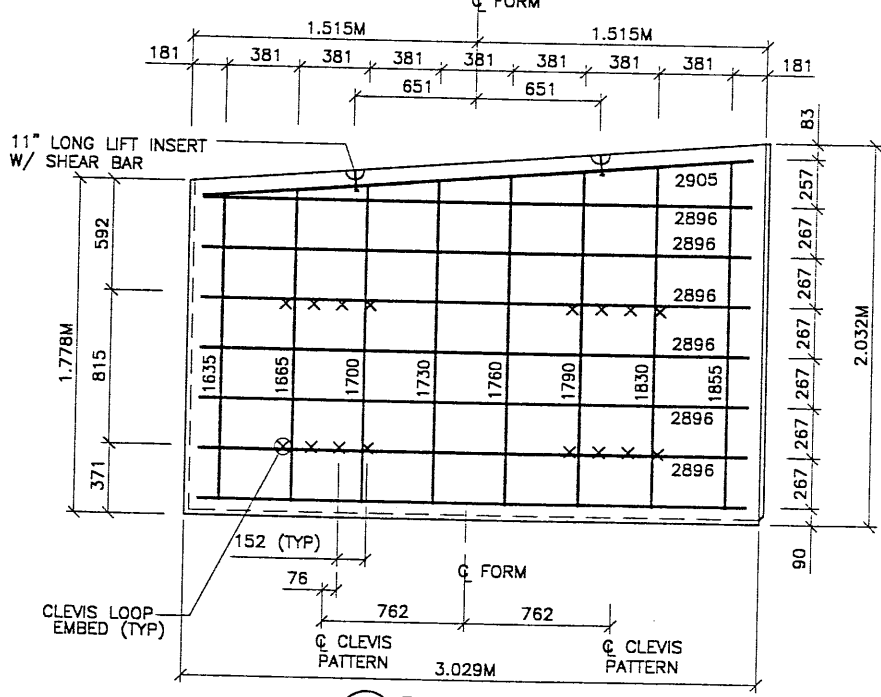
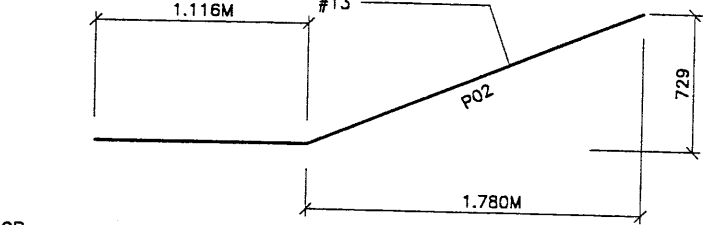
S2 TYPE S2 REBAR
(AREA = 3.10 SQ.M)



S4 TYPE S4 REBAR
(AREA = 1.84 SQ.M)



S3 TYPE S3 REBAR
(AREA = 1.50 SQ.M)



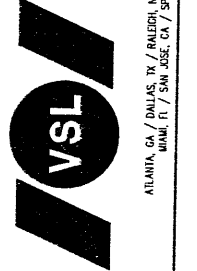
S5 TYPE S5 REBAR
(AREA = 5.81 SQ.M)

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm Ø CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL.
 - PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

APPROVED FOR CONSTRUCTION			
NO.	DATE	DESCRIPTION	BY
Δ	03/09/98	RELEASE FOR CONSTRUCTION	

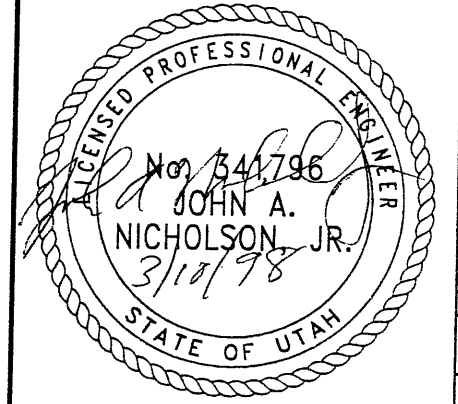
DES.	DRN.	CHK.	RETAINED EARTH™
03-10-98	03-10-98	03-10-98	

VSL CORPORATION
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WASATCH CONSTRUCTORS
MAR 24 1998
RELEASED FOR CONSTRUCTION

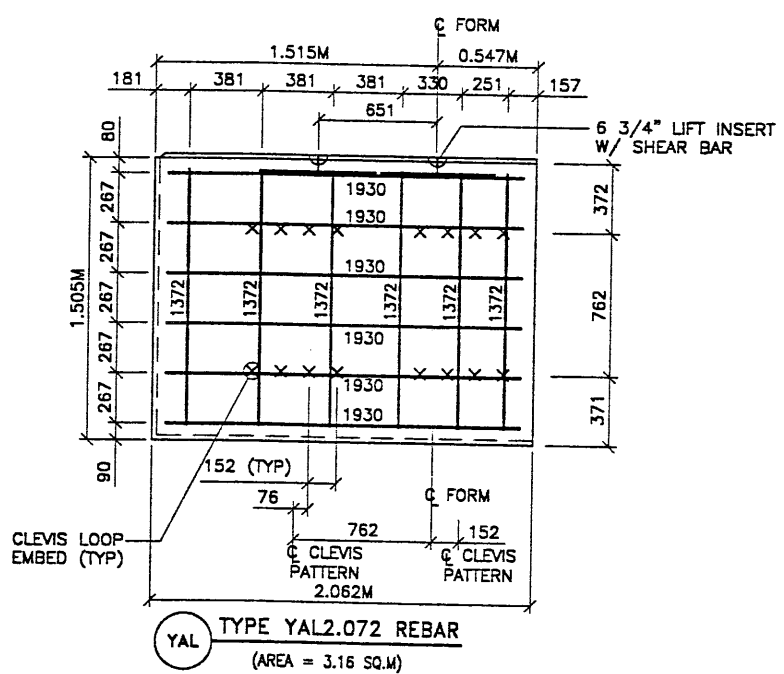
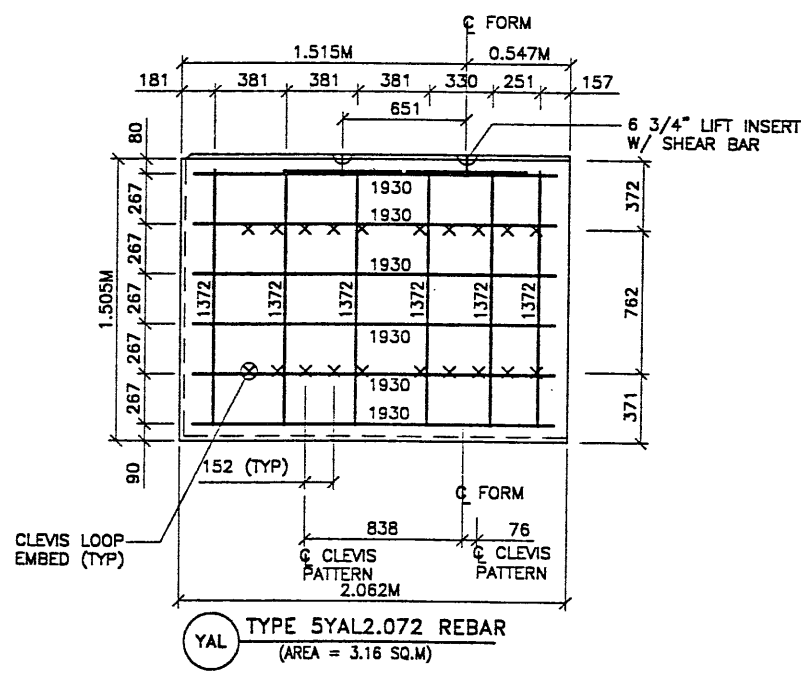
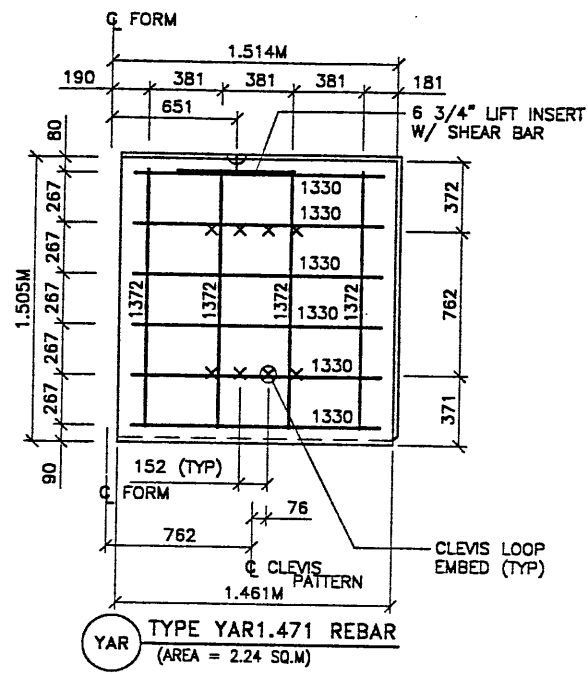
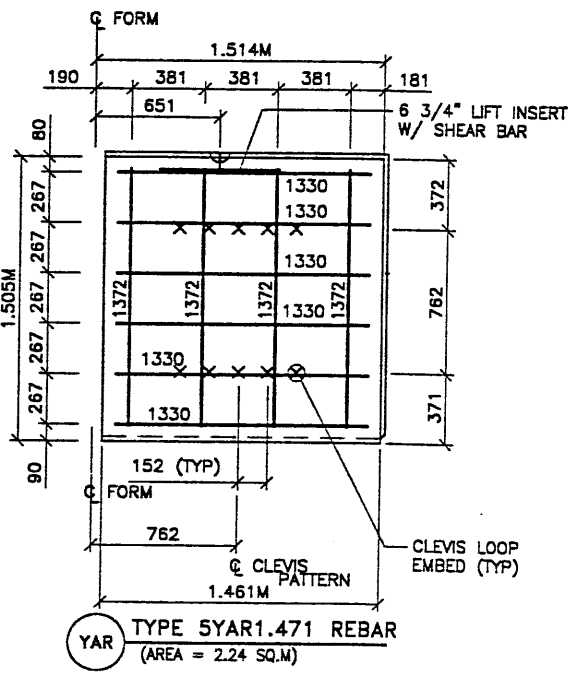
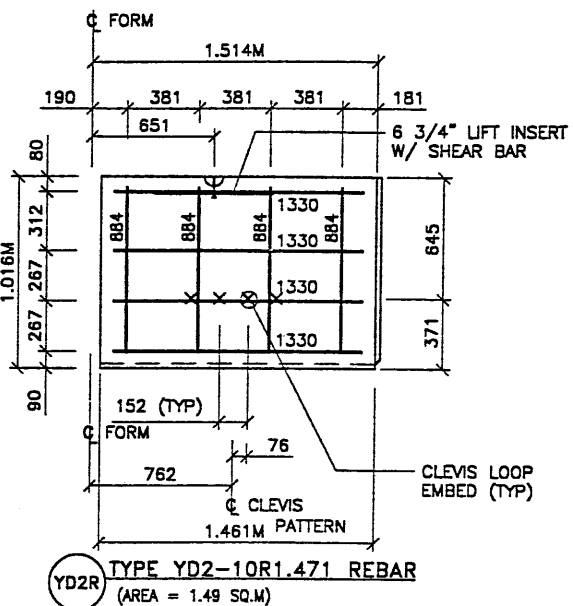
17 of 26



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RETAINED EARTH™ WALLS PRECAST WALL R-346-5A SPECIAL PANEL DETAILS	DWG. NO. 2.2R-346-5A.16
UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.	JOB NO. 239-0007
	SHT. NO. RE-10

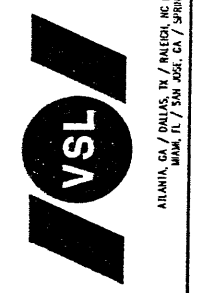


- PANEL REINFORCEMENT NOTES:
1. PANELS ARE SHOWN BACK FACE.
 2. HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 3. ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 4. ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 5. PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 6. ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 7. CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 8. EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 9. ALL PANELS TO USE 9.5mm# CLEVIS LOOPS. VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 10. LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	03/09/98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION	BY

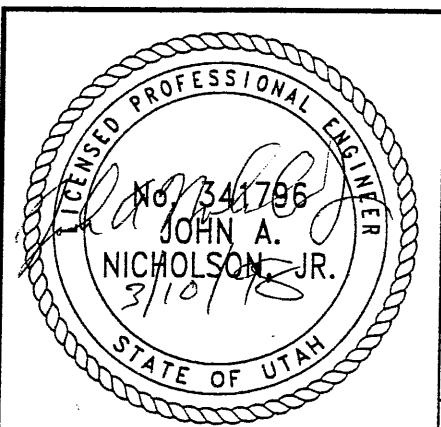
VSL CORPORATION
 2810 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-8772
 Fax: (919) 781-4989



VSL CORPORATION (PARTY)
 shall be responsible for the design and construction of the structure shown on this drawing. The use of the VSL RETAINED EARTH™ system is subject to the terms and conditions of the license agreement between VSL and the licensee. No other use of the VSL RETAINED EARTH™ system is permitted without the written consent of VSL.

WASATCH CONSTRUCTORS
 MAR 24 1998
 RELEASED FOR CONSTRUCTION

18 of 26



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RETAINED EARTH™ WALLS PRECAST WALL R-346-5A SPECIAL PANEL DETAILS	UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.2R-346-5A.17	JOB NO. 239-0007
SHT. NO. RE-11	

ICE (X-UTAH.DWG)

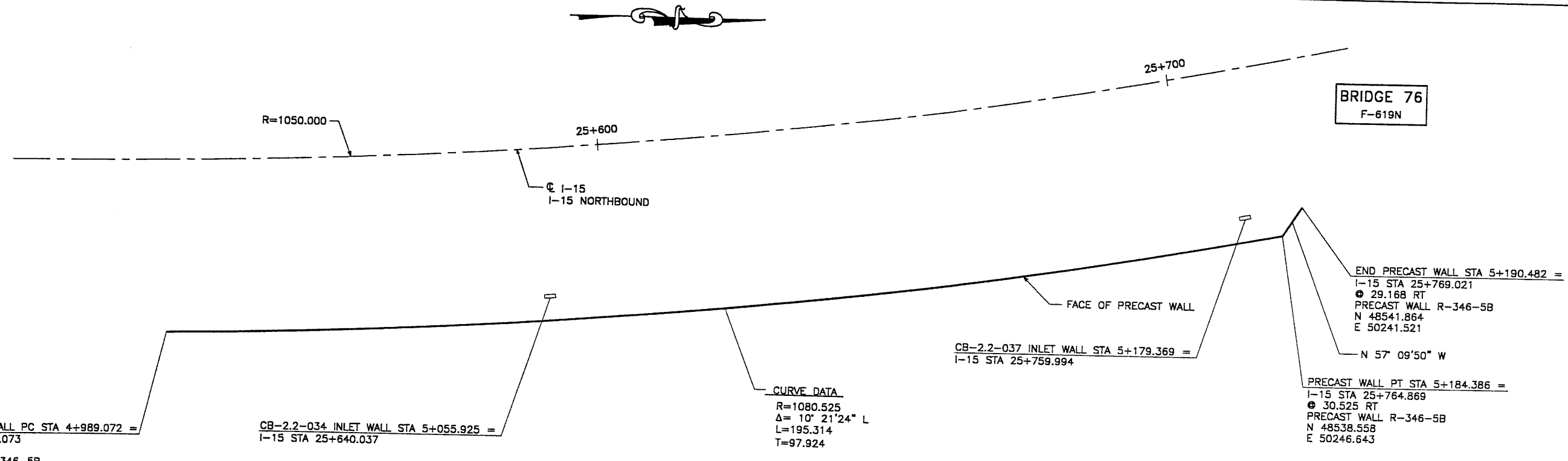
\\33-05B\SUBMITL-2\RE-1.DWG

H:\RE_EARTH\PROJECT\239-0007\1998

T 08-24-98

FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	08/24/98	RELEASE FOR CONST.



PLAN VIEW MSE WALL "R-346-5B"

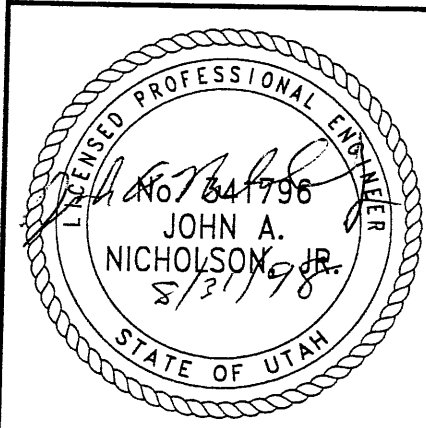
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SCALE: 1=800 (HALF SIZE)

RETAINED EARTH INDEX
RE-12 PLAN PRECAST WALL R-346-5B, NOTES & DESIGN CRITERIA
RE-13 TYP. CROSS SECTION
RE-14 TYP. CROSS SECTION
RE-15 PRECAST WALL R-346-5B
RE-16 PRECAST WALL R-346-5B
RE-17 PRECAST WALL R-346-5B
RE-18 PRECAST WALL R-346-5B
RE-19 SPECIAL PANEL & Y PANEL DETAILS

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 34°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)
TRAFFIC SURCHARGE = 250 PSF
SEISMIC ACCELERATION COFF. = 0.27g (TYP)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

METRIC

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WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION

19 of 26

REVISION		NO.	DATE	BY	CHK

DES.	JL	08-24-98	JL	RETAINED EARTH™
DRN.	RSW	08-24-98	RSW	
CHK	JL	08-24-98	JL	

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6272
Fax: (919) 781-4859

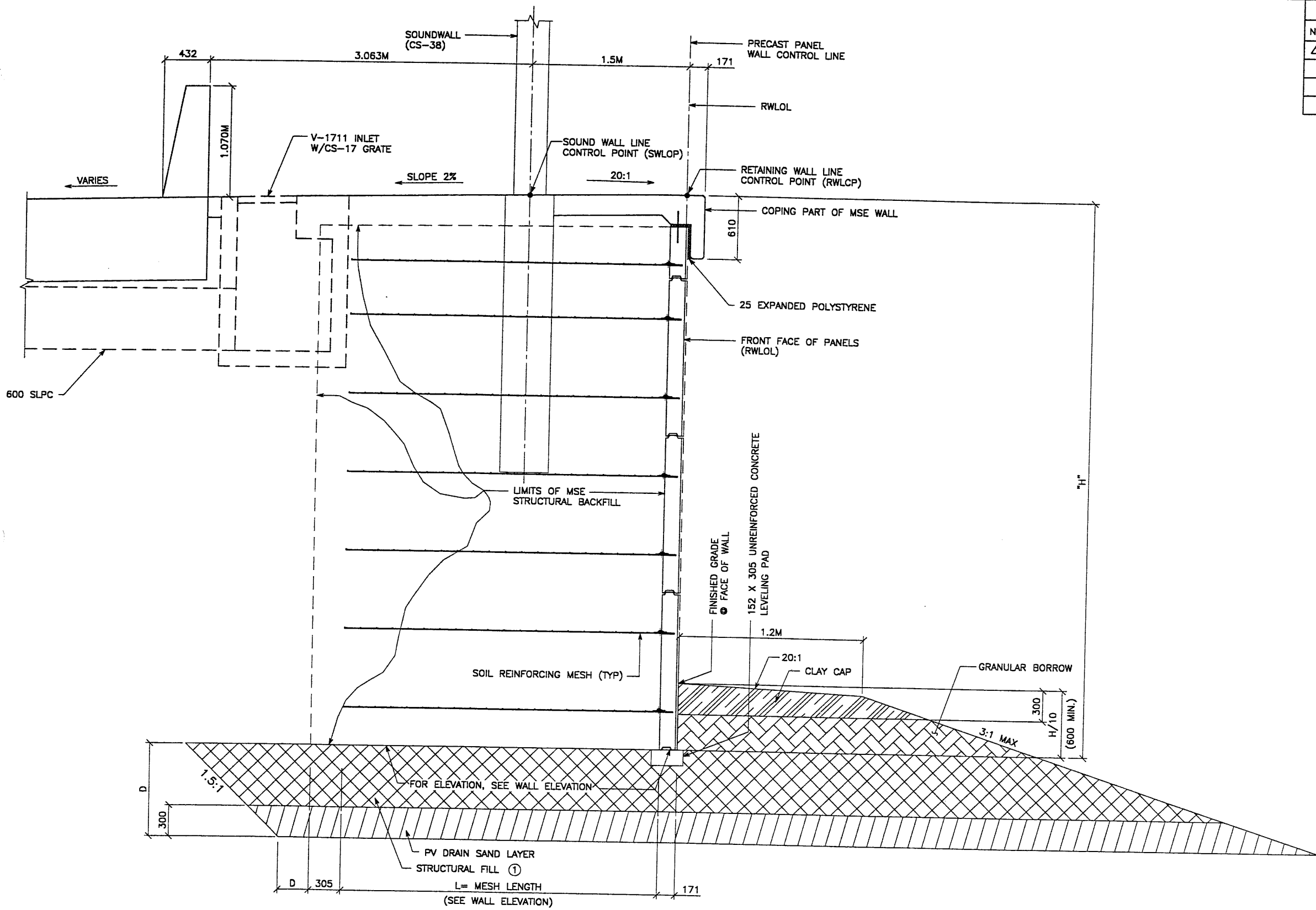
ALUMINA, GA / DANLIS, TX / BRANCO, ME (separate office)
MAAMI, IL / SAN JOSE, CA / SPANISH, VA

VSL

UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-346-5B"

DWG. NO. 2.2R-346-5B.18
JOB NO. 239-0007
SHT. NO. RE-12



TYPICAL CROSS SECTION - STA 4+989.072 TO 5+183.162
SOUNDWALL - STA 9+990.000 TO 10+184.511
INLET LOCATED - STA 25+640.037 & STA 25+759.994
 (SEE DWG. NO. 2.2R-346-5.3 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

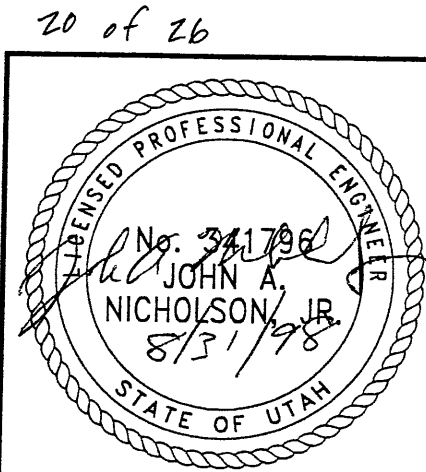
NOTE: OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 0.6 M MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.

METRIC

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
Δ	08/24/98	RELEASE FOR CONST.

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



DES.	08-24-98	JL	RETAINED EARTH™
DRN.	08-24-98	RSW	
CHK.	08-24-98	JL	

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-8669

ATLANTA, GA / DALLAS, TX / ENGLEWOOD, CO (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, MA

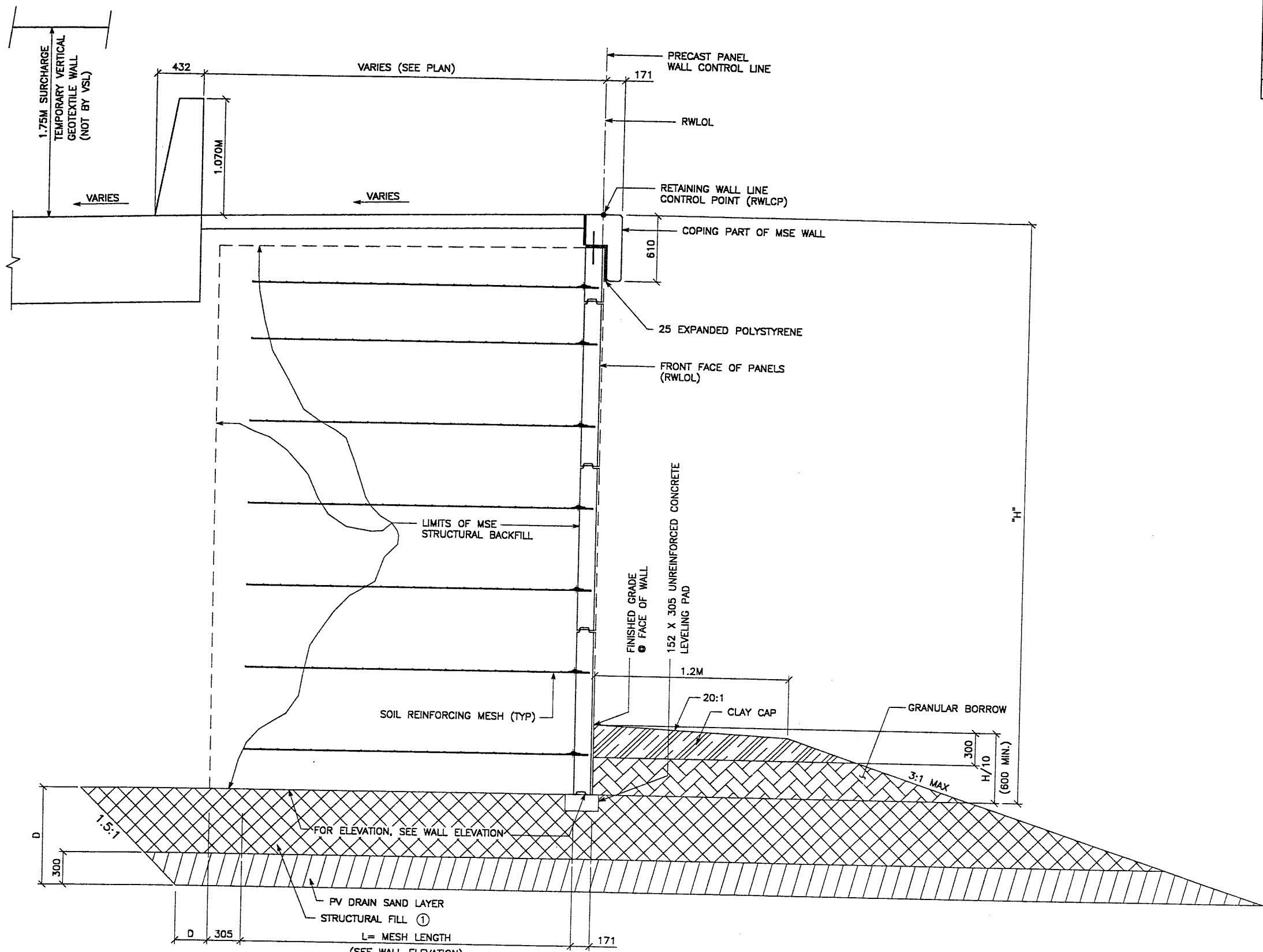
RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-5B"
 TYPICAL CROSS SECTION

UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.2R-346-5B.19

JOB NO:
 239-0007

SHT. NO.
 RE-13



NOTE: OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 0.6 M MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.

TYPICAL CROSS SECTION - STA 5+183.162 TO 5+190.482
 (SEE DWG. NO. 2.2R-346-5.4 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	08/24/98	RELEASE FOR CONST.

NO.	DATE	REVISION	CHK

VSL CORPORATION
 2410 Plaza Place, Suite 200
 Redwood City, CA 94063
 Telephone: (415) 761-9272
 Fax: (415) 761-8869

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

21 of 26

PROFESSIONAL ENGINEER
 No. 7341796
 JOHN A. NICHOLSON, JR.
 8/31/98
 STATE OF UTAH

RETAINED EARTH™ WALLS
 PRECAST WALL™ R-346-5B
 TYPICAL CROSS SECTION

UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-5B.20
JOB NO.	239-0007
SHT. NO.	RE-14

ICE (X-UTAH.DWG)

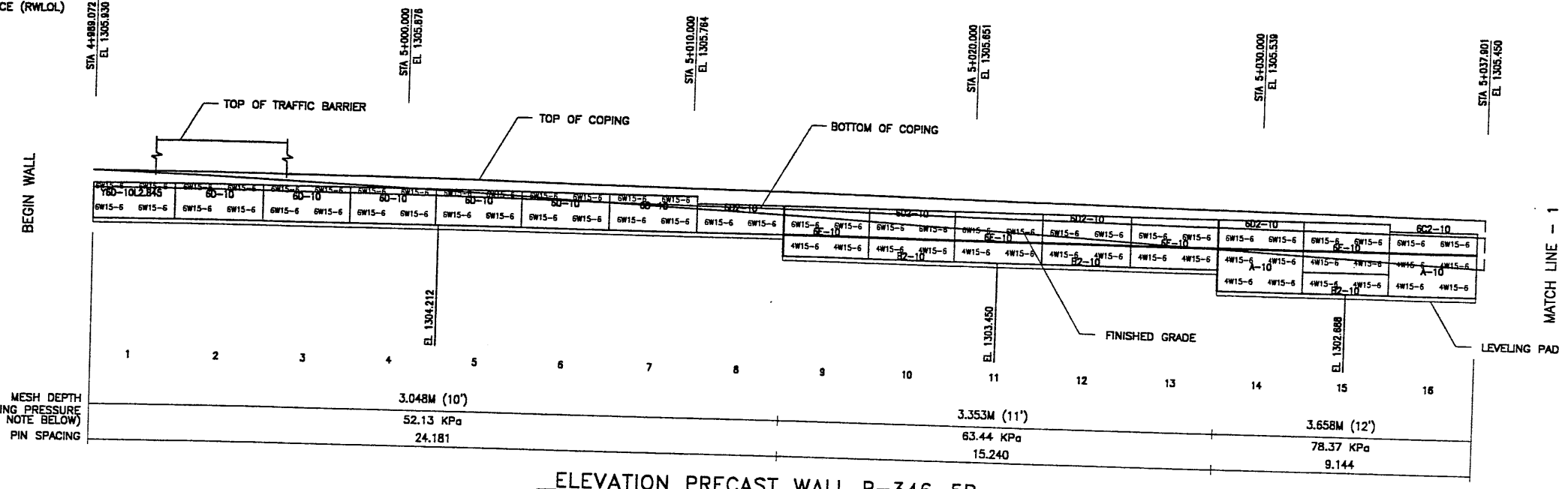
SUBMIT-2 (33-05B.DWG)

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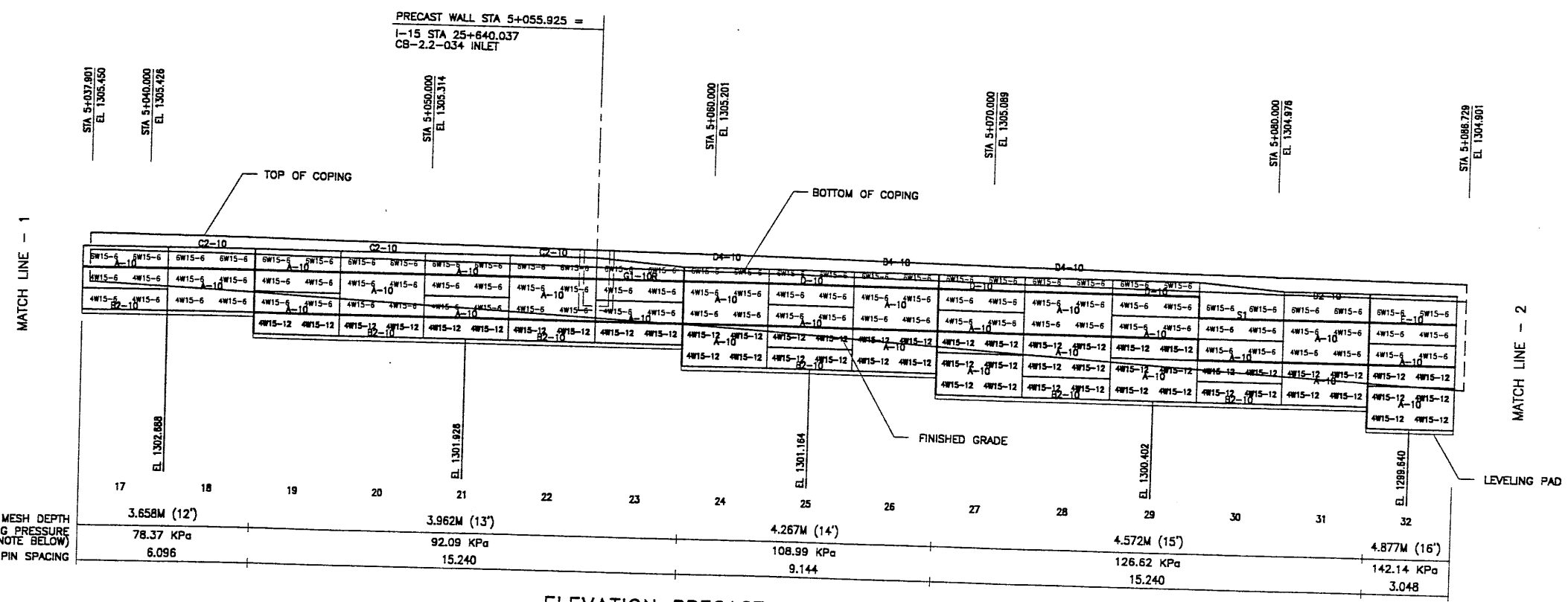
08-24-98

FINAL

BEGIN WALL R-346-5B
 WALL PC STA 4+989.072 =
 I-15 STA 25+575.073
 ● 30.525 RT
 N 48344.670
 E 50267.882
 NOMINAL PANEL FACE (RWLOL)



ELEVATION PRECAST WALL R-346-5B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 958.51 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)



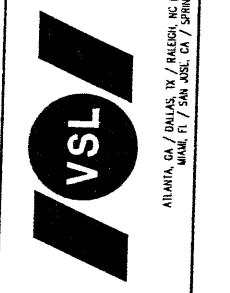
ELEVATION PRECAST WALL R-346-5B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 958.51 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
Δ	08/24/98	RELEASE FOR CONST.

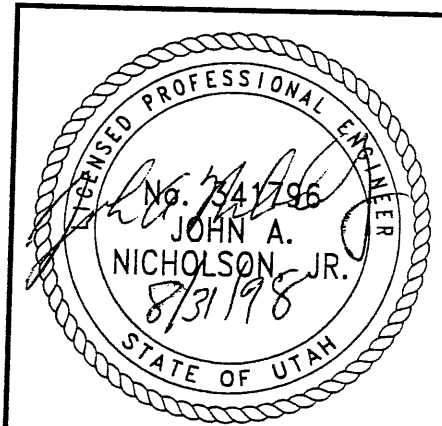
NO.	DATE	REVISION	CHK

VSL CORPORATION
 7940 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4989



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-5B"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



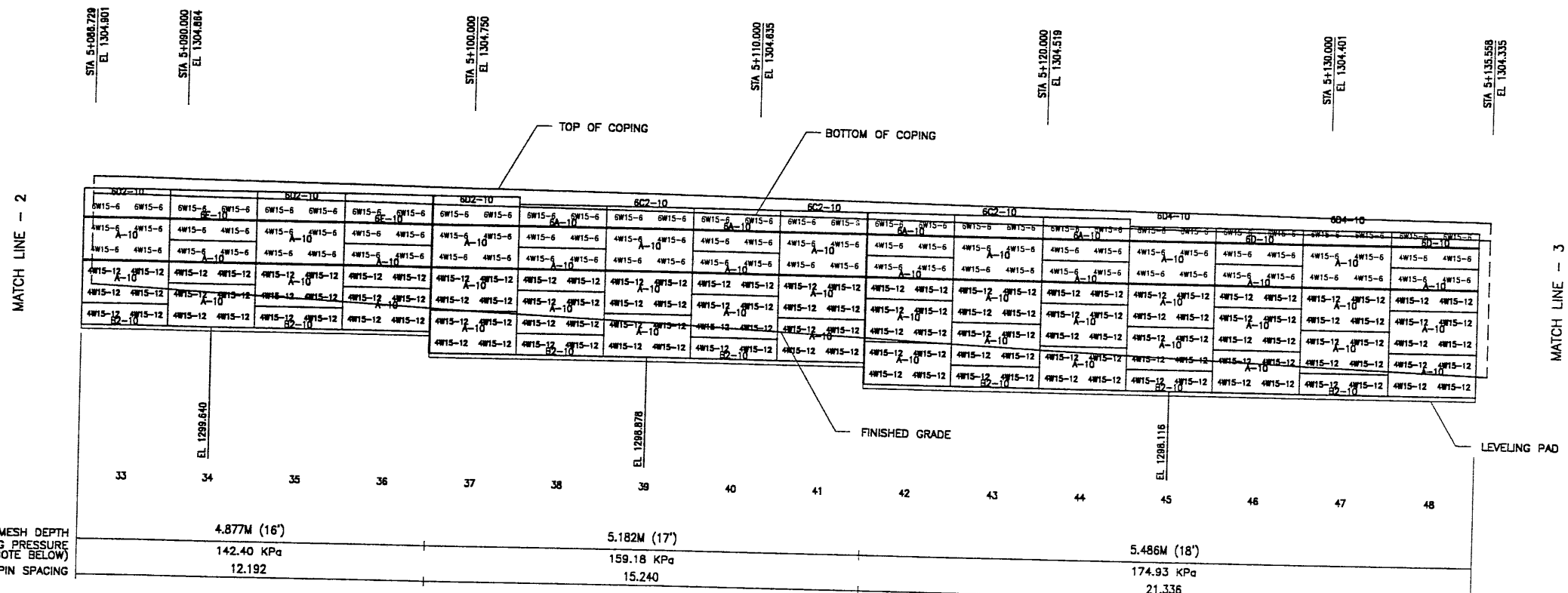
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

DWG. NO.
 2.2R-346-5B.21
 JOB NO.
 239-0007
 SHT. NO.
 RE-15

22 of 26

METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
Δ	08/24/98	RELEASE FOR CONST.

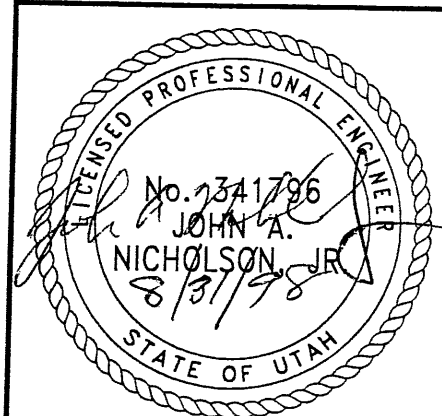


ELEVATION PRECAST WALL R-346-5B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 958.51 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

METRIC

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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



23 of 26

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-5B"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-5B.22
JOB NO.	239-0007
SHT. NO.	RE-16



VSL CORPORATION
 2840 Plaza Place, Suite 200
 Ruidosa, N.C. 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4989

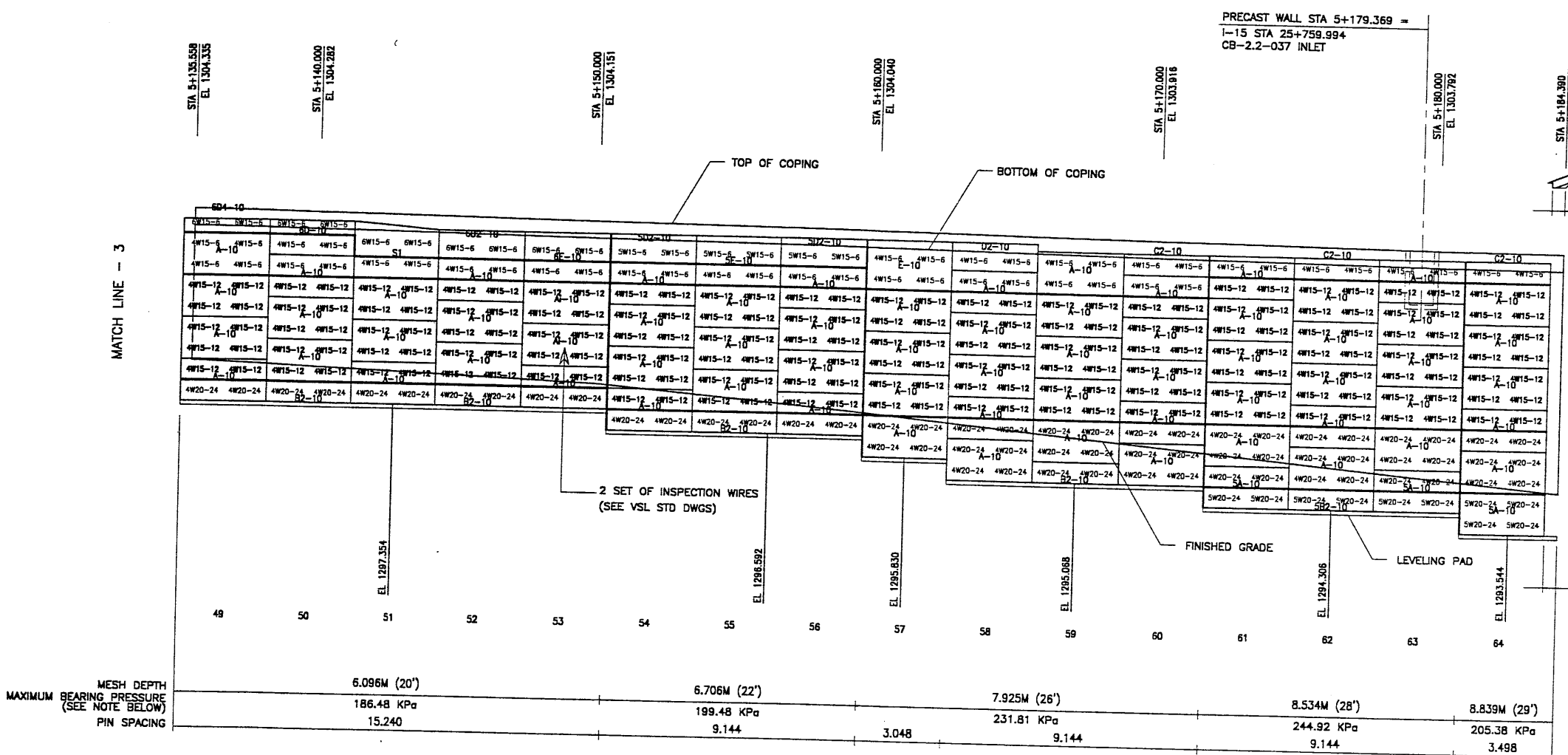
ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

VSL Corporation (VSL) is a registered provider of continuing education for civil engineers. The use of this information is not intended to constitute an offer of insurance or any other financial product. For more information, please contact your insurance broker.

DES.	DRN.	CHK.	NO.	DATE	BY
08-24-98	JL	RSW			
08-24-98	RSW				
08-24-98	JL				

FINAL DT 08-24-98 H:\RE_EARTH\PROJECT\239-0007\1998\3SERIES\SUBMITL-2\33-05B.DWG NCE (X-UTAH.DWG)

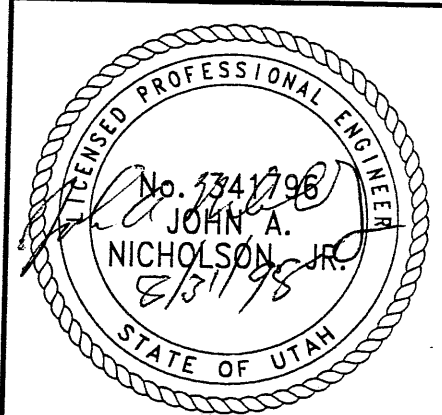
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	08/24/98	RELEASE FOR CONST.



ELEVATION PRECAST WALL R-346-5B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 958.51 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-5B"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.2R-346-5B.23
 JOB NO.
 239-0007
 SH. NO.
 RE-17

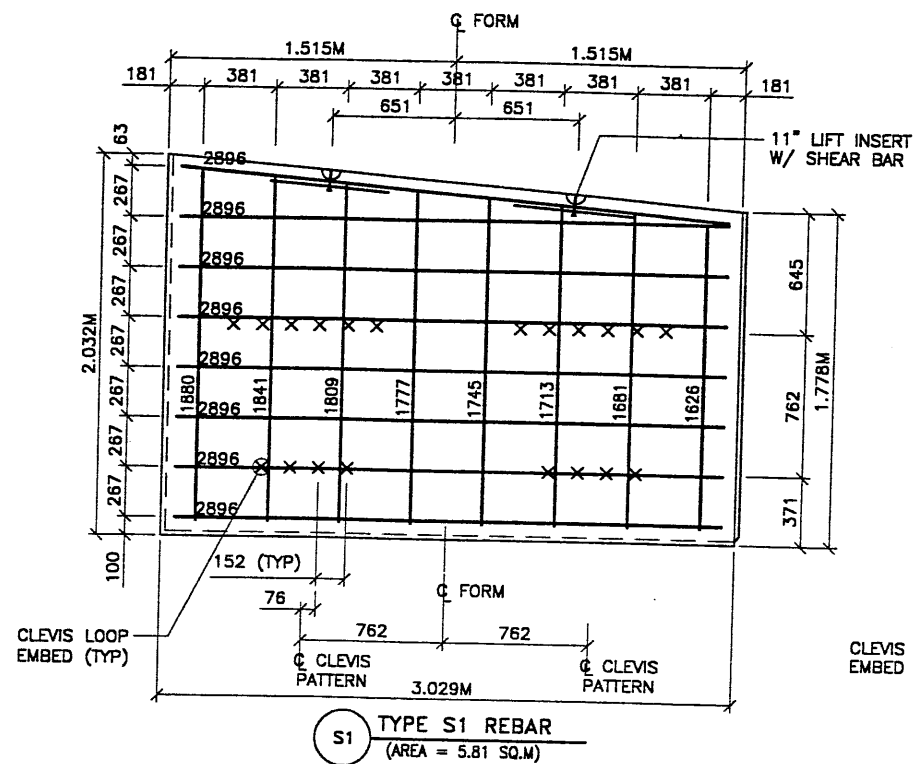
VSL CORPORATION
 2610 Plaza Place, Suite 200
 Raleigh, NC 27617-1632
 Tel: (919) 761-4989
 Fax: (919) 761-4989

VSL Corporation (VSL) owns a USA property and is not responsible for the information or for the use of the information in this drawing. The user of this drawing is responsible for the design and construction of the structure. VSL does not warrant the accuracy of the information provided in this drawing. VSL does not assume any liability for the use of this drawing.

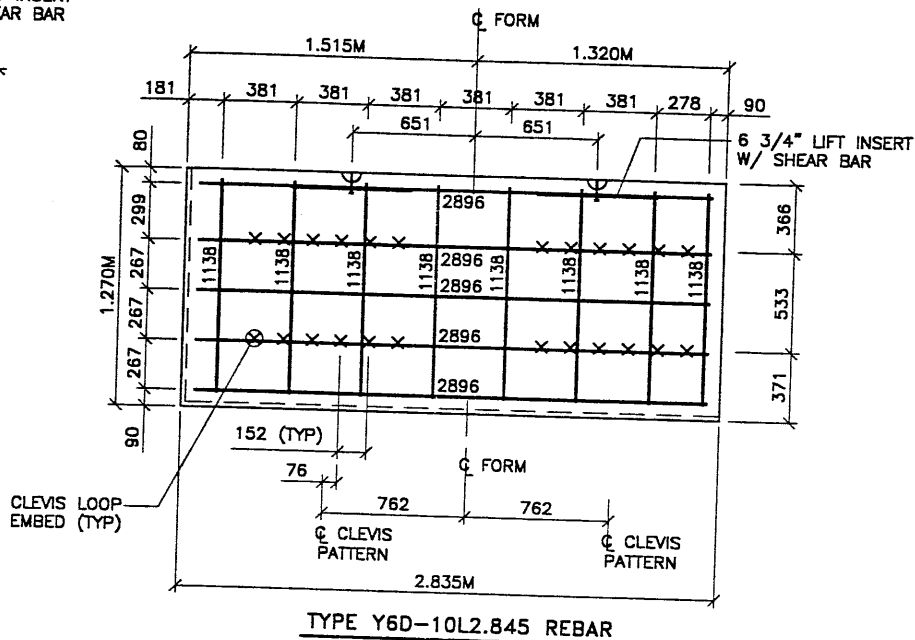
DES.	JL	RSW	JL	NO.	DATE	REVISION	BY	CHK
08-24-98	JL	RSW	JL					
08-24-98								
08-24-98								

24 of 26

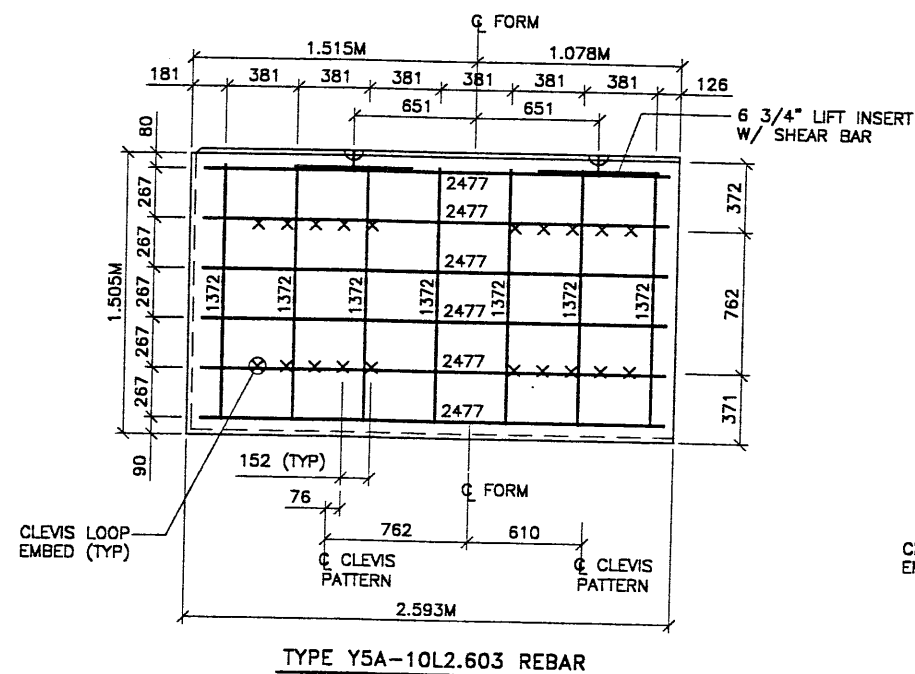
NCE (X-UTAH.DWG)
 \33-05B\SUBMITL-2\SPECIALS.DWG
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 FINAL 08-24-98



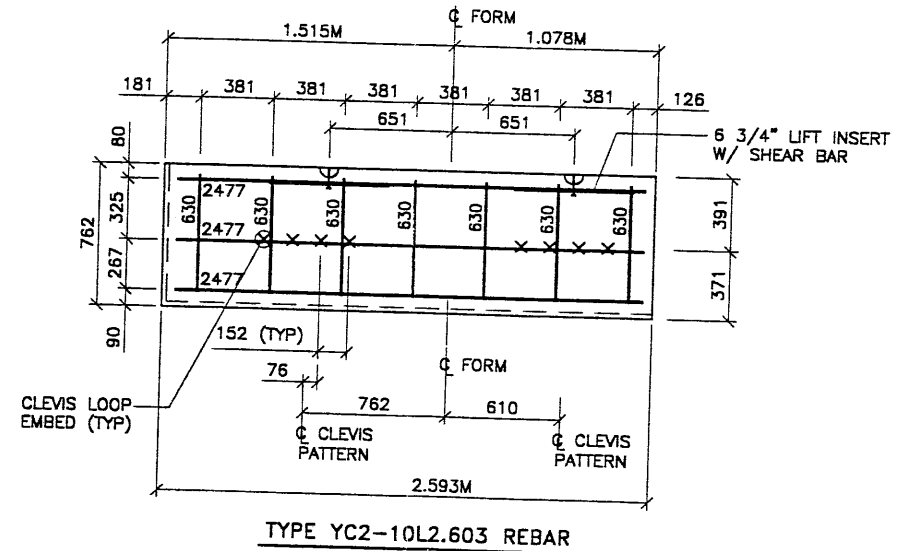
TYPE S1 REBAR
 (AREA = 5.81 SQ.M)



TYPE Y6D-10L2.845 REBAR



TYPE Y5A-10L2.603 REBAR



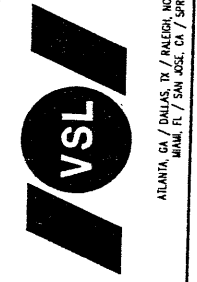
TYPE YC2-10L2.603 REBAR

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	08/24/98	RELEASE FOR CONST.

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

DES.	CHK.	NO.	DATE
DES. 08-24-98	JL		
DRN. 08-24-98	RSW		
CHK. 08-24-98	JL		

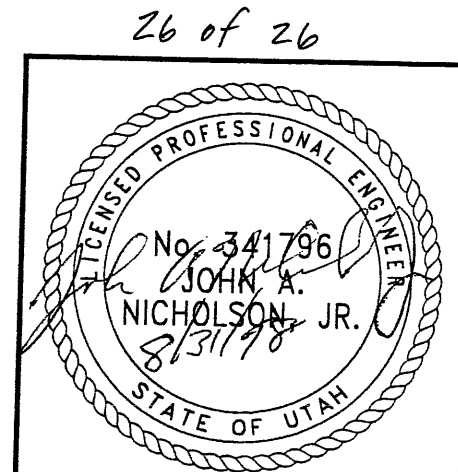
VSL CORPORATION
 2810 Plaza Place, Suite 200
 Raleigh, NC 27612
 (919) 781-6772
 Fax: (919) 781-1089



WASATCH CONSTRUCTORS

SEP 04 1998

RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-5B"
 SPECIAL & Y-PANEL DETAILS
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

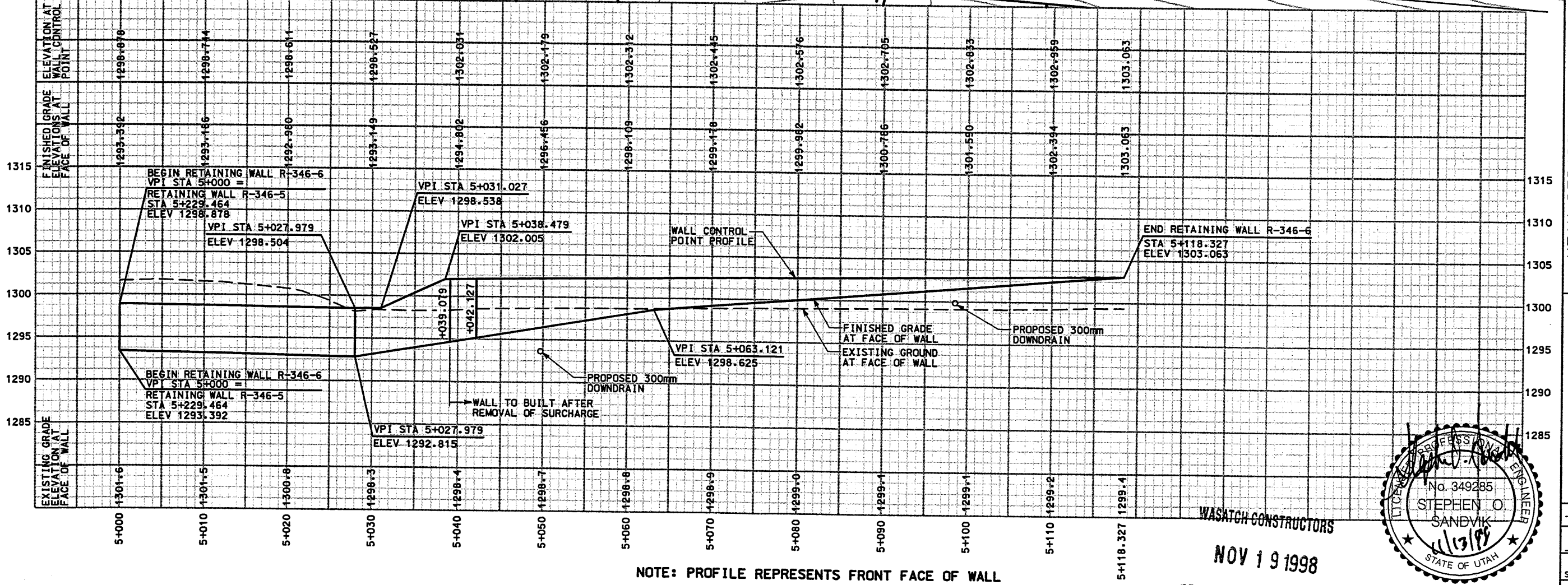
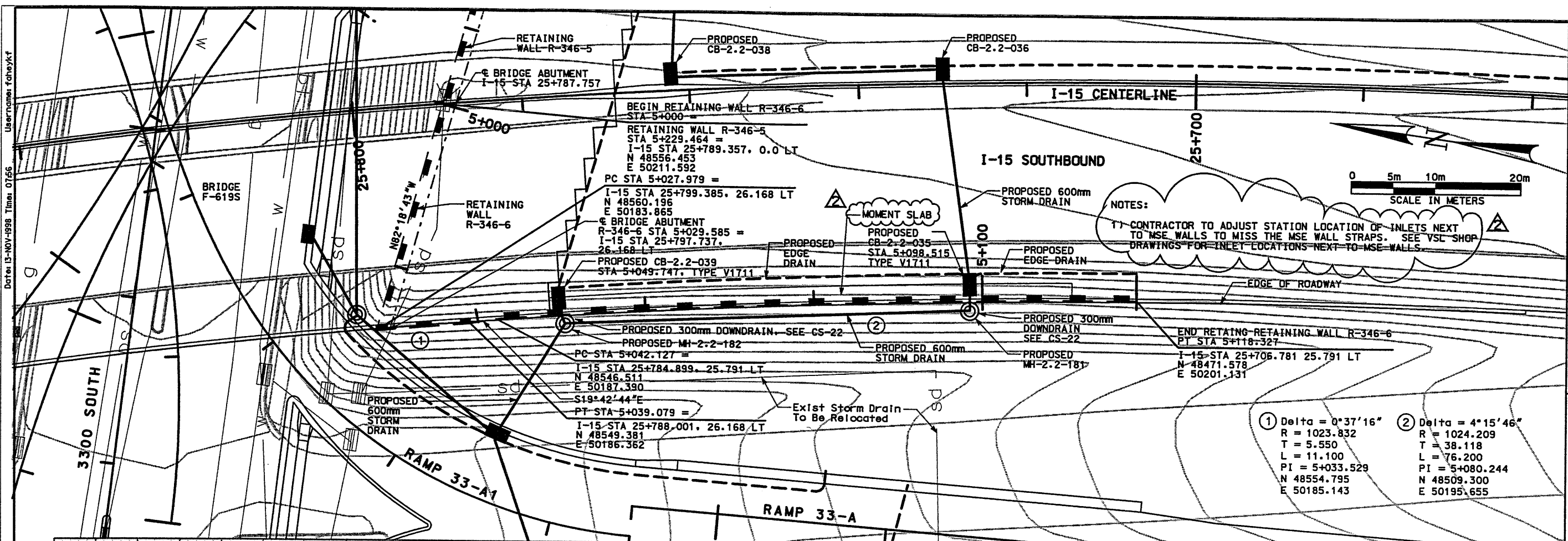
DWG. NO.	2.2R-346-5B.25
JOB NO.	239-0007
SHT. NO.	RE-19

METRIC
 CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

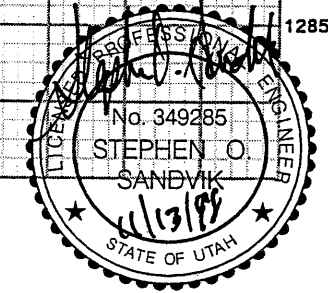
26 of 26

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Filename: c:\p\115_cadd\33_37\sheet_1_files\wall\33_r1wall-06.dwg



NOV 19 1998

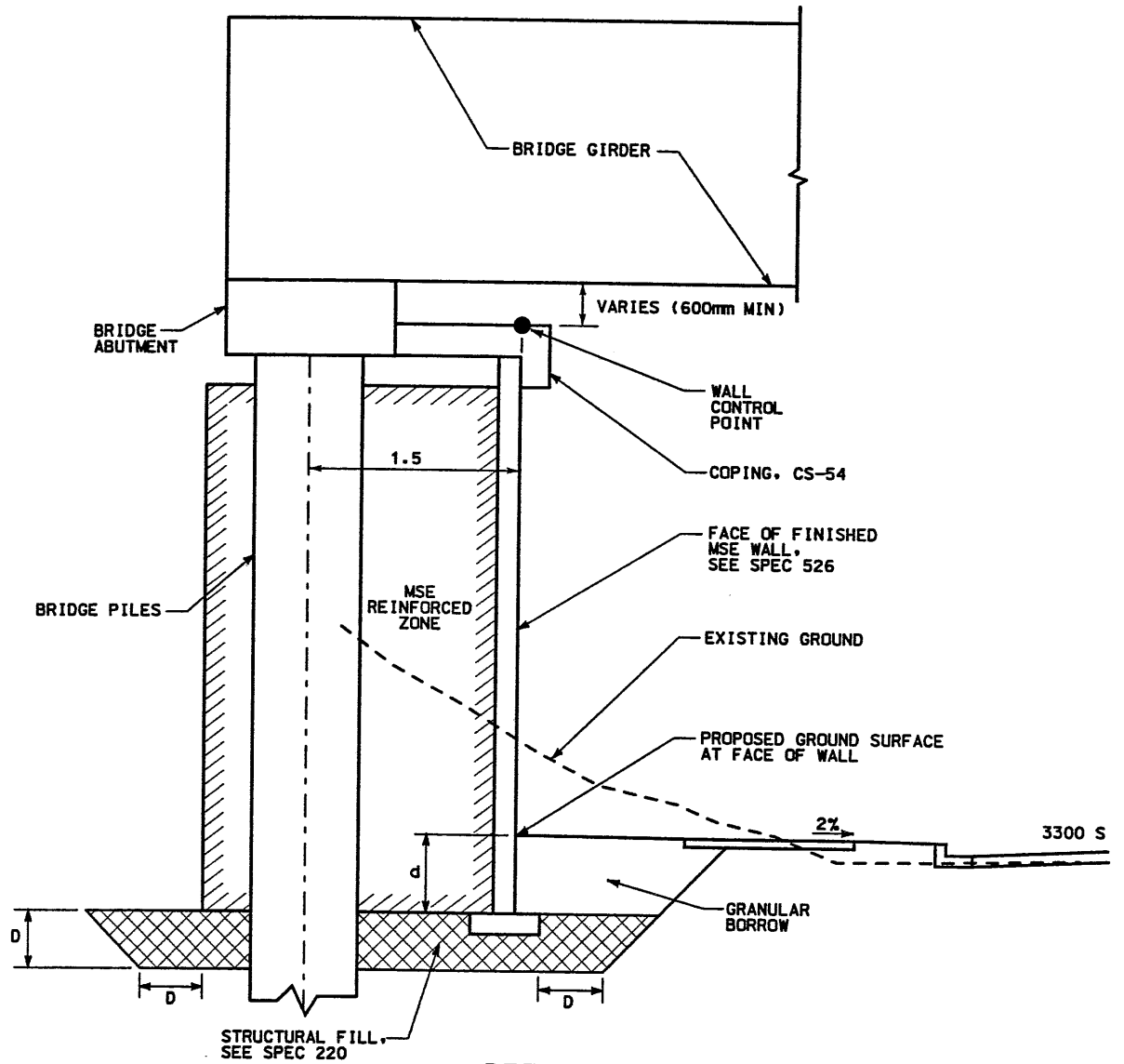


APPROVED FOR CONSTRUCTION	
NO. _____	DATE _____
DESCRIPTION _____	ORIGINAL ISSUE 6/29/98
	ADDED NOTE 11/12/98
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LE	
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-6	REVISION RECORD DATE 6/29/98 DESIGN DAF PROJECT DESIGN ENGINEER Stephen O. Sandvik
SECTION 2.2	DATE 6/29/98 DRAWN DAF PROJECT DESIGN ENGINEER
PROJECT NUMBER #SP-15-7(135)296	DATE _____ PROJECT MANAGER Reindle L. Ross
SALT LAKE COUNTY DWG. NO. 2.2R-346-6.1	QUANT. _____
SHT. 1 OF 11	

RELEASED FOR CONSTRUCTION

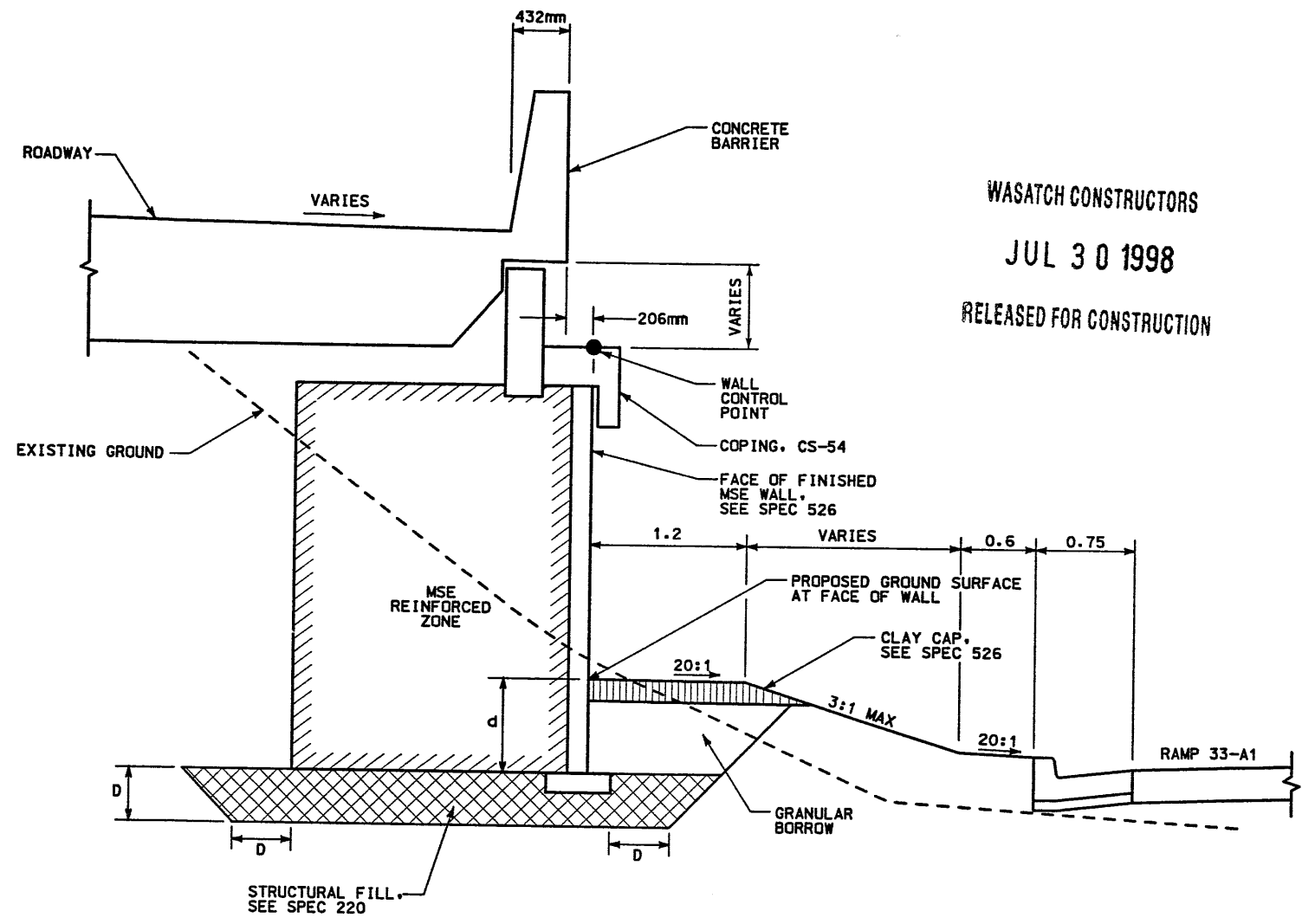
Date: 25-JUN-1998 Time: 09:23
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 File: c:\dgn\115-coed\33-371-prelim-files\wall-files\33-wall-06-02.dgn

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-6
(1 STAGE MSE WALL)
NTS



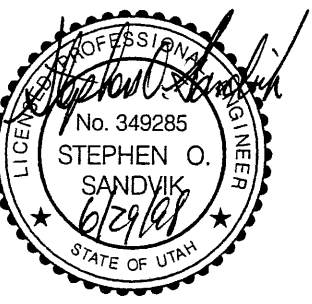
DETAIL A
STA 5+000 TO 5+027.979

d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)



DETAIL B
STA 5+027.979 TO 5+039.079
 (SEE TRANSITION DETAIL ON 2.2R-346-6.5 FOR STA 5+039.079 TO STA 5+042.127)

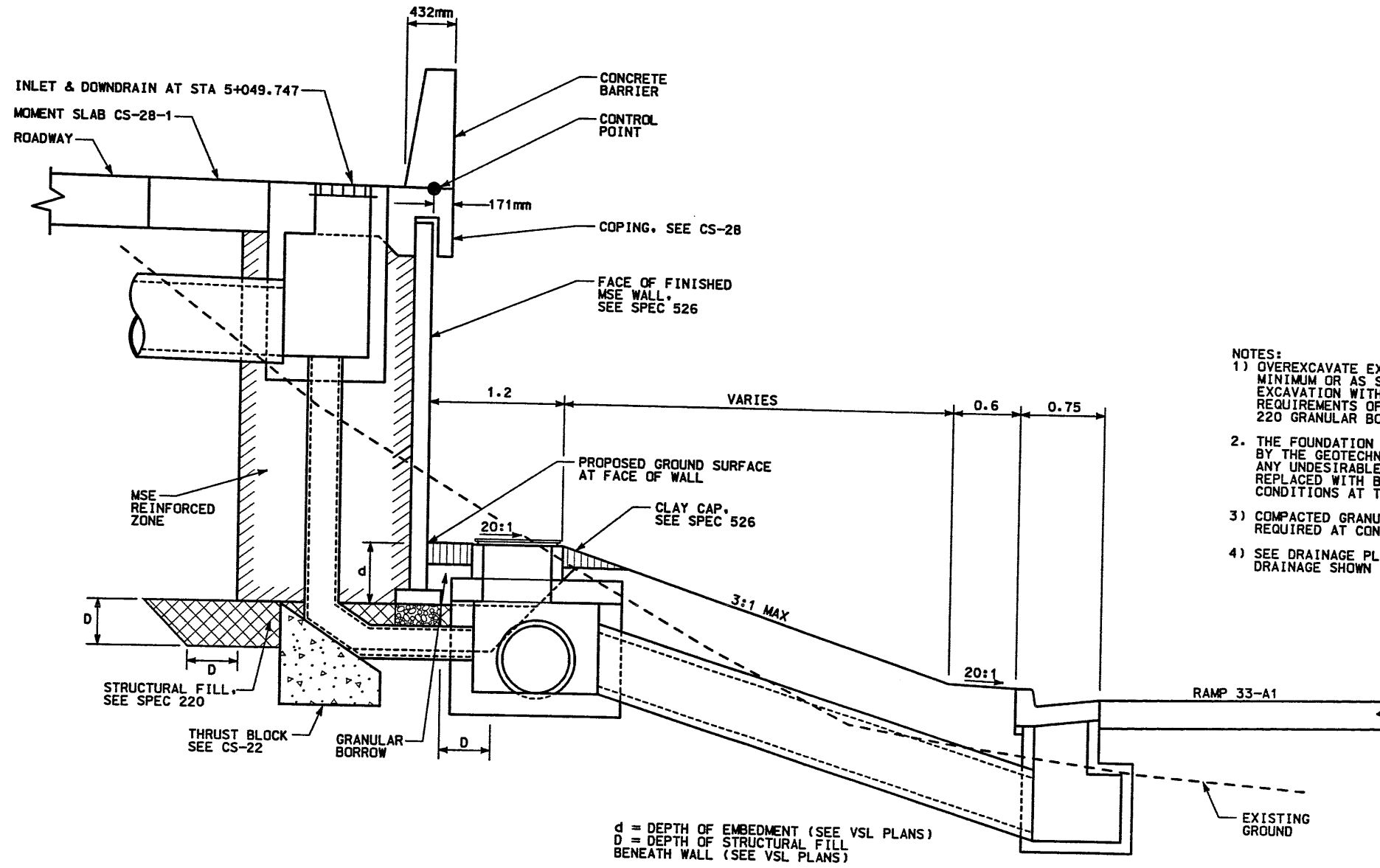
- NOTES:**
- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
 - THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.



WASATCH CONSTRUCTORS
 JUL 30 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	6/29/98	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213409	
MK CENTENNIAL		DESIGN DAF 6/29/98	
SVERDRUP/DE LEUW		CHECK BAR 6/29/98	
APPROVAL 6/29/98 Stephen O. Sandvik		DESIGN DAF 6/29/98	
DATE 6/29/98 PROJECT DESIGN ENGINEER		DRAWN DAF 6/29/98	
APPROVED 6/29/98 Randle L. Ross		CHECK / /	
DATE 6/29/98 PROJECT MANAGER		QUANT. / /	
I-15 CORRIDOR RECONSTRUCTION		SECTION 2.2	
WALL DETAIL R-346-6		#SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-6.2	
SHT. 2 OF 11		REF.	

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-6
(1 STAGE MSE WALL)
 NTS

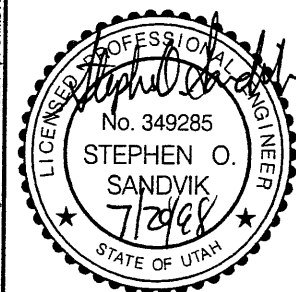


d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

DETAIL C
STA 5+042.127 TO 5+057.908
 (DOWN DRAIN LOCATED AT STA 5+049.747)

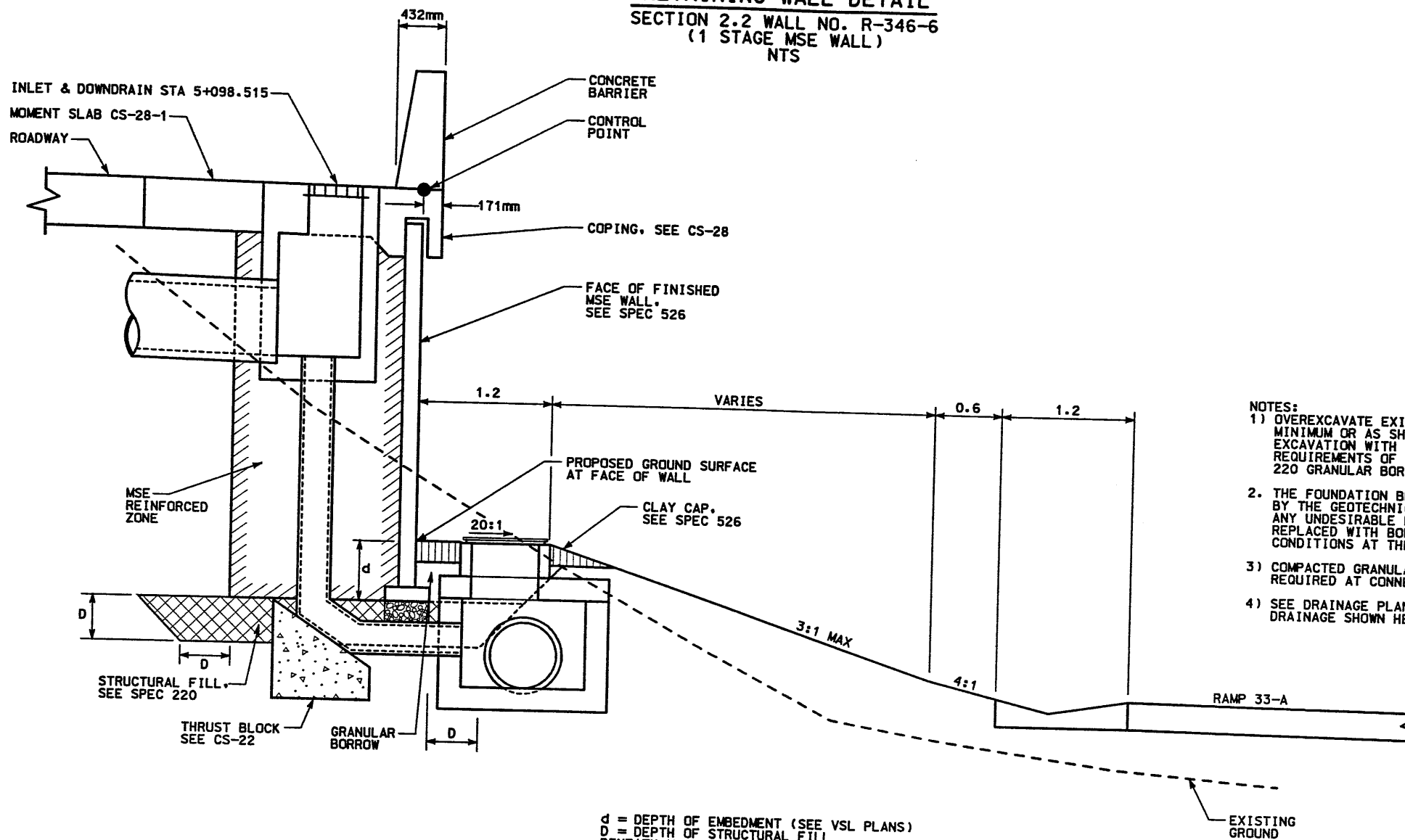
WASATCH CONSTRUCTORS
 JUL 30 1998
 RELEASED FOR CONSTRUCTION

- NOTES:
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
 2. THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
 - 4) SEE DRAINAGE PLANS & DETAILS FOR DRAINAGE DETAILS. DRAINAGE SHOWN HERE FOR INFORMATION ONLY.



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
Δ	6/29/98	Δ	6/29/98
Δ	///	Δ	///
Δ	///	Δ	///
Δ	///	Δ	///
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213409	
MK CENTENNIAL		CHECK BAR 6/29/98	
SVERDRUP/DE LEUW		CHECK BAR 6/29/98	
APPROVAL DATE	DESIGN DATE	APPROVAL DATE	DESIGN DATE
6/29/98	Stephen O. Sandvik	6/29/98	6/29/98
PROJECT ENGINEER	PROJECT ENGINEER	DRAWN DATE	DRAWN DATE
6/29/98	Randle L. Ross	6/29/98	6/29/98
PROJECT MANAGER	PROJECT MANAGER	QUANT.	QUANT.
6/29/98	Randle L. Ross	///	///
DATE	DATE	DATE	DATE
6/29/98	6/29/98	6/29/98	6/29/98
I-15 CORRIDOR RECONSTRUCTION	WALL DETAIL R-346-6	SECTION 2.2	PROJECT NUMBER #SP-15-7(135)296
SALT LAKE COUNTY	DWG. NO. 2.2R-346-6.3	SHT. 3 OF 11	REF.

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-6
(1 STAGE MSE WALL)
NTS

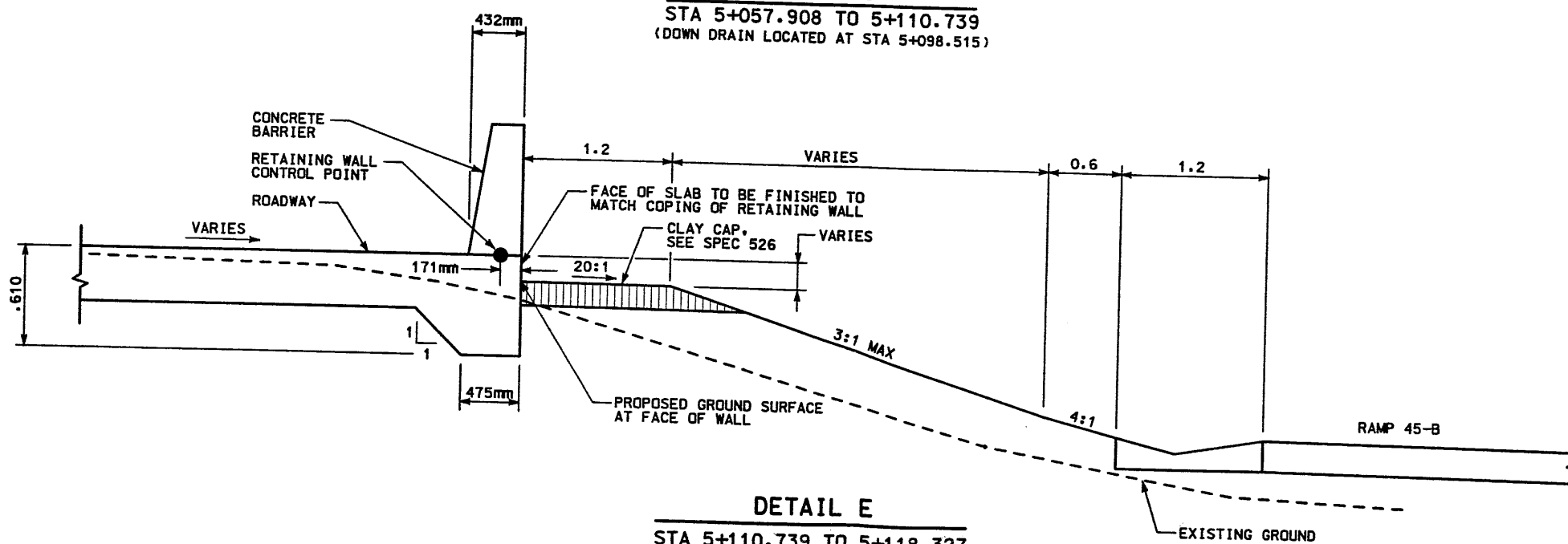


- NOTES:**
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
 - 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
 - 4) SEE DRAINAGE PLANS & DETAILS FOR DRAINAGE DETAILS. DRAINAGE SHOWN HERE FOR INFORMATION ONLY.

d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

DETAIL D

STA 5+057.908 TO 5+110.739
(DOWN DRAIN LOCATED AT STA 5+098.515)



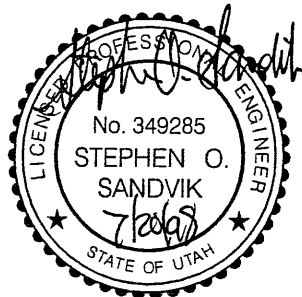
DETAIL E

STA 5+110.739 TO 5+118.327

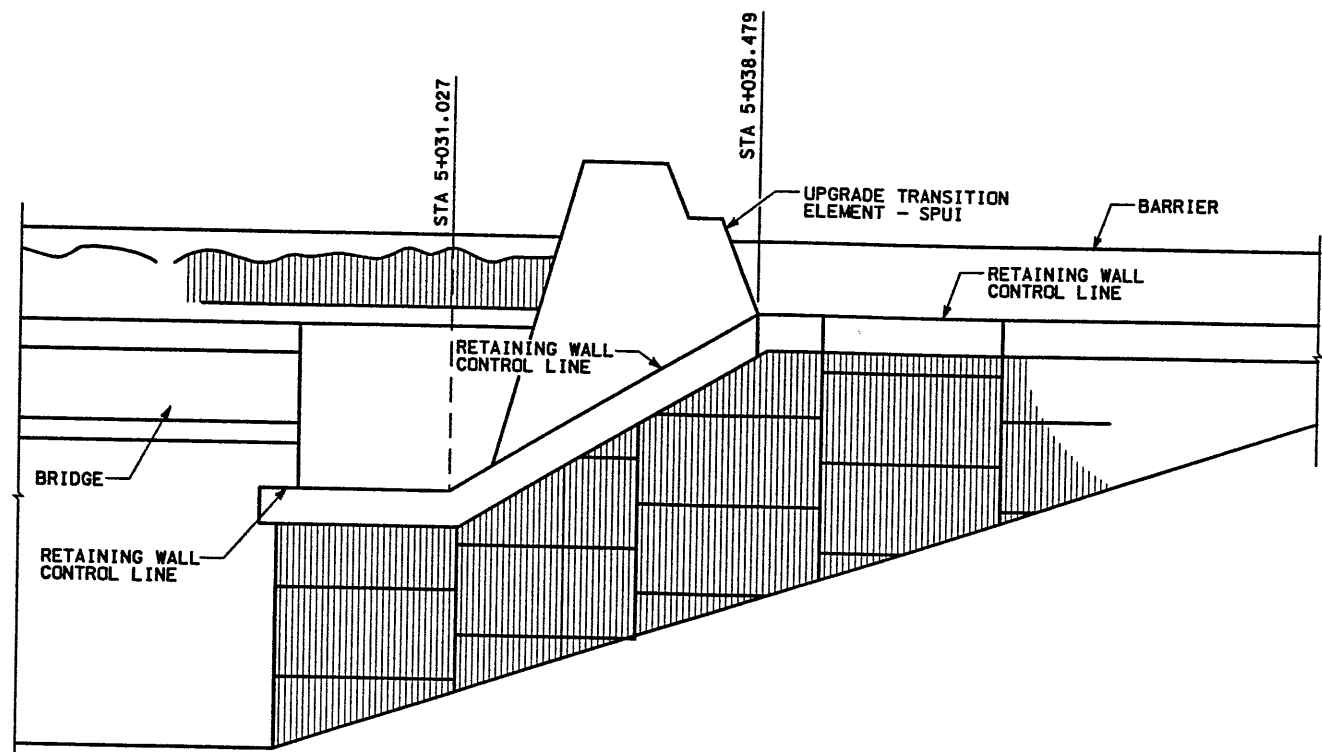
WASATCH CONSTRUCTORS

JUL 30 1998

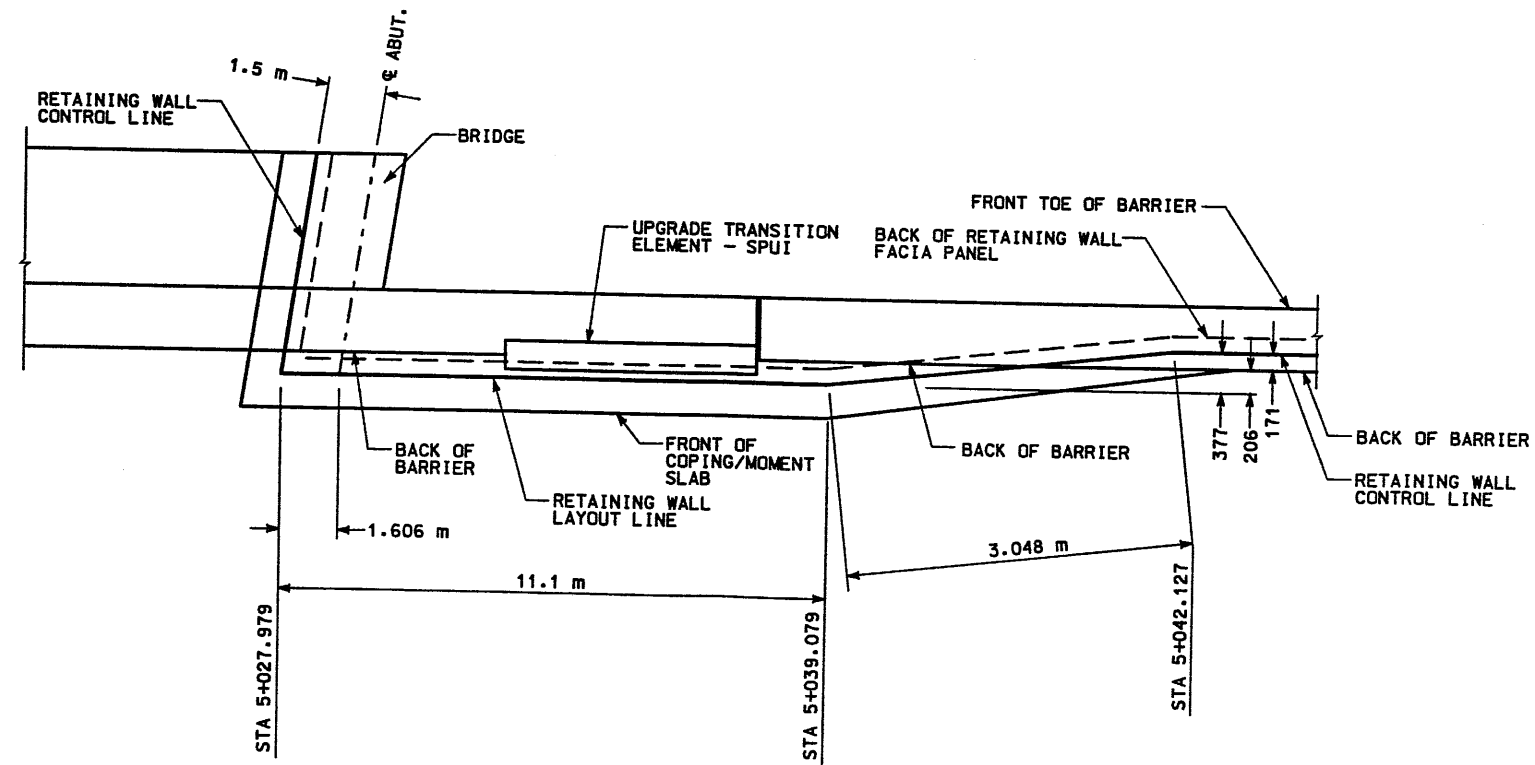
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
Δ	6/29/98	Δ	/ /
Δ	/ /	Δ	/ /
Δ	/ /	Δ	/ /
Δ	/ /	Δ	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO.	
MK CENTENNIAL		2213409	
SVERDRUP/DE LEUW		CHECK BAR	6/29/98
APPROVAL	6/29/98	DESIGN DAF	6/29/98
RECOMM.	6/29/98	CHECK BAR	6/29/98
DATE	6/29/98	PROJECT DESIGN ENGINEER	6/29/98
APPROVED	6/29/98	DRAWN DAF	6/29/98
DATE	6/29/98	CHECK BAR	6/29/98
		PROJECT MANAGER	6/29/98
		QUANT.	/ /
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346-6		#SP-15-7(135)296	
SECTION 2.2		COUNTY	
		SALT LAKE	
		DWG. NO.	
		2.2R-346-6.4	
SHT. 4 OF 11		REF.	

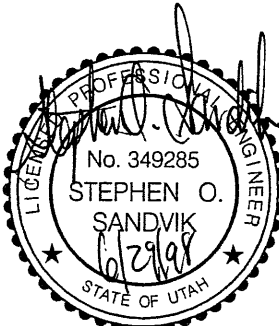


VERTICAL CONTROL LINE TRANSITION DETAIL
NTS



HORIZONTAL CONTROL LINE TRANSITION DETAIL
STA 5+027.979 TO 5+042.127
NTS

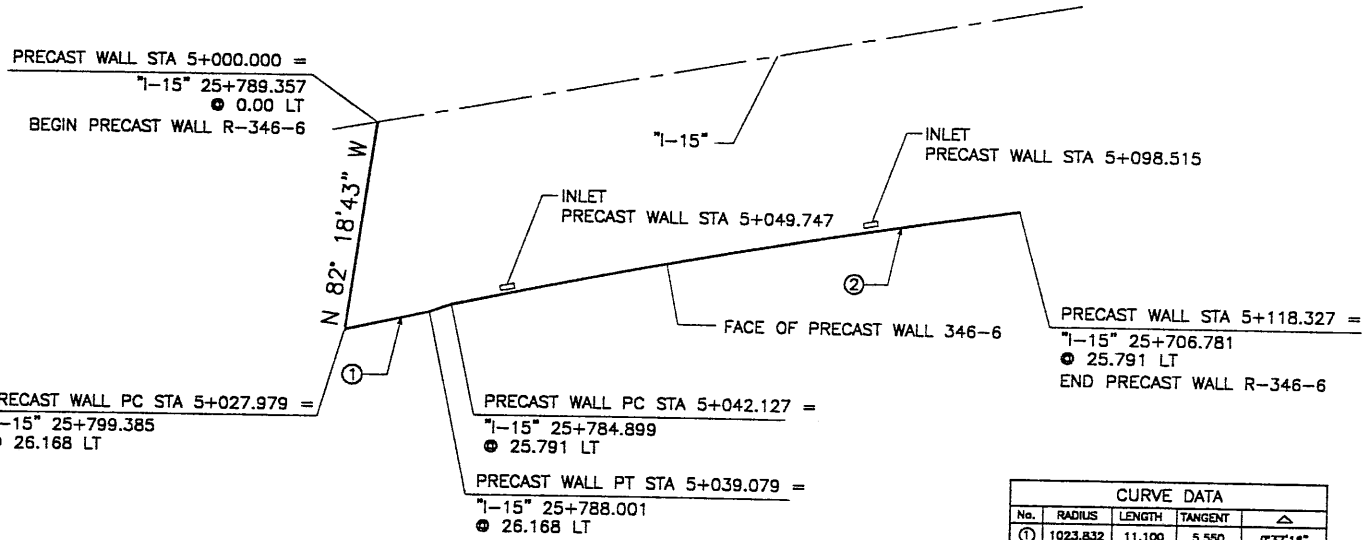
WASATCH CONSTRUCTORS
JUL 30 1998
RELEASED FOR CONSTRUCTION



NOTE:
SEE CS-54 FOR ADDITIONAL DETAILS
OF THE COPING IN THIS AREA.

ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS OTHERWISE NOTED

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	6/29/98	△	6/29/98
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213409	
MK CENTENNIAL		6/29/98	
SVERDRUP/DE LEUW		6/29/98	
APPROVAL	DATE	CHECK	DATE
Stephen O. Sandvik	6/29/98	BAR	6/29/98
PROJECT DESIGN ENGINEER	DATE	BAR	6/29/98
Randle L. Ross	6/29/98	CHECK	/ /
PROJECT DESIGN ENGINEER	DATE	QUANT.	/ /
Randle L. Ross	6/29/98	QUANT.	/ /
PROJECT DESIGN ENGINEER	DATE	PROJECT MANAGER	/ /
Randle L. Ross	6/29/98	PROJECT MANAGER	/ /
1-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-6	
SECTION 2-2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-6.5	
SHT. 5 OF 11		REF.	



CURVE DATA				
No.	RADIUS	LENGTH	TANGENT	Δ
①	1023.832	11.100	5.550	0°37'18"
②	1024.209	76.200	38.118	4°15'46"

All Dimensions Are in Meters Unless Noted Otherwise

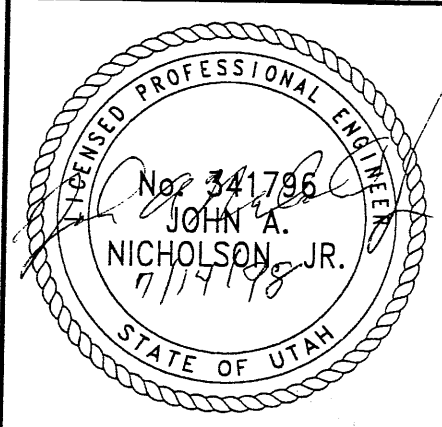
PLAN VIEW MSE WALL "R-346-6"

SCALE: 1=500 (FULL SIZE)
SCALE: 1=1000 (HALF SIZE)

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 34°	
ANGLE OF INTERNAL FRICTION (BASE) = 34°	
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°	
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)	
TRAFFIC SURCHARGE = 250 PSF (12 KPa)	
SEISMIC ACCELERATION COFF. = 0.27g (TYP)	
SEISMIC ACCELERATION COFF. = 0.68g (AT BRIDGE ABUTMENTS)	
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST WALL R-346-6, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTION
RE-3	TYPICAL CROSS SECTION
RE-4	PRECAST WALL R-346-6
RE-5	PRECAST WALL R-346-6
RE-6	SPECIAL PANELS

WASATCH CONSTRUCTORS
JUL 30 1998
RELEASED FOR CONSTRUCTION



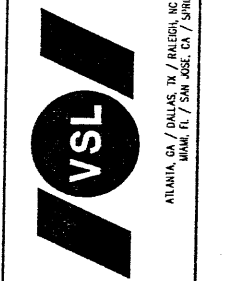
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
①	07-02-98	RELEASE FOR CONSTRUCTION

DES.	CHK.	NO.	DATE	REVISION	BY
JL	JL				
DDL	DDL				
JL	JL				

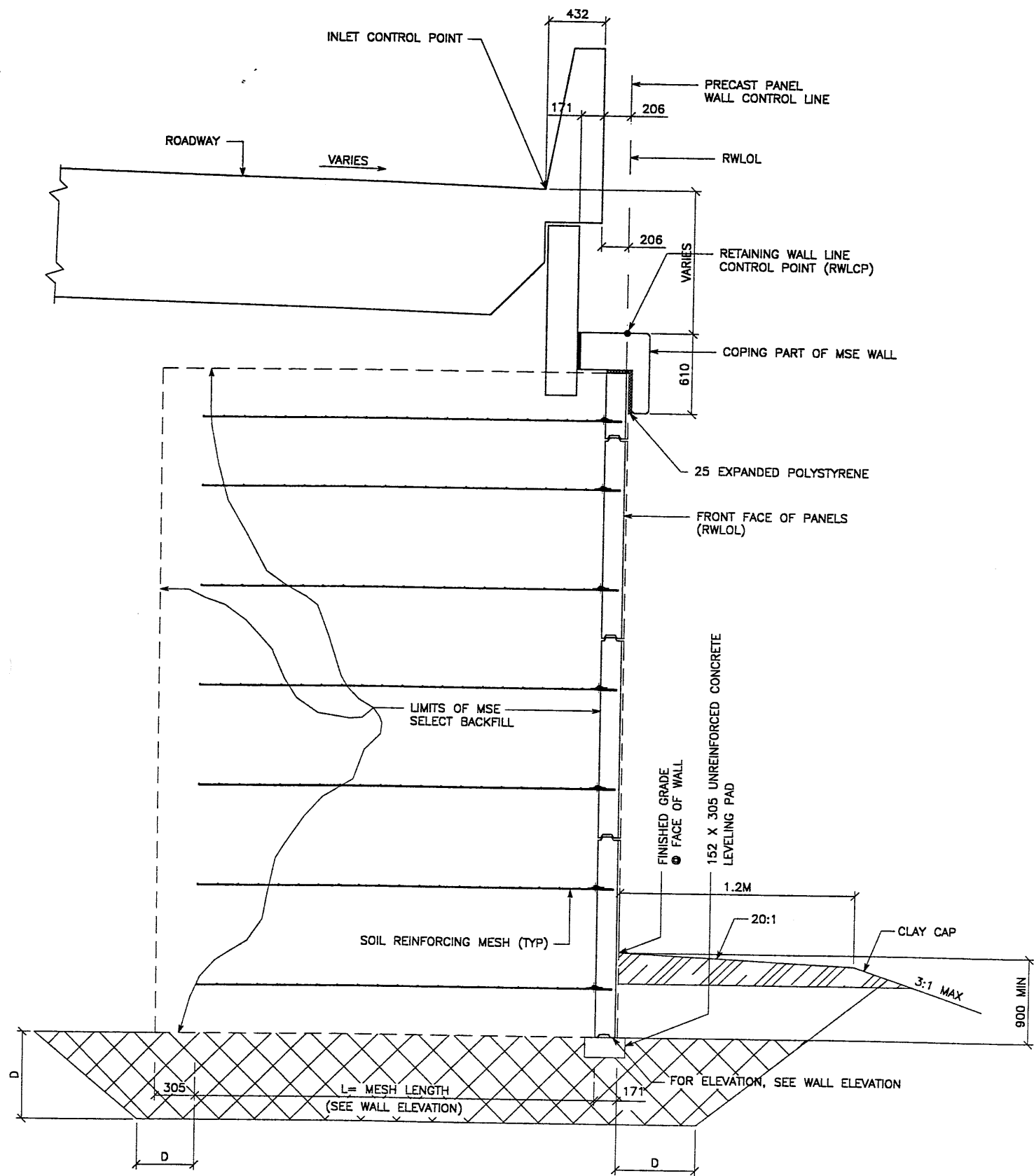
VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 81 8272
Fax: (919) 781 4959



VSL Corporation (VSL) is a leader in the design and construction of retaining walls and structures. The use of VSL Retained Earth™ walls is based on the assumption that the material within the retained earth™ mass, methods of construction, and quality of prefabricated materials conform to the manufacturer's specification.

RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-346-6"
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-6.6
JOB NO.	239-0007
SHT. NO.	RE-1

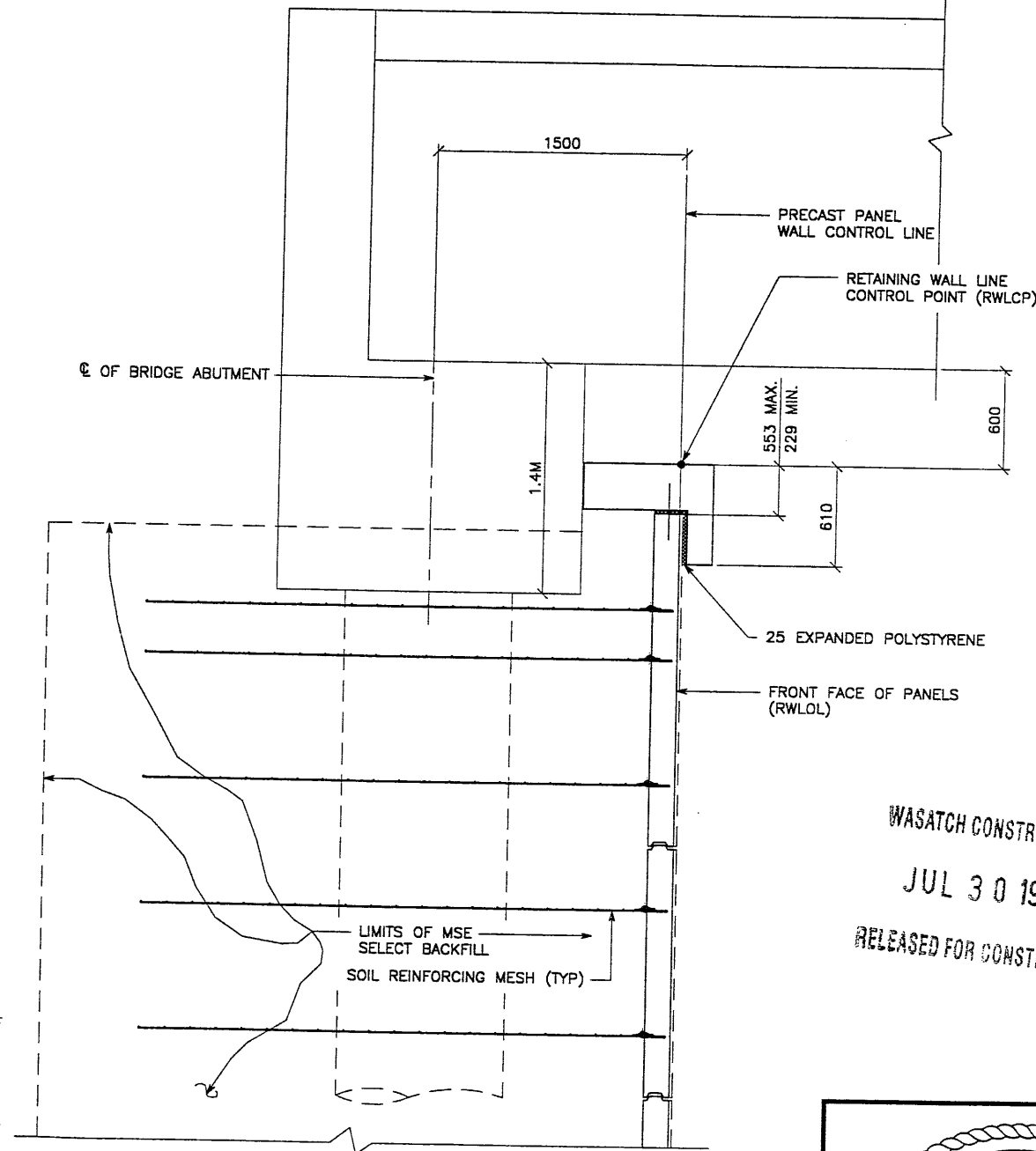


TYPICAL CROSS SECTION - STA 5+027.979 TO 5+039.079

(SEE DWG. NO. 2.2R-346-6.2 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)

SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 5+000.000 TO 5+027.979

(SEE DWG. NO. 2.2R-346.2 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)

SCALE: 1:40 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

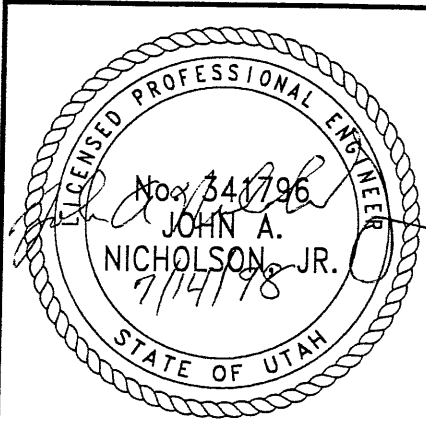
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	07-02-98	RELEASE FOR CONSTRUCTION

DES.	CHK.	DATE	NO.	REVISION	BY
JL	JL	06-18-98			
LOP	LOP	06-18-98			
JL	JL	06-18-98			

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 791-6272
 Fax: (919) 791-4969

VSL
 ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 JUL 30 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-06"
 TYPICAL CROSS SECTION
 UTAH 1-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-6.7
JOB NO.	239-0007
SHT. NO.	RE-2

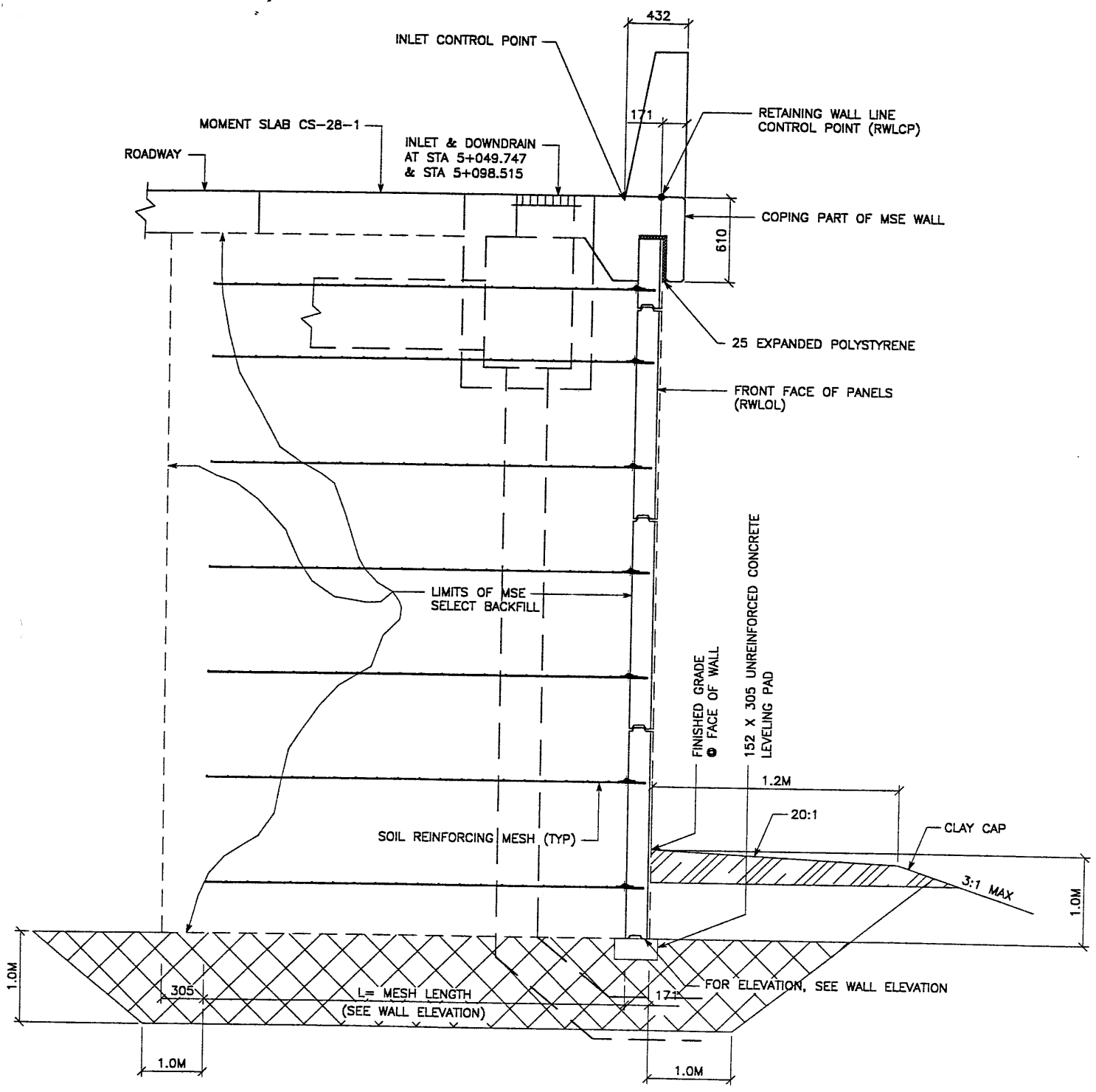
NICE (X-UTAH)DWG

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T 06-1B-98

FINAL

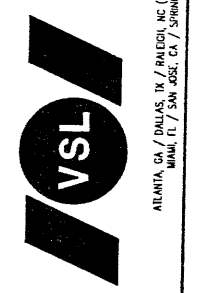


TYPICAL CROSS SECTION - STA 5+042.127 TO 5+110.739
 (SEE DWG. NO. 2.2R-346-6.3 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

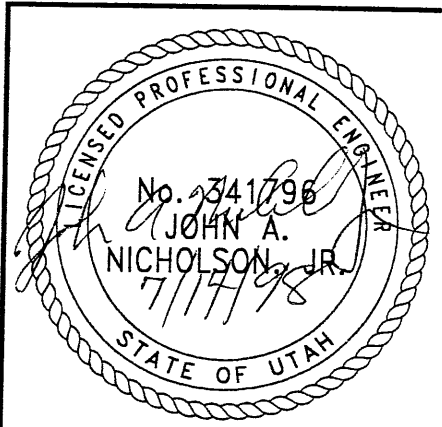
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	07-02-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION

D/S: 06-18-98 JL
 DRN: 06-18-98 LOP
 CLK: 06-18-98 JL



WASATCH CONSTRUCTORS
 JUL 30 1998
 RELEASED FOR CONSTRUCTION



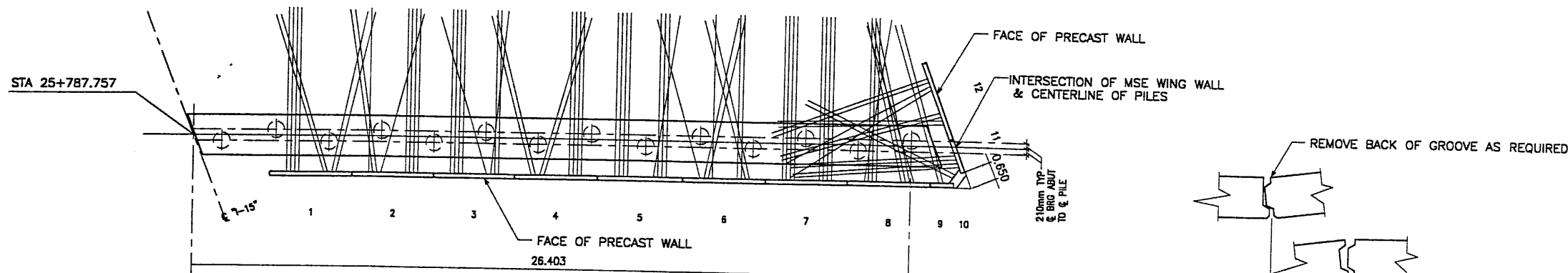
METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-06"
 TYPICAL CROSS SECTION
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-6.8
JOB NO.	239-0007
SHT. NO.	RE-3

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 DATE 06-18-98
 FINAL



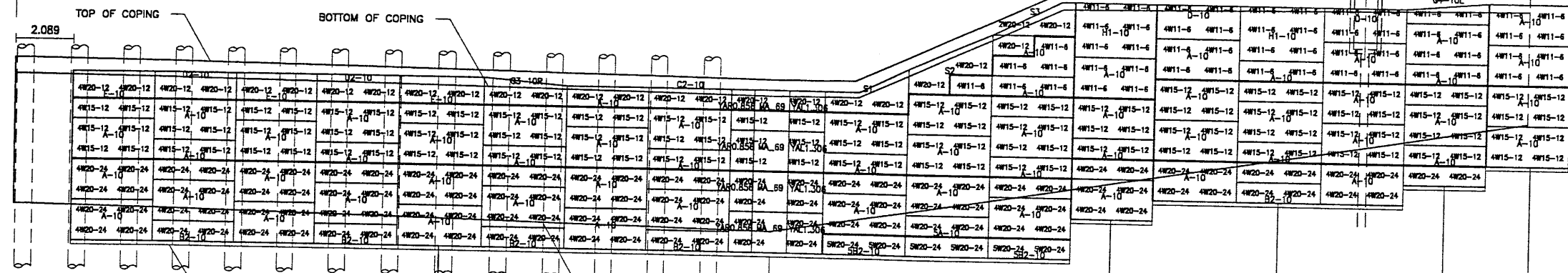
PLAN VIEW PRECAST WALL R-346-6

BEGIN WALL R-346-6
 WALL PT STA 5+000.000 =
 I-15 STA 25+789.357
 ● 0.00 LT
 NOMINAL PANEL FACE (RWLOL)

WALL PT STA 5+039.079 =
 I-15 STA 25+788.001
 ● 26.168 LT
 WALL PC STA 5+042.127 =
 I-15 STA 25+784.899
 ● 25.791 LT

WALL VPI STA 5+027.979 =
 I-15 STA 18+734.435
 ● 26.168 LT

WALL STA 5+049.747 =
 CB-2.2-039 CS-22



ELEVATION PRECAST WALL R-346-6

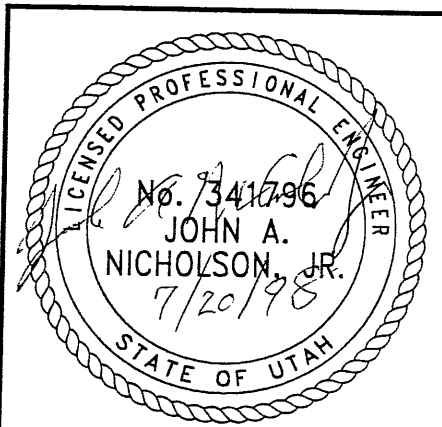
(FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 550.86 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

MESH DEPTH	MAXIMUM BEARING PRESSURE (SEE NOTE BELOW)	PIN SPACING
8.534M [28']	261.0 KPa	25.890
7.315M [24']	223.85 KPa	11.100
6.401M [22']	213.43 KPa	9.144
5.486M [18']	174.51 KPa	3.048

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE".
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

METRIC



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	07-02-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-1859



ATLANTA, GA / DALLAS, TX / BANGOR, ME (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 JUL 30 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "346-06"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-6.9
JOB NO.	239-0007
SHT. NO.	RE-4

9 of 11

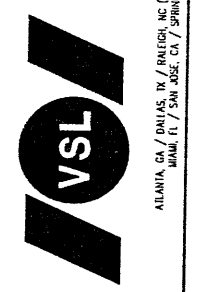
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 T 06-18-98
 FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	07-02-98	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
 JUL 30 1998
 RELEASED FOR CONSTRUCTION

NO.	DATE	REVISION

VSL CORPORATION
 3800 Peachtree Dunwoody, Suite 200
 Atlanta, GA 30328
 Telephone: (919) 781-8272
 Fax: (919) 781-4669

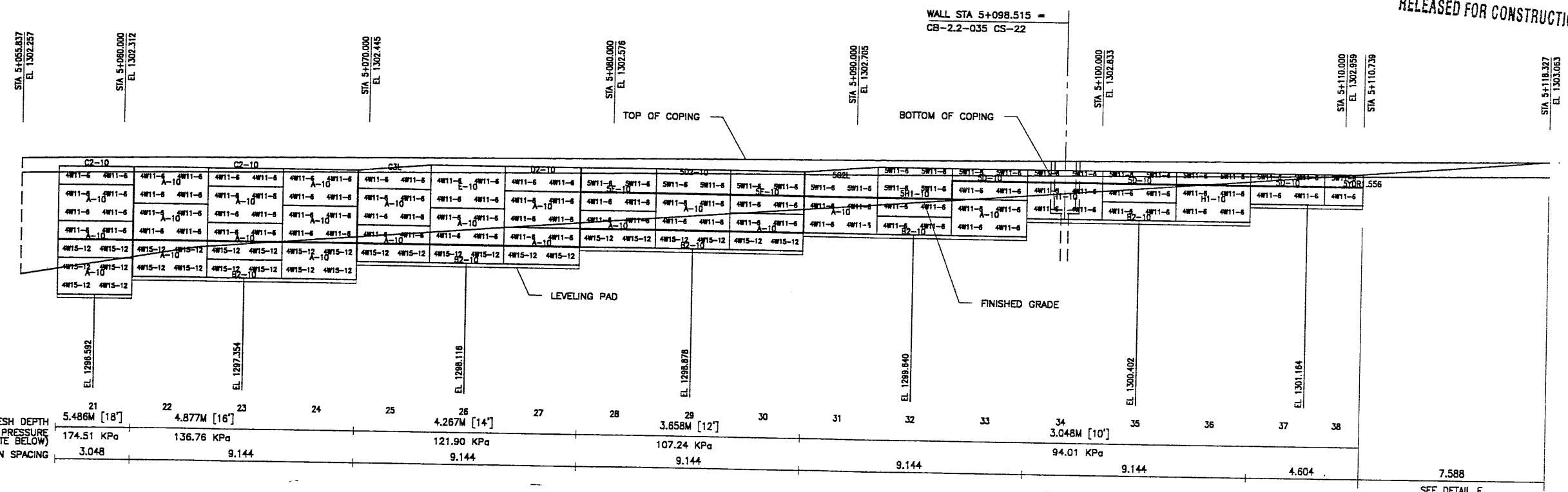


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RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-6"
 UTAH 1-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-6.10
JOB NO.	239-0007
SHT. NO.	RE-5

10 of 11



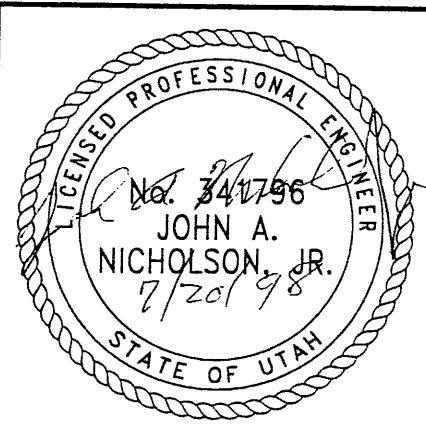
ELEVATION PRECAST WALL R-346-6
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 550.86 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

SEE DETAIL E
 DWG. NO. 2.2R-346-6.4

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE".
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
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 THE MANUFACTURER'S SPECIFICATION.

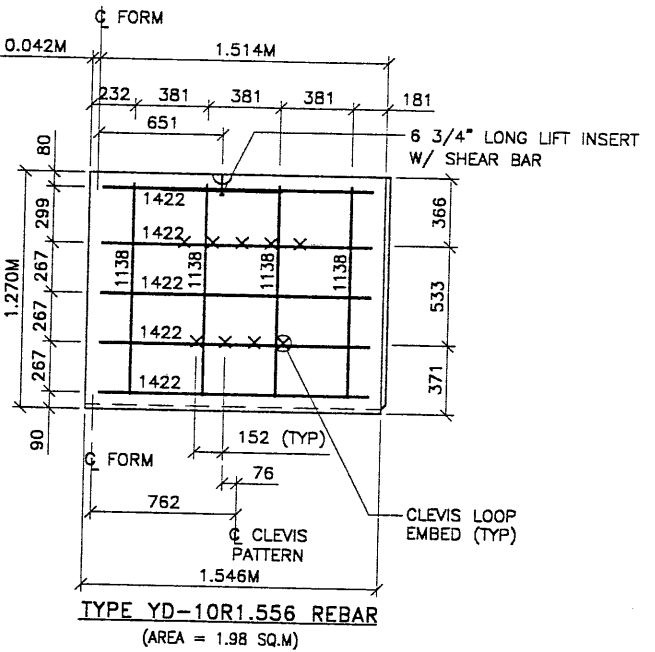
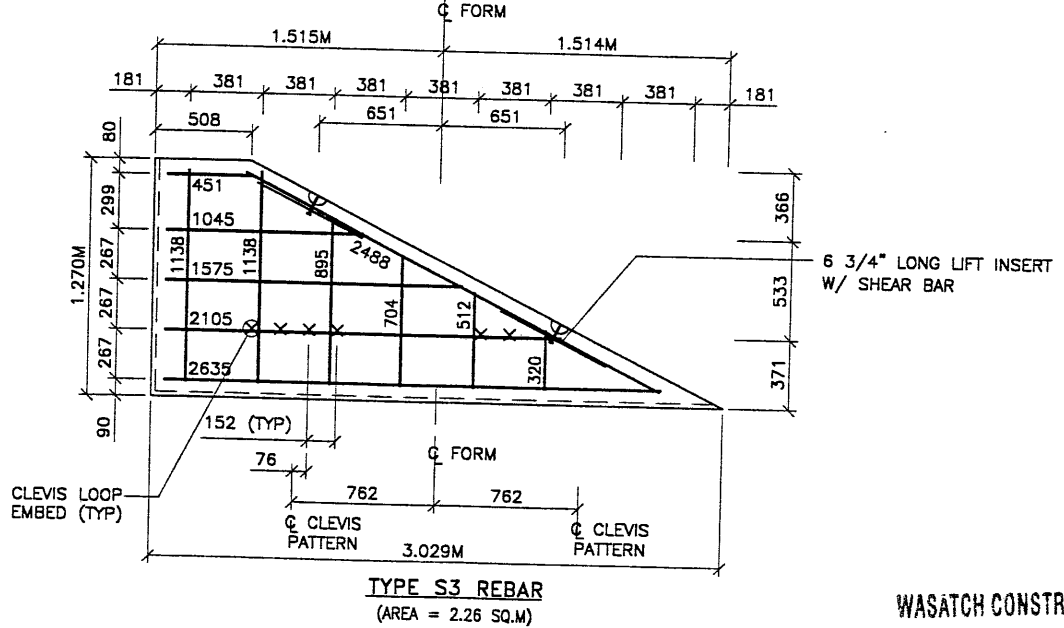
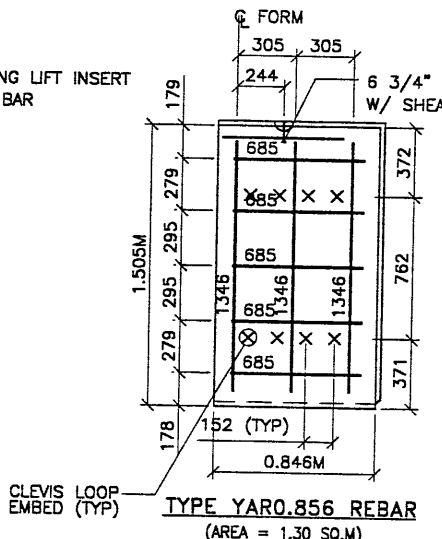
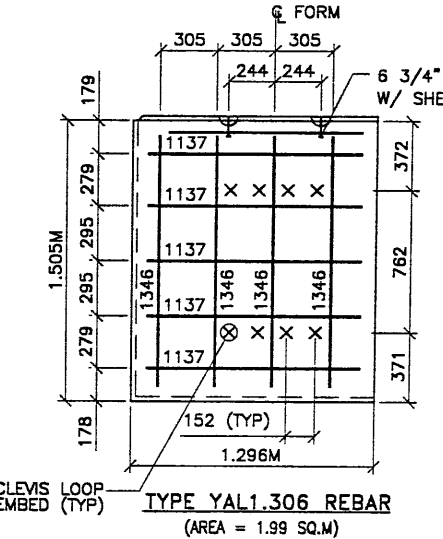
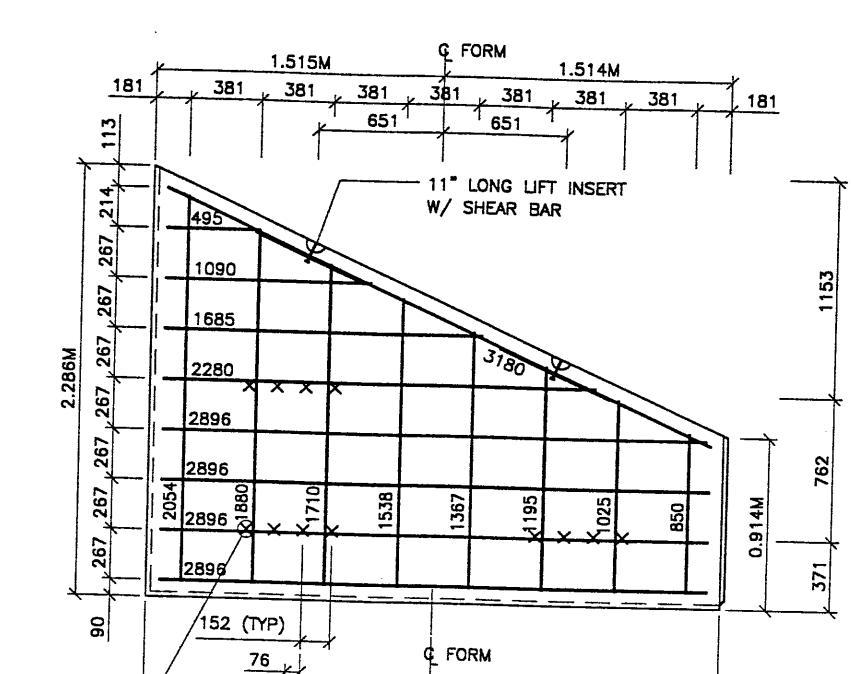
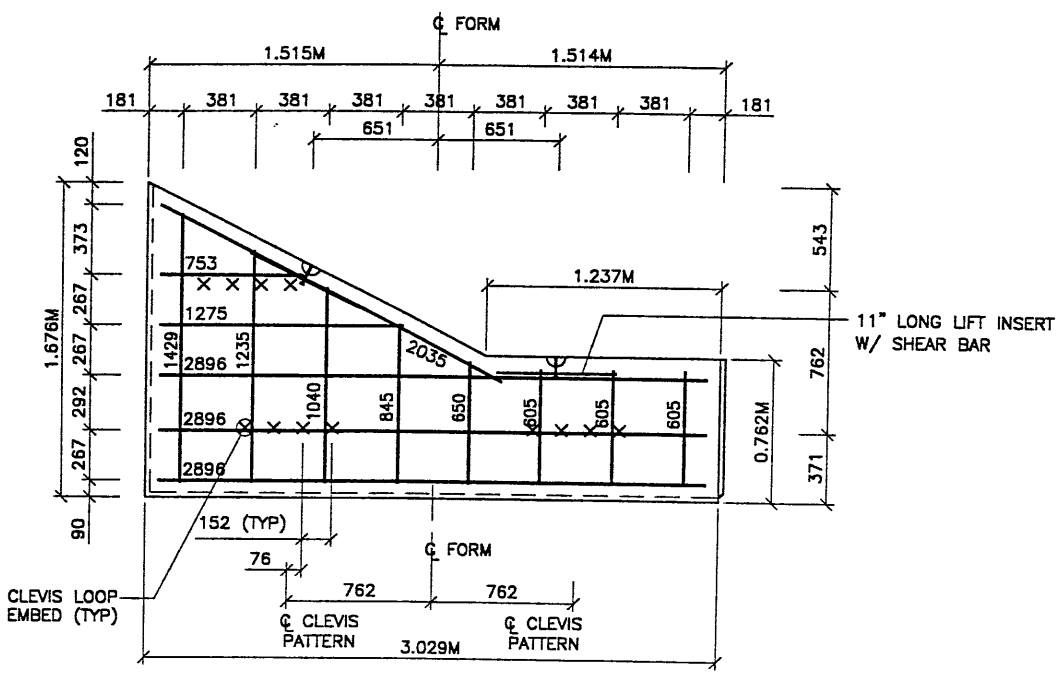


ICE (X-JTHL.DWG)

\33-06\SUBMITL-2\SPECIALS.DWG

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06-18-98



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	07-02-98	RELEASE FOR CONSTRUCTION

- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm# CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

NO.	DATE	REVISION

VSL CORPORATION
2610 Peachtree Road, Suite 210
Raleigh, NC 27605
Telephone: (919) 781-6272
Fax: (919) 781-6959

ALABAMA, GA / DALLAS, TX / ANGELES, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

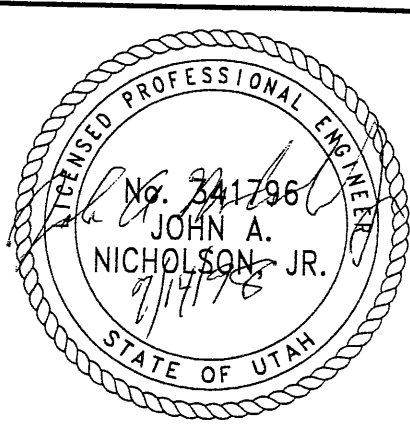
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RETAINED EARTH™ WALLS
PRECAST WALL "R-343-44"
SPECIAL PANEL DETAILS

UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-6.11
JOB NO.	239-0007
SHT. NO.	RE-6

WASATCH CONSTRUCTORS
JUL 30 1998
RELEASED FOR CONSTRUCTION

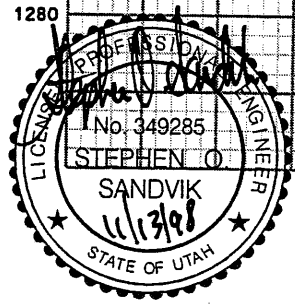
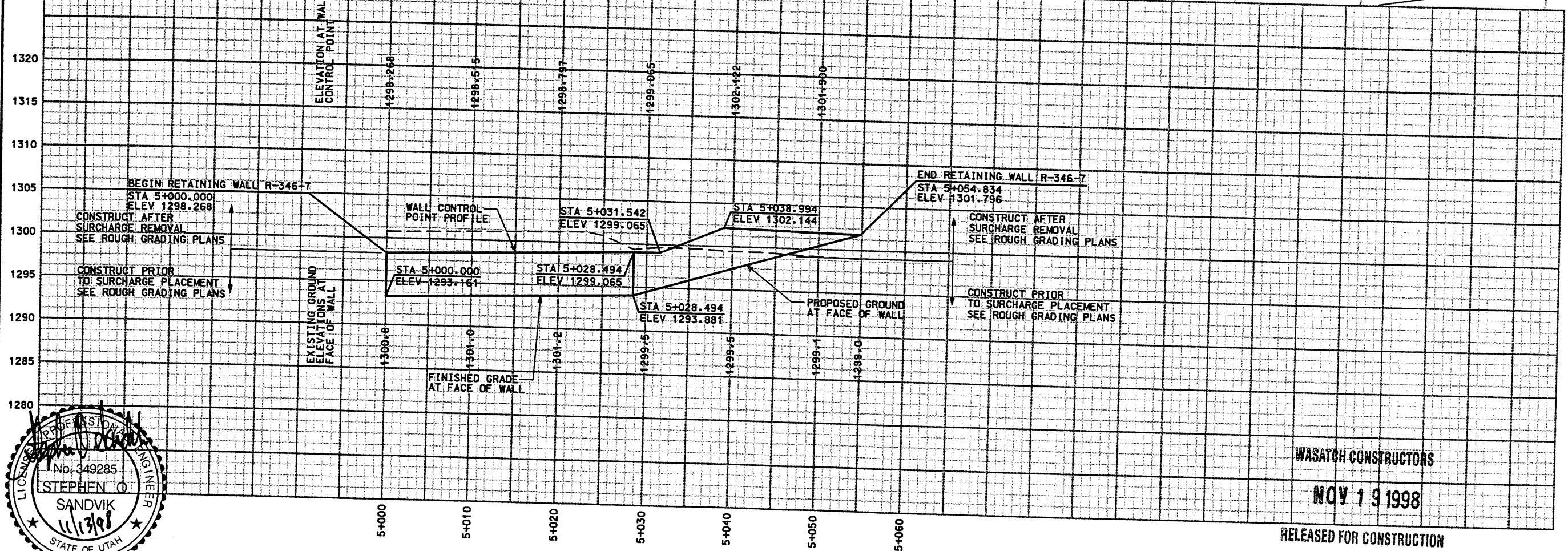
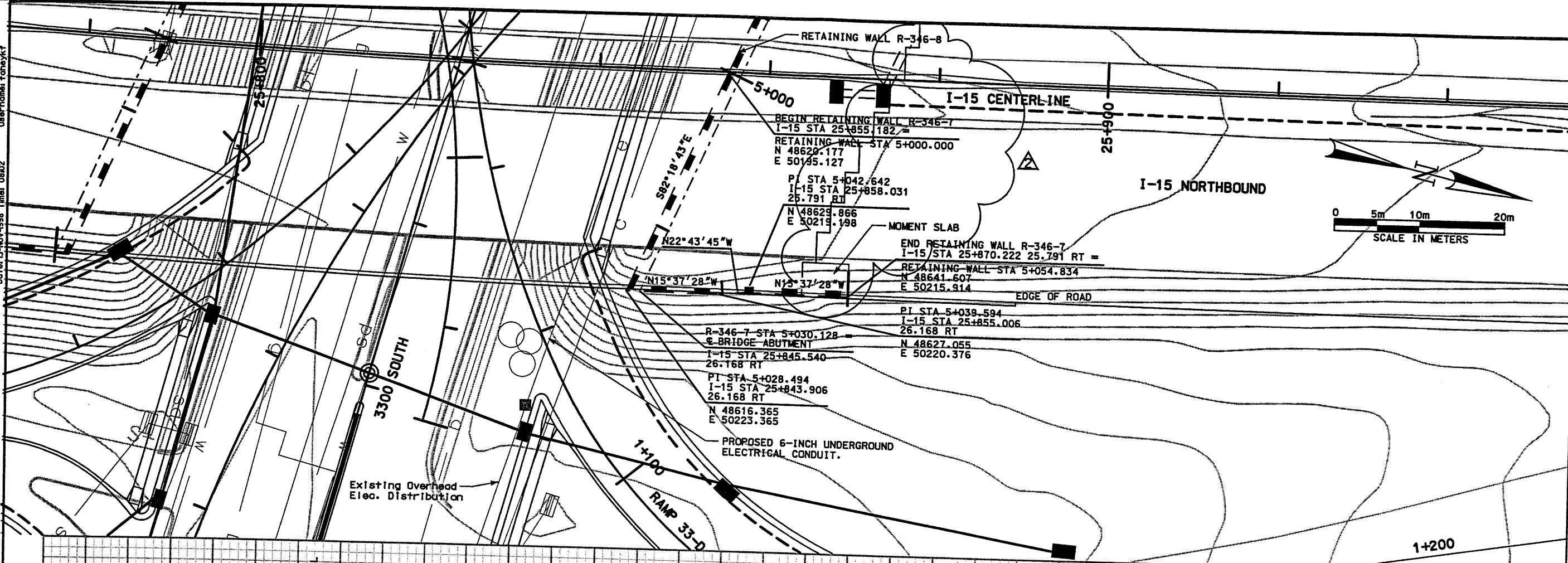


CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

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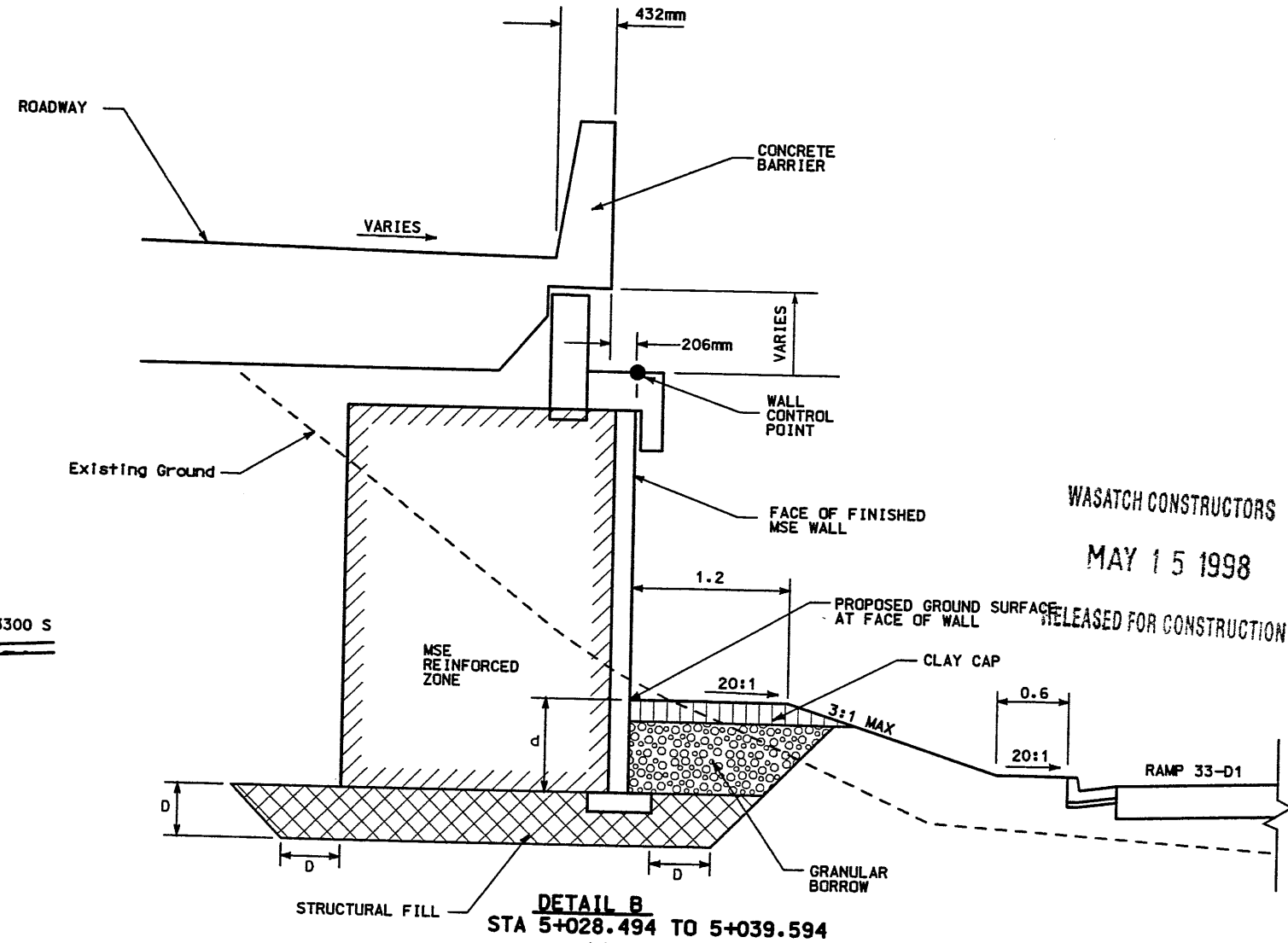
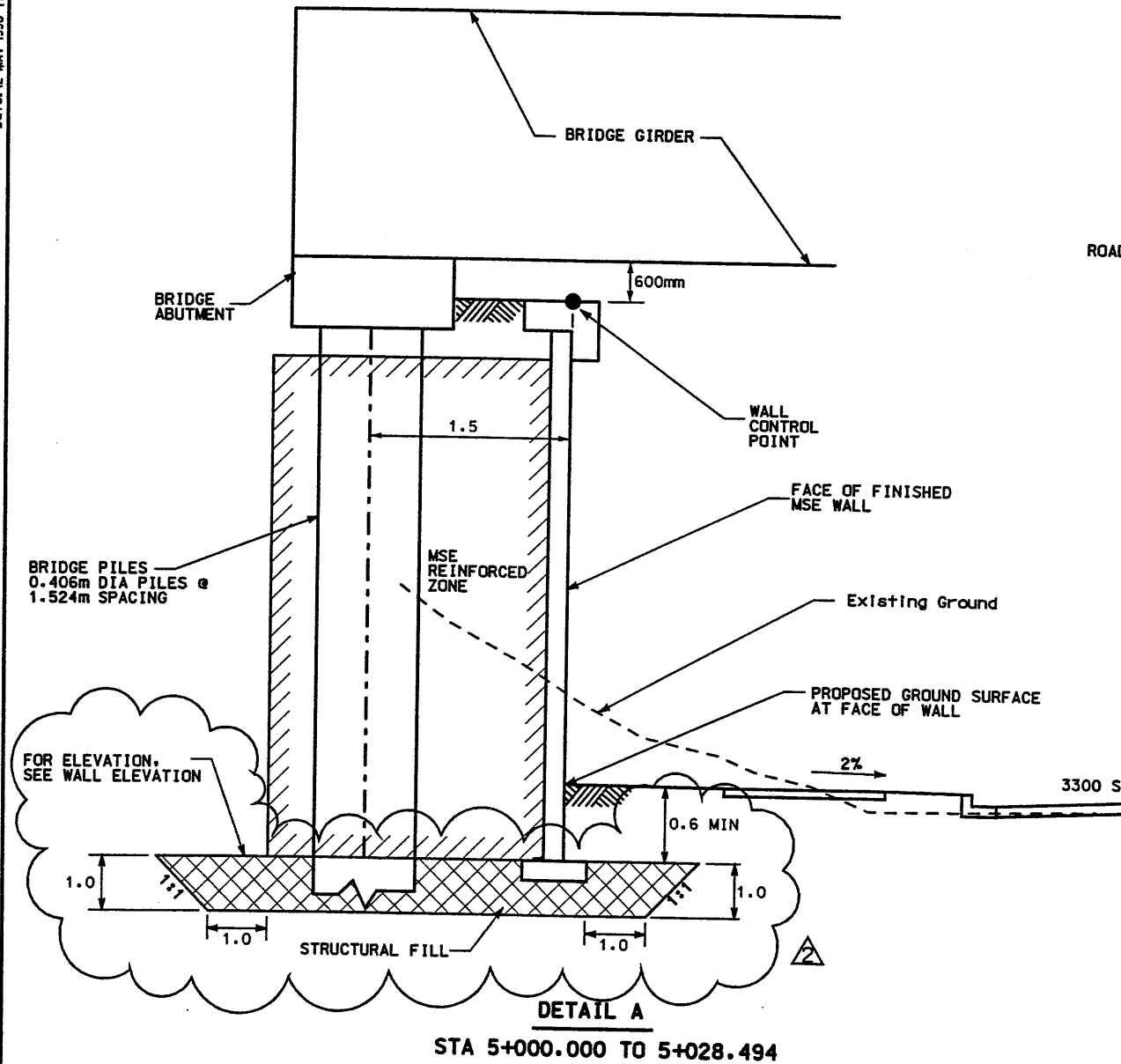
WASATCH CONSTRUCTORS
NOV 19 1998
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION	
NO.	DESCRIPTION
10/23/97	ORIGINAL ISSUE
11/12/98	ADDED MOMENT SLAB AND APPROACH SLAB
1/1/99	
1/1/99	

UTAH DEPARTMENT OF TRANSPORTATION	
MK CBN SVERDRUP	
APPROVAL RECOMM.	5/05/98 Stephen O. Sandvik DESIGN
DATE	PROJECT DESIGN ENGINEER
APPROVED 5/05/98	RAIDLE L. ROSS DRAW
DATE	PROJECT MANAGER
	QUANT.

I-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-346-7
SECTION 2.2
PROJECT NUMBER #SP-15-7(135)296
SALT LAKE COUNTY
DWG. NO. 2.2R-346-7.1
SHT. 1 OF 12
REF.

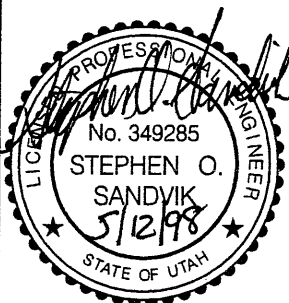
RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-7
(1 STAGE MSE WALL)



d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

NOTES:

- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 0.6m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
2. SEE CORRIDOR STANDARD SPECIFICATION 221 FOR SPECIAL EXCAVATION REQUIREMENTS WHERE GROUNDWATER IS EXPECTED AT OR ABOVE THE REQUIRED EXCAVATION.
- 3) SEE CORRIDOR STANDARD SPECIFICATION 210 FOR SPECIAL EXCAVATION AND BACKFILL REQUIREMENTS WHERE SOFT CLAYS OF OTHER SOFT AND/OR WET CONDITIONS ARE ENCOUNTERED.
- 4) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- 5) CONSTRUCT CLAY CAP WITH OF LOW PLASTIC SILTY CLAY (0.3m THICK).

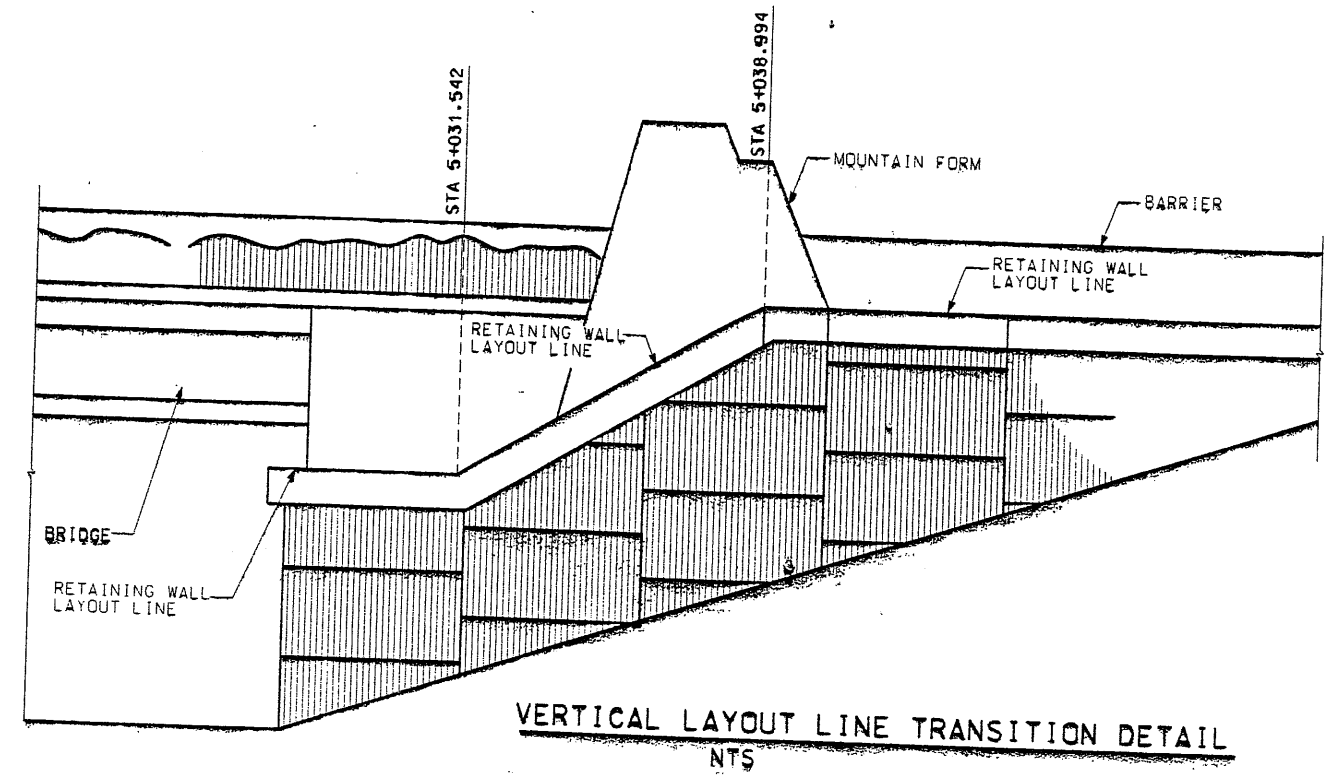


WASATCH CONSTRUCTORS
 MAY 15 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	REVISED DERECAVATION LIMITS
Δ	10/23/97		
Δ	5/12/98		
Δ	/ /		
Δ	/ /		
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2212800	
MK CENTENNIAL		SVERDRUP/DE LEUW	
APPROVAL	DATE	DESIGN	CHECK
RECOMM.	5/05/98	O. Sandvik	5/03/98
PROJECT	DESIGN	ENGINEER	CHECK
DATE	5/05/98	ENGINEER	CHECK
APPROVED	5/05/98	PROJECT	MANAGER
DATE	5/05/98	PROJECT	MANAGER
QUANT.	RVC	4/30/98	CHECK
JAB	4/30/98	CHECK	JAB
I-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-7	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-7.2	
SHT. 2 OF 12		REF.	

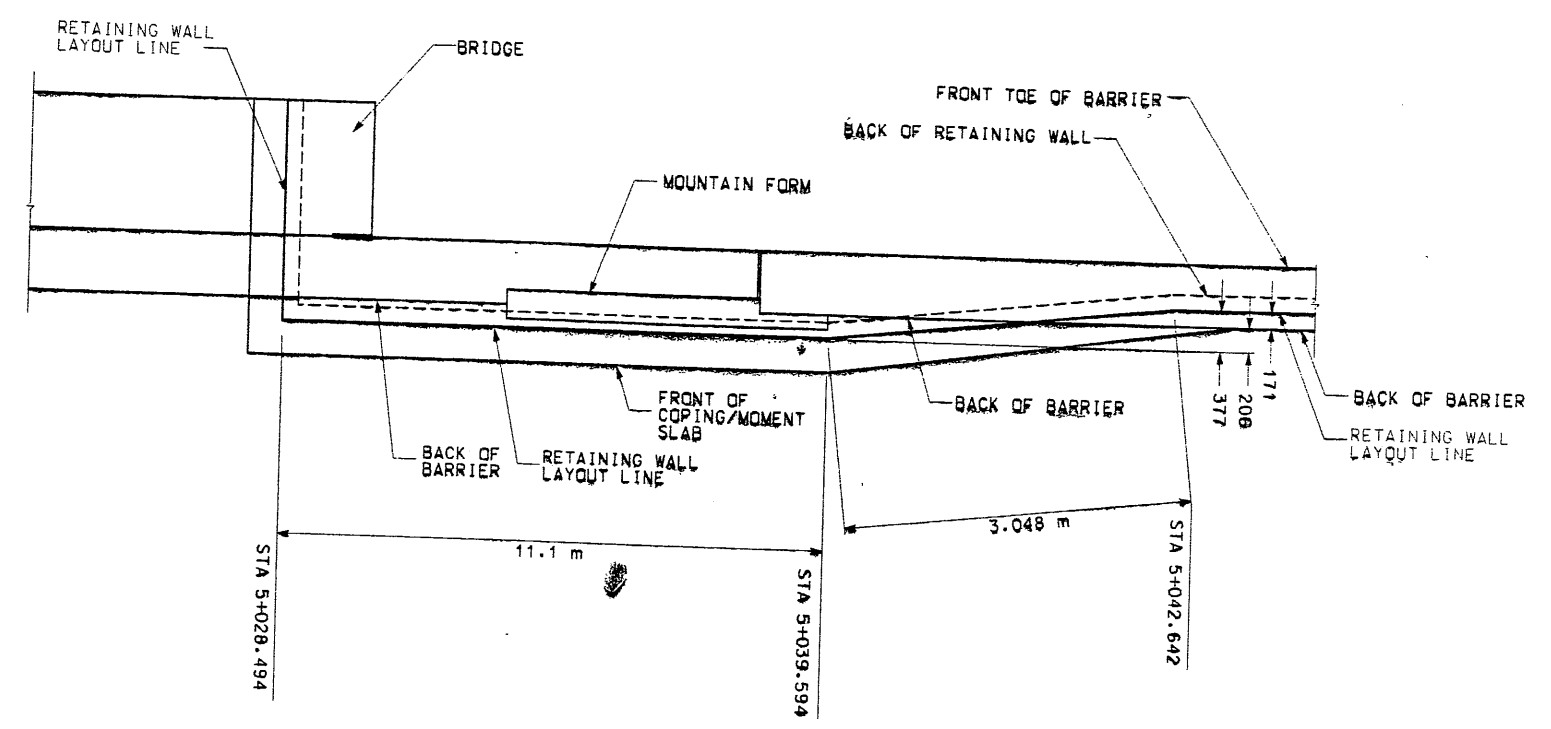
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 User Name: millwomv

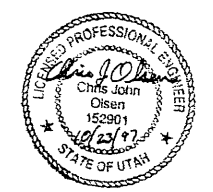


VERTICAL LAYOUT LINE TRANSITION DETAIL
 NTS

WARATCH CONSTRUCTORS
 NOV 03 1997
 RELEASED FOR CONSTRUCTION



HORIZONTAL LAYOUT LINE TRANSITION DETAIL
 STA 5+039.594 TO 5+042.642



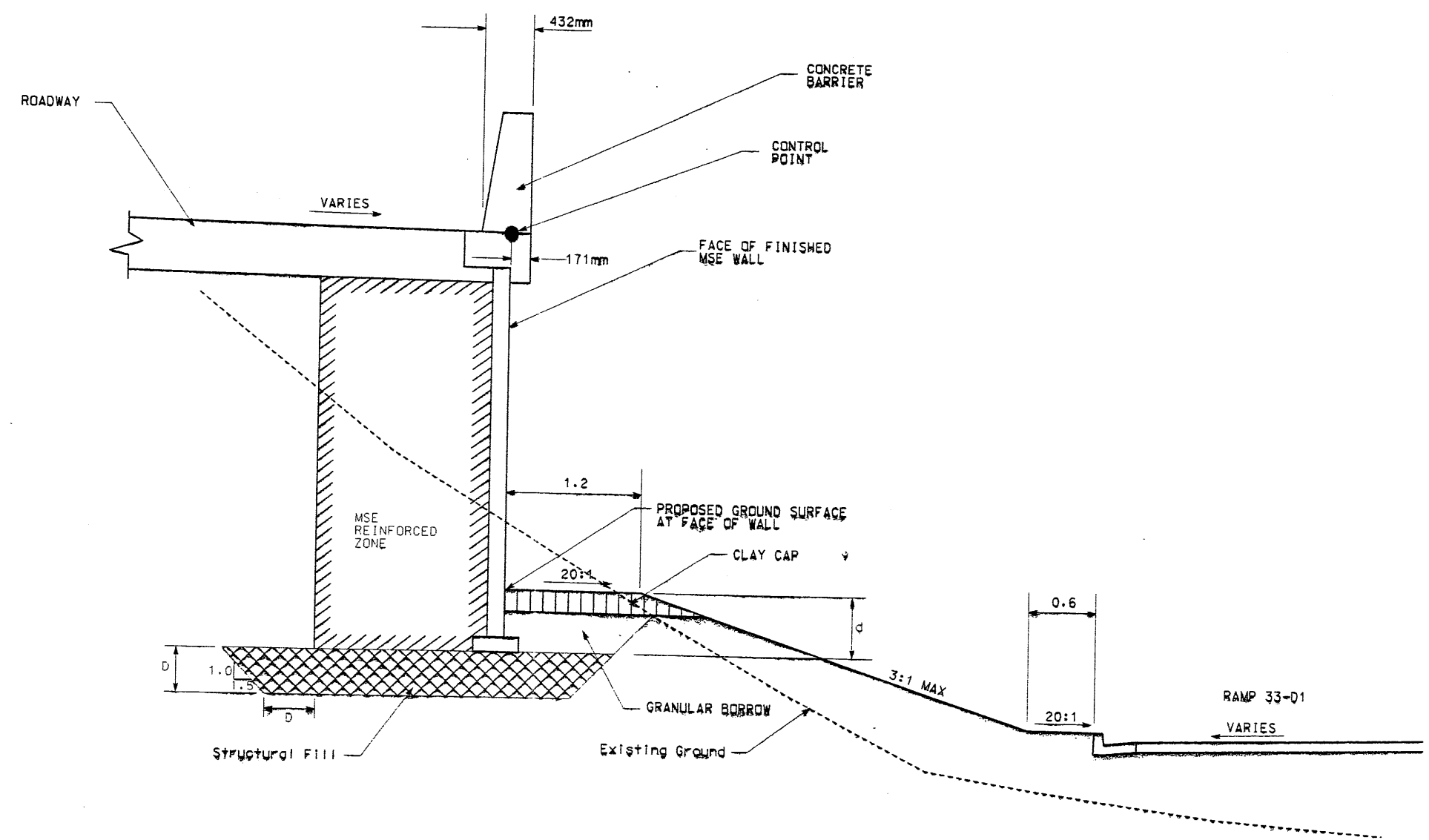
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NO.	DATE	NO.	DATE
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△	11/11/97	△	11/11/97
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		DESIGN DMC	7/29/97
APPROVAL	9/17/97	CHECK CJO	9/17/97
RECOMM.	DATE	PROJECT DESIGN ENGINEER	
		DRANN MVM	7/31/97
		QUANT.	
		PRODUCT MANAGER	
		WBS NO.	2213-403
1-15 CORRIDOR RECONSTRUCTION		SECTION 2.2	
WALL DETAIL R-346-7		PROJECT NUMBER	
SECTION 2.2		*SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO.	
2.2R-346-7.3		SHT. 3 OF 12	
REF.			

ALL DIMENSIONS ARE IN MILLIMETERS
 UNLESS OTHERWISE NOTED

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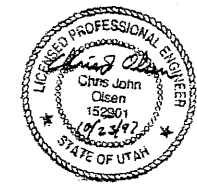
RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-7
(1 STAGE MSE WALL)



d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL
 BENEATH WALL (SEE VSL PLANS)

DETAIL C
STA 5+042.642 TO 5+054.834

- NOTES:**
- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 0.6m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
 - SEE CORRIDOR STANDARD SPECIFICATION 221 FOR SPECIAL EXCAVATION REQUIREMENTS WHERE GROUNDWATER IS EXPECTED AT OR ABOVE THE REQUIRED EXCAVATION.
 - SEE CORRIDOR STANDARD SPECIFICATION 210 FOR SPECIAL EXCAVATION AND BACKFILL REQUIREMENTS WHERE SOFT CLAYS OF OTHER SOFT AND/OR WET CONDITIONS ARE ENCOUNTERED.
 - COMPACTED GRANULAR BORROW, 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
 - CONSTRUCT CLAY CAP WITH OF LOW PLASTIC SILTY CLAY (0.3m THICK).



WASATCH CONSTRUCTORS
NOV 03 1997
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	10/23/97	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
ORIGINAL ISSUE		CR	
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO.	
MK CENTENNIAL		2213403	
SVERDRUP/DE LEUW		QUANT.	
DESIGN DMC	7/29/97	CHECK CJO	9/17/97
DESIGN MVM	7/31/97	CHECK CJO	9/17/97
PROJECT DESIGN ENGINEER	Chris J. Olsen	DATE	9/17/97
PROJECT MANAGER	Randle L. Ross	DATE	/ /
1-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346-7		#SP-15-7(135)296	
SECTION 2.2		COUNTY	
SALT LAKE		DWG. NO.	
2.2R-346-7.4		SHT. 4 OF 12	
REF.			

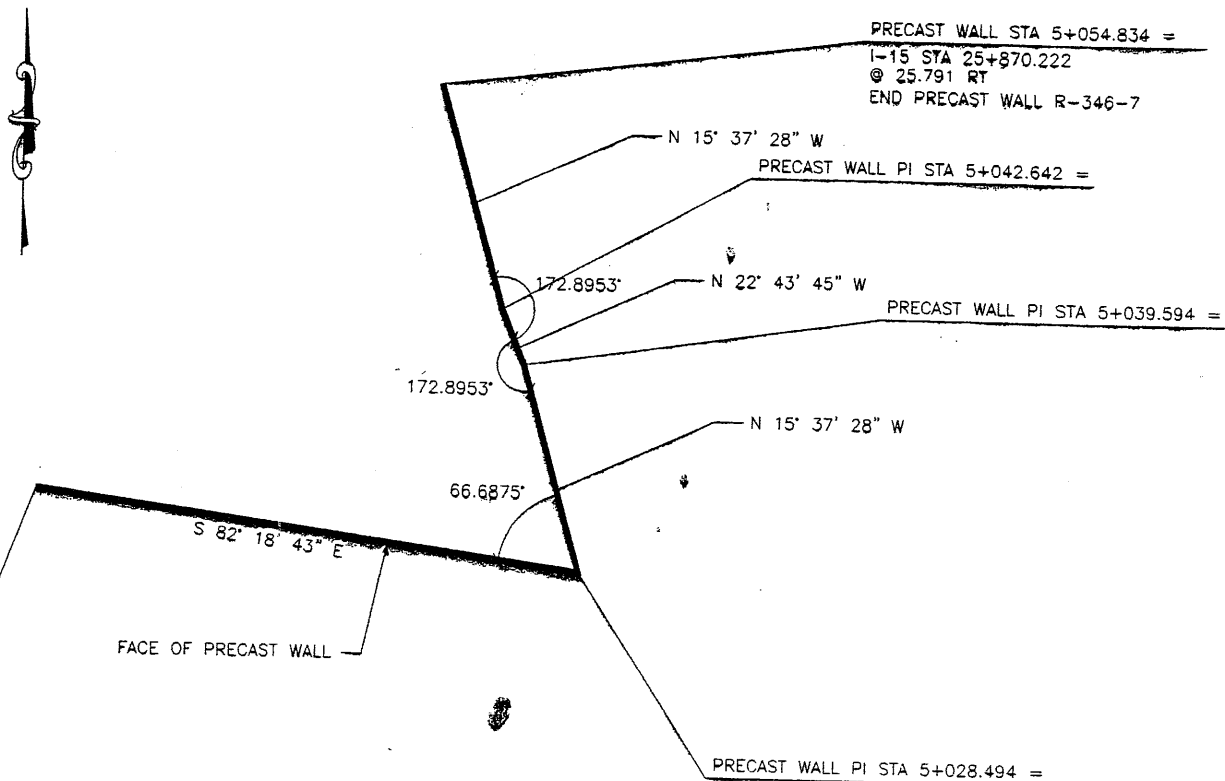
E:\PROJECT\239-0007\33SERIES\33-0 FINAL -13-97

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 30°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF.
TRAFFIC SURCHARGE = 250 PSF
SEISMIC ACCELERATION COFF. = 0.25g (TYP)
SEISMIC ACCELERATION COFF. = 0.65g (AT BRIDGE ABUTMENTS)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

GENERAL NOTES

- ALL WALLS ARE SHOWN FRONT FACE. NOTE STATIONING.
- PANEL TYPE IS DESIGNATED ON EACH PANEL. CONNECTOR LABELS INDICATE NUMBER OF CONNECTORS PER ROW.
EXAMPLE: 5B2-10 IS A "B2-10" PANEL WITH FIVE (5) CONNECTORS PER ROW.
IF NO CONNECTORS ARE SHOWN, FOUR (4) CONNECTOR PANELS SHALL BE USED:
- SOIL REINFORCING MESH TYPE IS DESIGNATED ON EACH PANEL. MESH LABELS INDICATE WIRE SIZE AND SPACING. LONGITUDINAL WIRE AND CROSSBAR SIZES ARE THE SAME UNLESS NOTED OTHERWISE:
EXAMPLE: 4W11-6 MESH HAS FOUR (4) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" CENTERS.
EXAMPLE: 4W20-12 MESH HAS FOUR (4) W20 LONGITUDINAL WIRES WITH W20 CROSSBARS AT 12" CENTERS.
EXAMPLE: 5W11-12 MESH HAS FIVE (4) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 12" CENTERS.
EXAMPLE: 5W20-24 MESH HAS FIVE (4) W20 LONGITUDINAL WIRES WITH W20 CROSSBARS AT 24" CENTERS.
EXAMPLE: 6W11-12 MESH HAS SIX (4) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 12" CENTERS.
- SEE RETAINED EARTH INSTALLATION MANUAL FOR PROPER WALL ERECTION PROCEDURES AND GUIDELINES.
- CONSTRUCTION PROCEDURES SHALL PREVENT BACKFILL SATURATION AND PONDING.
- HEAVY EQUIPMENT SHALL NOT BE USED WITHIN ONE METER OF THE BACK OF THE RETAINED EARTH PANELS. HAND COMPACTORS SHALL BE USED IN THIS AREA.
- CARE SHALL BE TAKEN TO PREVENT DAMAGE TO GALVANIZING. DAMAGED GALVANIZING SHALL BE COATED WITH ZINC RICH PAINT.
- BEARING PADS AND FILTER FABRIC ARE NOT REQUIRED BETWEEN THE LEVELING PAD AND THE FIRST ROW OF PANELS. TEMPORARY WEDGES MAY BE USED TO PROVIDE PROPER ALIGNMENT.
- VSL RETAINED EARTH IS PROTECTED UNDER U.S. PATENT 4,725,170.
- ALL PANELS SHALL HAVE AN ARCHITECTURAL FINISH, SEE SHEET RE-3 FOR DETAIL.

PRECAST WALL STA 5+000.000 =
I-15 STA 25+855.182
@ 0.000 RT
BEGIN PRECAST WALL R-346-7



PLAN VIEW WALL "R-346-7"

SCALE: 1=200 (FULL SIZE)
SCALE: 1=400 (HALF SIZE)

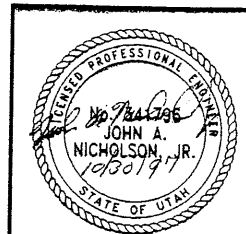
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-13-97	RELEASE FOR CONSTRUCTION

WARREN CONSTRUCTORS
NOV 03 1997
RELEASED FOR CONSTRUCTION

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-346-7, NOTES & DESIGN CRITERIA
RE-2	TYPICAL DETAILS
RE-3	TYPICAL DETAILS
RE-4	TYPICAL CROSS SECTION
RE-5	TYPICAL CROSS SECTIONS
RE-6	ELEVATION PRECAST WALL "R-346-7"
RE-7	SPECIAL DETAILS
RE-8	SPECIAL PANEL DETAILS

5 of 12
METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
PLAN VIEW PRECAST WALL "R-346-7"
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSPORTATION

SCALE:	2.2R-346-7.5
JOB NO.:	239-0007
	RE-1

VSL CORPORATION
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MIAMI, FL / SAN JOSE, CA / STAMFORD, CT

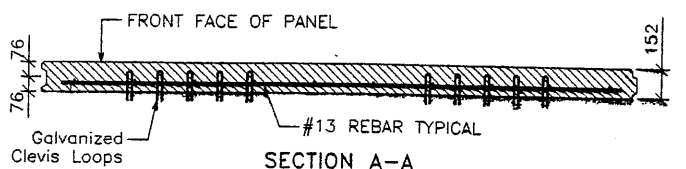
VSL Corporation (VSL) hereby certifies that the design, calculations and construction details shown on this sheet, the use of which information is made in accordance with the specifications to the material and/or structure, are the responsibility of VSL. VSL is not responsible for any errors or omissions in this document.

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DRN.	09-25-97					
CHK.	09-25-97					

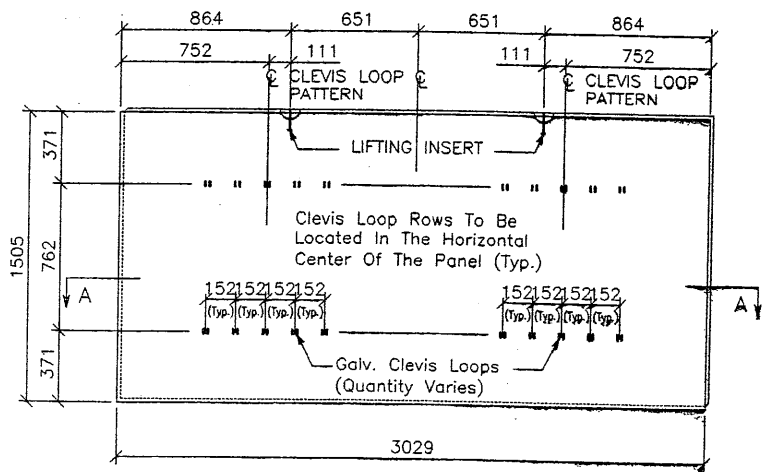
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FINAL -13-97

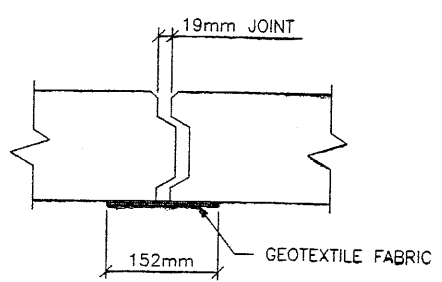
152mm TYP. WIDTH OF GEOTEXTILE, CLASS 2, TYPE A CENTER ON PANEL JOINTS



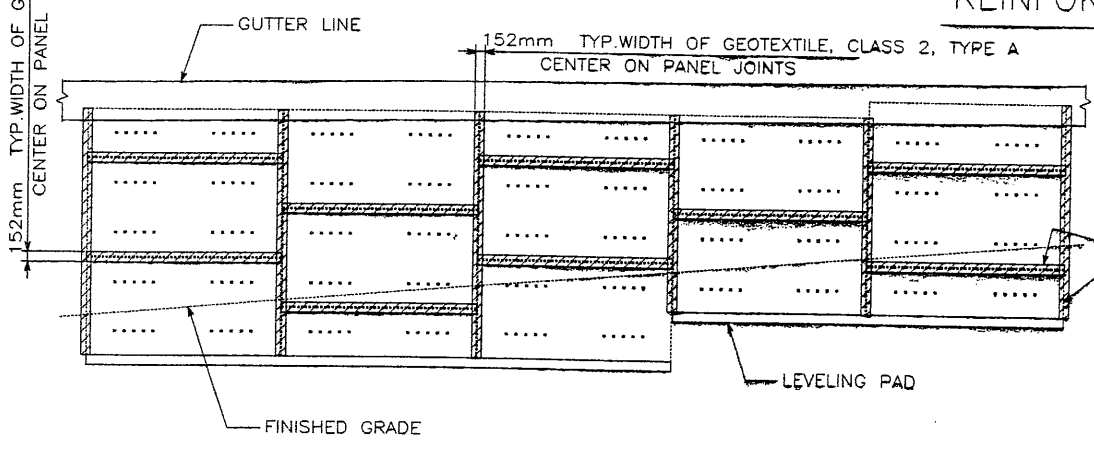
SECTION A-A



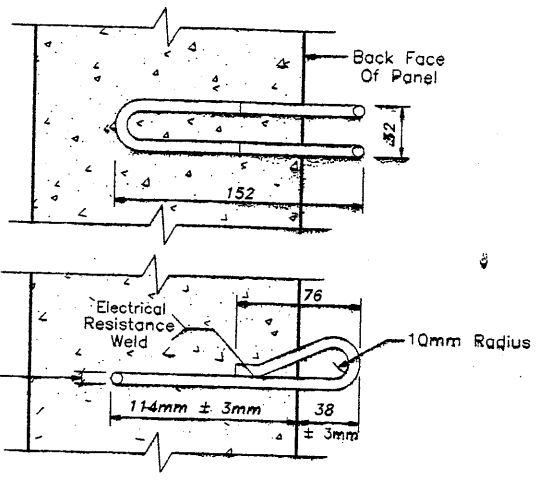
STANDARD "5A-10" PANEL
Back Face View



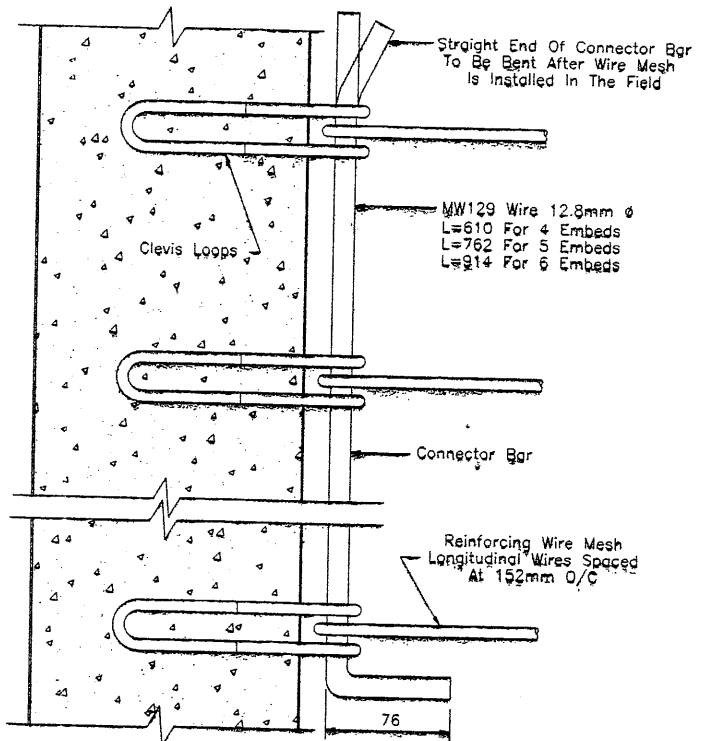
JOINT DETAIL
N.T.S.



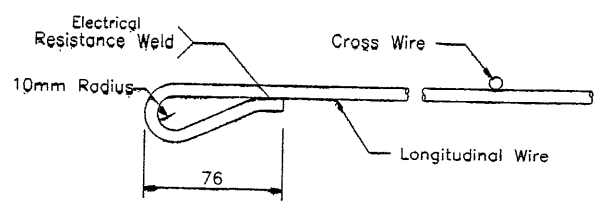
PARTIAL WALL ELEVATION



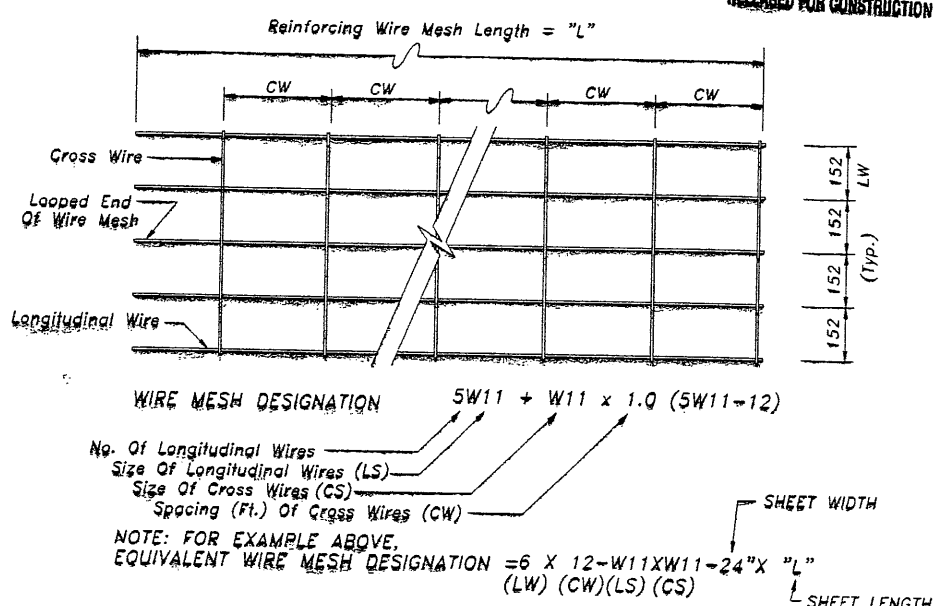
CLEVIS LOOP DETAIL
N.T.S.



REINFORCING MESH CONNECTION DETAIL
N.T.S.

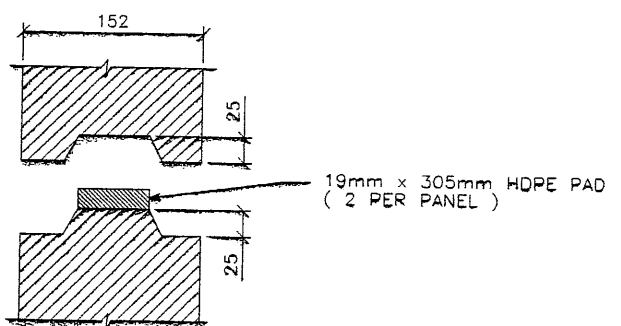


WIRE MESH LOOP DETAIL
N.T.S.



REINFORCING MESH DESIGNATION

NOTE: W11 (71 sq mm) And W20 (129 sq mm) Steel Wire Material And Welding Of Cross Wires And Loops Shall Conform To ASTM A82 And ASTM 185, $F_y = 448$ MPa. Mesh Shall Be Galvanized To ASTM A-123 To A Minimum Effective Thickness Of 0.089 mm.



HORZ. JOINT DETAIL
N.T.S.

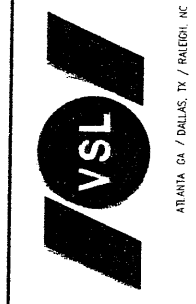
APPLY ADHESIVE COATING TO PANELS ONLY. DO NOT APPLY ADHESIVE TO GEOTEXTILE OR WITHIN 51mm OF JOINT (TYP.)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-13-97	RELEASE FOR CONSTRUCTION

WARATCH CONSTRUCTORS
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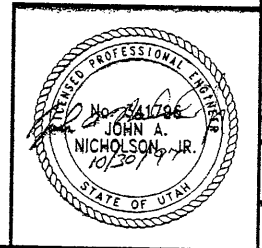
NO.	DATE	DESCRIPTION
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3	09-25-97	MM

VSL CORPORATION
2840 Plaza Place, Suite 200
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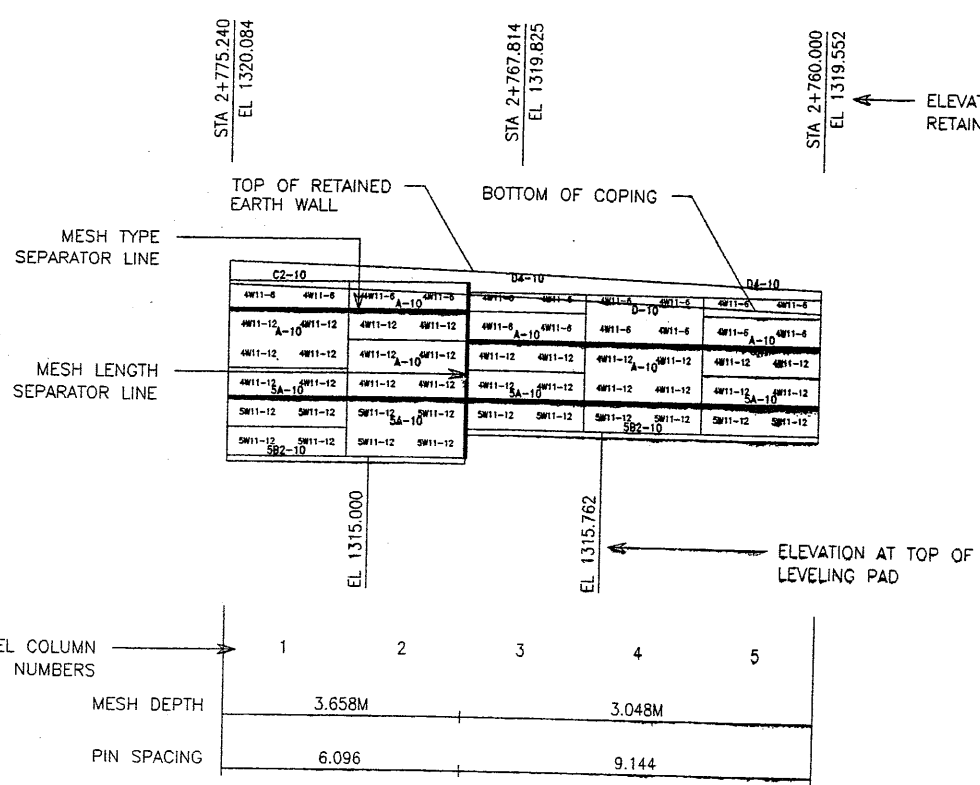
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RETAINED EARTH™ WALLS
PRECAST WALL "R-346-7"
TYPICAL DETAILS
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSPORTATION

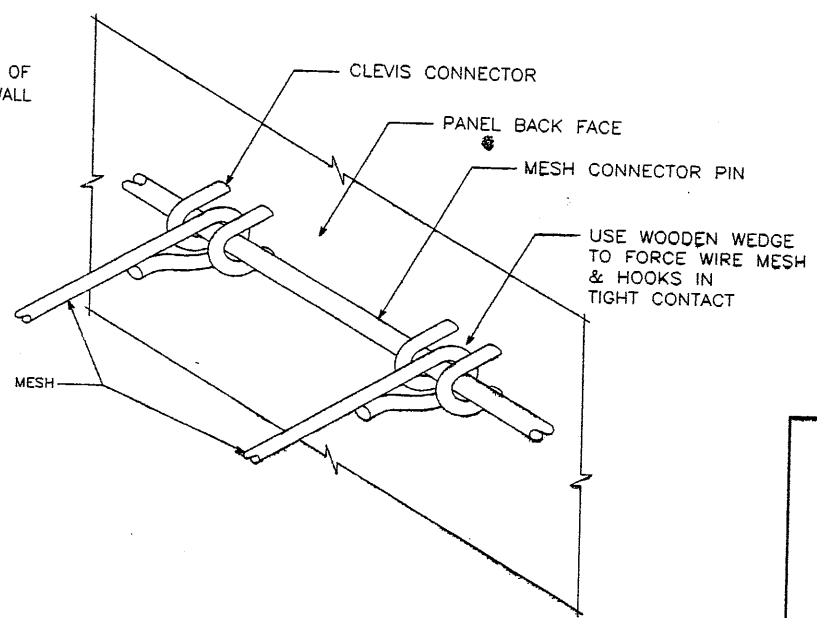


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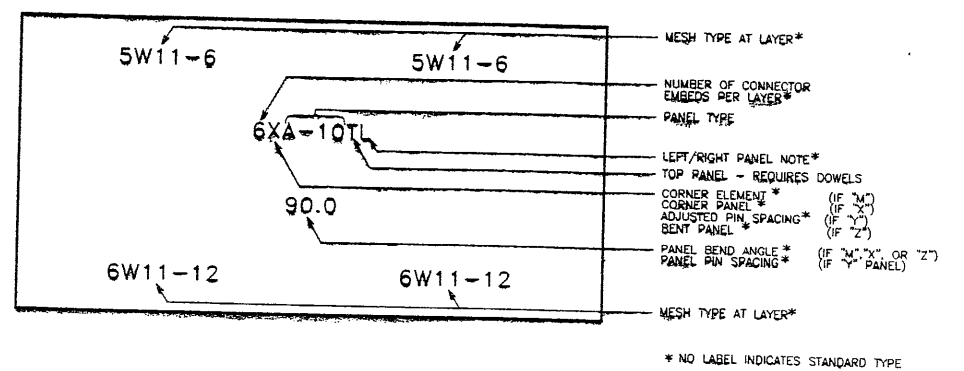
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JOB NO: 239-0007
RE-2



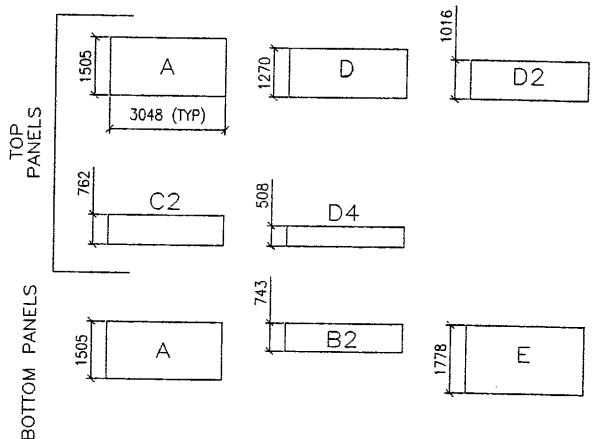
1 WALL ELEVATION KEY
(FRONT FACE SHOWN)



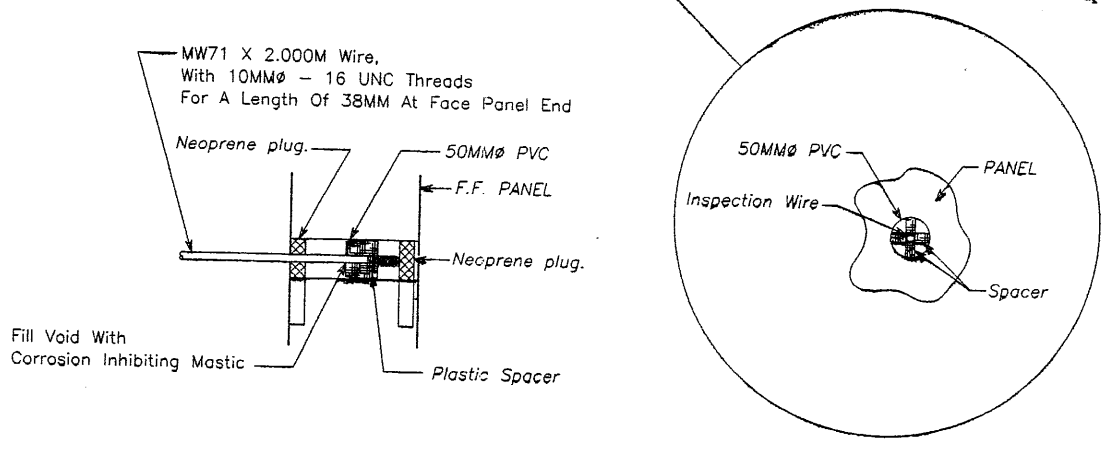
2 MESH CLEVIS CONNECTOR
VSL RETAINED EARTH IS PROTECTED UNDER U.S. PATENT 4,725,170.



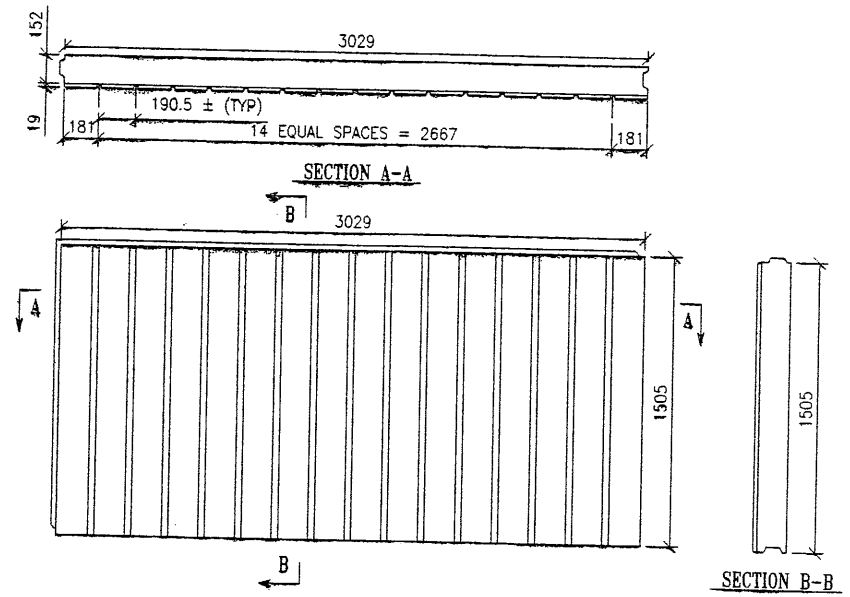
3 PANEL LABELS



4 PANEL TYPES
ALL DIMENSIONS ARE IN MILLIMETERS



5 INSPECTION WIRE DETAIL
(PANEL FRONT FACE SHOWN)



6 ARCHITECTURAL PANEL FINISH
(PANEL FRONT FACE SHOWN)

7 of 12 METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-13-97	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
NOV 03 1997
RELEASED FOR CONSTRUCTION

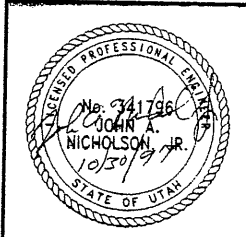
NO.	DATE	DESCRIPTION	BY	CHK

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6772
Fax: (919) 781-4869

ATLANTA GA / DALLAS TX / FALCON NC (CORPORATE OFFICE)
MIAMI FL / SAN JOSE CA / TORONTO ONT

RETAINED EARTH™ WALLS
PRECAST WALL "R-346-7"
TYPICAL DETAILS

UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.



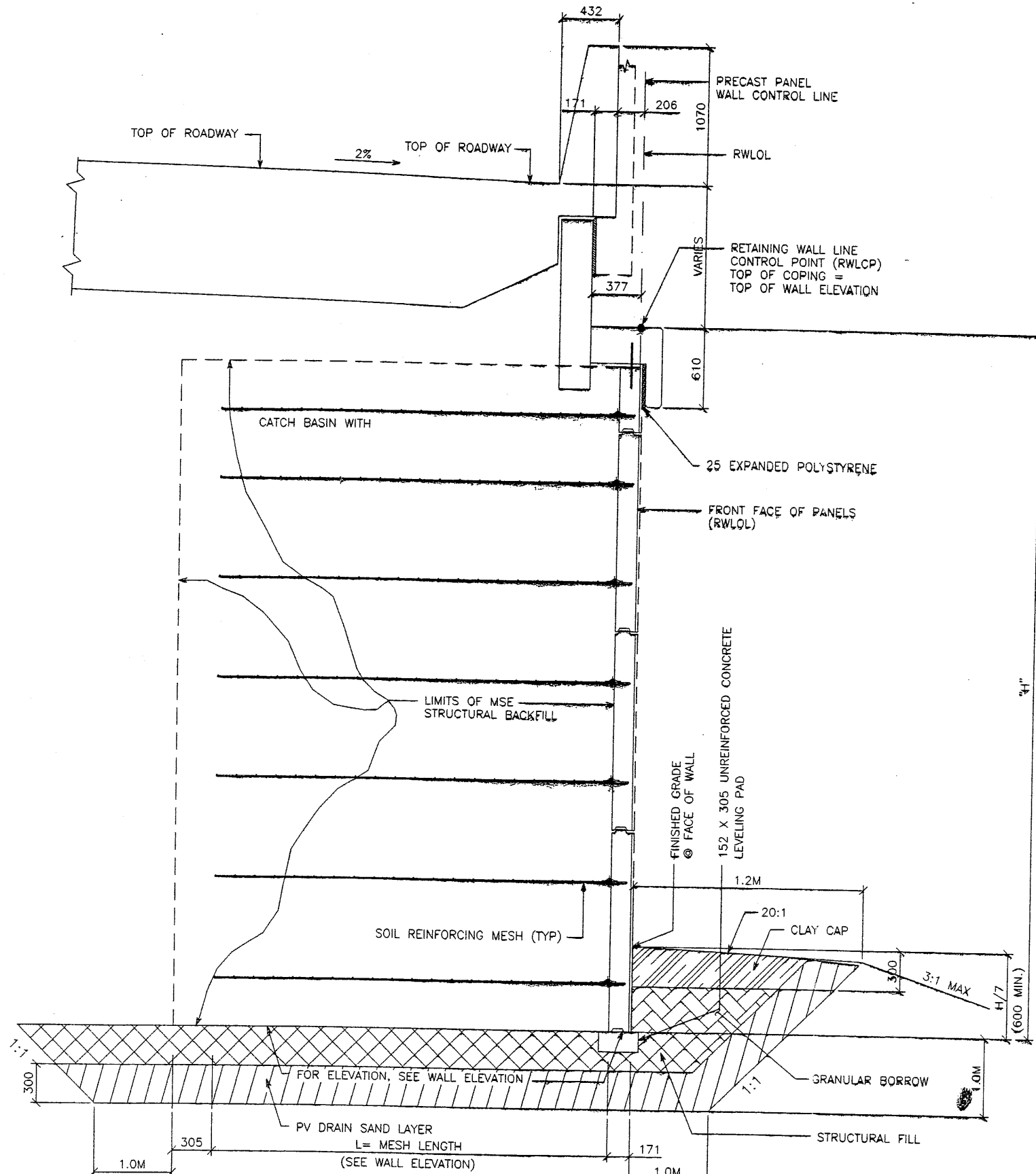
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

SCALE:	2.2R-346-7.7
JOB NO:	239-0007
	RE-3

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FINAL

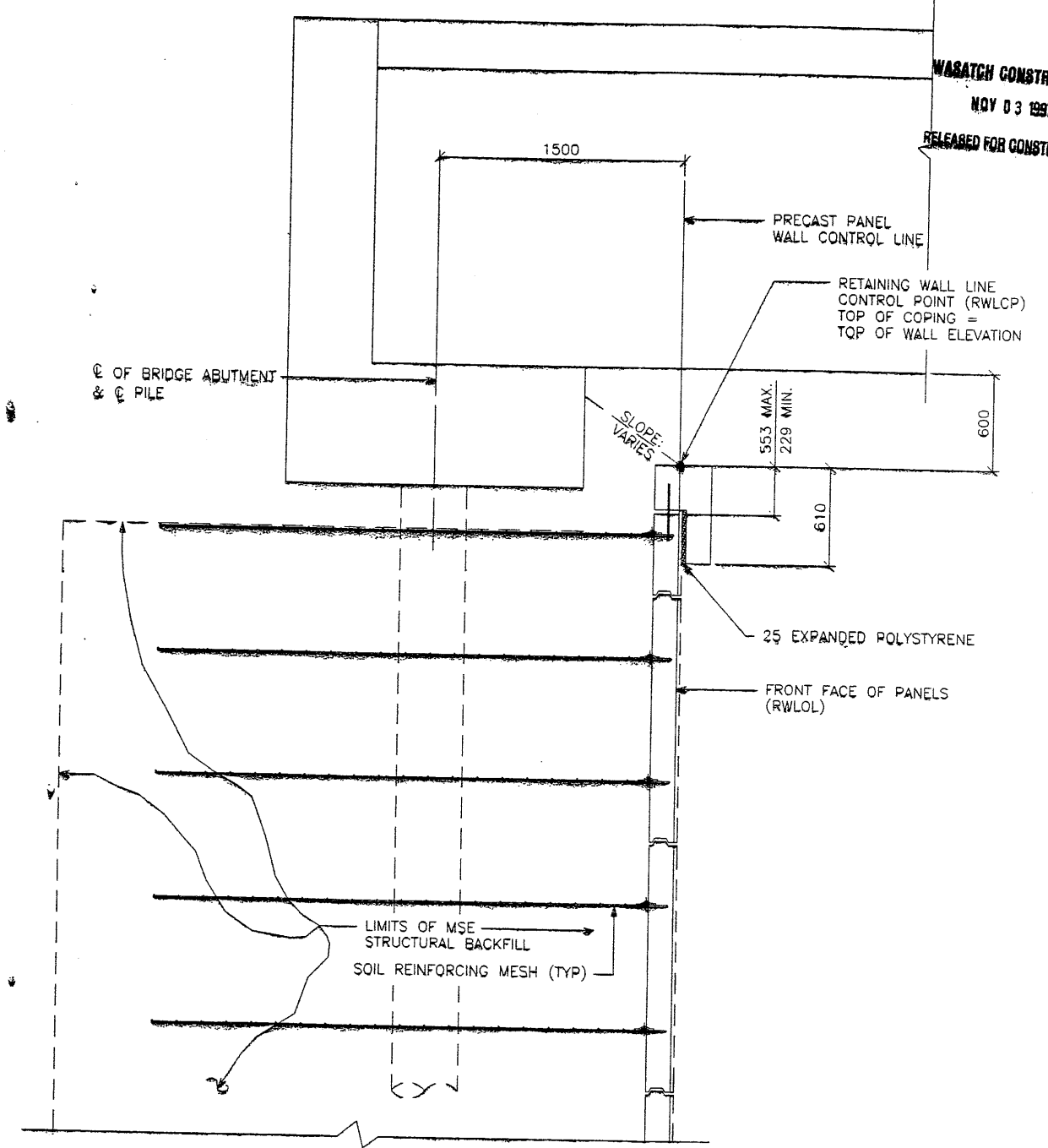


TYPICAL CROSS SECTION - STA 5+028.494 TO 5+039.594

(SEE DWG. NO. 2.2R-346-7.2 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)

SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 5+000.000 TO 5+028.494

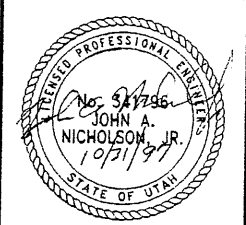
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SCALE: 1:40 (HALF SIZE)

8 of 12 METRIC

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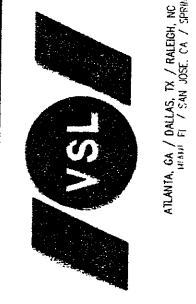
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NO.	DATE	DESCRIPTION
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WARATCH CONSTRUCTORS
NOV 03 1997
RELEASED FOR CONSTRUCTION

NO.	DATE	REVISION

DES.	MM	DDO	MM
09-25-97		09-25-97	
DRN		CHK	

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Raleigh, NC 27612
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HOUSTON, TX / SAN JOSE, CA / SPRINGFIELD, IL

RETAINED EARTH™ WALLS
WIRE FACED WALL "R-346-7"
TYPICAL CROSS SECTION
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

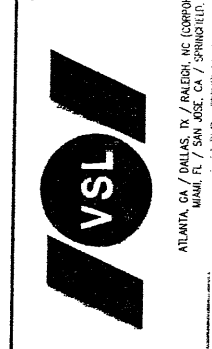
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JOB NO:	239-0007
	RE-4

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-13-97	RELEASE FOR CONSTRUCTION

WABATCH CONSTRUCTORS
 NOV 03 1997
 RELEASED FOR CONSTRUCTION

DES.	MM	NO.	DATE	REVISION
DES. 09-25-97	MM			
DRN 09-25-97	DDO			
CHK. 09-25-97	MM			

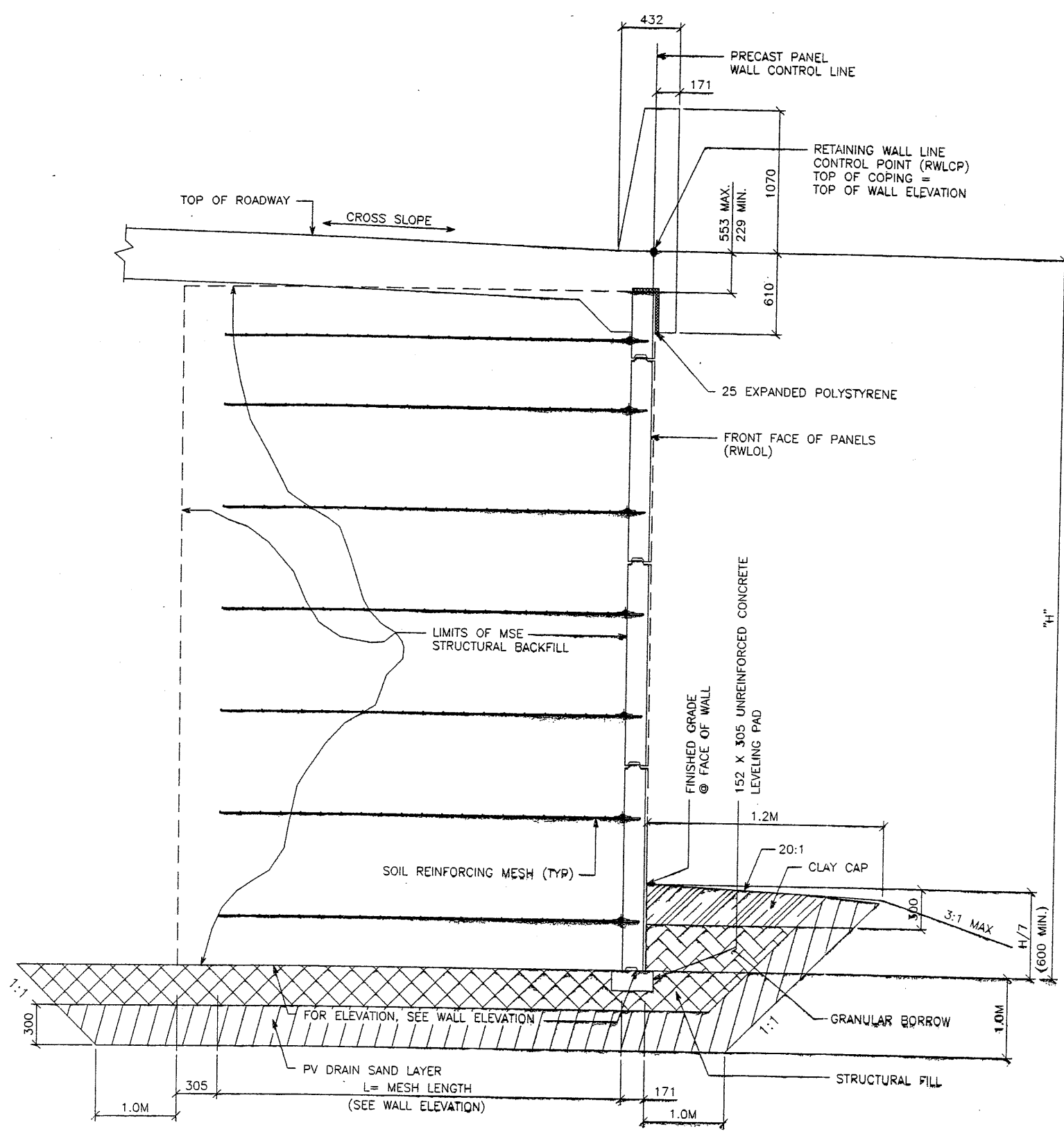
VSL CORPORATION
 2940 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6772
 Fax: (919) 781-1989



VSL Corporation hereby certifies that the design and construction of the structure shown on this drawing is in accordance with the design and construction specifications and standards of the American Institute of Steel Construction, Inc. (AISC) and the American Concrete Institute (ACI). The use of the VSL logo on this drawing is the property of VSL Corporation and is not to be used in any other manner without the written consent of VSL Corporation. Any other use is strictly prohibited and will result in legal action. VSL CORPORATION ACCEPTS NO LIABILITY FOR THE DESIGN OR CONSTRUCTION OF THE STRUCTURE SHOWN ON THIS DRAWING.

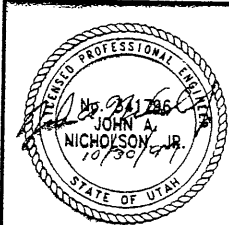
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-7"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:	2.2R-346-7.9
JOB NO.:	239-0007
	RE-5



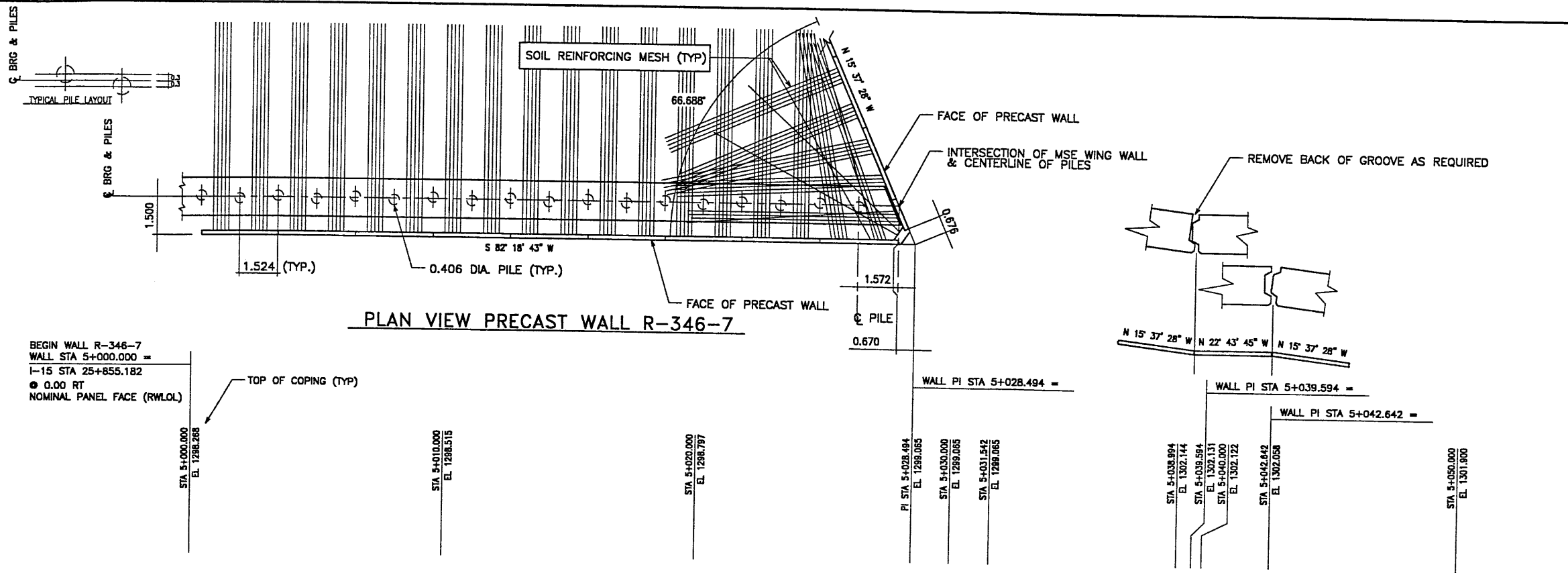
TYPICAL CROSS SECTION - STA 5+042.642 TO 5+054.834
 (SEE DWG. NO. 2.2R-346-7.4 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

9 of 12 METRIC



CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

FINAL P.C. -13-97

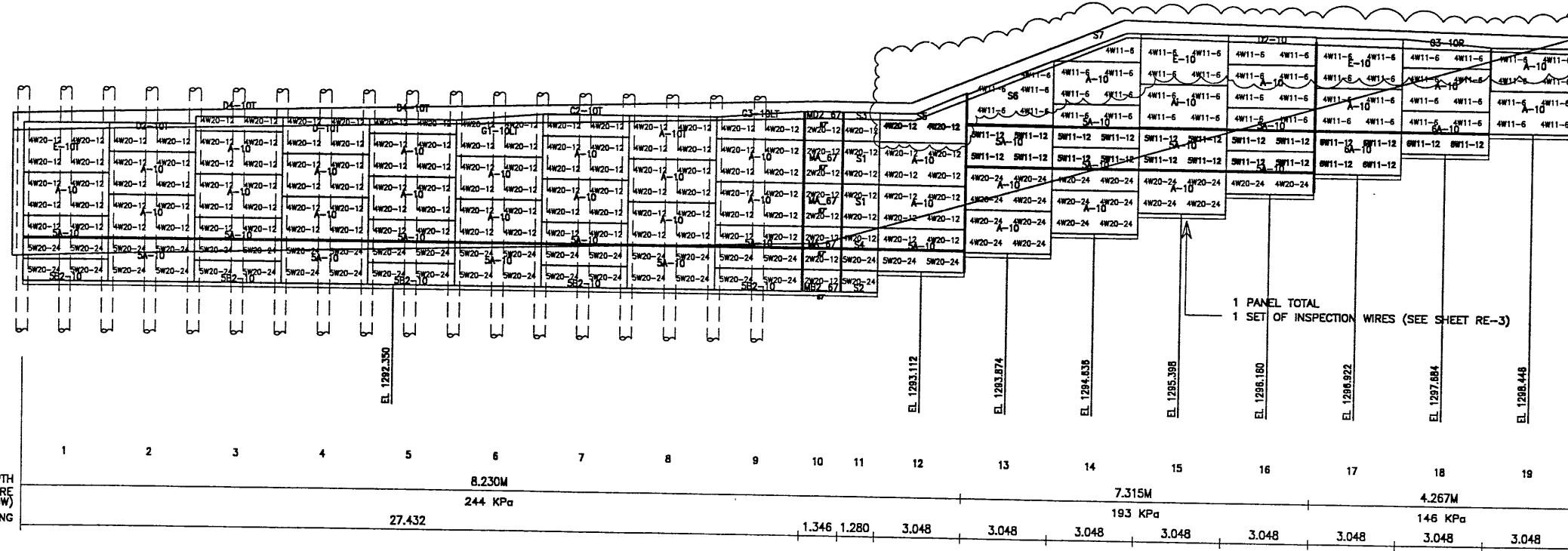


APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-13-97	RELEASE FOR CONSTRUCTION
2	03-01-99	DESIGNED TOP PANELS

DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	BY
MM	DSW	JN				CHK
03-01-99	03-01-99	03-01-99				

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4689

ATLANTA, GA / DALLAS, TX / BALDWIN, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA



ELEVATION PRECAST WALL R-346-7
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 392.82 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

WASATCH CONSTRUCTORS
MAR 15 1999
 RELEASED FOR CONSTRUCTION

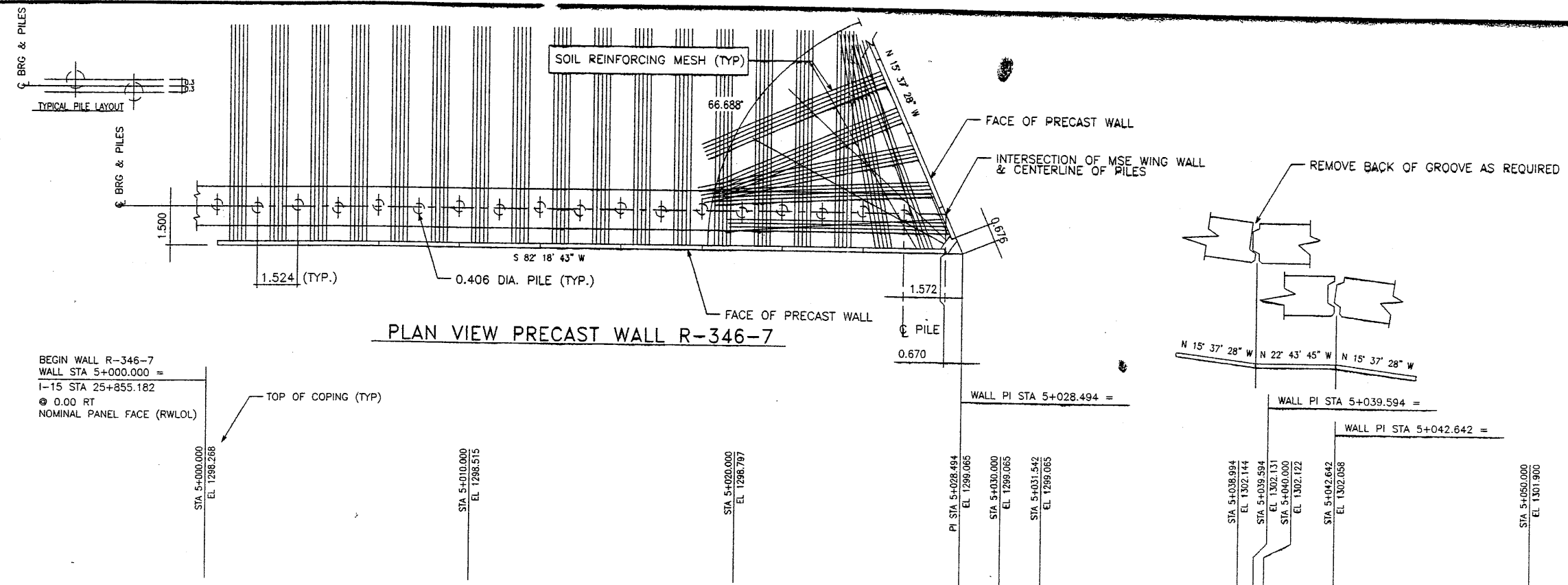
VSL Corporation (VSL) is not responsible for the design and construction of the structure shown on this sheet. The use of the structure shown in this sheet is at the user's risk. Any statements made herein are the responsibility of the user. VSL CORPORATION DISCLAIMS ANY LIABILITY THEREFOR.

RETAINED EARTH™ WALLS PRECAST WALL "R-346-7"	DWG. NO. 2.2R-346-7.10
UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.	JOB NO. 239-0007
	SHT. NO. RE-6

E:\PROJECT\239-0007\3SERIES\33-07\33-07

-13-97

FINAL



BEGIN WALL R-346-7
WALL STA 5+000.000 =
I-15 STA 25+855.182
@ 0.00 RT
NOMINAL PANEL FACE (RWLOL)

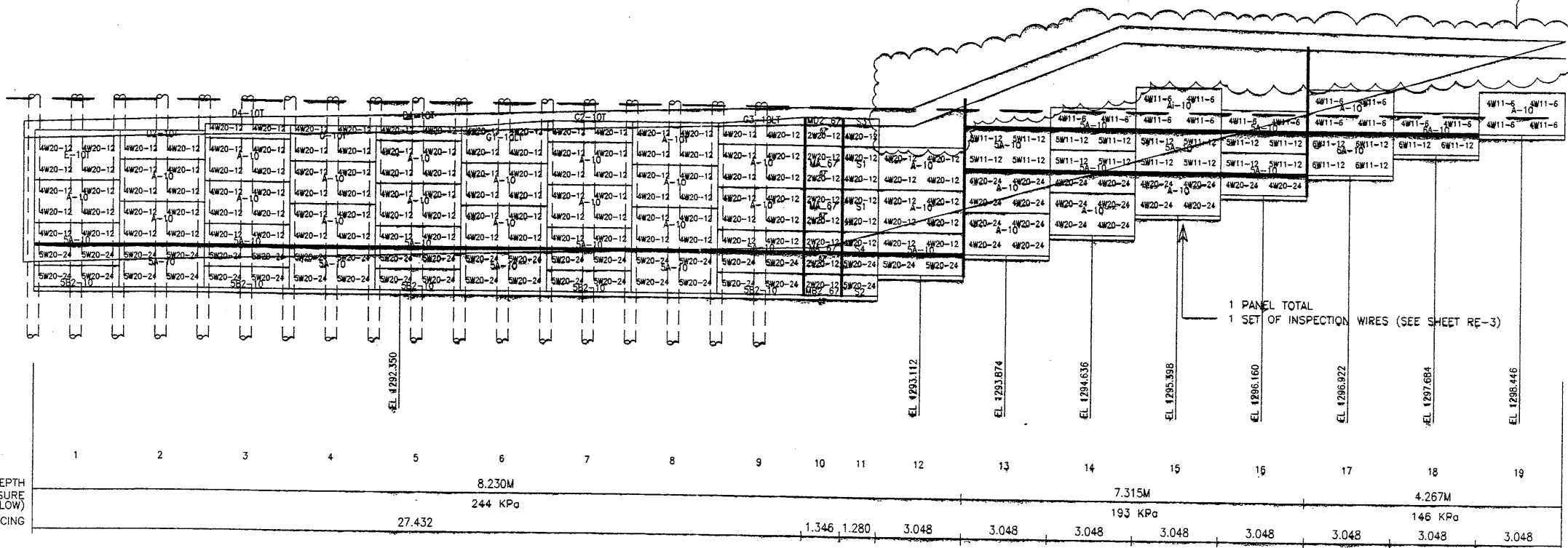
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-13-97	RELEASE FOR CONSTRUCTION

ARCHITECTS
NOV 03 1997
RELEASED FOR CONSTRUCTION

END WALL R-346-7
WALL STA 5+054.834 =
I-15 STA 25+870.222
@ 25.791 RT
NOMINAL PANEL FACE (RWLOL)

CONTRACTOR NOTE:
TOP PANELS TO BE DETERMINED IN THIS AREA AFTER WALL SETTLEMENT AND ELEVATIONS OF ERECTED PANELS ARE GIVEN TO VSL CORPORATION.

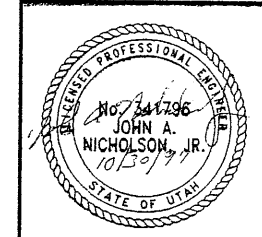
BEGIN WALL
(MATCH WALL R-346-8)



ELEVATION PRECAST WALL R-346-7
(FRONT FACE SHOWN)
(TOTAL SURFACE AREA OF PANELS = 392.82 SM)
SCALE 1:100 (FULL SIZE)
SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
MAXIMUM FINAL UNFACTORED BEARING PRESSURES ARE INDICATED BELOW "MESH DEPTH LINE" REVIEWER TO VERIFY MAXIMUM BEARING CAPACITY OF FOUNDATION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



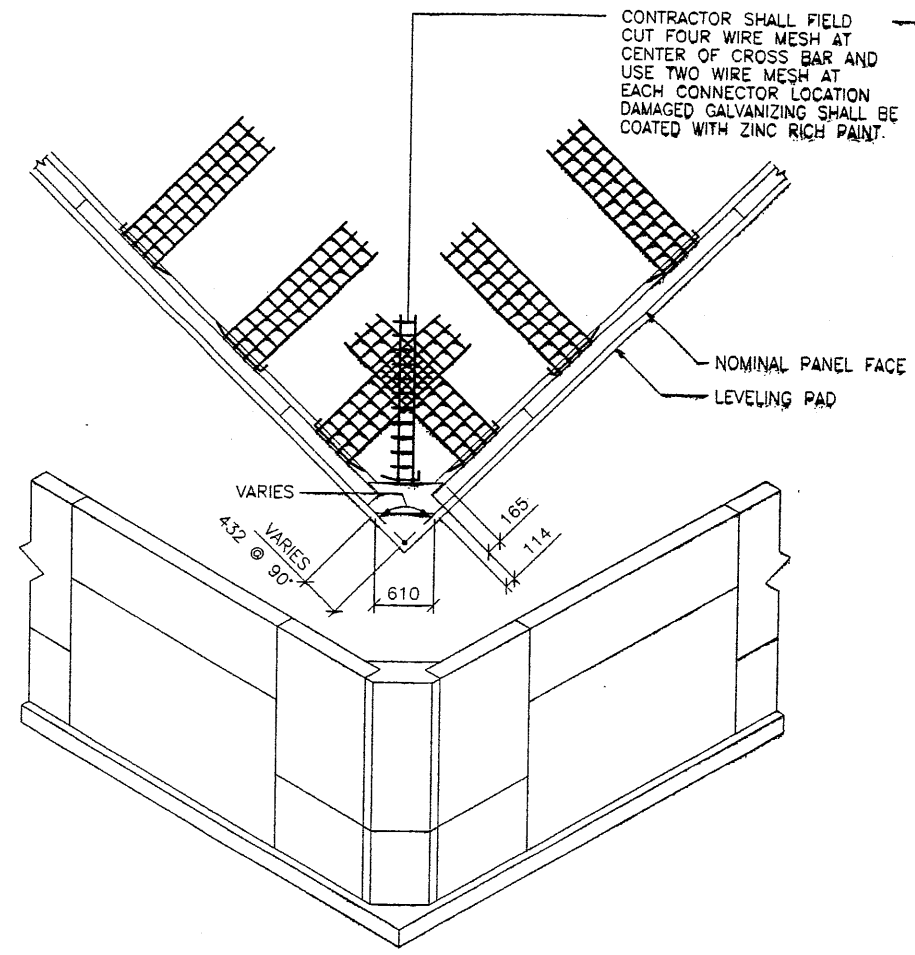
VSL CORPORATION
3840 Pine Bluff, Suite 200
Boulder, Colorado 80504
Telephone: (303) 781-6272
Fax: (303) 781-4869

RETAINED EARTH™ WALLS
PRECAST WALL "R-346-7"
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSPORTATION

SCALE:
2.2R-346-7.10
JOB NO:
239-0007
RE-6

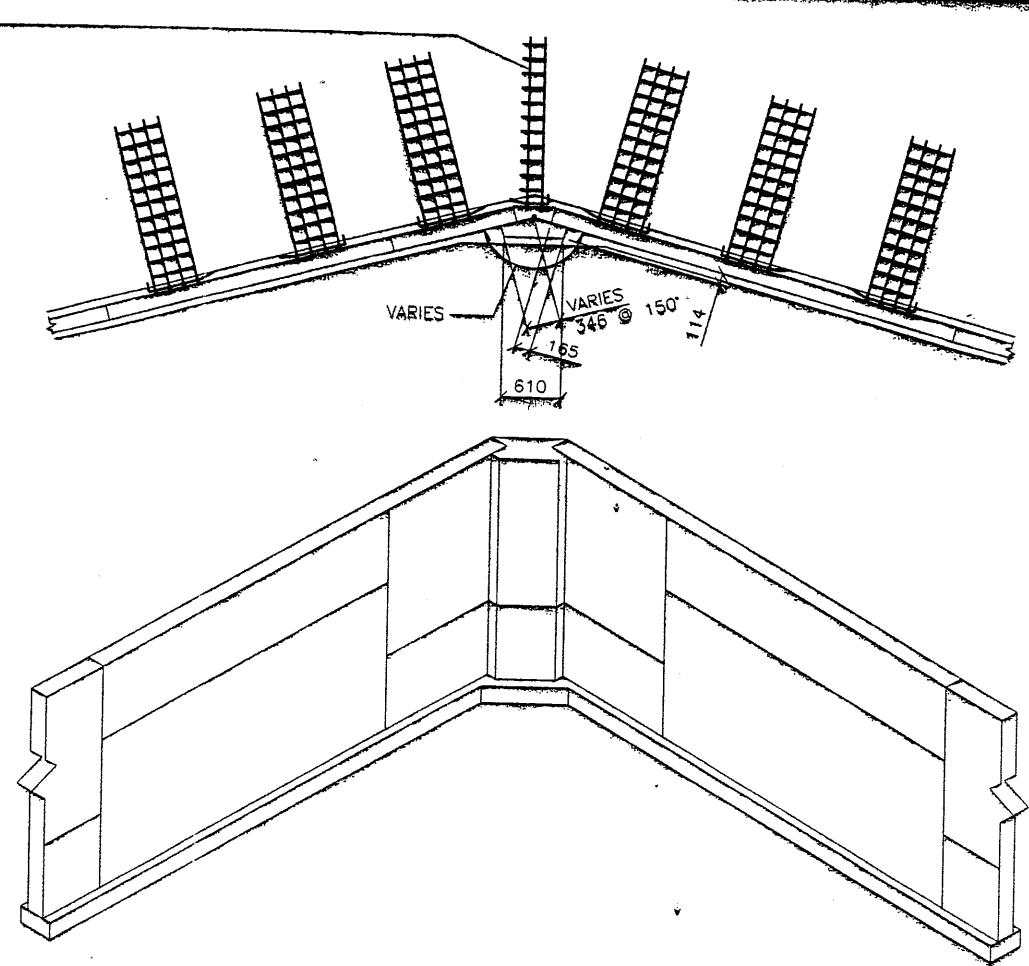
FINAL 10/21 23-97

E:\PROJECT\239-0007\33SERIES\33-07



CONTRACTOR SHALL FIELD CUT FOUR WIRE MESH AT CENTER OF CROSS BAR AND USE TWO WIRE MESH AT EACH CONNECTOR LOCATION DAMAGED GALVANIZING SHALL BE COATED WITH ZINC RICH PAINT.

80 OUTSIDE CORNER ELEMENT
PLAN VIEW / ISOMETRIC



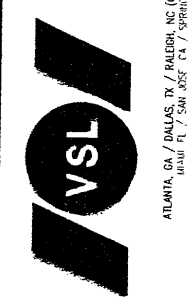
80 INSIDE CORNER ELEMENT
PLAN VIEW / ISOMETRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-23-97	RELEASE FOR CONSTRUCTION <i>OK</i>

WASATCH CONSTRUCTORS
NOV 03 1997
RELEASED FOR CONSTRUCTION

DES.	MM	NO.	DATE	REVISION	BY / CHK.
10-23-97	MM	NO.	DATE	REVISION	BY / CHK.
10-23-97	DDO	NO.	DATE	REVISION	BY / CHK.
10-23-97	MM	NO.	DATE	REVISION	BY / CHK.

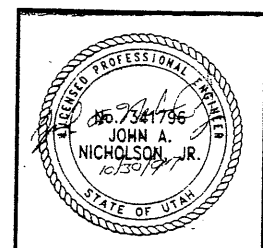
VSL CORPORATION
2810 Plaza Place, Suite 200
Raleigh, NC 27612 (919) 851-6272
Fax: (919) 761-4869



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RETAINED EARTH™ WALLS
PRECAST WALL "R-346-7"
SPECIAL DETAILS
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

11 of 12 METRIC

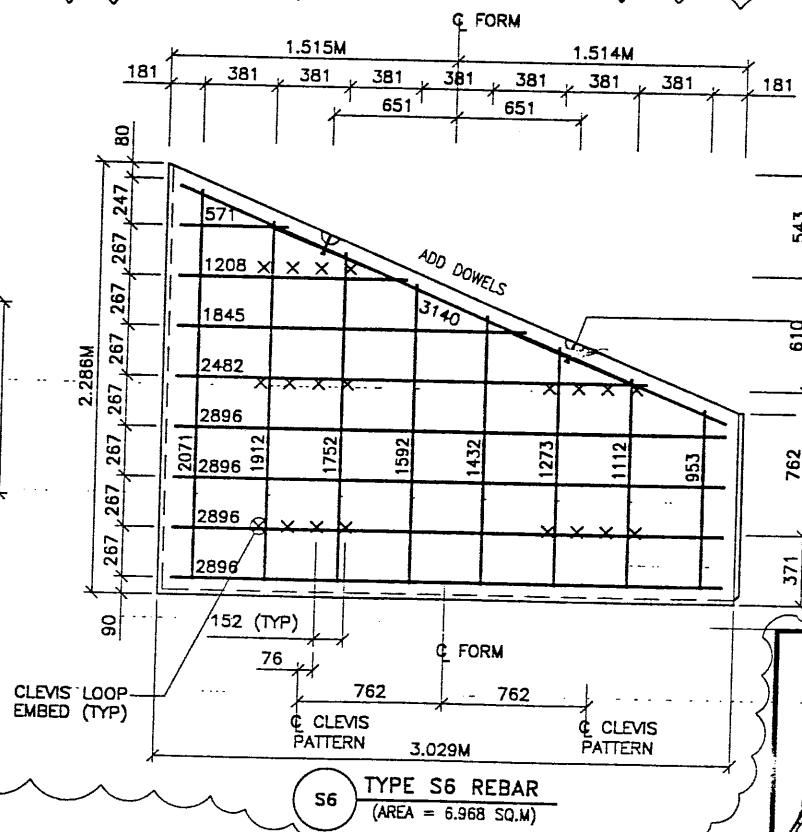
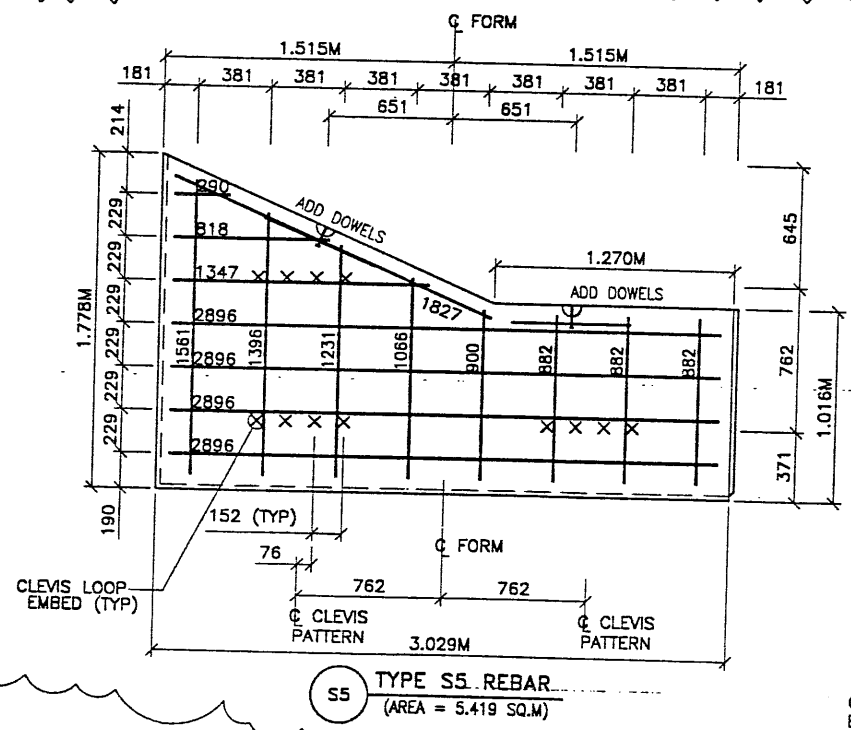
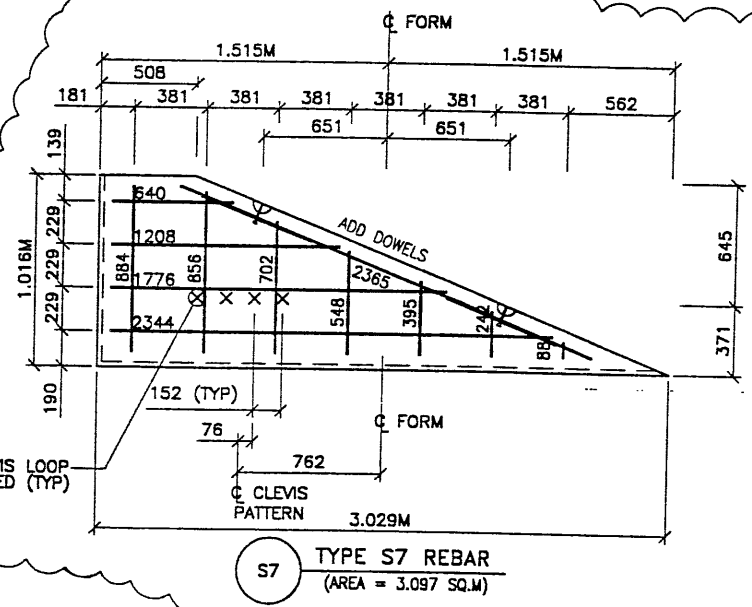
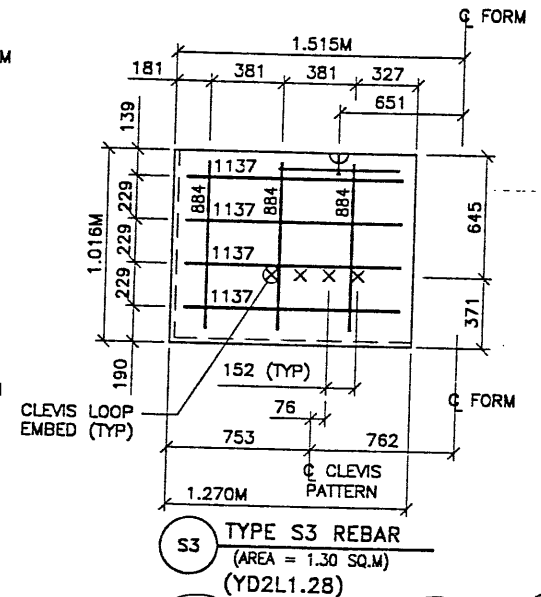
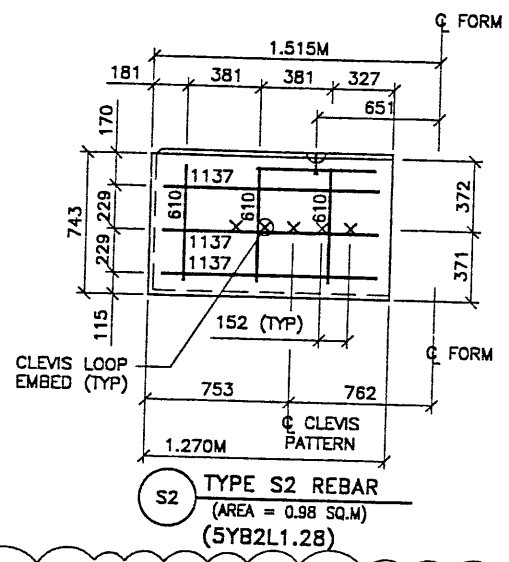
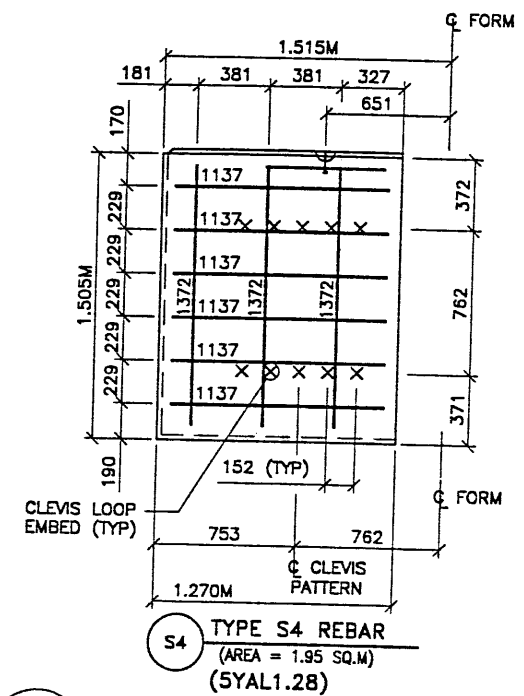
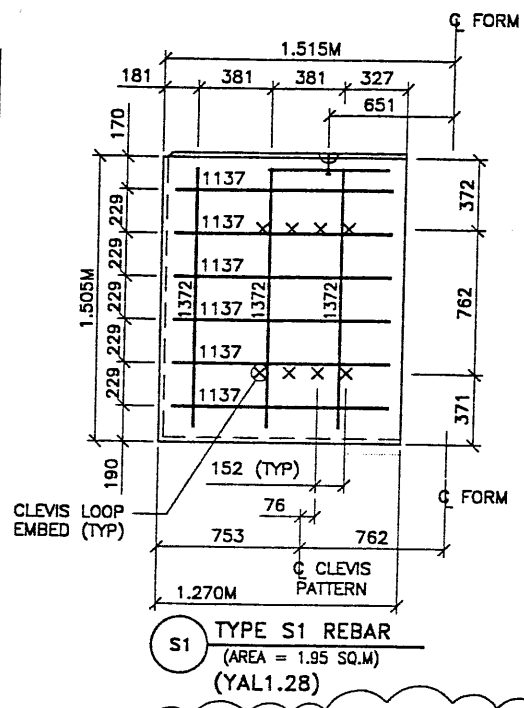


CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

SCALE: 2.2R-346-7.11
JOB NO: 239-0007
RE-7

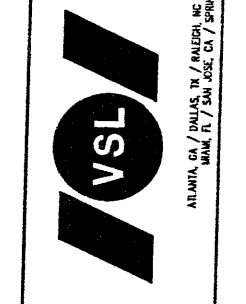
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-23-97	RELEASE FOR CONSTRUCTION
▲	03-01-99	DESIGNED TOP PANELS

- PANEL REINFORCEMENT NOTES:**
1. PANELS ARE SHOWN BACK FACE.
 2. HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 3. ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 4. ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 5. PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 6. ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 7. CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 20,700 KPa.
 8. EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 9. ALL PANELS TO USE 9.5mm# CLEVIS LOOPS.
 10. VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.



NO.	DATE	REVISION

VSL CORPORATION
2610 Pinto Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-0272
Fax: (919) 781-4669

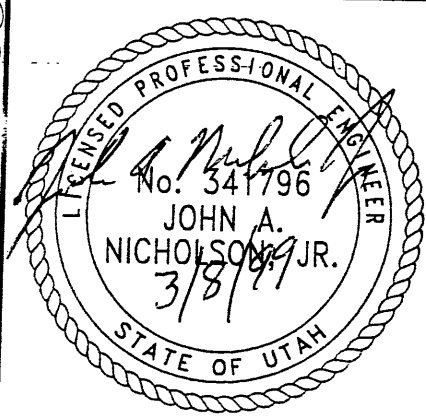


VSL Corporation (VSL) is a Swiss company with offices in various countries. It is a leader in the development and production of retaining wall systems. The company's products are used in a wide range of applications, including highway construction, industrial facilities, and urban development. VSL is committed to providing high-quality, innovative solutions for its customers.

WASATCH CONSTRUCTORS

MAR 15 1999

RELEASED FOR CONSTRUCTION

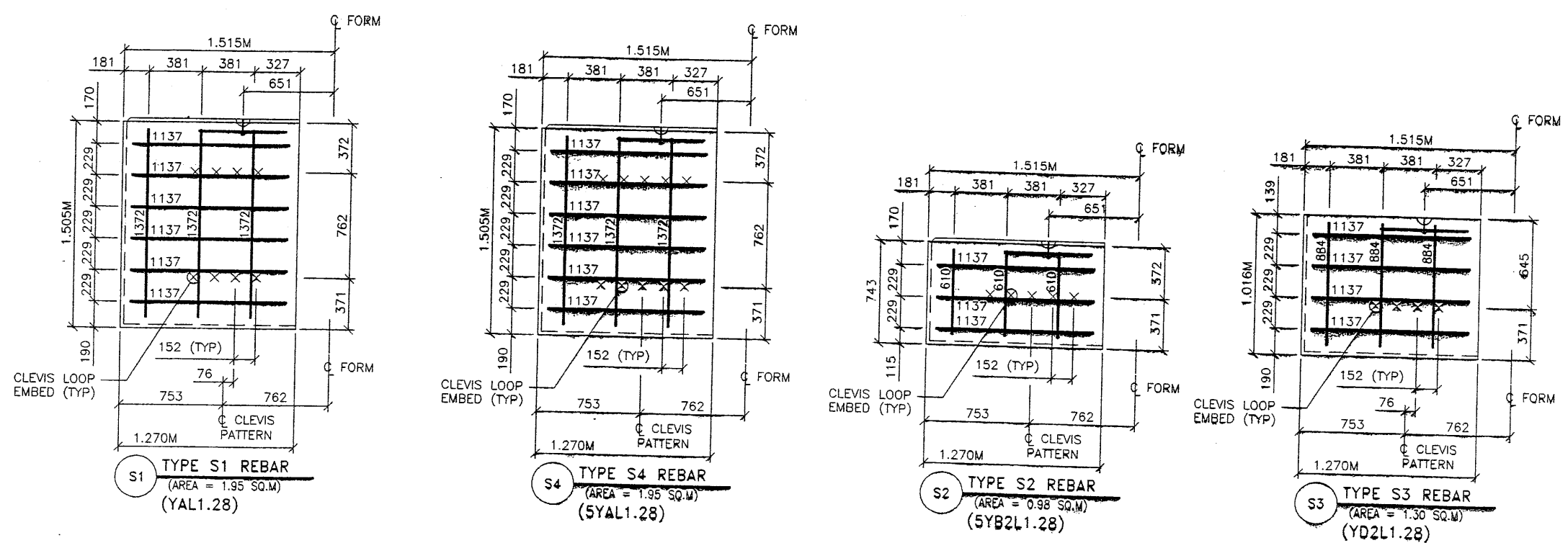


RETAINED EARTH™ WALLS
PRECAST WALL R-346-7™
SPECIAL PANEL REINFORCEMENT.
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-7.12
JOB NO.	239-0007
SHEET NO.	RE-8

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC



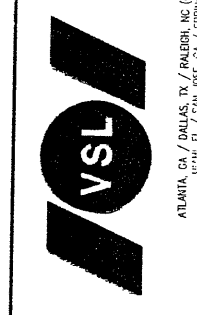
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-23-97	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
 NOV 03 1997
 RELEASED FOR CONSTRUCTION

- PANEL REINFORCEMENT NOTES:
1. PANELS ARE SHOWN BACK FACE.
 2. HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 3. ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 4. ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 5. PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 6. ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 7. CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 8. EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 9. ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 10. VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.

NO.	DATE	DESCRIPTION
DES.	10-23-97	JUN
DRN.	10-23-97	DDO
CHK.	10-23-97	JUN

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27615
 Telephone: (919) 781-6772
 Fax: (919) 781-6869

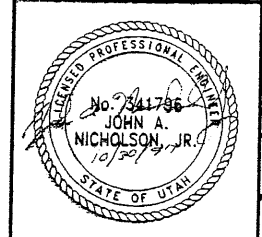


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RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-7"
 SPECIAL PANEL REINFORCEMENT
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

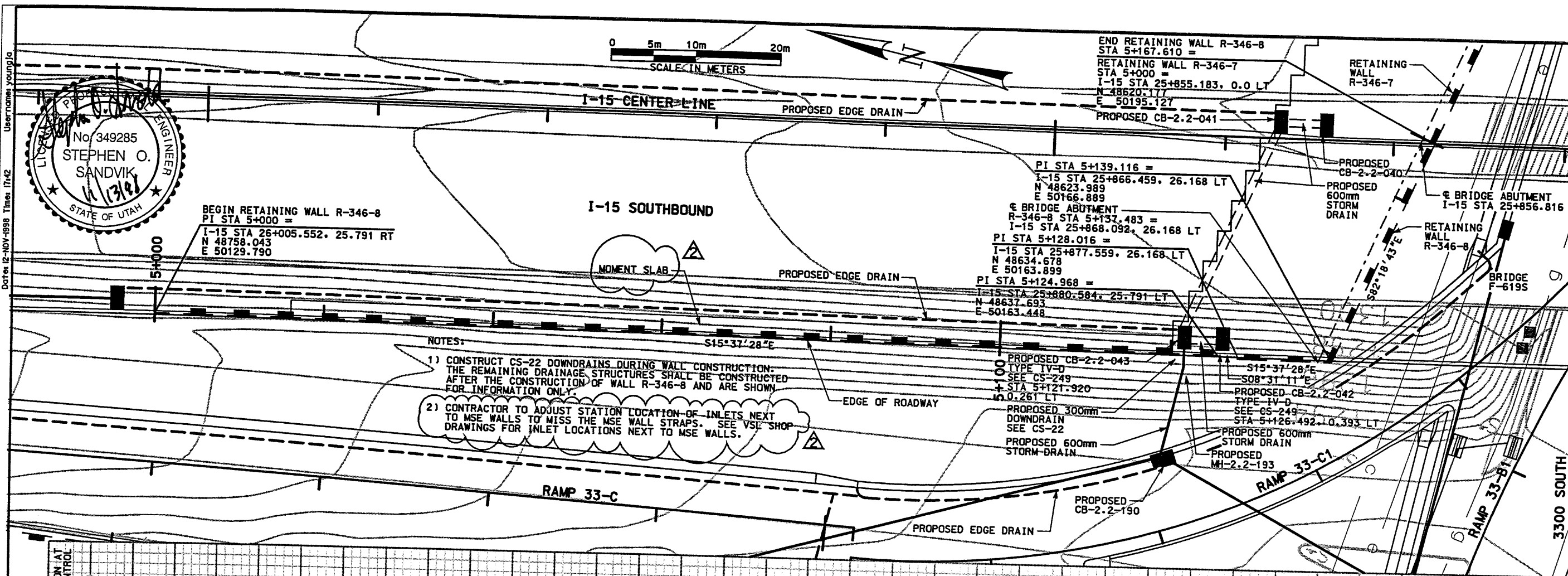
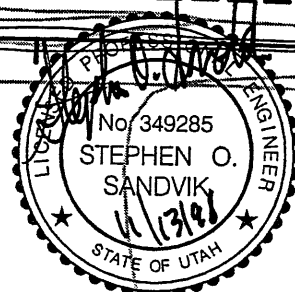
12 of 12 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

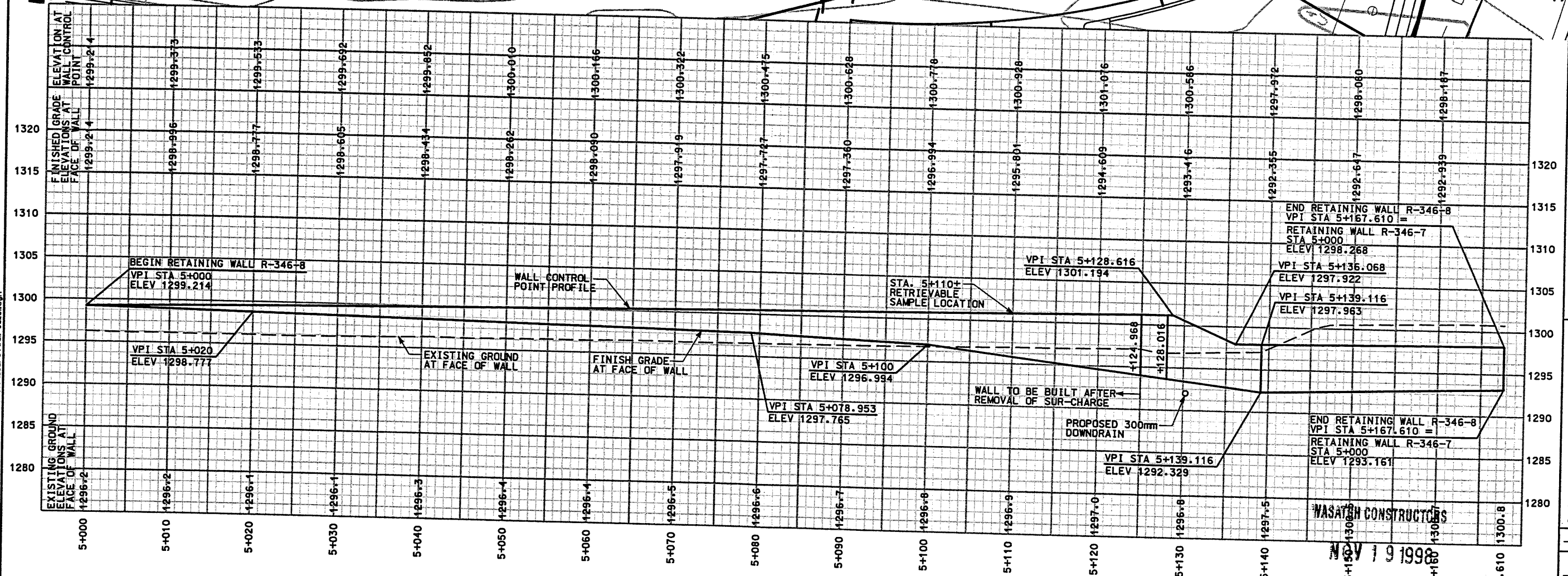


SCALE:	2.2R-346-7.12
JOB NO:	239-0007
REVISION:	RE-8

User: name_young@plg Date: 12-NOV-1998 Time: 17:42
 Filename: c:\dgn\115_cadd\33_37_sheets_files\wall\33_retwall-08.dgn



- NOTES:**
- 1) CONSTRUCT CS-22 DOWNDRAINS DURING WALL CONSTRUCTION. THE REMAINING DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AFTER THE CONSTRUCTION OF WALL R-346-8 AND ARE SHOWN FOR INFORMATION ONLY.
 - 2) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.

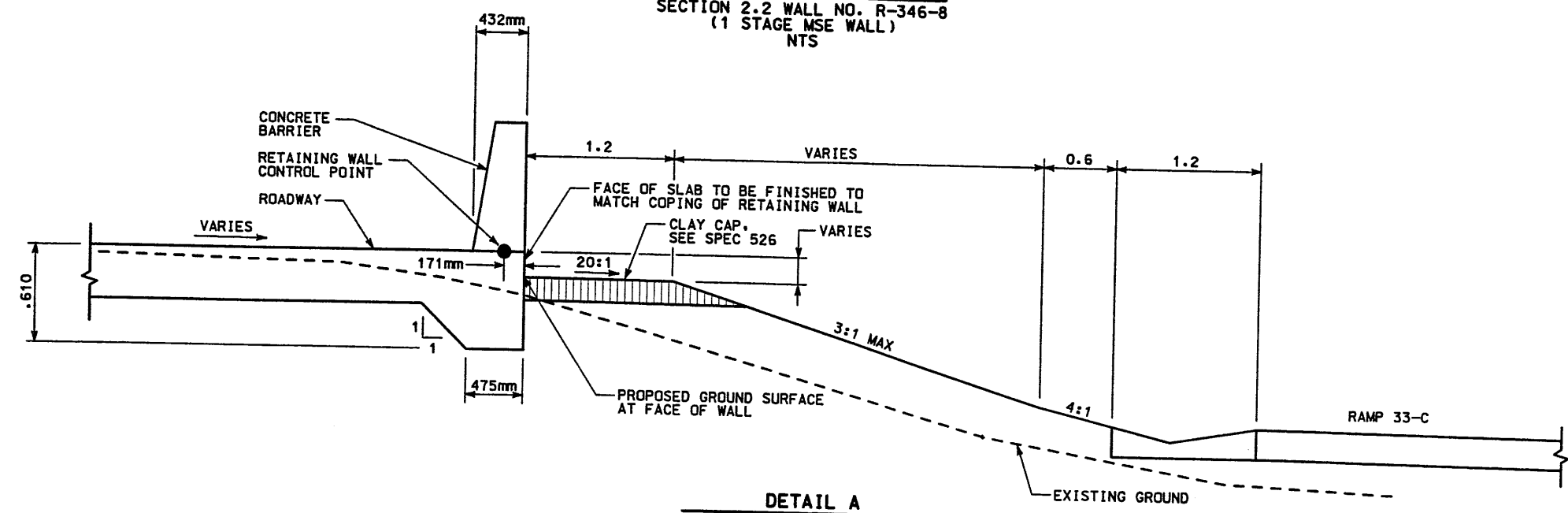


NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

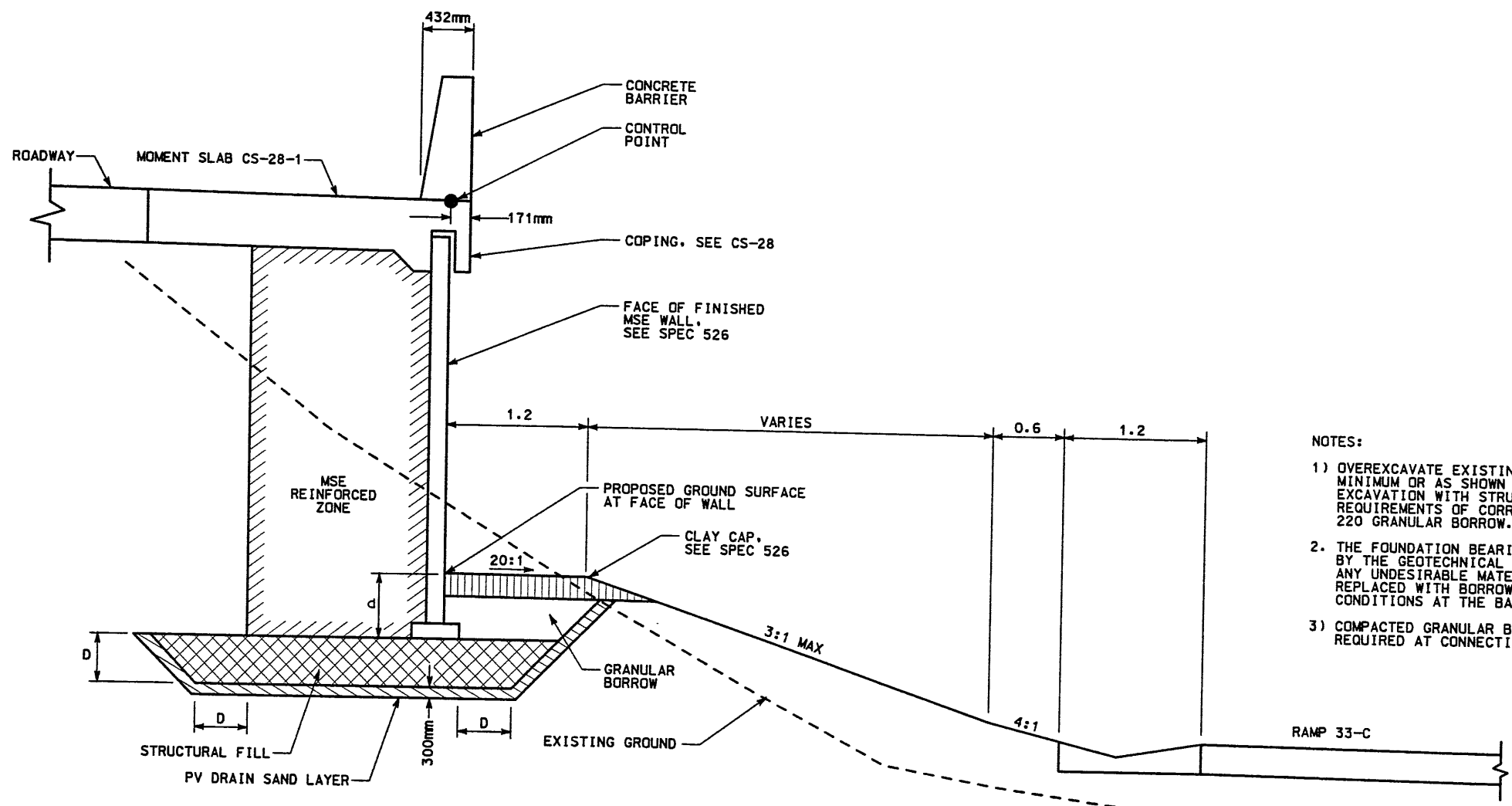
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION	
NO.	DATE
1	9/01/98
2	11/12/98
3	11/11
4	11/11
DESCRIPTION	
ORIGINAL ISSUE	
ADDED NOTES	
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL	
SVERDRUP	
REVISION	DATE
1	9/01/98
2	11/12/98
3	11/11
4	11/11
DESIGNER: Stephen O. Sandvik	
PROJECT DESIGN ENGINEER: Randle L. Ross	
DRAWN: Randle L. Ross	
PROJECT NUMBER: #SP-15-7(135)296	
QUANT.:	
SECTION 2.2	
SALT LAKE COUNTY	
DWG. NO. 2.2R-346-8.1	
SHT. 1 OF 14	
REF.	

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-8
(1 STAGE MSE WALL)
NTS



DETAIL A
STA 5+000.00 TO 5+016.138



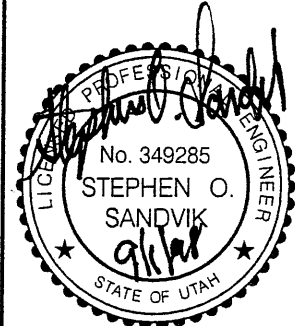
d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

DETAIL B
STA 5+016.138 TO 5+083.921

NOTES:

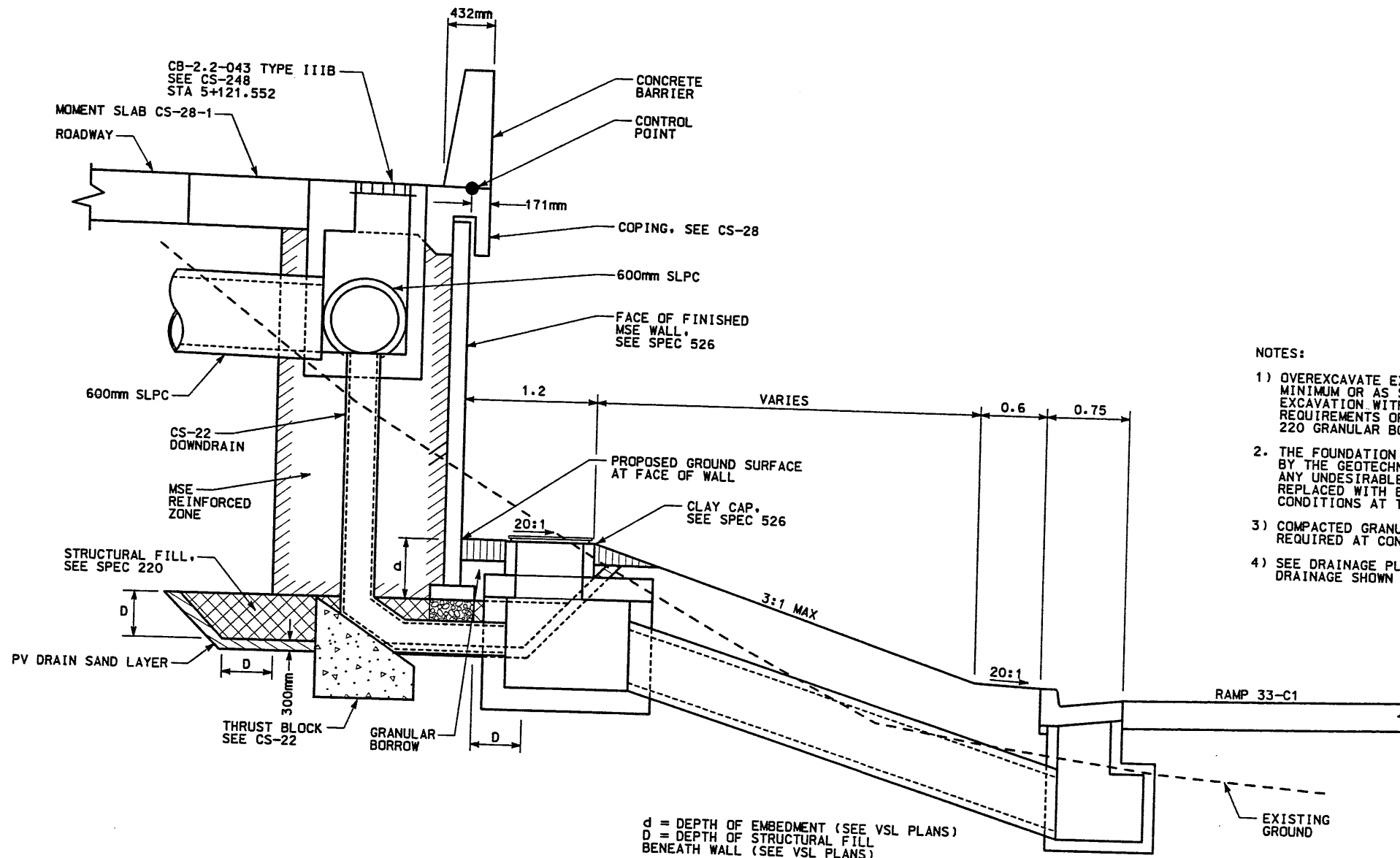
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
2. THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
- 3) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.

WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	9/01/98	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO.	
MK CENTENNIAL		2213410	
SVERDRUP/DE LEUW		/ /	
APPROVAL	DATE	CHECK	DATE
8/26/98	8/26/98	BAR	8/26/98
Stephen O. Sandvik	Stephen O. Sandvik	CHECK	8/26/98
PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER	BAR	8/26/98
DATE	DATE	CHECK	DATE
8/26/98	8/26/98	BAR	8/26/98
Randle L. Ross	Randle L. Ross	CHECK	8/26/98
PROJECT MANAGER	PROJECT MANAGER	QUANT.	/ /
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346.8		#SP-15-7(135)296	
SECTION 2.2		COUNTY	
SALT LAKE		DWG. NO.	
COUNTY		2.2R-346-8.2	
SHT. 2 OF 14		REF.	

RETAINING WALL DETAIL SECTION 2.2 WALL NO. R-346-8 (1 STAGE MSE WALL) NTS



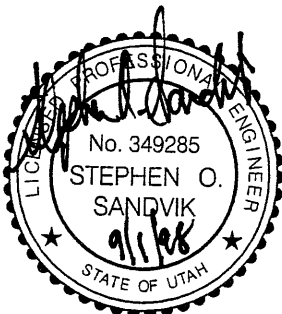
NOTES:

- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
- 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
- 3) COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.
- 4) SEE DRAINAGE PLANS & DETAILS FOR DRAINAGE DETAILS. DRAINAGE SHOWN HERE FOR INFORMATION ONLY.

d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
D = DEPTH OF STRUCTURAL FILL BENEATH WALL (SEE VSL PLANS)

DETAIL C

STA 5+083.921 TO 5+124.968
(SEE DETAILS ON 2.2R-346-8.5 FOR WALL CONTROL TRANSITION FROM STA 5+124.968 TO STA 5+139.116)
(DOWN DRAIN LOCATED AT STA 5+121.920)
(INLETS LOCATED AT STA 5+121.920 & STA 5+126.492)

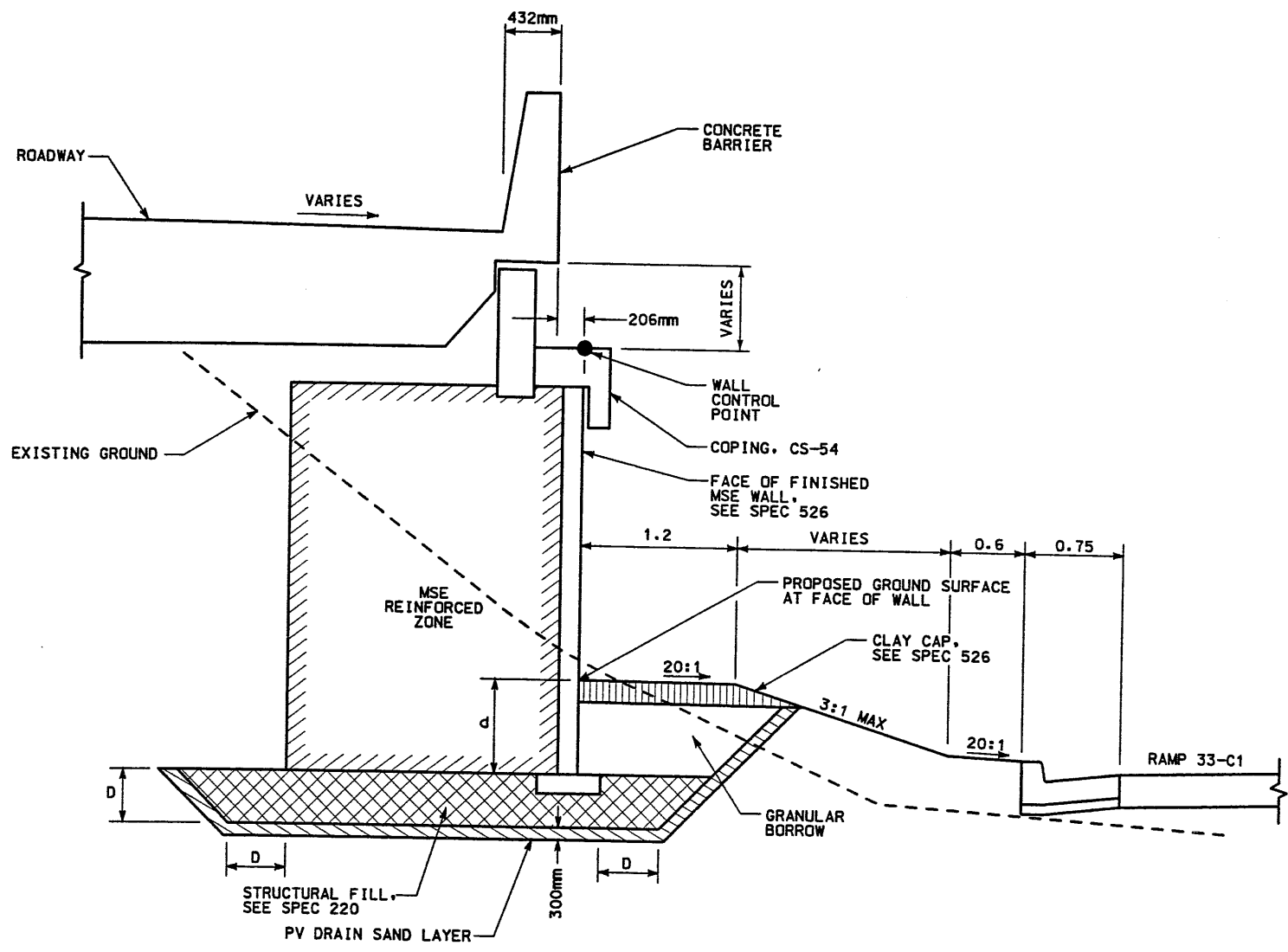


WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION

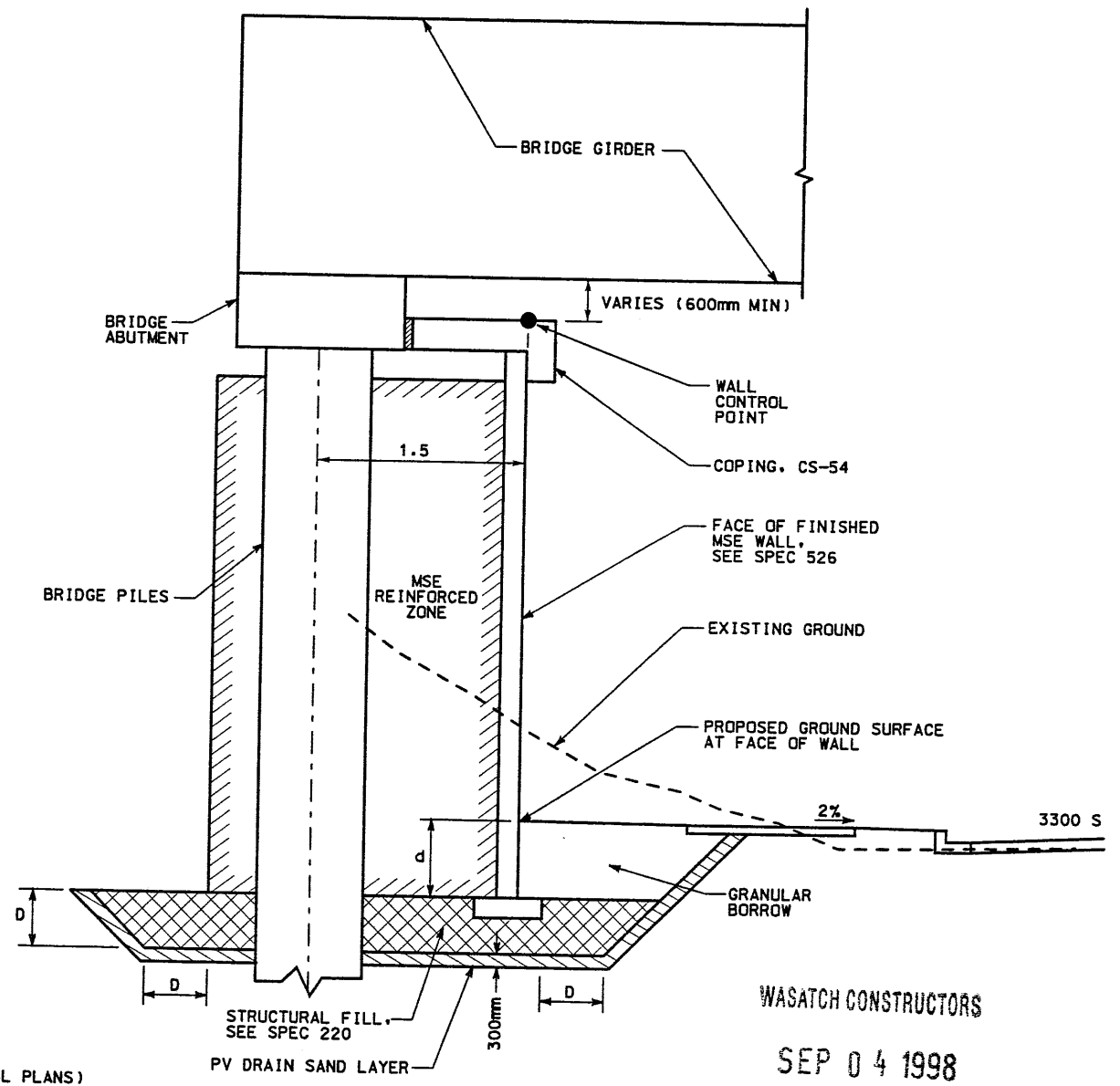
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NO.	DATE	ORIGINAL ISSUE	
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△	/ /	/ /	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO.	
MK CENTENNIAL		2213410	
SVERDRUP/DE LEUW		CHECK BAR	
APPROVAL	DATE	DESIGN DAF	CHECK BAR
8/26/98	Stephen O. Sandvik	8/26/98	8/26/98
PROJECT DESIGN ENGINEER	DATE	DESIGN DAF	CHECK BAR
8/26/98	Stephen O. Sandvik	8/26/98	8/26/98
APPROVED	DATE	DESIGN DAF	CHECK BAR
8/26/98	Randle L. Ross	8/26/98	8/26/98
PROJECT MANAGER	DATE	DESIGN DAF	CHECK BAR
8/26/98	Randle L. Ross	8/26/98	8/26/98
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346.8		#SP-15-7(135)296	
SECTION 2.2		COUNTY	
		SALT LAKE	
		DWG. NO.	
		2.2R-346-8.3	
SHT. 3 OF 14		REF.	

User: rfrisesco
 Date: 01-SEP-1998 Time: 13:36
 File: \\vsl\33_97\sheet_1\files\wall\33_rfwall-8-4.dgn

RETAINING WALL DETAIL
 SECTION 2.2 WALL NO. R-346-8
 (1 STAGE MSE WALL)
 NTS



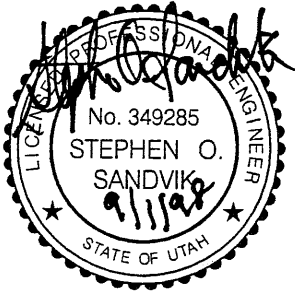
DETAIL D
 STA 5+128.016 TO 5+139.116
 (SEE TRANSITION DETAIL ON 2.2R-346-8.5
 FOR STA. 5+124.968 TO STA 5+128.016)



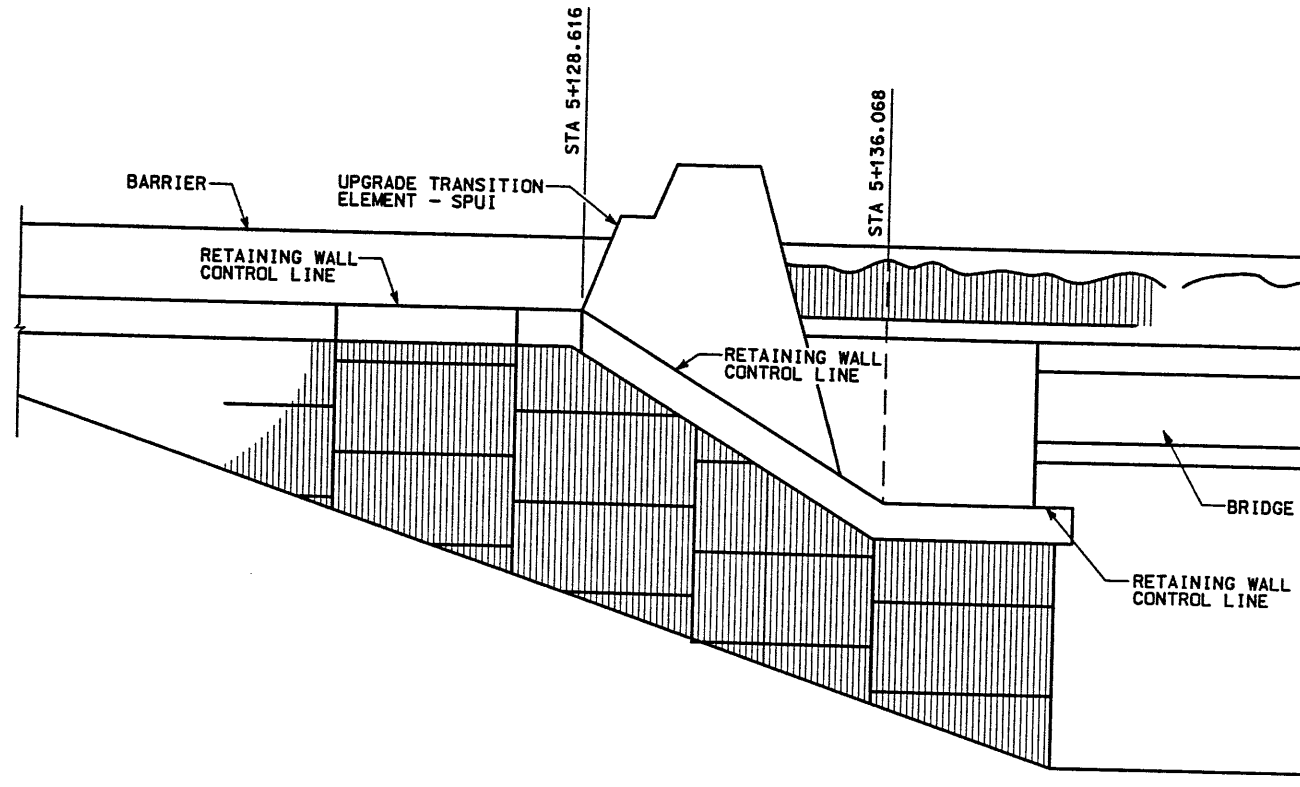
DETAIL E
 STA 5+139.116 TO 5+167.610
 WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

d = DEPTH OF EMBEDMENT (SEE VSL PLANS)
 D = DEPTH OF STRUCTURAL FILL
 BENEATH WALL (SEE VSL PLANS)

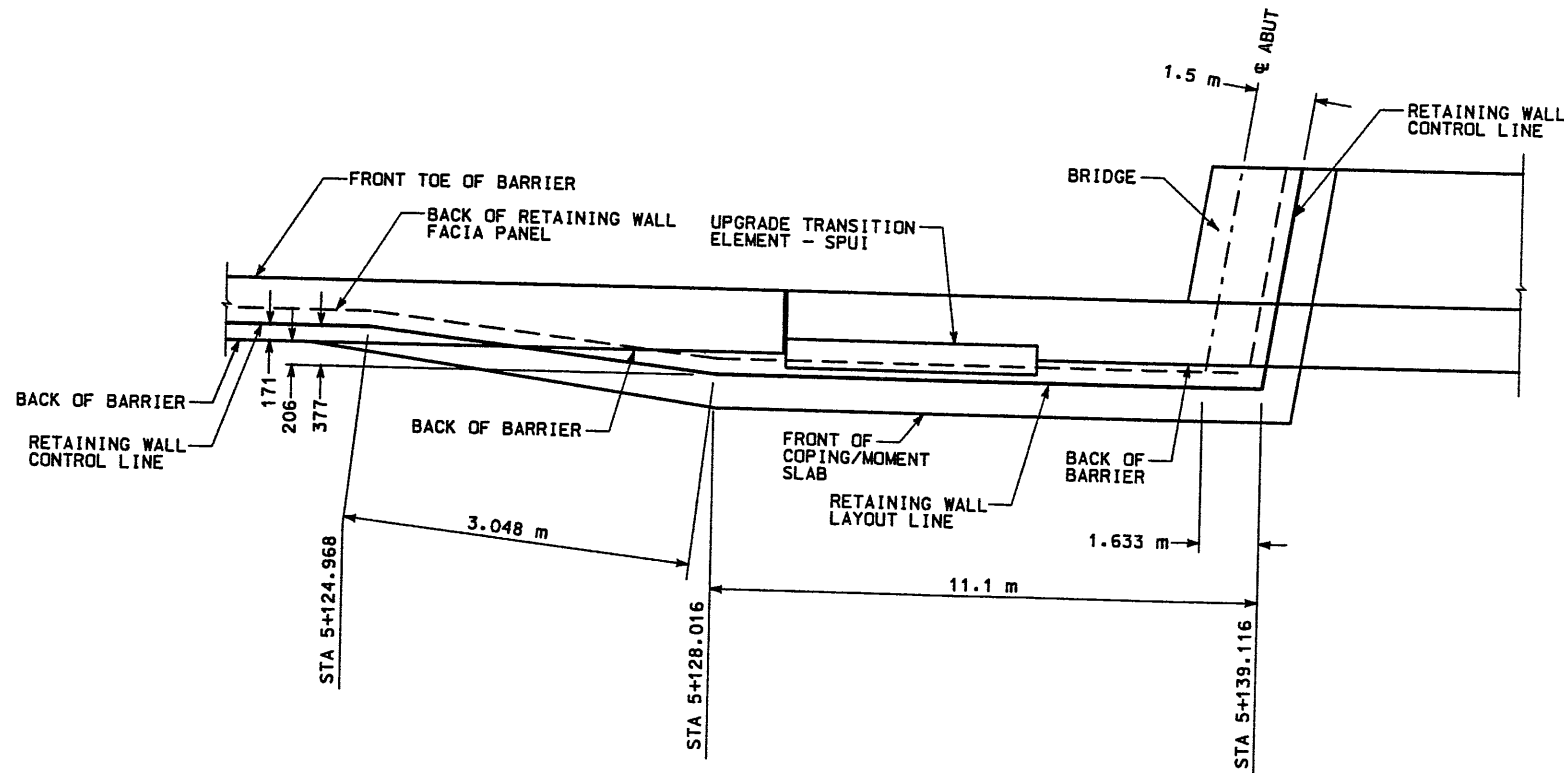
- NOTES:
- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL PER THE REQUIREMENTS OF CORRIDOR STANDARD SPECIFICATION 220 GRANULAR BORROW.
 - THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - COMPACTED GRANULAR BORROW. 1.5 H TO 1 V BENCHING REQUIRED AT CONNECTION OF NEW AND EXISTING SLOPES.



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	9/01/98	△	/ /
△	/ /	△	/ /
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△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		WBS NO.	2213410
APPROVAL RECORD	DESIGN DATE	CHECK BAR	8/26/98
8/26/98	Stephen O. Sandvik	CHECK BAR	8/26/98
DATE	PROJECT DESIGN ENGINEER	CHECK BAR	8/26/98
8/26/98	Randle L. Ross	CHECK	/ /
APPROVED	DATE	PROJECT MANAGER	QUANT.
8/26/98	/ /	/ /	/ /
I-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-8	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-8.4	
SHT. 4 OF 14		REF.	

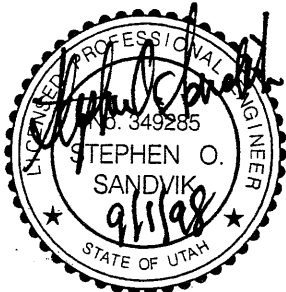


VERTICAL CONTROL LINE TRANSITION DETAIL
NTS



HORIZONTAL CONTROL LINE TRANSITION DETAIL
STA 5+124.968 TO 5+139.116
NTS

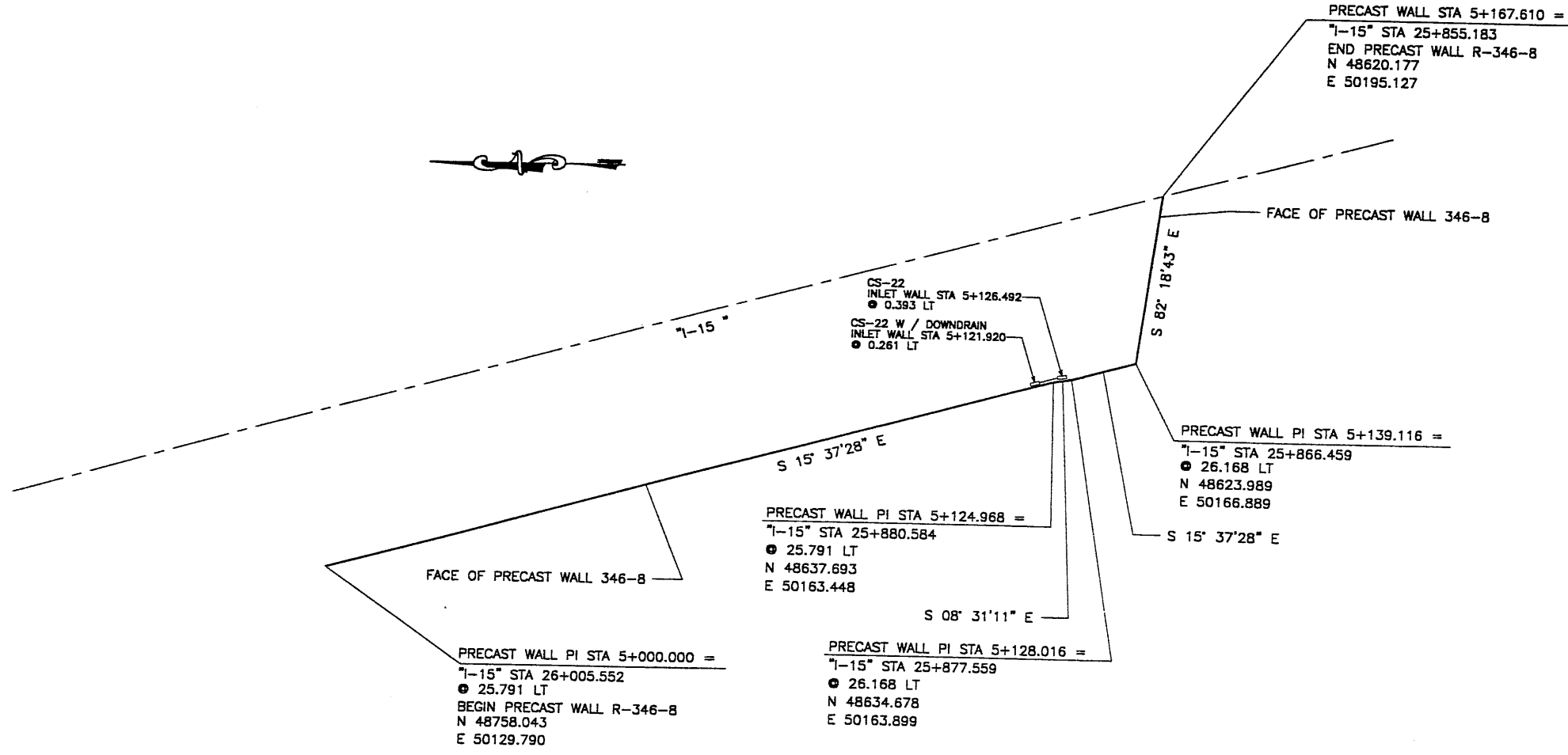
WASATCH CONSTRUCTORS
SEP 04 1998
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NOTE:
SEE CS-54 FOR ADDITIONAL DETAILS
OF THE COPING IN THIS AREA.

ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS OTHERWISE NOTED

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NO.	DATE	NO.	DATE
△	9/01/98	△	9/01/98
△	/ /	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213410	
M.K. CENTENNIAL		CHECK BAR 8/26/98	
SVERDRUP/DE LEUW		CHECK BAR 8/26/98	
APPROVAL RECORD:		DESIGN DAF 8/26/98	
DATE 8/26/98		PROJECT DESIGN ENGINEER	
Stephen O. Sandvik		DRAWN DAF 8/26/98	
PROJECT DESIGN ENGINEER		CHECK BAR 8/26/98	
Randle L. Ross		CHECK BAR 8/26/98	
DATE 8/26/98		QUANT. / /	
PROJECT MANAGER		CHECK / /	
I-15 CORRIDOR RECONSTRUCTION		SECTION 2.2	
WALL DETAIL R-346-8		PROJECT NUMBER *SP-15-7(135)296	
COUNTY SALT LAKE		DWG. NO. 2.2R-346-8.5	
SHT. 5 OF 14		REF.	



PLAN VIEW MSE WALL "R-346-8"

SCALE: 1=500 (FULL SIZE)
SCALE: 1=1000 (HALF SIZE)

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 34°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)
TRAFFIC SURCHARGE = 250 PSF (12 KPa)
SEISMIC ACCELERATION COFF. = 0.27g (TYP)
SEISMIC ACCELERATION COFF. = 0.68g (AT BRIDGE ABUTMENTS)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

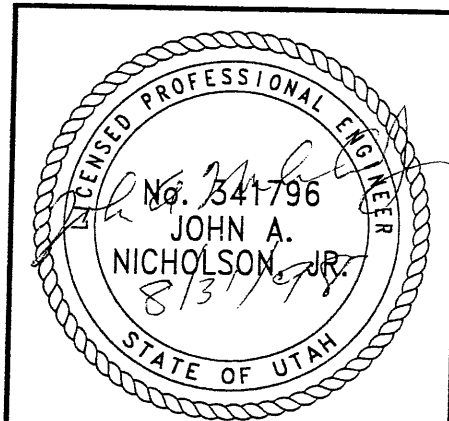
RETAINED EARTH INDEX	
RE-1	PLAN PRECAST WALL R-346-8, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTION
RE-3	TYPICAL CROSS SECTION
RE-4	TYPICAL CROSS SECTION
RE-5	PRECAST WALL R-346-8
RE-6	PRECAST WALL R-346-8
RE-7	PRECAST WALL R-346-8
RE-8	SPECIAL PANEL DETAILS
RE-9	Y PANEL DETAILS

WASATCH CONSTRUCTORS

SEP 04 1998

RELEASED FOR CONSTRUCTION

METRIC



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NO.	DATE	DESCRIPTION
▲	7-16-98	RELEASE FOR CONSTRUCTION

DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	BY
JL	DDL	JL				

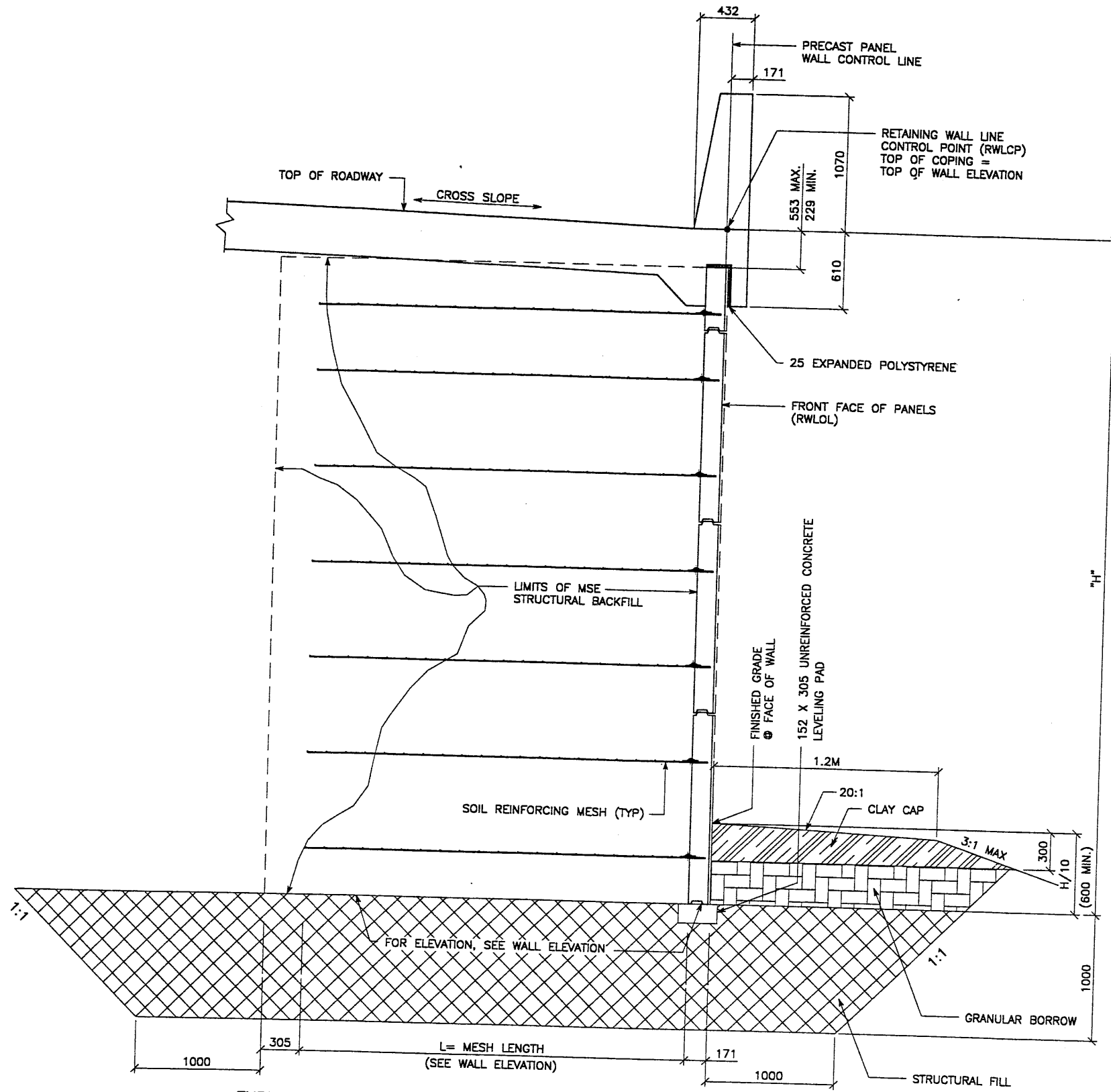
VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-8272
Fax: (919) 781-4569

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-346-8"

UTAH 1-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.2R-346-8.6
JOB NO. 239-0007
SHT. NO. RE-1



TYPICAL CROSS SECTION - STA 5+016.138 TO 5+083.921
 (SEE DWG. NO. 2.2R-346-8.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

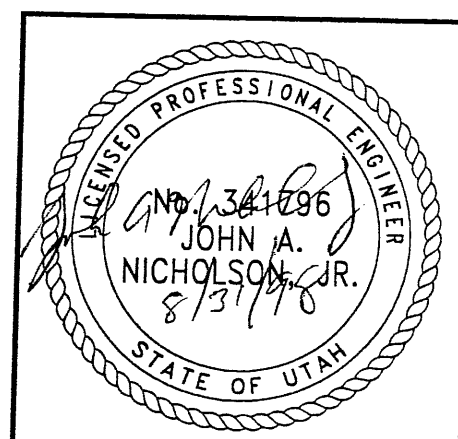
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	7-16-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION

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 7840 Plaza Place, Suite 200
 Redmond, WA 98073
 Tel: (206) 781-8172
 Fax: (206) 781-4169

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WASATCH CONSTRUCTORS
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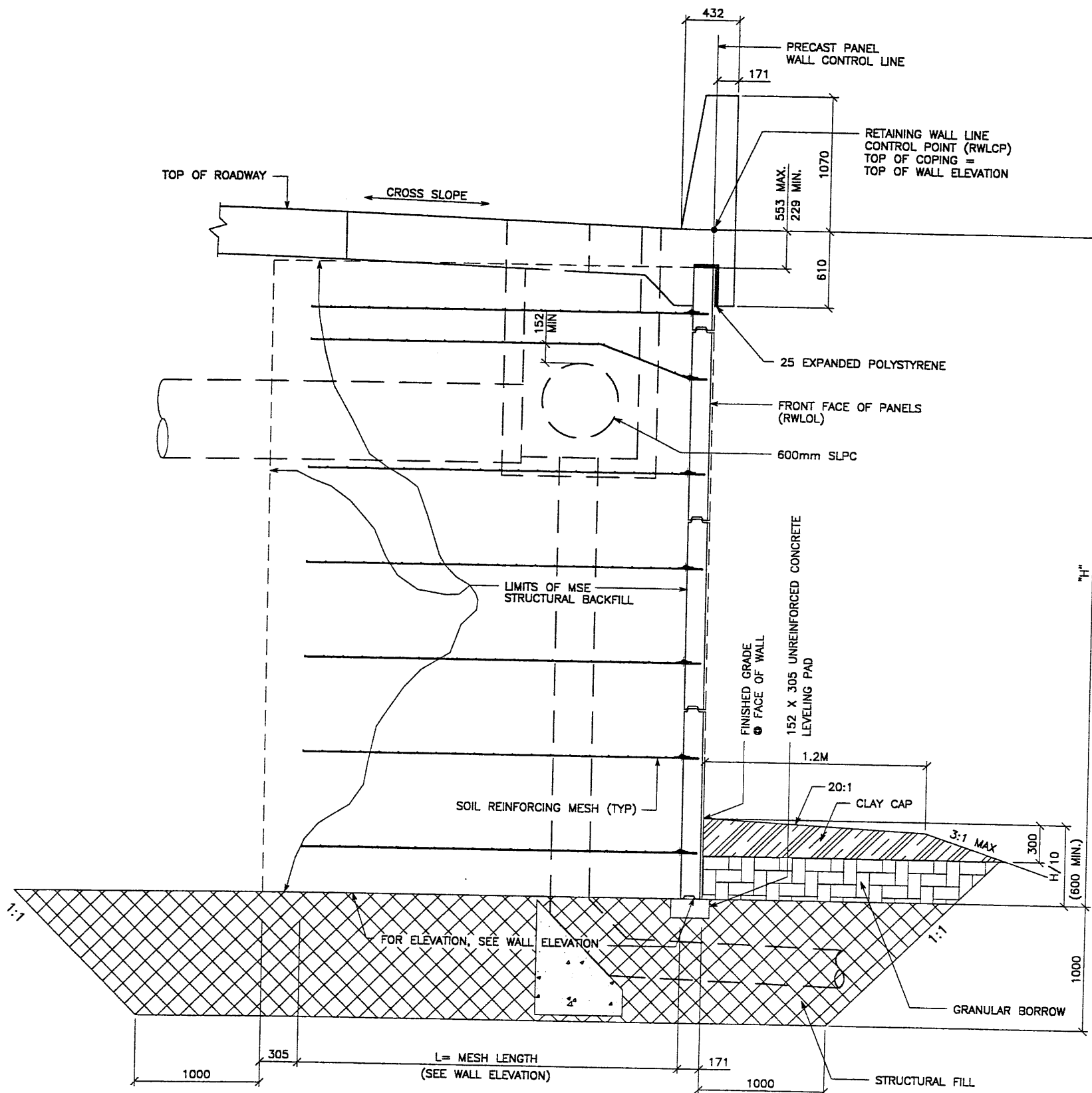


RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-8"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-8.7
JOB NO.	239-0007
SH. NO.	RE-2

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METRIC



TYPICAL CROSS SECTION - STA 5+083.921 TO 5+124.968
 (SEE DWG. NO. 2.2R-346-8.3 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	7-16-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION

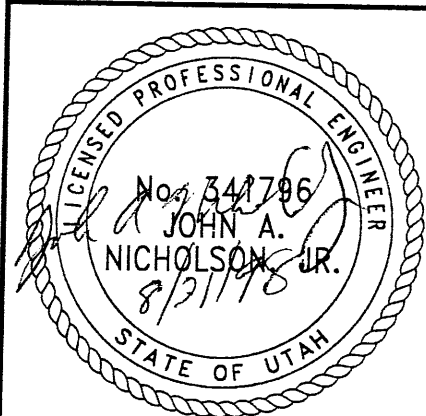
VSL CORPORATION
 2800 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6272
 Fax: (919) 781-6853

VSL
 ATLANTA, GA / DANVILLE, VA / RALEIGH, NC (CORPORATE OFFICE)
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WASATCH CONSTRUCTORS
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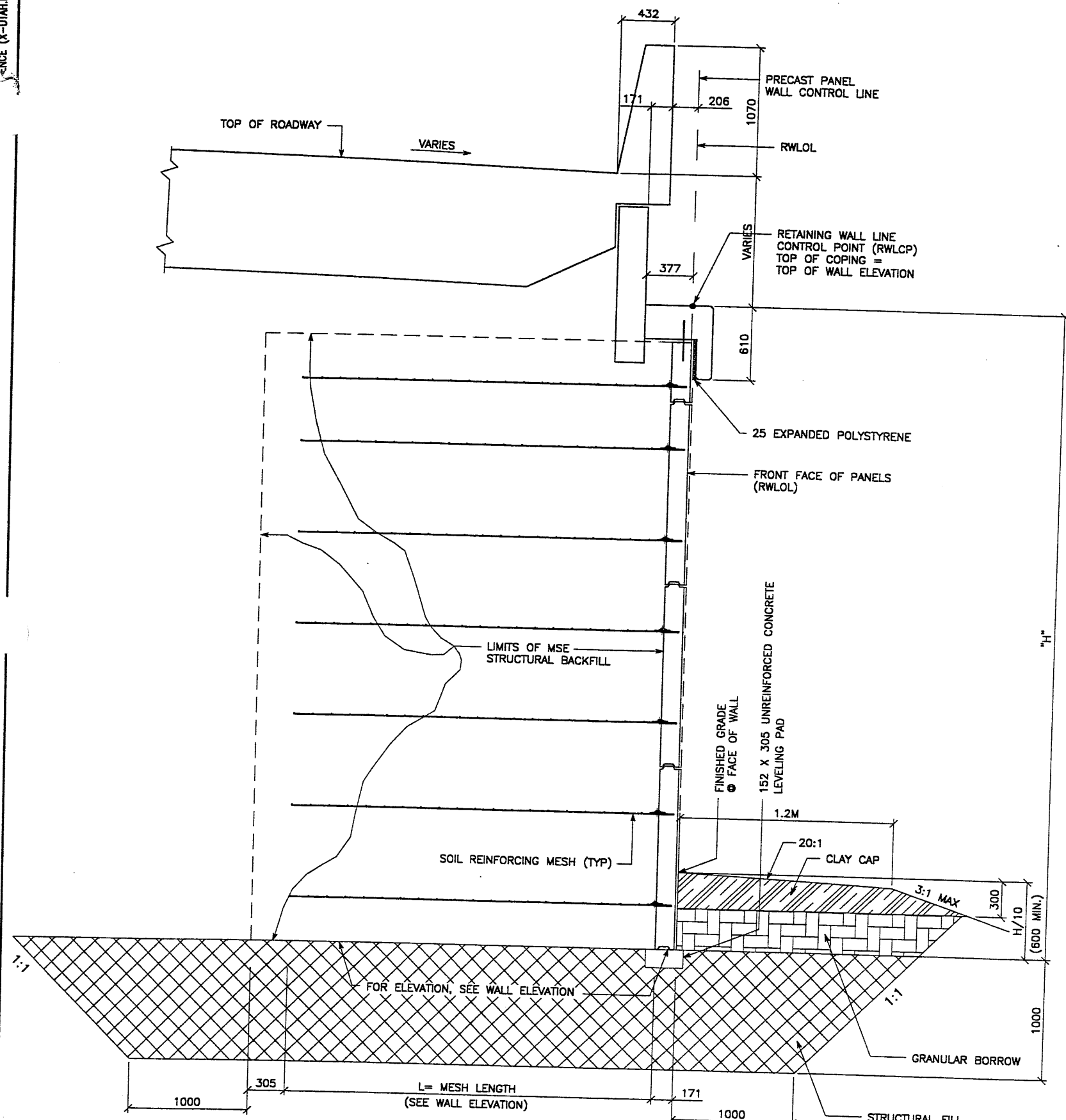
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-8"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.



METRIC

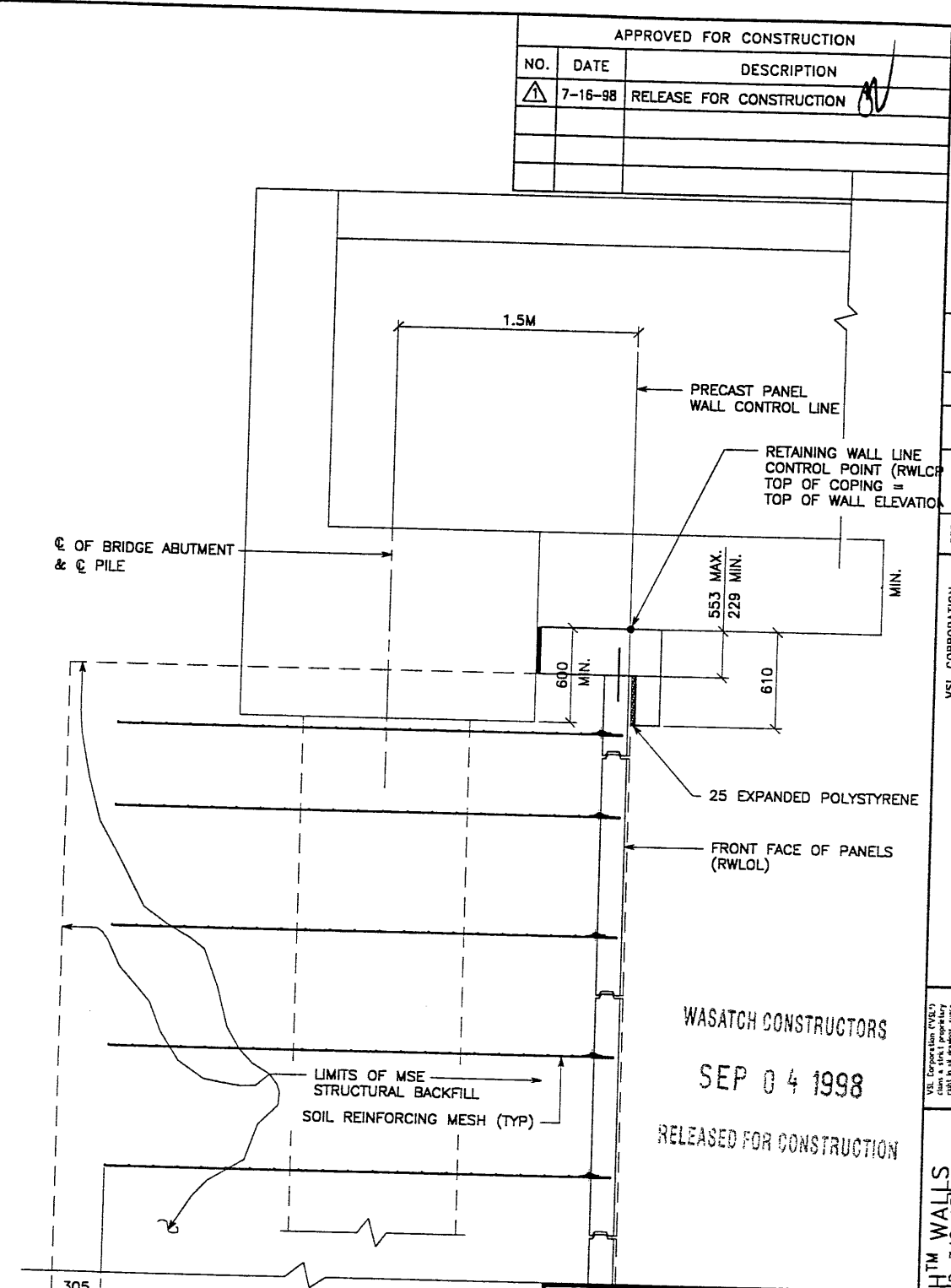
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

DWG. NO.	2.2R-346-8.8
JOB NO.	239-0007
SH. NO.	RE-3



TYPICAL CROSS SECTION - STA 5+128.016 TO 5+139.116
 (SEE DWG. NO. 2.2R-346-8.4 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

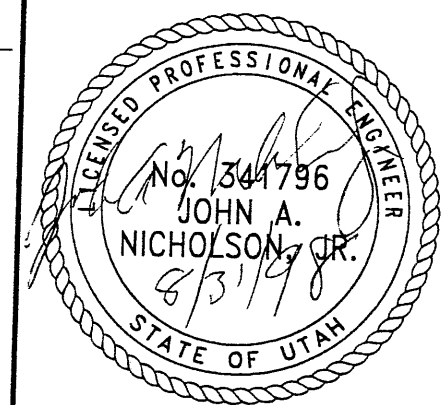


TYP. SEC. - STA 5+139.116 TO 5+167.610
 (SEE DWG. NO. 1.1R-342-15.02 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

METRIC

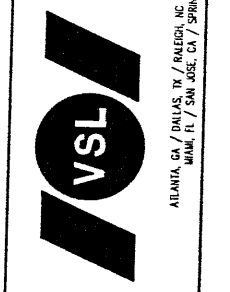
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



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NO.	DATE	DESCRIPTION
7-16-98		RELEASE FOR CONSTRUCTION

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VSL CORPORATION
 2840 Freys Trac, Suite 200
 Raleigh, NC 27604
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 Fax: (919) 781-4869



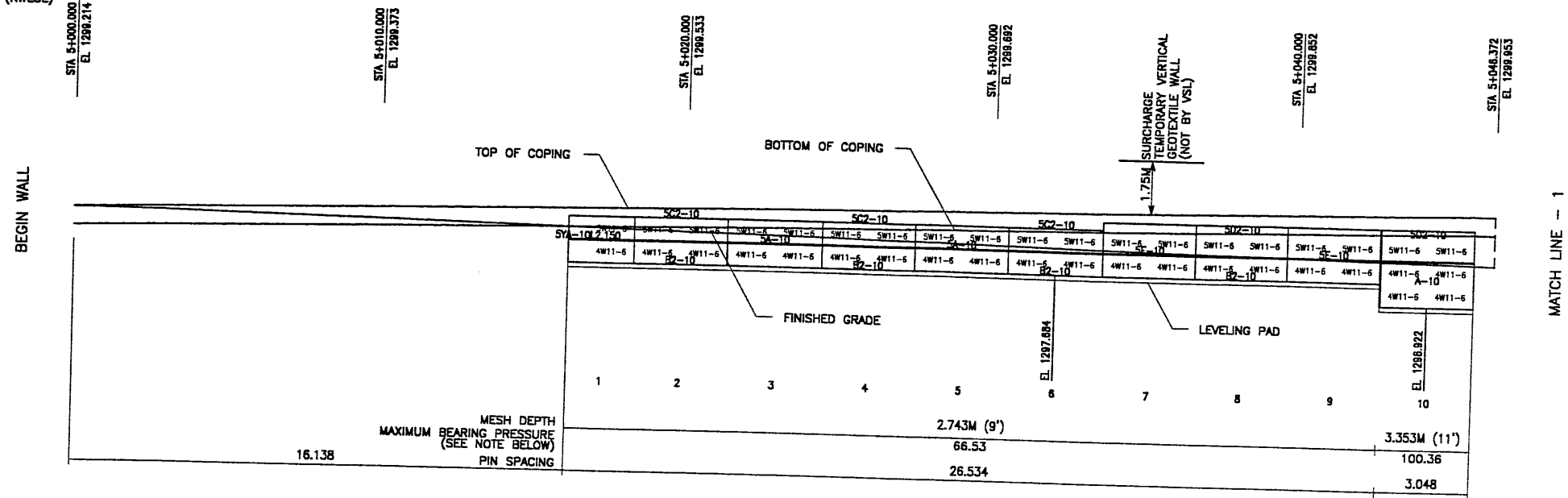
WASATCH CONSTRUCTORS
 SEP 04 1998
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RETAINED EARTH™ WALLS
 WIRE FACED WALL R-342-15
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

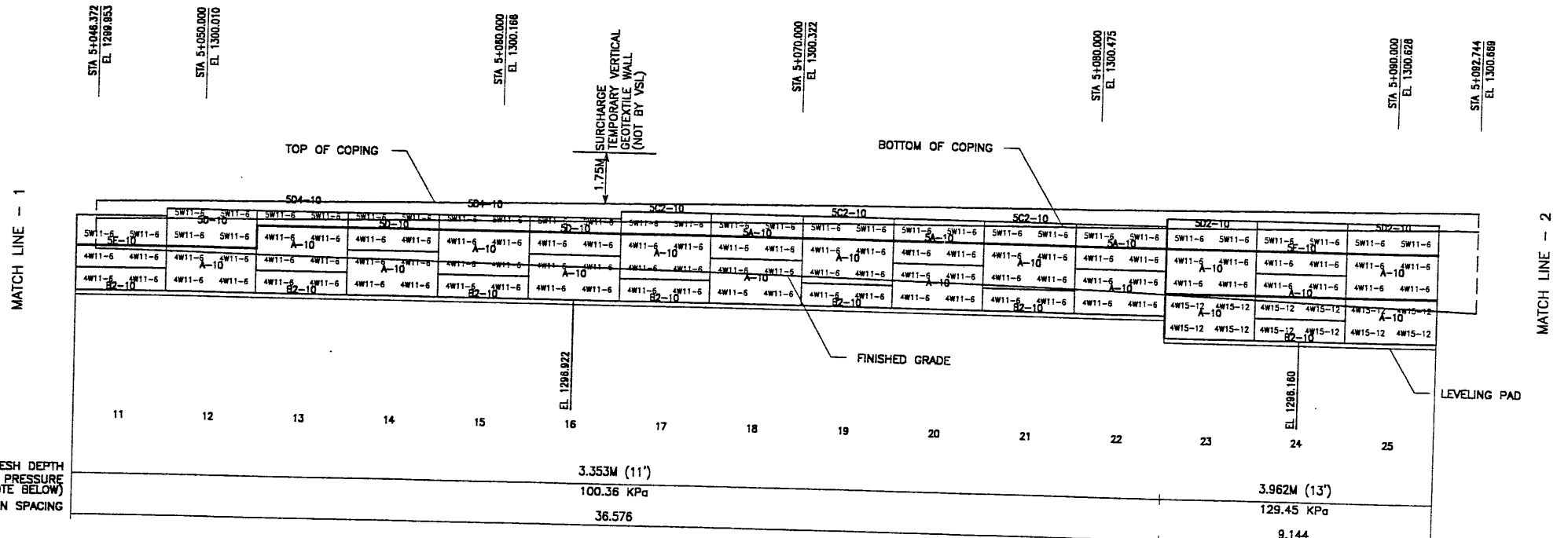
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JOB NO.	239-0007
SHT. NO.	RE-4

H:\VIRE EARTH\PROJECT\239-0007\1998\33SERIES\SUBMITL-2\33-08.DWG
 DATE: 06-09-98
 FINAL

BEGIN WALL R-346-8
 WALL STA 5+000.000 =
 7-15" STA 26+005.552
 25.791 LT
 NOMINAL PANEL FACE (RWLOL)



ELEVATION PRECAST WALL R-346-8
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 667.23 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)



ELEVATION PRECAST WALL R-346-8
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 692.54 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

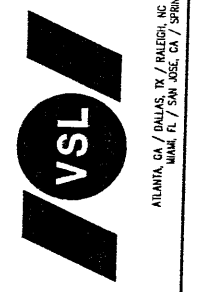
METRIC

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 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
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 THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
7-16-98		RELEASE FOR CONSTRUCTION

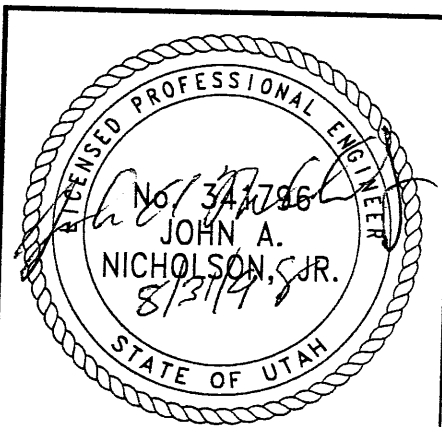
NO.	DATE	REVISION	BY	CHK

VSL CORPORATION
 2800 Provo Place, Suite 200
 Raleigh, NC 27617
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 Fax: (919) 781-4909



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WASATCH CONSTRUCTORS
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RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-8"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-8.10
JOB NO.	239-0007
SHT. NO.	RE-5

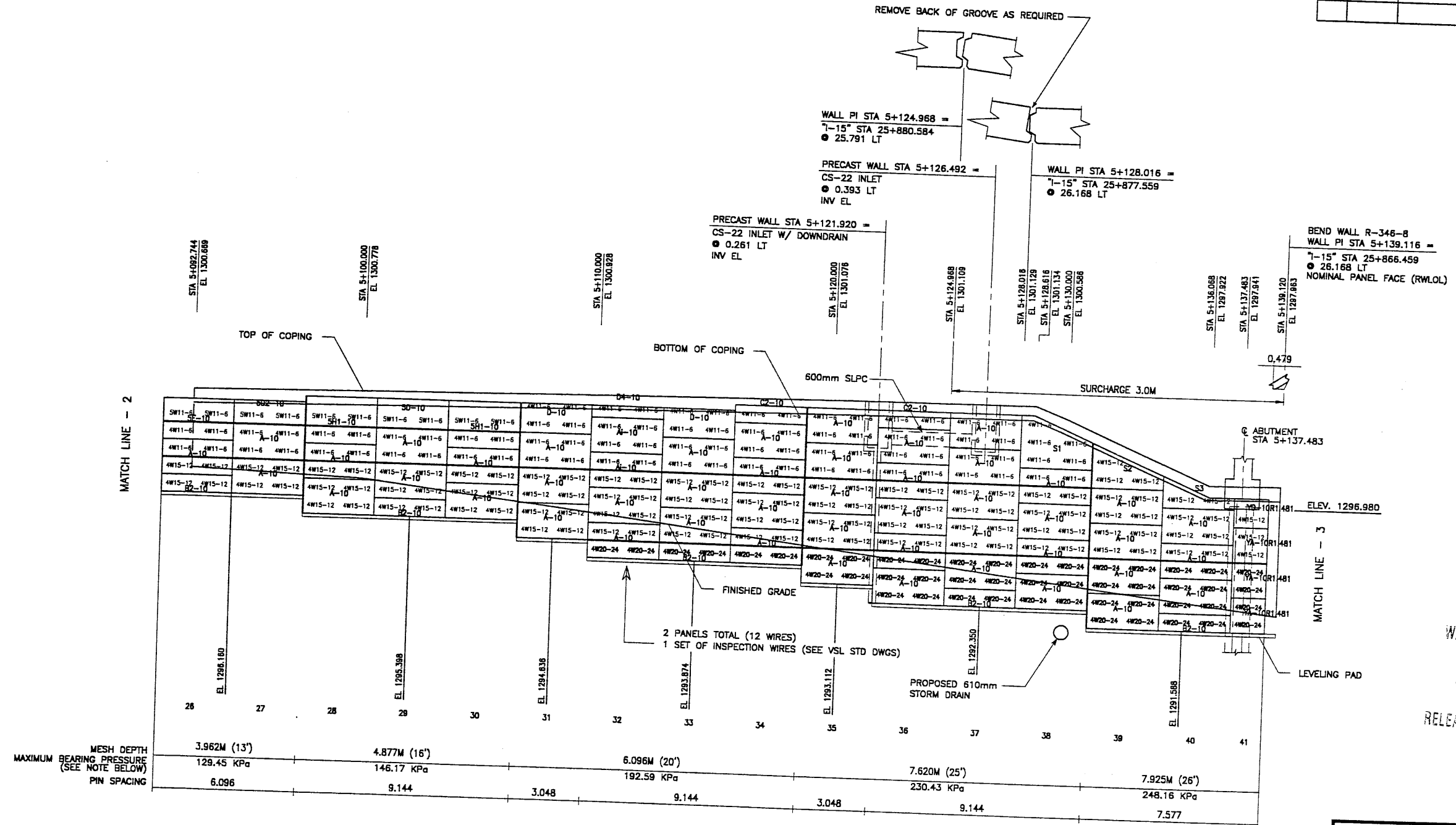
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\\RE_EARTH\PROJECT\239-0007\1998\33-08.DWG

FINAL 06-09-98

APPROVED FOR CONSTRUCTION			
NO.	DATE	DESCRIPTION	BY
▲	7-16-98	RELEASE FOR CONSTRUCTION	



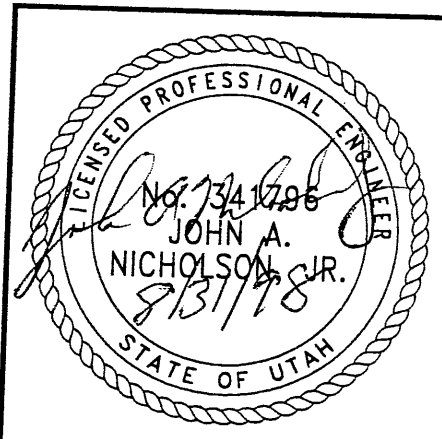
MESH DEPTH	3.962M (13')	4.877M (16')	6.096M (20')	7.620M (25')	7.925M (26')
MAXIMUM BEARING PRESSURE (SEE NOTE BELOW)	129.45 KPa	146.17 KPa	192.59 KPa	230.43 KPa	248.16 KPa
PIN SPACING	6.096	9.144	3.048	9.144	7.577

ELEVATION PRECAST WALL R-346-8
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 667.23 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

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 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
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 THE MANUFACTURER'S SPECIFICATION.

METRIC



WASATCH CONSTRUCTORS
 SEP 04 1998
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RETAINED EARTH™ WALLS PRECAST WALL "R-346-8"
UTAH 1-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.2R-346-8.11
JOB NO. 239-0007
SHT. NO. RE-6

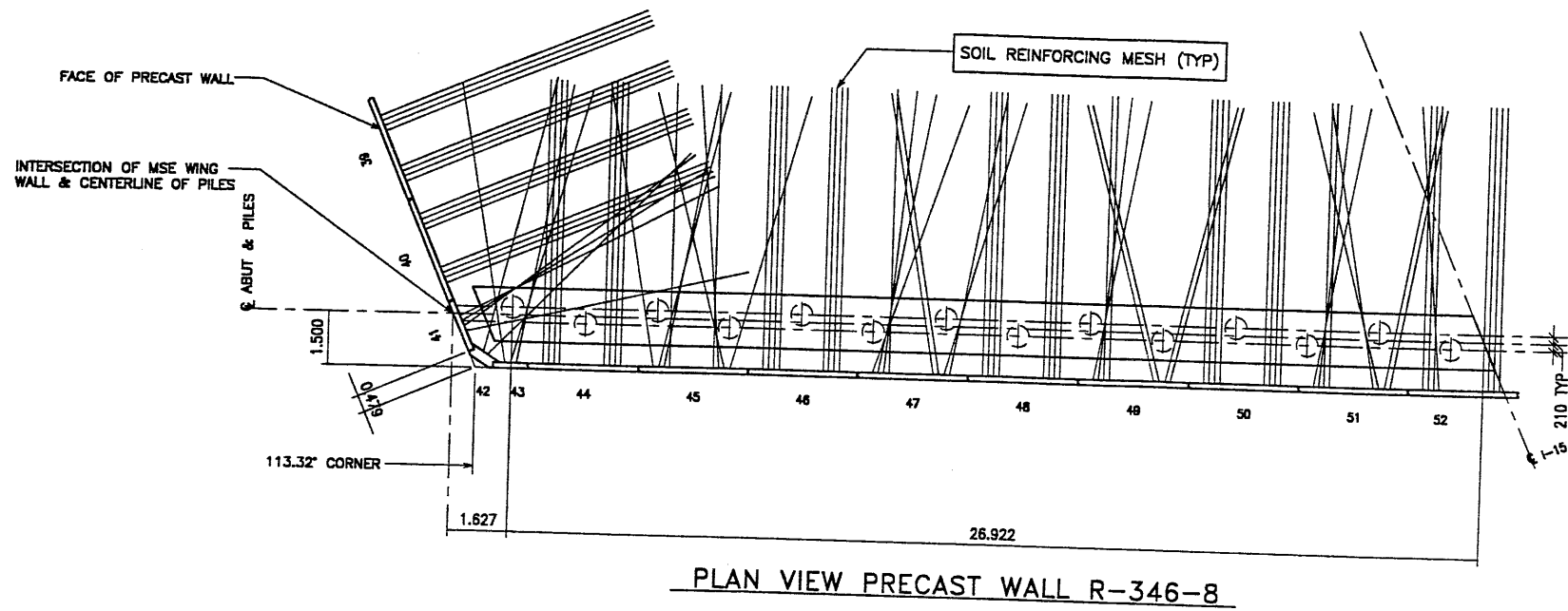
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781 6272
 Fax: (919) 781 6272

VSL

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VSL CORPORATION hereby certifies that this drawing, specification, or information was prepared by or under the direct supervision of a duly licensed Professional Engineer in the State of Utah, and that the Engineer is duly licensed in the State of Utah.

NO.	DATE	DESCRIPTION	BY



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	7-16-98	RELEASE FOR CONSTRUCTION

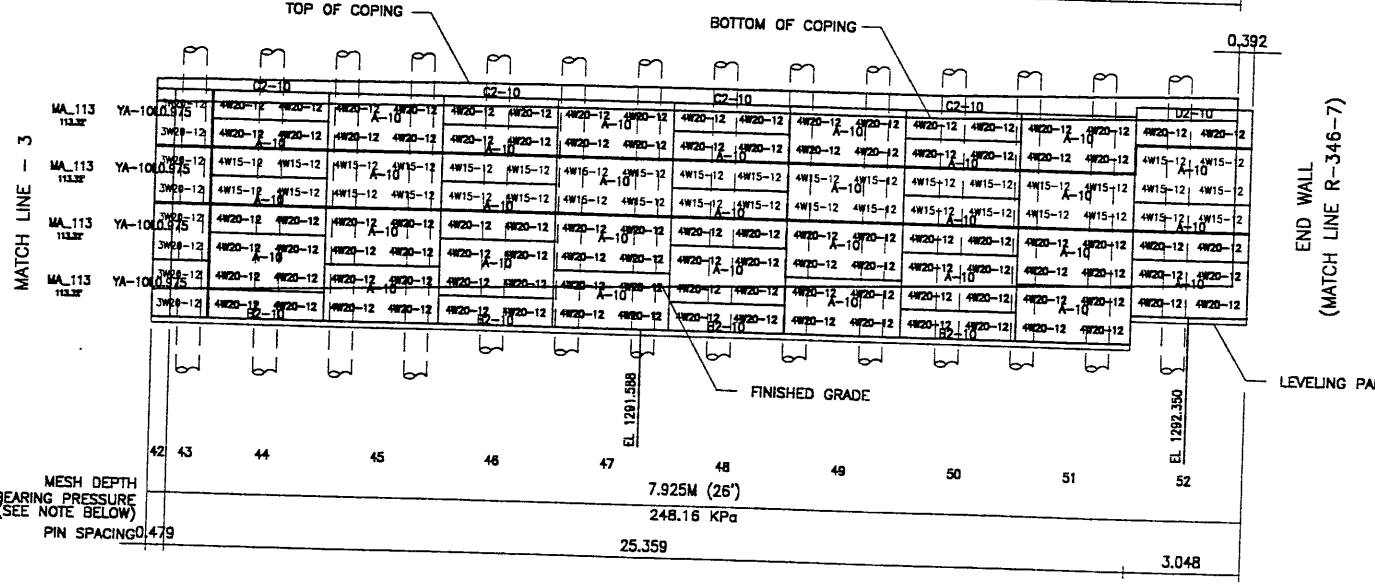
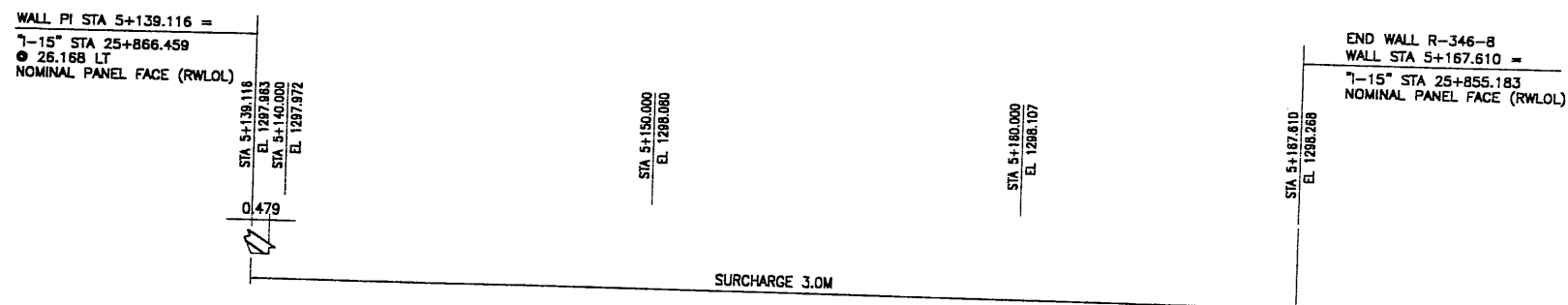
DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	REVISION	BY	CHK
JL	DDL	JL						

VSL CORPORATION
 2510 Plaza Place, Suite 200
 Raleigh, NC 27617
 Phone: (919) 781-9272
 Fax: (919) 781-9899

ALABAMA, CA / DALLAS, TX / FALCON, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

VSL

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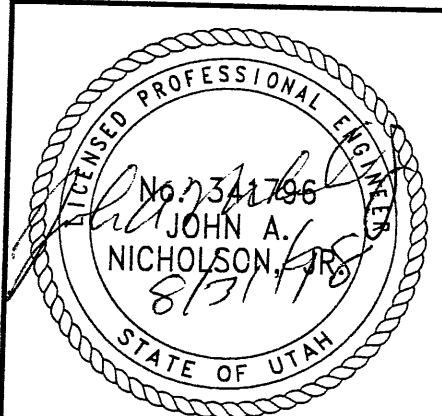


ELEVATION PRECAST WALL R-346-8
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 667.23 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES ARE INDICATED BELOW "MESH DEPTH LINE".
 REVIEWER TO VERIFY MAXIMUM BEARING CAPACITY OF FOUNDATION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



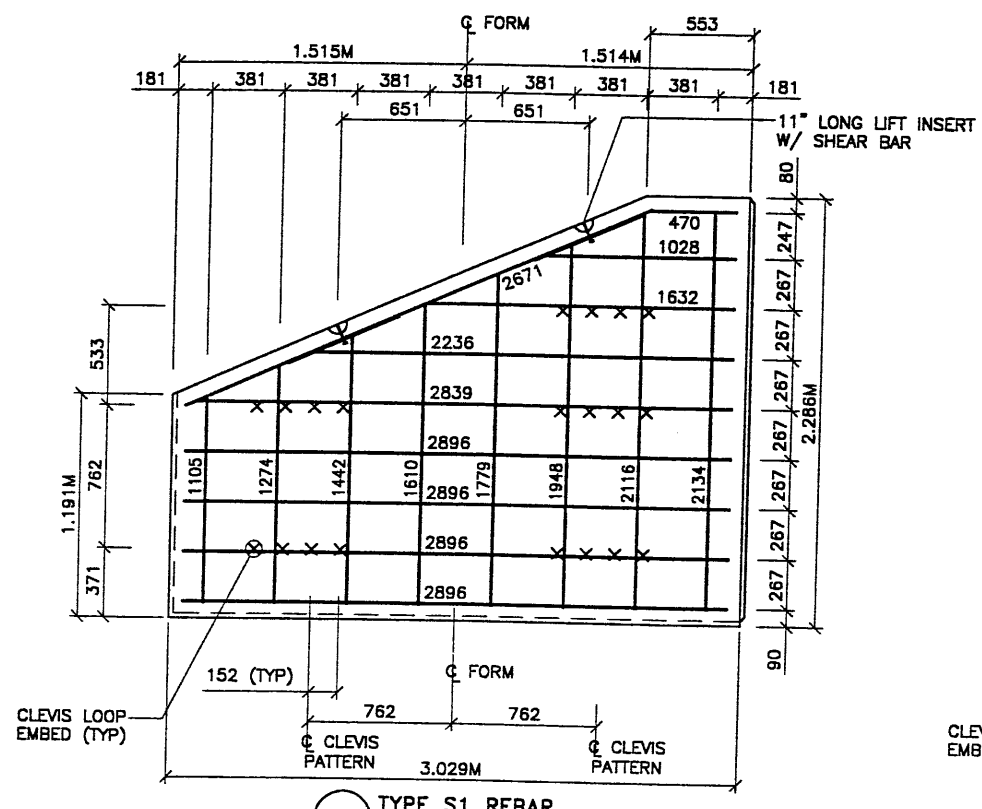
WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-8"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

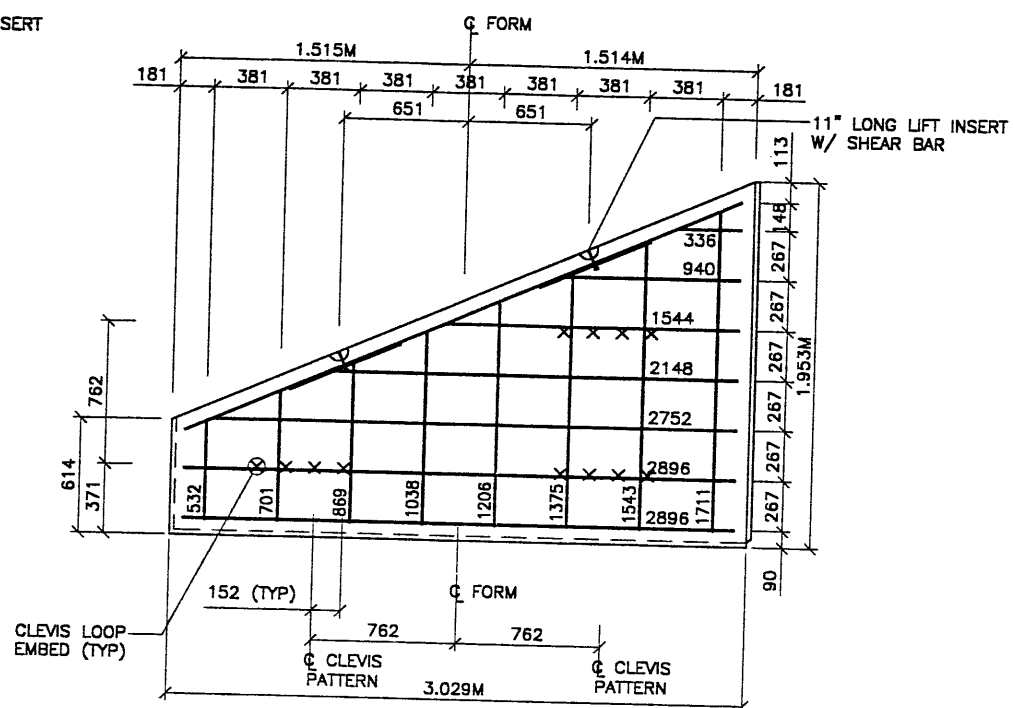
DWG. NO.	2.2R-346-8.12
JOB NO.	239-0007
SHT. NO.	RE-7

FINAL 06-09-98 H:\RE_EARTH\PROJECT\239-0007\1998\37\33-08\SUBMITL-2\SPECI.S.DWG

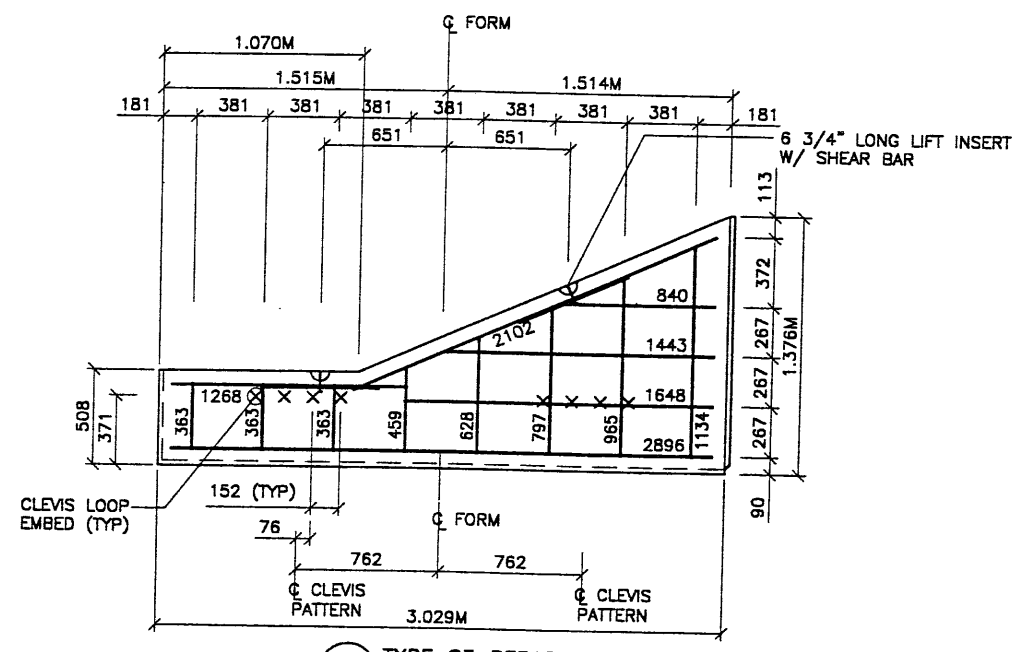
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
Δ	7-16-98	RELEASE FOR CONSTRUCTION



S1 TYPE S1 REBAR
(AREA = 5.60 SQ.M)

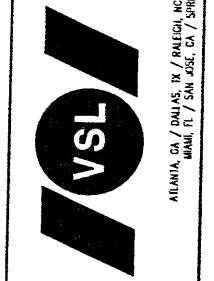


S2 TYPE S2 REBAR
(AREA = 3.91 SQ.M)



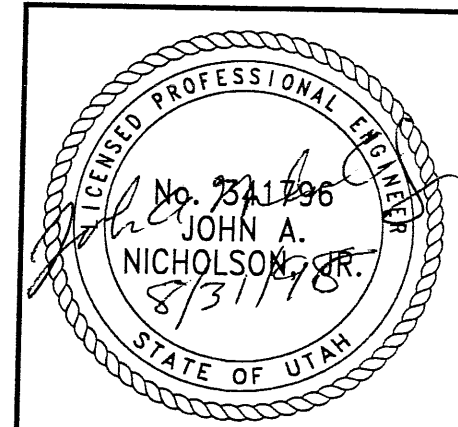
S3 TYPE S3 REBAR
(AREA = 2.41 SQ.M)

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 Kpa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 5 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.



VSL CORPORATION
7840 Reg. Hwy, Suite 200
Raleigh, NC 27617 (U.S.A.)
Telephone: (919) 761-8272
Facsimile: (919) 761-8989

WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

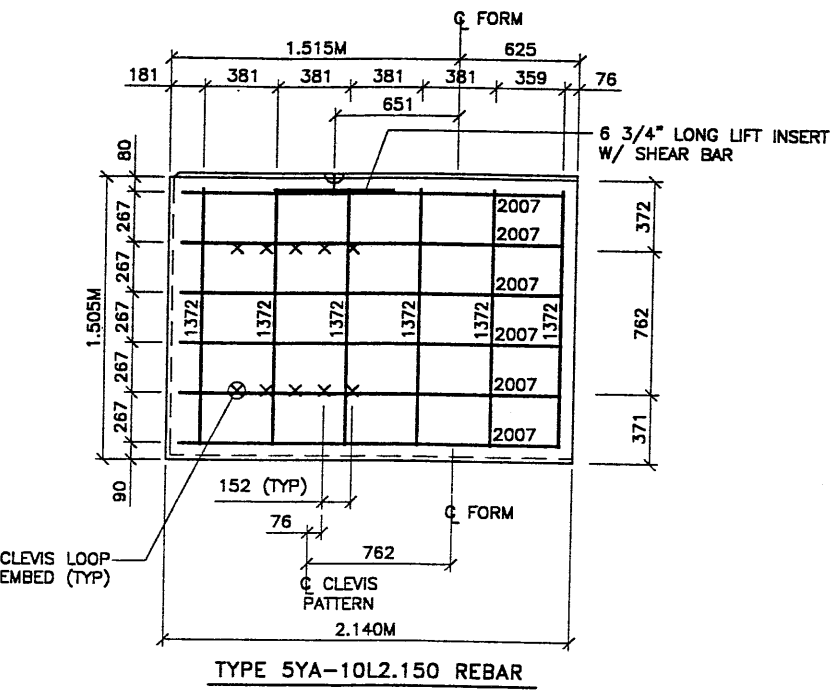
RETAINED EARTH™ WALLS
PRECAST WALL "R-346-8"
SPECIAL PANEL DETAILS

UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

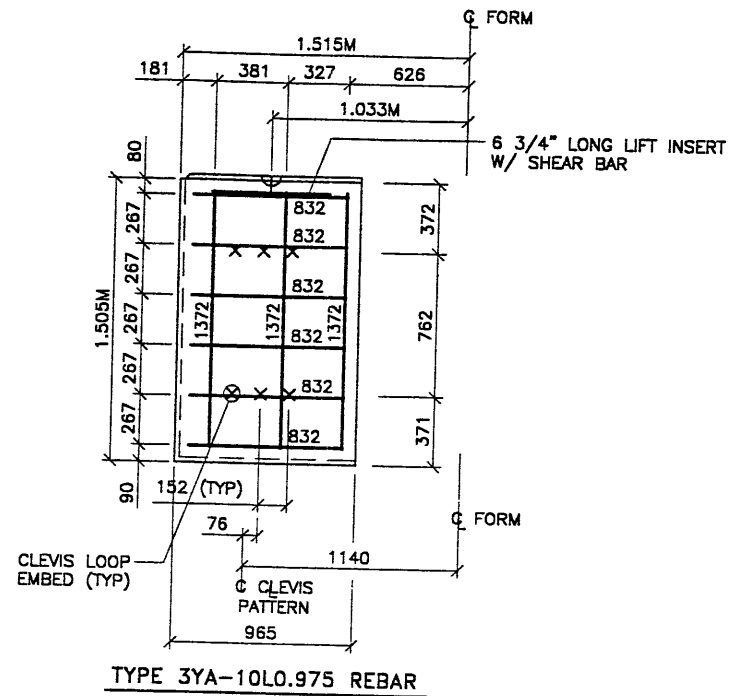
DWG. NO.
2.2R-346-8.13

JOB NO.
239-0007

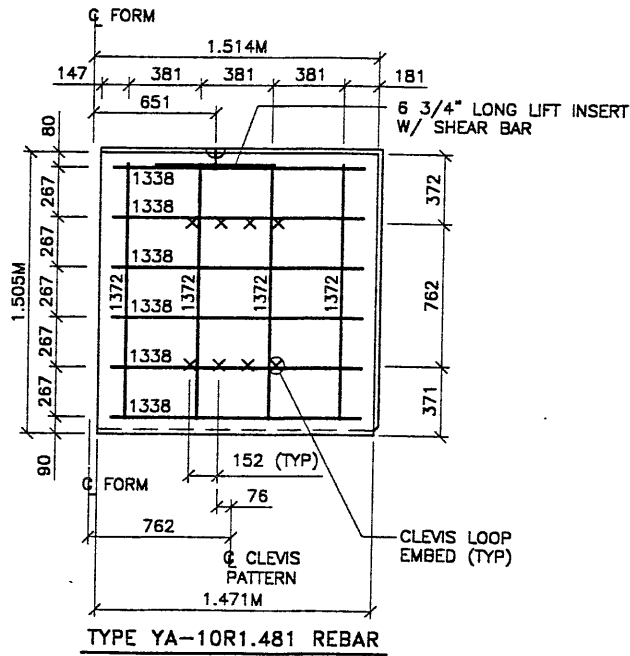
SHT. NO.
RE-8



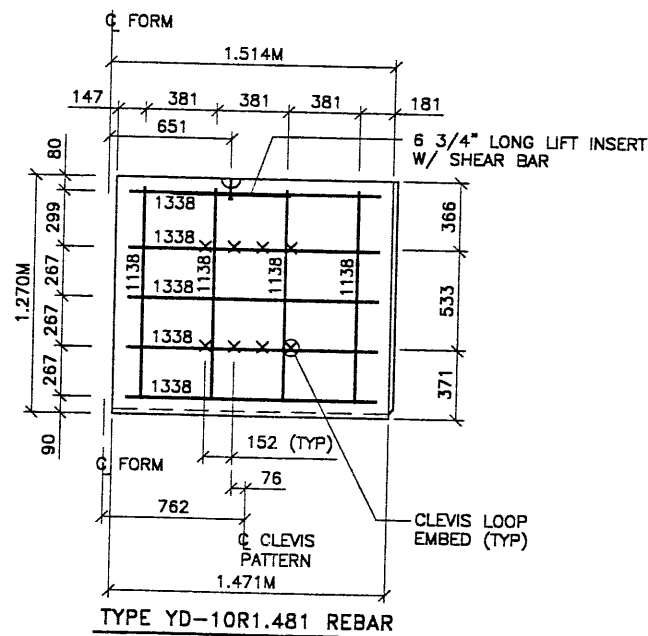
TYPE 5YA-10L2.150 REBAR



TYPE 3YA-10L0.975 REBAR



TYPE YA-10R1.481 REBAR



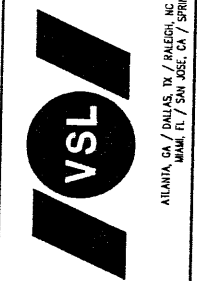
TYPE YD-10R1.481 REBAR

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	7-16-98	RELEASE FOR CONSTRUCTION

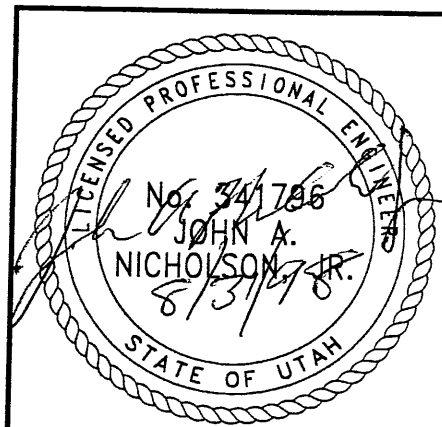
- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
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DES.	06-09-98	JL
DRN.	06-09-98	DDL
CHK.	06-09-98	JL

VSL CORPORATION
 2840 Flato Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4989



WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



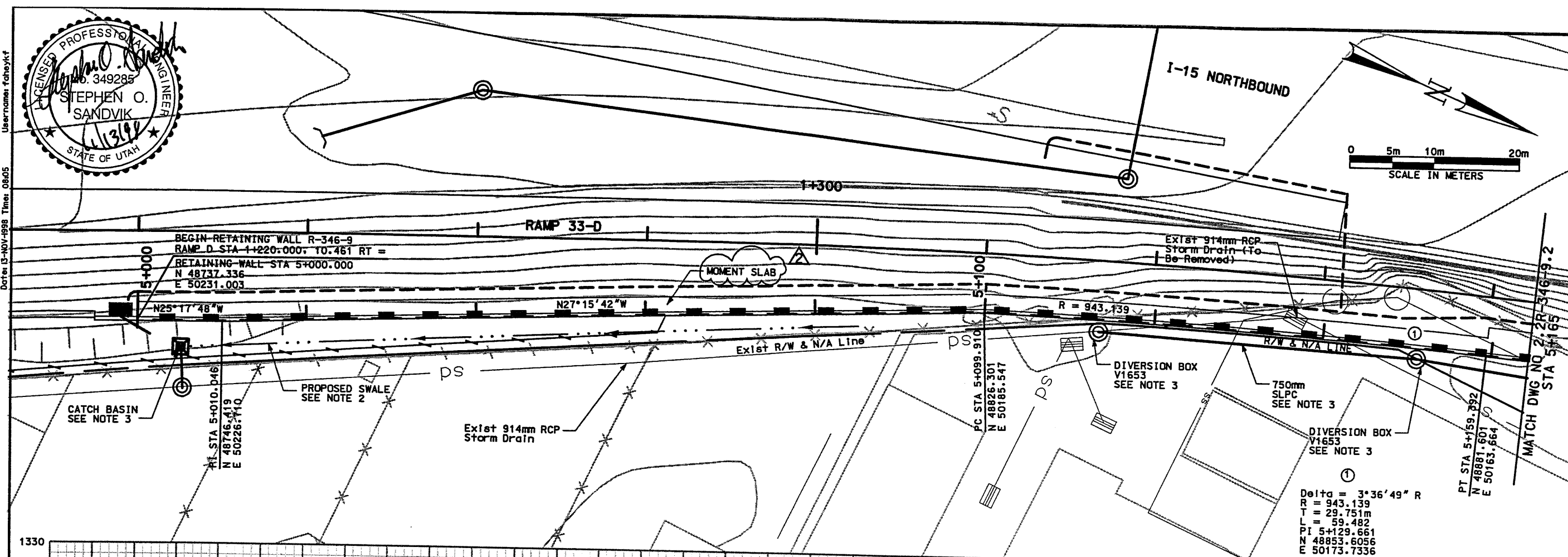
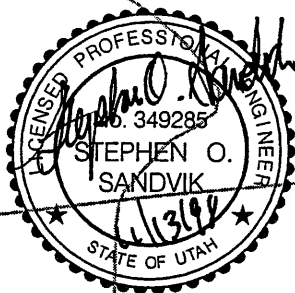
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

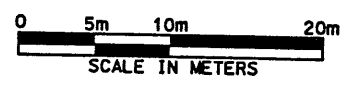
RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-8"
 Y-PANEL DETAILS
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-8.14
JOB NO.	239-0007
SHT. NO.	RE-9

Username: tchoykt Date: 13-NOV-1998 Time: 08:05



I-15 NORTHBOUND



RAMP 33-D

BEGIN RETAINING WALL R-346-9
RAMP D STA 4+220.000; 10.461 RT =
RETAINING WALL STA 5+000.000
N 48737.336
E 50231.003

MOMENT SLAB

EXIST 914mm RCP
Storm Drain (To
Be Removed)

CATCH BASIN
SEE NOTE 3

PROPOSED SWALE
SEE NOTE 2

EXIST 914mm RCP
Storm Drain

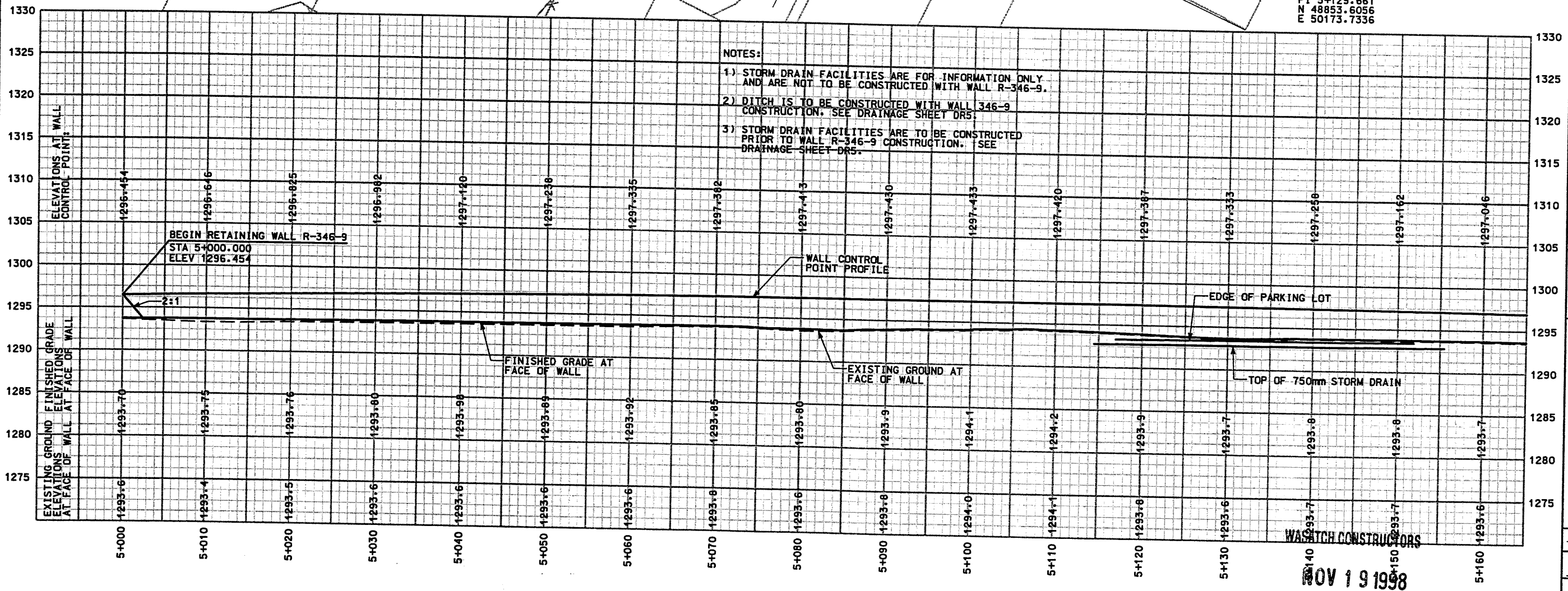
DIVERSION BOX
V1653
SEE NOTE 3

750mm
SLPC
SEE NOTE 3

DIVERSION BOX
V1653
SEE NOTE 3

Delta = 3°36'49" R
R = 943.139
T = 29.751m
L = 59.482
PT STA 5+159.892
N 48881.601
E 50185.864

MATCH DWG NO 2:2R-346-9.2
STA 5+165



- NOTES:
- 1) STORM DRAIN FACILITIES ARE FOR INFORMATION ONLY AND ARE NOT TO BE CONSTRUCTED WITH WALL R-346-9.
 - 2) DITCH IS TO BE CONSTRUCTED WITH WALL 346-9 CONSTRUCTION. SEE DRAINAGE SHEET DR5.
 - 3) STORM DRAIN FACILITIES ARE TO BE CONSTRUCTED PRIOR TO WALL R-346-9 CONSTRUCTION. SEE DRAINAGE SHEET DR5.

WATCH CONSTRUCTORS

NOV 19 1998

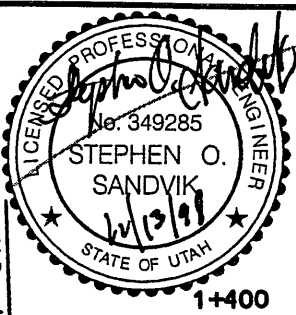
APPROVED FOR CONSTRUCTION	
NO.	DATE
1	9/16/97
2	11/12/98
3	1/1/99
4	1/1/99
DESCRIPTION	
1	ORIGINAL ISSUE
2	ADDED MOMENT SLAB CALLOUT
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL	
SYMBOLS	
APPROVAL RECORD	5/05/98 Stephen O. Sandvik DATE PROJECT DESIGN ENGINEER
APPROVED	5/05/98 Randle L. Robb DATE PROJECT MANAGER
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-9	
SECTION 2.2	
PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY DWG. NO. 2.2R-346-9.1	
SHT. 1 OF 16	
REF.	

RELEASED FOR CONSTRUCTION

File name: c:\sgn\115_cadd\33-97\sheet_files\wall\33-retwall-09_02.dwg

Date: 13-NOV-1998 Time: 08:09

User name: tobeykf



MATCH DWG NO 2.2R-346-9.1 STA 5+165

1330

1325

1320

1315

1310

1305

1300

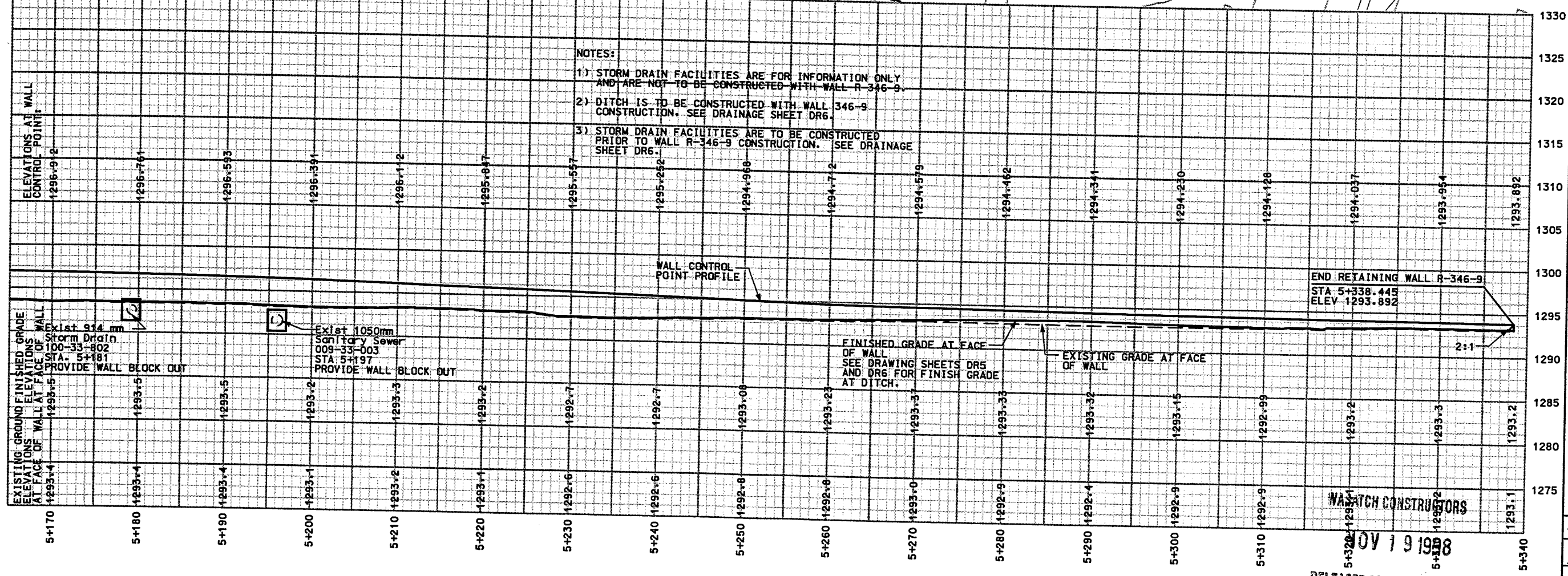
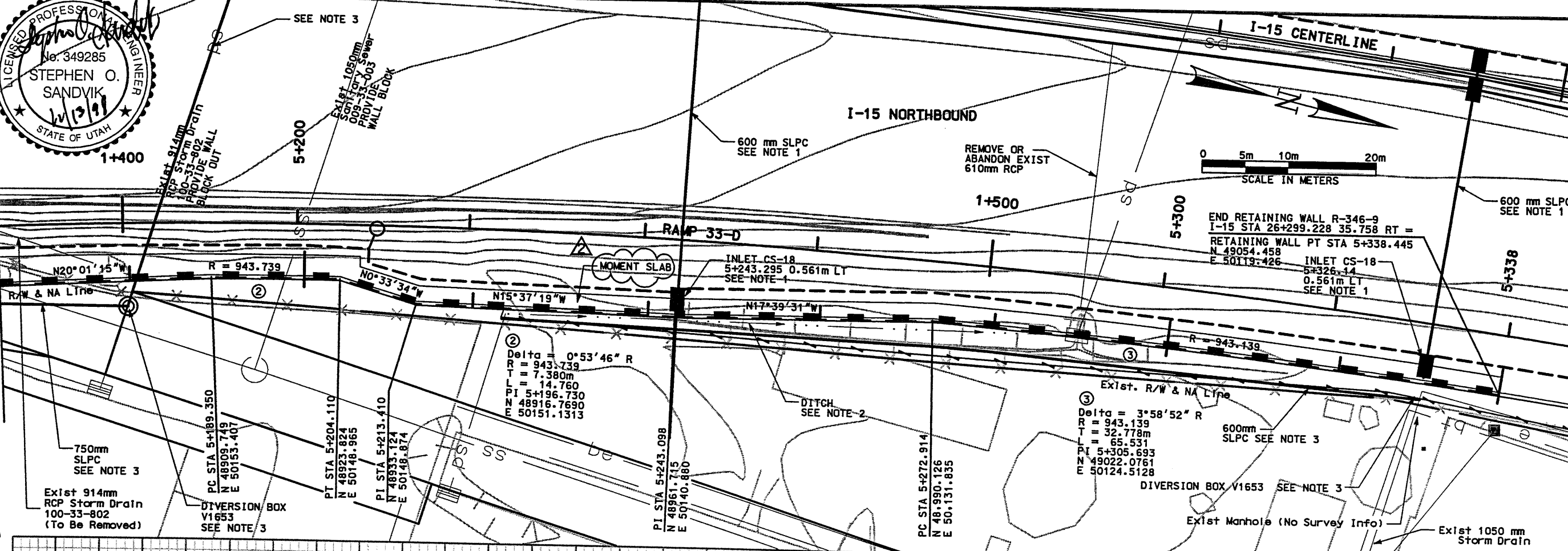
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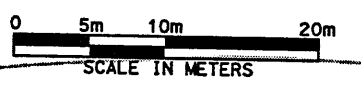
1285

1280

1275



- NOTES:
- 1) STORM DRAIN FACILITIES ARE FOR INFORMATION ONLY AND ARE NOT TO BE CONSTRUCTED WITH WALL R-346-9.
 - 2) DITCH IS TO BE CONSTRUCTED WITH WALL 346-9 CONSTRUCTION. SEE DRAINAGE SHEET DR6.
 - 3) STORM DRAIN FACILITIES ARE TO BE CONSTRUCTED PRIOR TO WALL R-346-9 CONSTRUCTION. SEE DRAINAGE SHEET DR6.



END RETAINING WALL R-346-9
I-15 STA 26+299.228 35.758 RT =
RETAINING WALL PT STA 5+338.445
N 49054.458
E 50119.426

NOV 19 1998

RELEASED FOR CONSTRUCTION

UTAH DEPARTMENT OF TRANSPORTATION
MK CENTENNIAL
SVERRUP/DE LEUW

I-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-346-9
SECTION 2.2
PROJECT NUMBER #SP-15-7(135)296

APPROVAL FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	9/16/97	ORIGINAL ISSUE
2	11/12/98	ADDED MOMENT SLAB CALLOUT
3	/ /	/ /
4	/ /	/ /

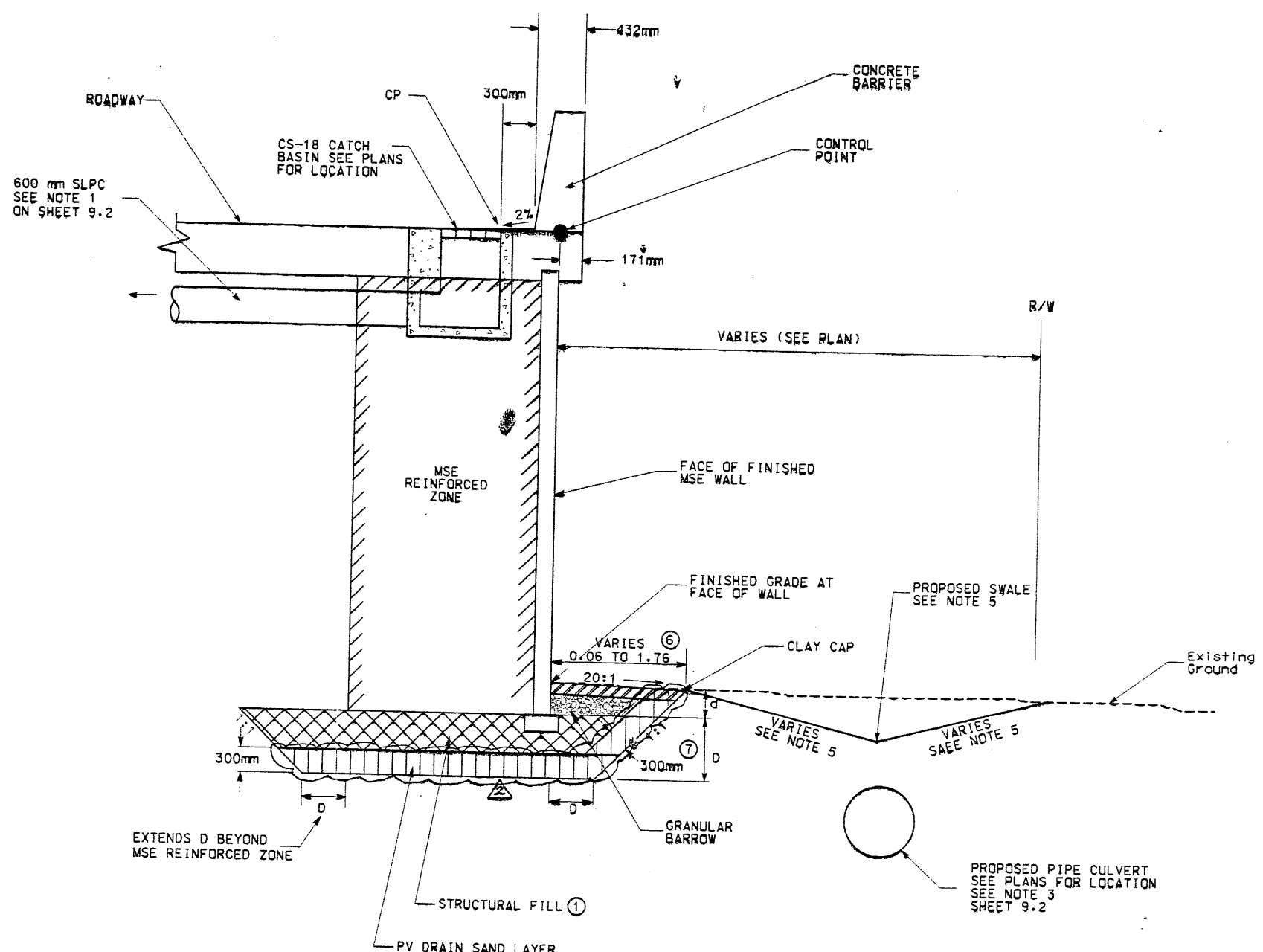
DESIGN: DMC 5/03/98
CHECK: CJD 5/05/98
DRAWN: MMW 5/05/98
CHECK: CJD 5/05/98
QUANT: JBW / / /
CHECK: JAB / / /

DESIGNER: Stephen O. Sandvik
PROJECT DESIGN ENGINEER
DATE: 5/05/98

DRAWN: Randle L. Ross
PROJECT MANAGER
DATE: 5/05/98

WBS NO. 2212401

SALT LAKE COUNTY
DWG. NO. 2.2R-346-9.2
SHT. 2 OF 16



D=EMBEDMENT DEPTH (SEE VSL DETAILS)
D=DESIGN DEPTH OF GRANULAR BORROW
BENEATH WALL (1m MINIMUM)
(SEE VSL DETAILS)

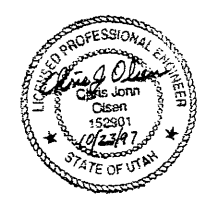
NOTES:

- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 GRANULAR BARROW.
- 2) CONSTRUCT CLAY CAP WITH LOW PLASTIC SILTY CLAY (0.3m THICK).
- 3) SEE CORRIDOR STANDARD SPECIFICATION 221 FOR SPECIAL EXCAVATION REQUIREMENTS WHERE GROUNDWATER IS EXPECTED AT OR ABOVE THE REQUIRED EXCAVATION ELEVATION.
- 4) SEE CORRIDOR STANDARD SPECIFICATION 210 FOR SPECIAL EXCAVATION AND BACKFILL REQUIREMENTS WHERE SOFT CLAYS OR OTHER SOFT AND/OR WET CONDITIONS ARE ENCOUNTERED.

- 5) SEE DRAINAGE SHEETS DR5 AND DR6 FOR DITCH GRADING AND LOCATION.
- 6) CONTRACTOR SHALL BUILD AS MUCH AS POSSIBLE OF PV DRAIN SAND LAYER, STRUCTURAL FILL, AND CLAY CAP WHILE KEEPING WITHIN HIGHWAY RIGHT-OF-WAY.
- 7) USE VERTICAL SLOPE AT RIGHT-OF-WAY LINE OR AS NEEDED TO PROVIDE CLAY CAP AS NOTED IN NOTE 2.

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-9
(1-STAGE MSE WALL)
NTS

WASATCH CONSTRUCTORS
OCT 29 1997
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	ORIGINAL ISSUE	DELETE SLOTTED PIPE, EXTEND PV SAND LAYER
△	9/16/97		
△	10/23/97		
△	/ /		
△	/ /		
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO.	2212401
MK CENTENNIAL		CHECK CJO	9/16/97
SVERDRUP/DE LEUW		CHECK CJO	9/16/97
DESIGN DMC	7/29/97	CHECK	/ /
DRAW MVM	7/31/97	CHECK	/ /
DATE	9/16/97	PROJECT ENGINEER	Chris John Olsen
DATE	9/16/97	PROJECT MANAGER	Randle L. Ross
1-15 CORRIDOR RECONSTRUCTION		SITUATION & LAYOUT R-349-9	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-9.3	
SHT. 3 OF 16		REF.	

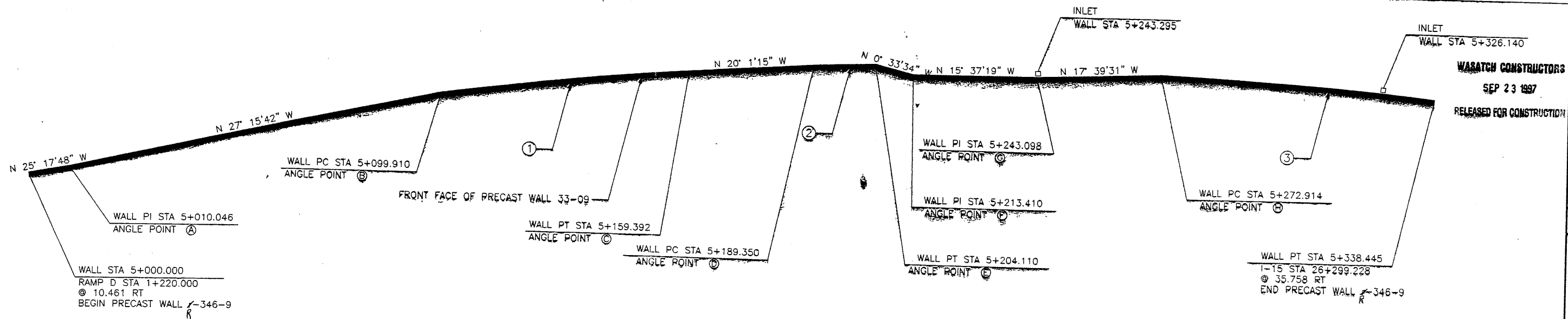
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First Reference Filename: c:\dgn\ref\wallbor\der3.dgn
Second Reference File Levels: (I-20, 22, 24-30, 32, 34, 35, 37-62, 64)
Third Reference Filename: c:\dgn\ref\N3_detail\03.dgn
Fourth Reference File Levels: (I-59, 61-64)
Fifth Reference File Levels:
Filename: c:\dgn\ref\wall\33_97\released_files\wall\33_wall-03.dgn
Scale: 25.000000000000000
Rotation: 0.000000000000000
Pen Table: VIF
Queue: CIVIL5F
300 - InterPlot
Jopen

SERIES\33-09\RE-1

E:\PROJECT\239-

9-16-97

FINA

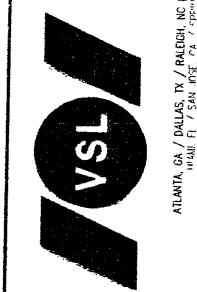


APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	9-16-97	RELEASE FOR CONSTRUCTION <i>OP</i>

WARATCH CONSTRUCTORS
SEP 23 1997
RELEASED FOR CONSTRUCTION

DES.	DRN.	CHK.	RETAINED EARTH™
09-11-97	09-11-97	09-11-97	
MM	DDO	MM	

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-1889



ATLANTA, GA / DALLAS, TX / DENVER, CO (SEPARATE OFFICE)
 HOUSTON, TX / SAN FRANCISCO, CA / TAMPA, FL / WASHINGTON, DC

- GENERAL NOTES**
- ALL WALLS ARE SHOWN FRONT FACE. NOTE STATIONING.
 - PANEL TYPE IS DESIGNATED ON EACH PANEL. CONNECTOR LABELS INDICATE NUMBER OF CONNECTORS PER ROW.
 EXAMPLE: 5B2-10 IS A "B2-10" PANEL WITH FIVE (5) CONNECTORS PER ROW.
 IF NO CONNECTORS ARE SHOWN, FOUR (4) CONNECTOR PANELS SHALL BE USED:
 - SOIL REINFORCING MESH TYPE IS DESIGNATED ON EACH PANEL. MESH LABELS INDICATE WIRE SIZE AND SPACING. LONGITUDINAL WIRE AND CROSSBAR SIZES ARE THE SAME UNLESS NOTED OTHERWISE:
 EXAMPLE: 4W11-6 MESH HAS FOUR (4) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" CENTERS.
 EXAMPLE: 4W11-12 MESH HAS FOUR (4) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 12" CENTERS.
 EXAMPLE: 4W20-12 MESH HAS FOUR (4) W20 LONGITUDINAL WIRES WITH W20 CROSSBARS AT 12" CENTERS.
 EXAMPLE: 4W20-24 MESH HAS FOUR (4) W20 LONGITUDINAL WIRES WITH W20 CROSSBARS AT 24" CENTERS.
 EXAMPLE: 5W11-12 MESH HAS FIVE (5) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 12" CENTERS.
 EXAMPLE: 5W11-24 MESH HAS FIVE (5) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 24" CENTERS.
 EXAMPLE: 5W20-24 MESH HAS FIVE (5) W20 LONGITUDINAL WIRES WITH W20 CROSSBARS AT 24" CENTERS.
 EXAMPLE: 6W11-6 MESH HAS SIX (6) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" CENTERS.
 EXAMPLE: 6W11-24 MESH HAS SIX (6) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 24" CENTERS.
 EXAMPLE: 6W20-24 MESH HAS SIX (6) W20 LONGITUDINAL WIRES WITH W20 CROSSBARS AT 24" CENTERS.
 - SEE RETAINED EARTH INSTALLATION MANUAL FOR PROPER WALL ERECTION PROCEDURES AND GUIDELINES.
 - CONSTRUCTION PROCEDURES SHALL PREVENT BACKFILL SATURATION AND PONDING.
 - HEAVY EQUIPMENT SHALL NOT BE USED WITHIN ONE METER OF THE BACK OF THE RETAINED EARTH PANELS. HAND COMPACTORS SHALL BE USED IN THIS AREA.
 - CARE SHALL BE TAKEN TO PREVENT DAMAGE TO GALVANIZING. DAMAGED GALVANIZING SHALL BE COATED WITH ZINC RICH PAINT.
 - BEARING PADS AND FILTER FABRIC ARE NOT REQUIRED BETWEEN THE LEVELING PAD AND THE FIRST ROW OF PANELS. TEMPORARY WEDGES MAY BE USED TO PROVIDE PROPER ALIGNMENT.
 - VSL RETAINED EARTH IS PROTECTED UNDER U.S. PATENT 4,725,170.
 - ALL PANELS SHALL HAVE AN ARCHITECTURAL FINISH, SEE SHEET RE-9 FOR DETAIL.

PLAN VIEW WALL "R-346-9"

SCALE: 1=500 (FULL SIZE)
 SCALE: 1=1000 (HALF SIZE)

CURVE DATA				
No.	RADIUS	LENGTH	TANGENT	Δ
①	943.139	59.482	29.751	3°36'49" R
②	943.739	14.760	7.380	0°53'43" R
③	943.139	65.531	32.778	3°58'52" R

All Dimensions Are In Meters Unless Noted Otherwise

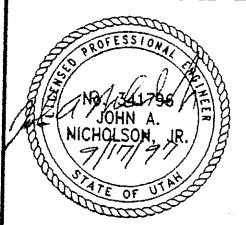
DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT)	= 34°
ANGLE OF INTERNAL FRICTION (BASE)	= 30°
ANGLE OF INTERNAL FRICTION (RANDOM)	= 34°
UNIT WEIGHT BACKFILL	= 135 PCF (21.2 kN/m ³)
TRAFFIC SURCHARGE	= 250 PSF
SEISMIC ACCELERATION COEFF.	= 0.25g (TYP)

DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING)	= 2.0
SAFETY FACTOR (SLIDING)	= 1.5
SAFETY FACTOR (PULLOUT)	= 1.5
DESIGN LIFE	= 75 YEARS

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-346-9, NOTES & DESIGN CRITERIA
RE-2	ELEVATION PRECAST WALL "R-346-9"
RE-3	ELEVATION PRECAST WALL "R-346-9"
RE-4	ELEVATION PRECAST WALL "R-346-9"
RE-5	ELEVATION PRECAST WALL "R-346-9"
RE-6	ELEVATION PRECAST WALL "R-346-9"
RE-7	ELEVATION PRECAST WALL "R-346-9"
RE-8	TYPICAL DETAILS
RE-9	TYPICAL DETAILS
RE-10	TYPICAL CROSS SECTIONS
RE-11	SPECIAL DETAILS
RE-12	TYPICAL PANEL REINFORCEMENT
RE-13	SPECIAL PANEL DETAILS
RE-14	SPECIAL PANEL DETAILS

4 of 16 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



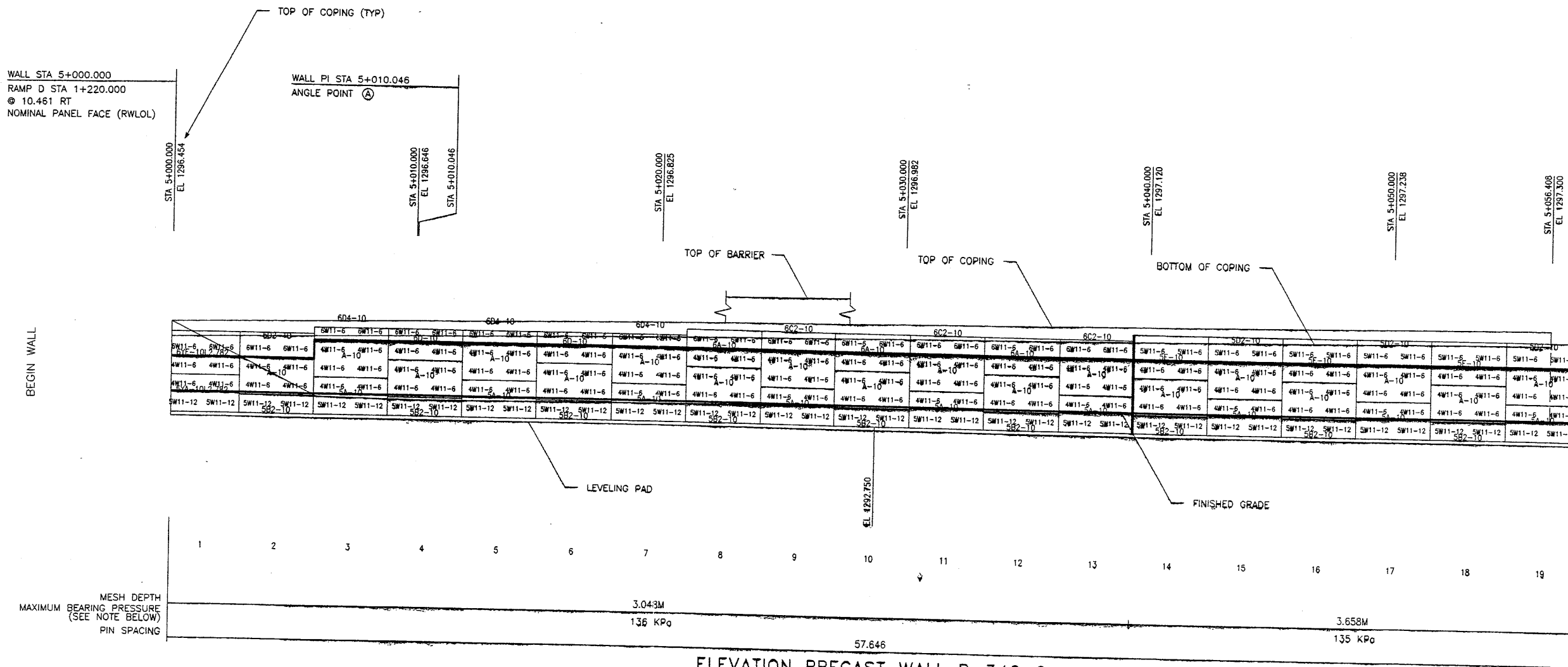
RETAINED EARTH™ WALLS
 PLAN VIEW PRECAST WALL "R-346-9"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO.	2.2R-346-9.4
JOB NO.	239-0007
SHT. NO.	RE-1

E:\PROJECT\239-0007\33SERIES\33-09\W3

9-16-97

FINA



ELEVATION PRECAST WALL R-346-9

SCALE 1:100 (FULL SIZE)
SCALE 1:200 (HALF SIZE)

MESH DEPTH
MAXIMUM BEARING PRESSURE
(SEE NOTE BELOW)
PIN SPACING

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3.043M										3.658M								
136 KPa										135 KPa								

5 of 16 METRIC

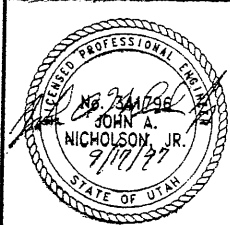
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	9-16-97	RELEASE FOR CONSTRUCTION <i>OK</i>

WASATCH CONSTRUCTORS
SEP 23 1997
RELEASED FOR CONSTRUCTION

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6272
Fax: (919) 981-4869



RETAINED EARTH™ WALLS
PRECAST WALL "R-346-9"
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.



CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

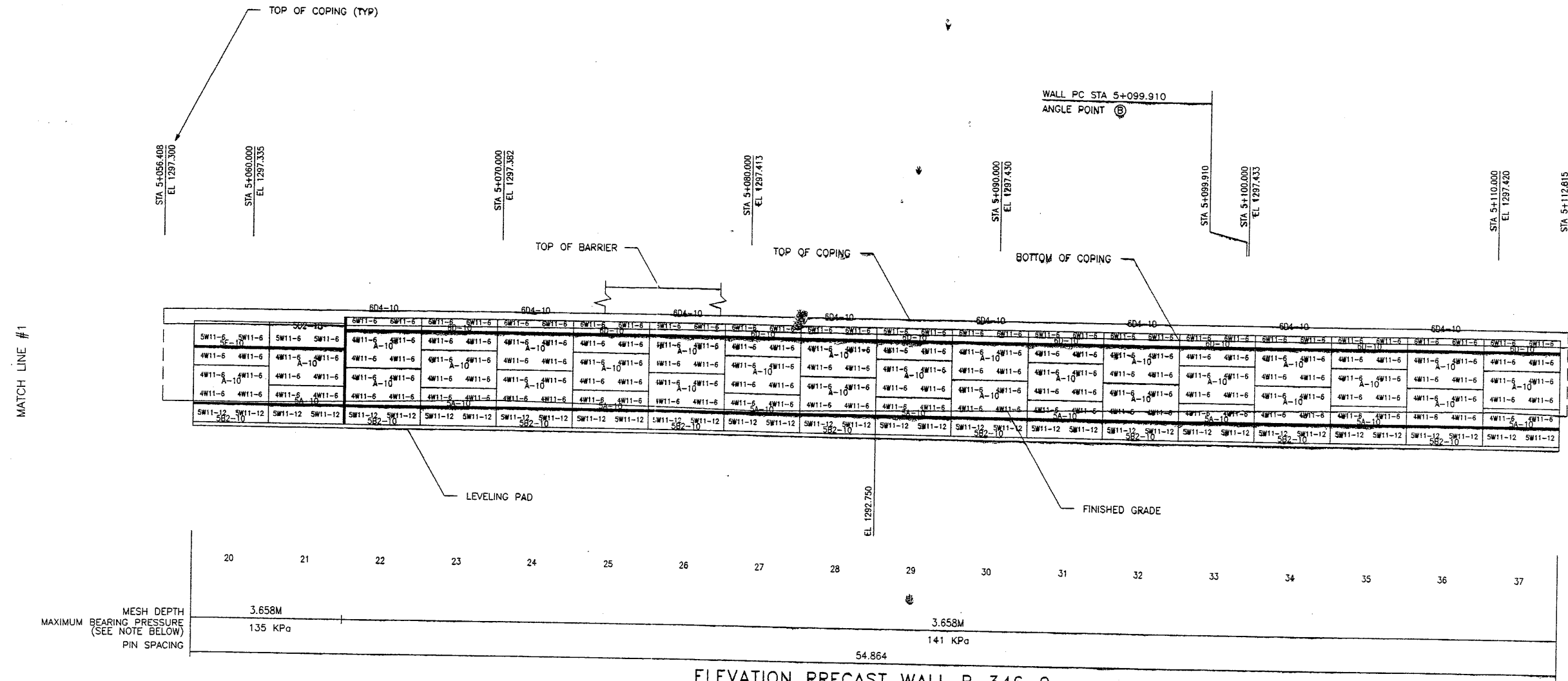
DWG. NO.
2.2R-346-9.5
JOB NO.
239-0007
SHT. NO.
RE-2

E:\PROJECT\239-0007\3SERIES\33-09\W33

FINA 3-16-97

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	9-16-97	RELEASE FOR CONSTRUCTION <i>SPV</i>

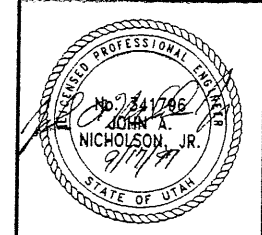
WASATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION



ELEVATION PRECAST WALL R-346-9
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

6 of 16 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-9"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO.	2.2R-346-9.6
JOB NO.	239-0007
SHT NO.	RE-3

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Bellingham, WA 98201
 Tel: (360) 738-6772
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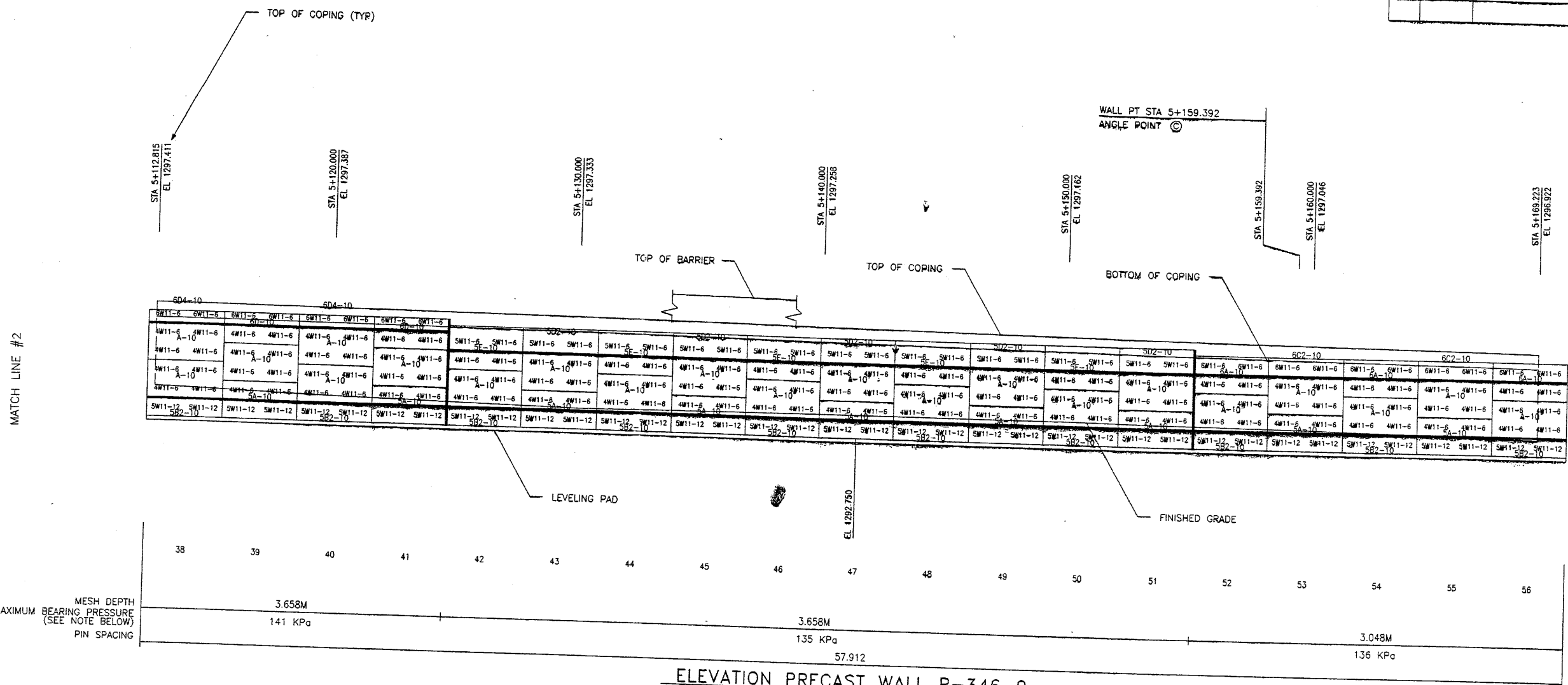
DES.	09-11-97	MM
DRN.	09-11-97	DDO
CHK.	09-11-97	MM
RETAINED EARTH™		

E:\PROJECT\239-0007\33SERIES\33-09\W33

FINAL 09-16-97

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	9-16-97	RELEASE FOR CONSTRUCTION <i>JR</i>

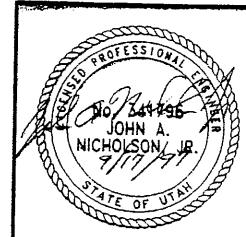
WARATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION



ELEVATION PRECAST WALL R-346-9
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

7 of 16 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-9"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO. 2.2R-346-9.7
 JOB NO. 239-0007
 SHT. NO. RE-4



VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Tel: (919) 781-6772
 Fax: (919) 781-4869

DES.	09-11-97	MM
DRN.	09-11-97	DDO
CHK.	09-11-97	MM

APPROVED FOR CONSTRUCTION

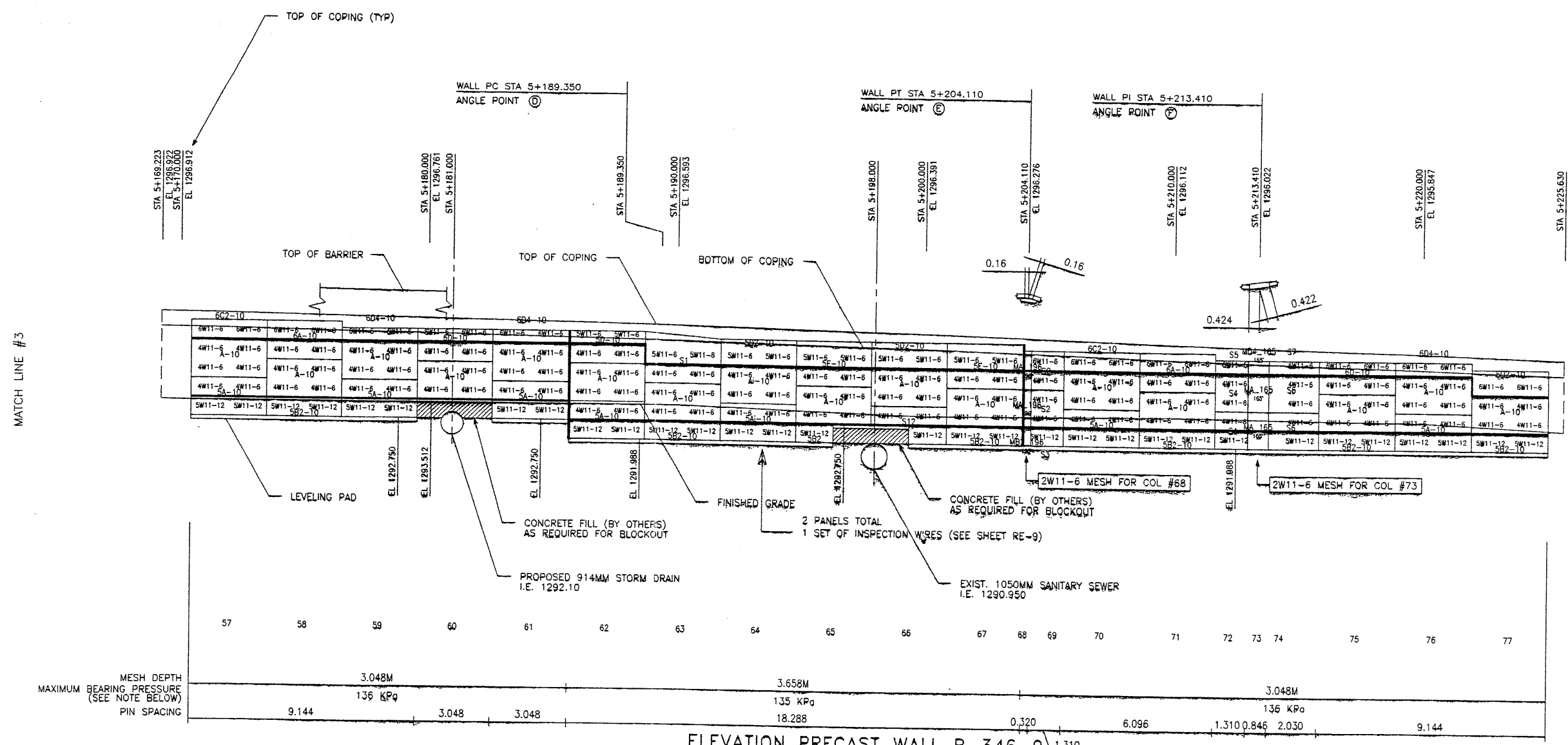
E:\PROJECT\239-0007\3SERIES\33-09 W33

J-16-97

FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	9-16-97	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION

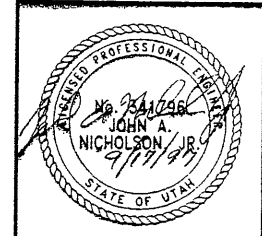


ELEVATION PRECAST WALL R-346-9 1.310

SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

8 of 16 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



DESIGN: 09-11-97 MM
 DRAWN: 09-11-97 DOO
 CHECKED: 09-11-97 MM

VSL CORPORATION
 2840 Roper Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4869

ATLANTA, GA / DALLAS, TX / RAEDON, NC (CORPORATE OFFICE)

RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-9"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO. 2.2R-346-9.8
 JOB NO. 239-0007
 SHT. NO. RE-5

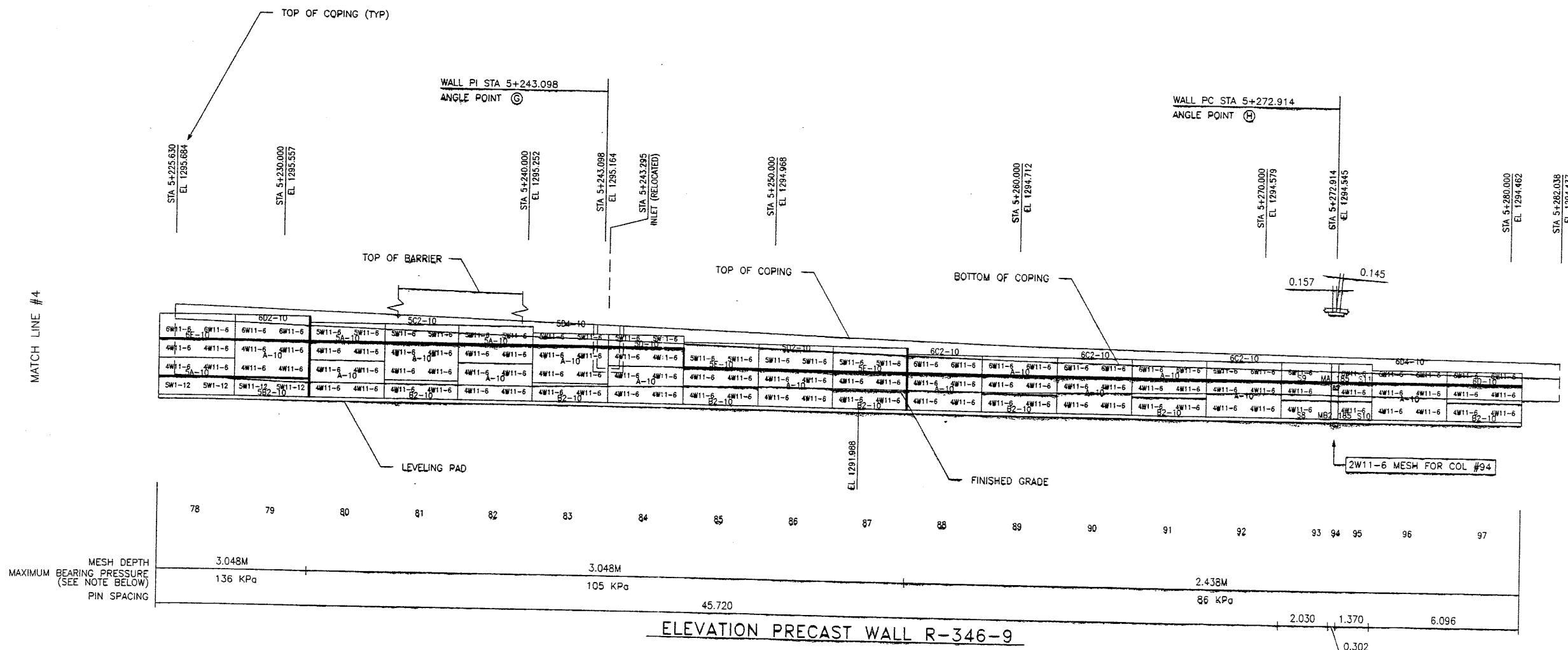
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-16-97

FINAL

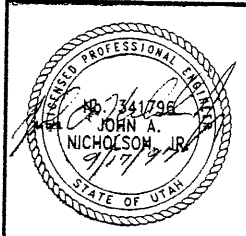
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	9-16-97	RELEASE FOR CONSTRUCTION <i>OL</i>

WASATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION



ELEVATION PRECAST WALL R-346-9
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

9 of 16 METRIC



CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RETAINED EARTH™ WALLS
PRECAST WALL "R-346-9"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DES: 09-11-97 MM
 DRN: 09-11-97 DDO
 CHK: 09-11-97 MM

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 411-4969

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICES)

DWG. NO.: 2.2R-346-9.9
 JOB NO.: 239-0007
 SHEET NO.: RE-6

E:\PROJECT\239-0007\33SERIES\33-09\W33

J-16-97

FINAL

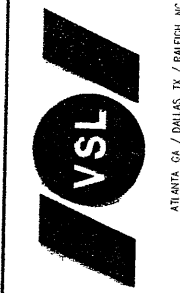
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	9-16-97	RELEASE FOR CONSTRUCTION <i>ORZ</i>

WASATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION

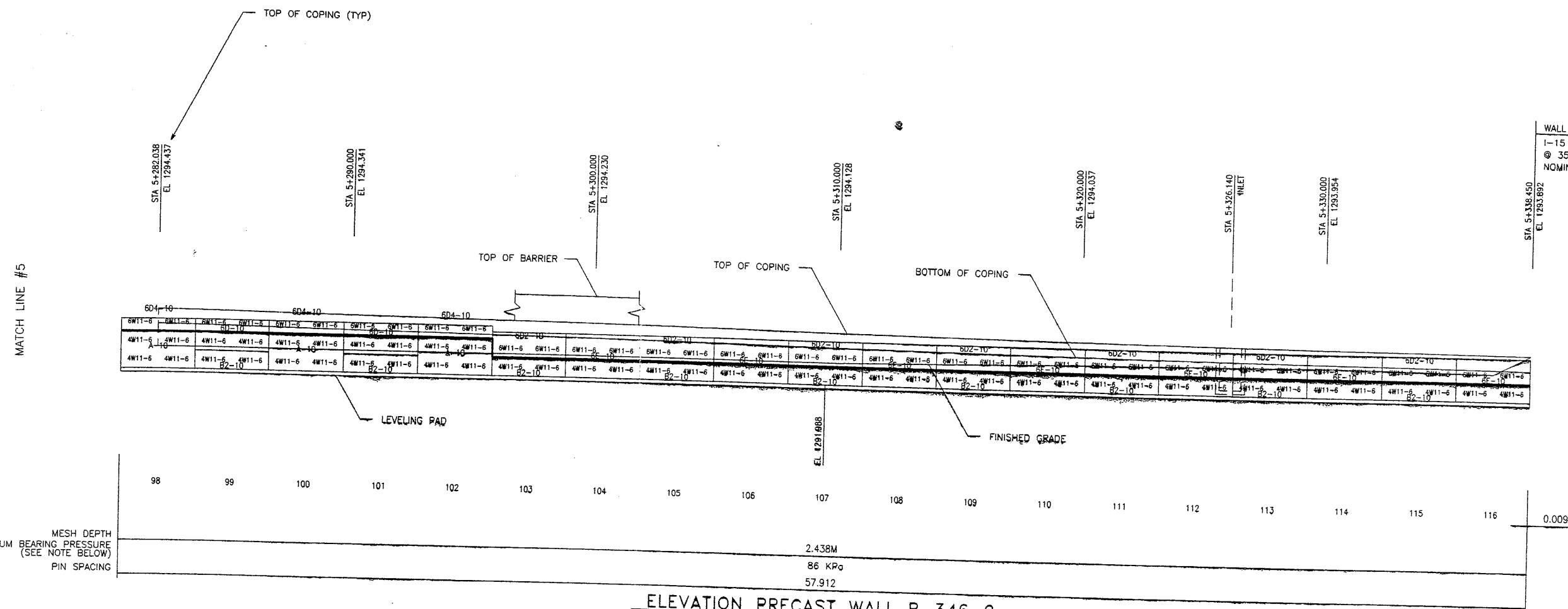
WALL PT STA 5+338.445
 I-15 STA 26+299.228
 @ 35.758 RT
 NOMINAL PANEL FACE (RWLOL)

DES.	09-11-97	MM
DRN.	09-11-97	DDO
CHK.	09-11-97	MM

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 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4989



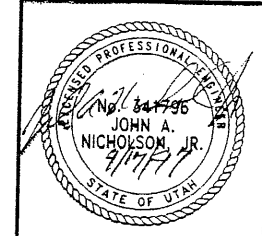
ATLANTA, GA / DALLAS, TX / FREEDEN, NC (CORPORATE OFFICE)



ELEVATION PRECAST WALL R-346-9
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

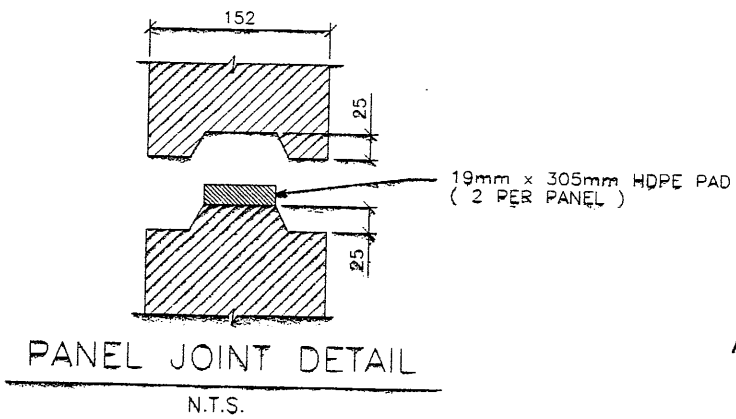
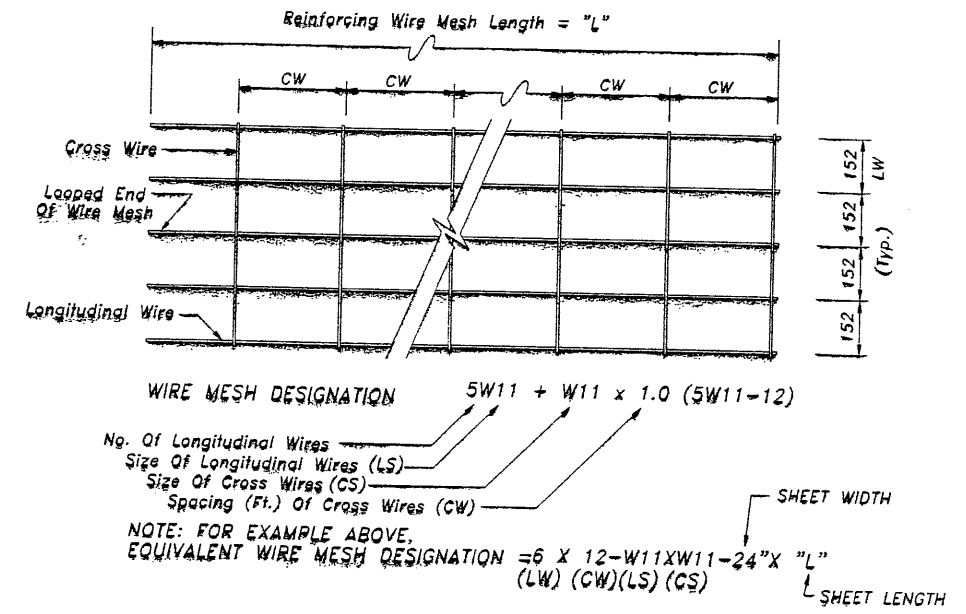
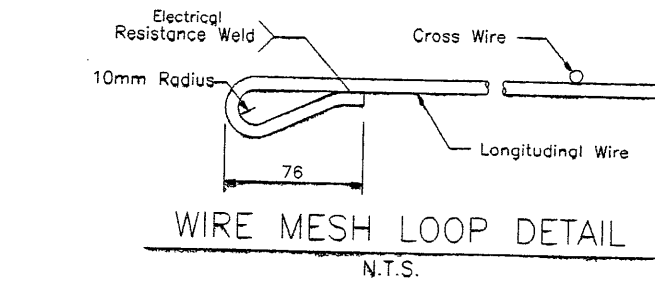
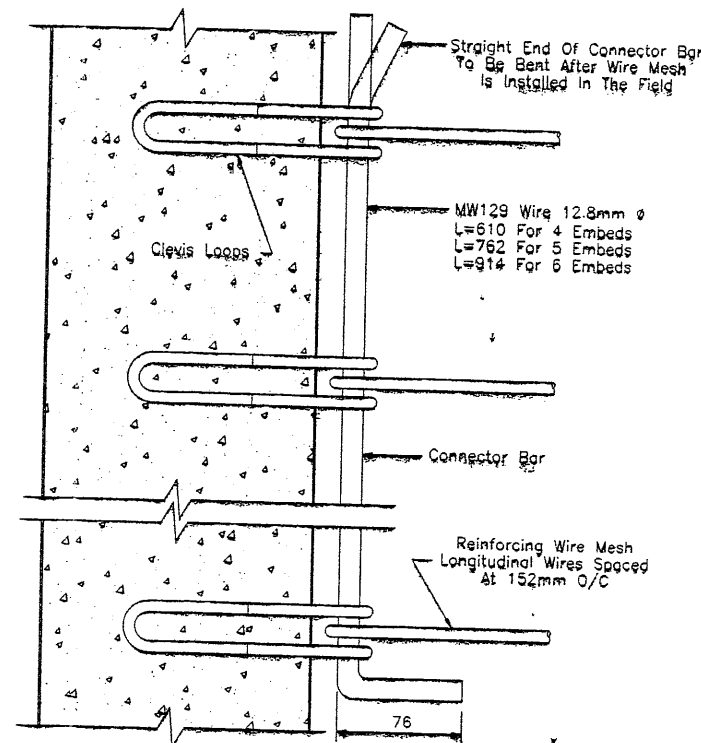
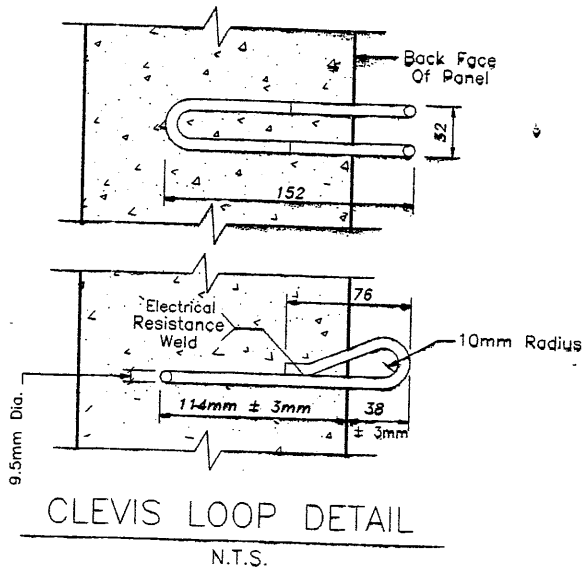
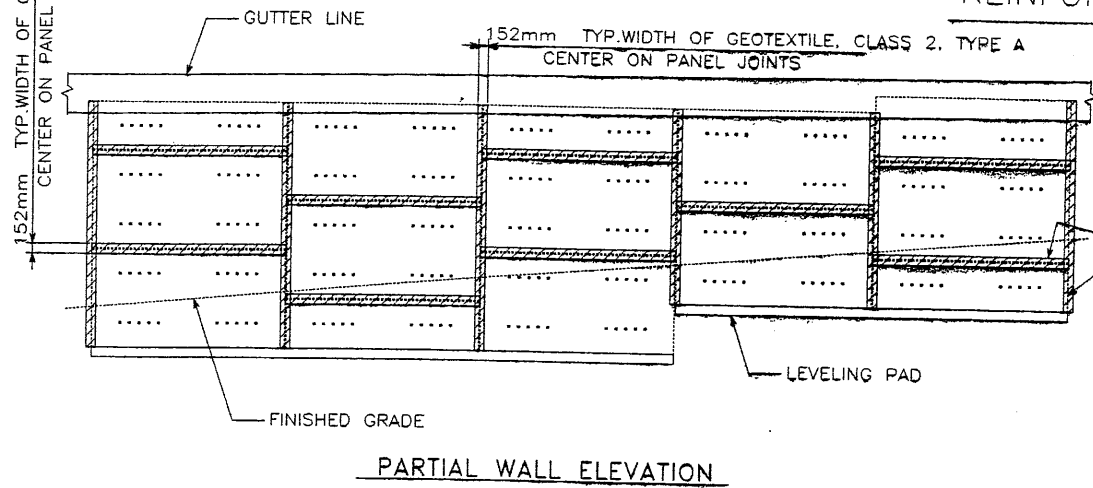
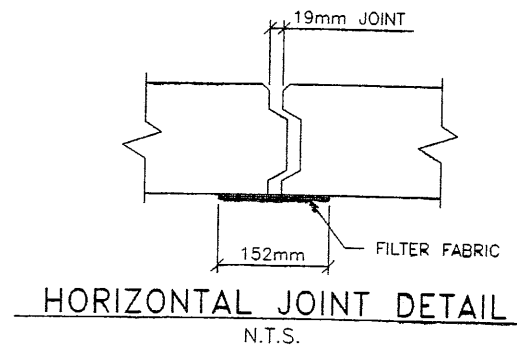
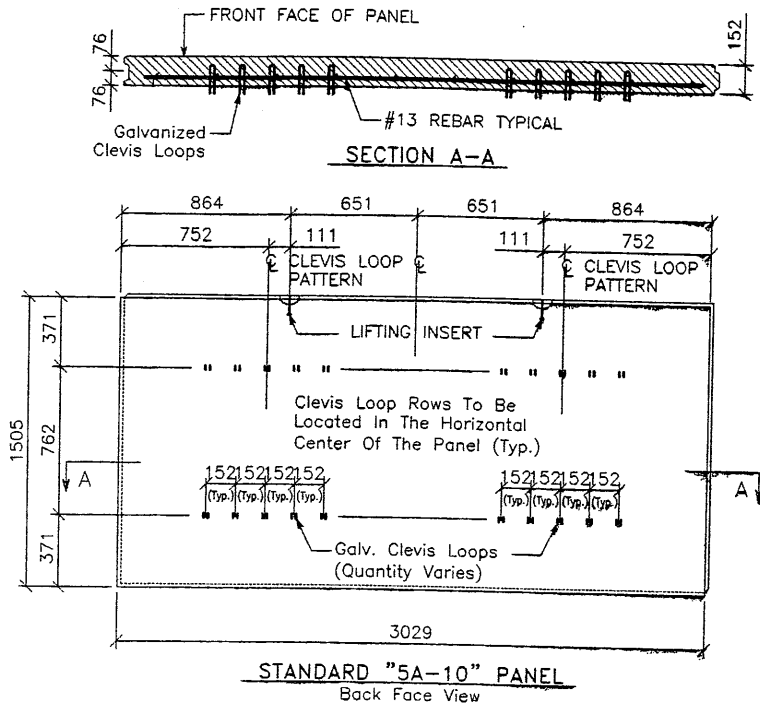
10 of 16 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-9"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO.	2.2R-346-9.10
JOB NO.	239-0007
SHT. NO.	RE-7



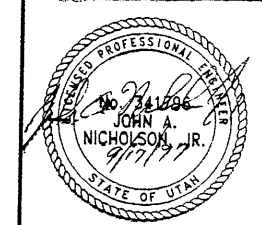
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	9-16-97	RELEASE FOR CONSTRUCTION <i>JB</i>

WASATCH CONSTRUCTORS
SEP 23 1997
RELEASED FOR CONSTRUCTION

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6272
Fax: (919) 781-6969

RETAINED EARTH™ WALLS
PRECAST WALL "R-346-9"
TYPICAL DETAILS
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSPORTATION

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

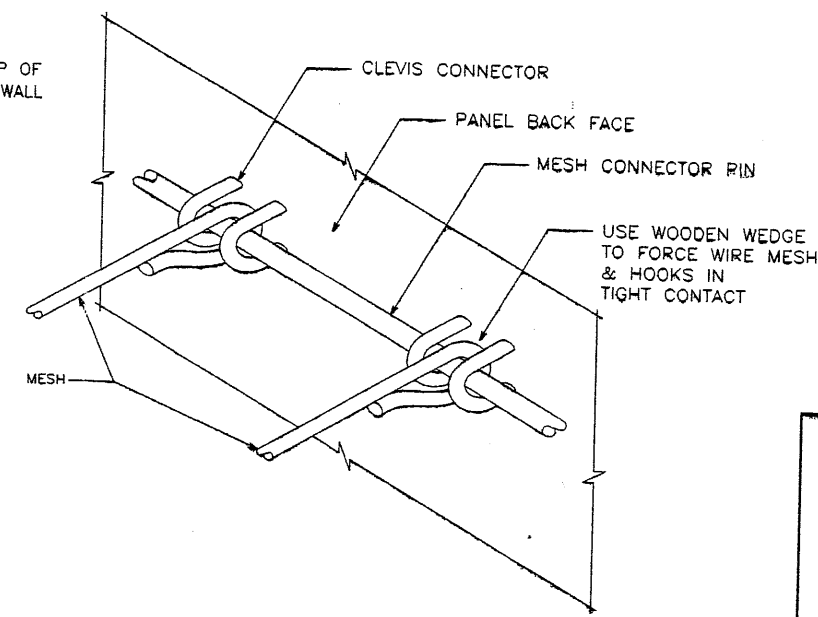
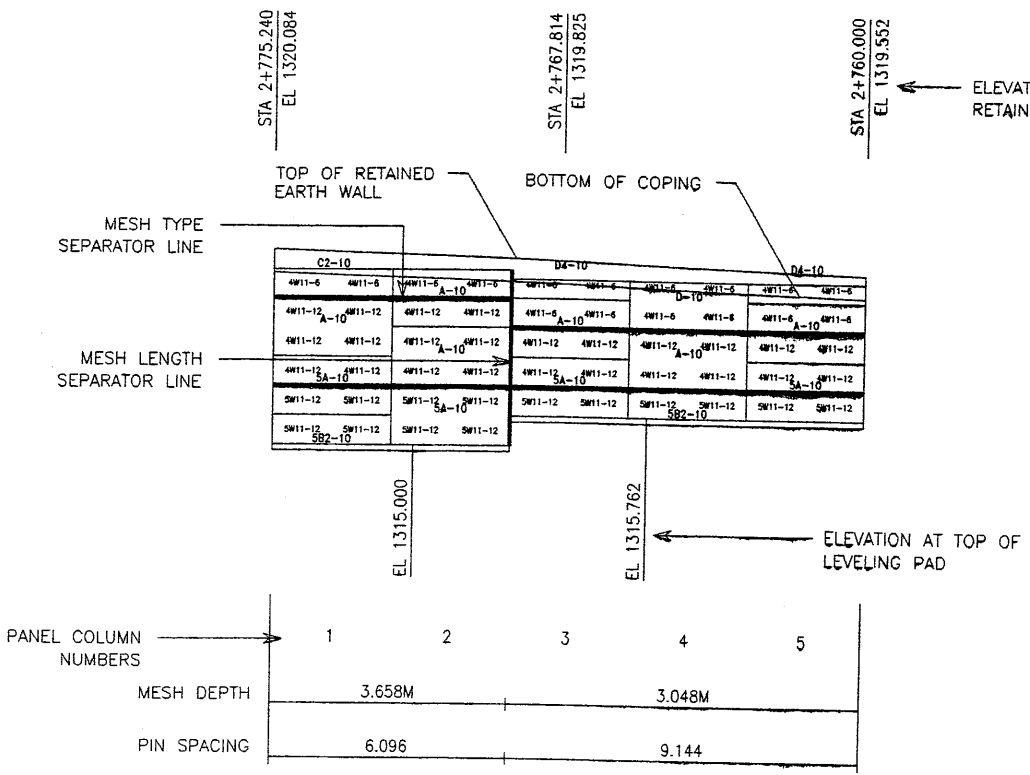


DWG. NO.	2.2R-346-9.11
JOB NO.	239-0007
SHT. NO.	RE-8

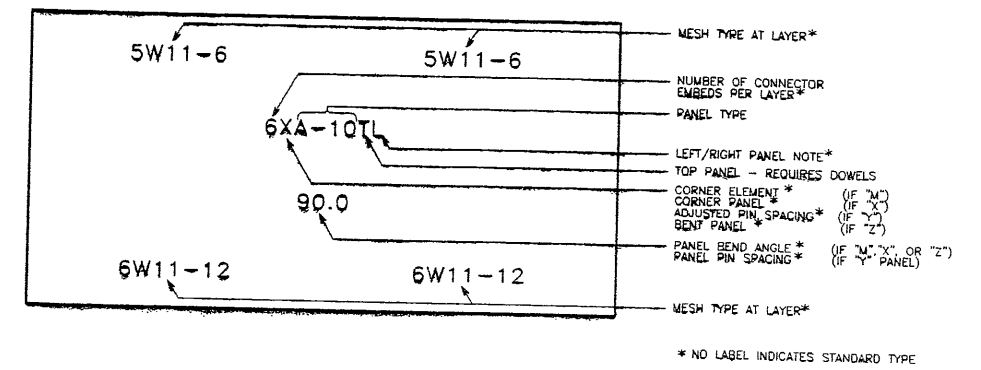
11 of 16 METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	9-16-97	RELEASE FOR CONSTRUCTION <i>oe</i>

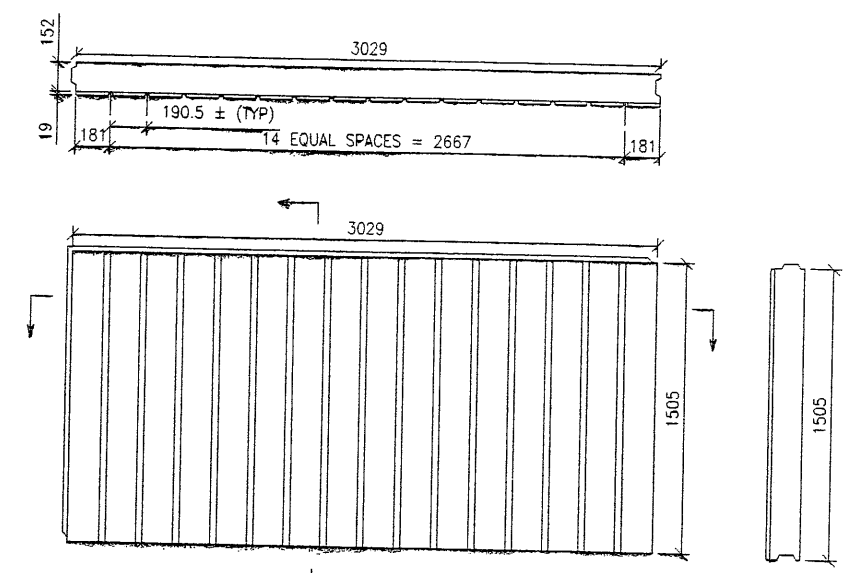
WASATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION



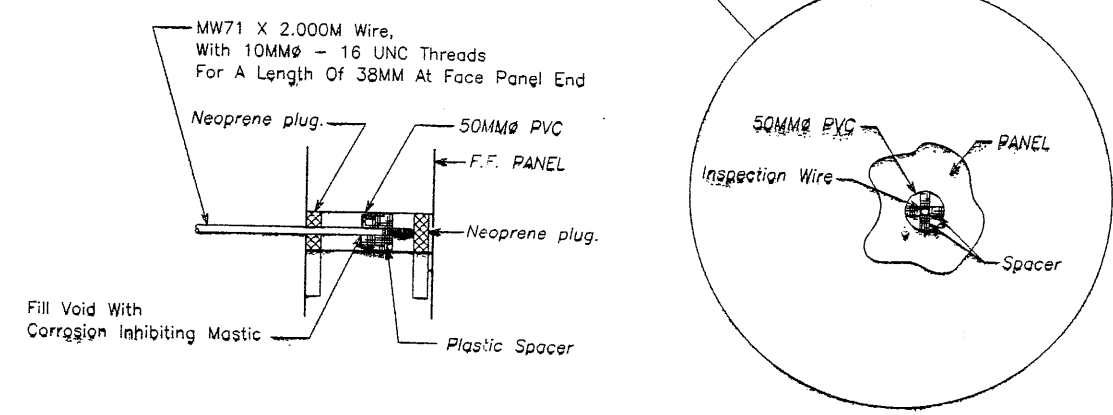
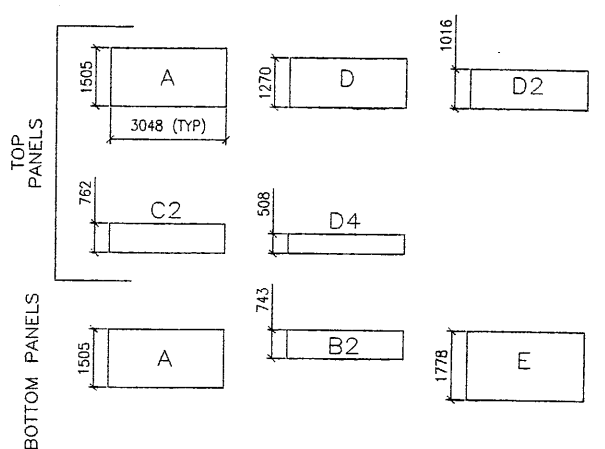
2 VSL RETAINED EARTH IS PROTECTED UNDER U.S. PATENT 4,725,170.



3



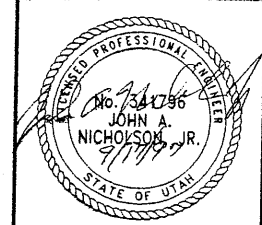
6



5

4 ALL DIMENSIONS ARE IN MILLIMETERS

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

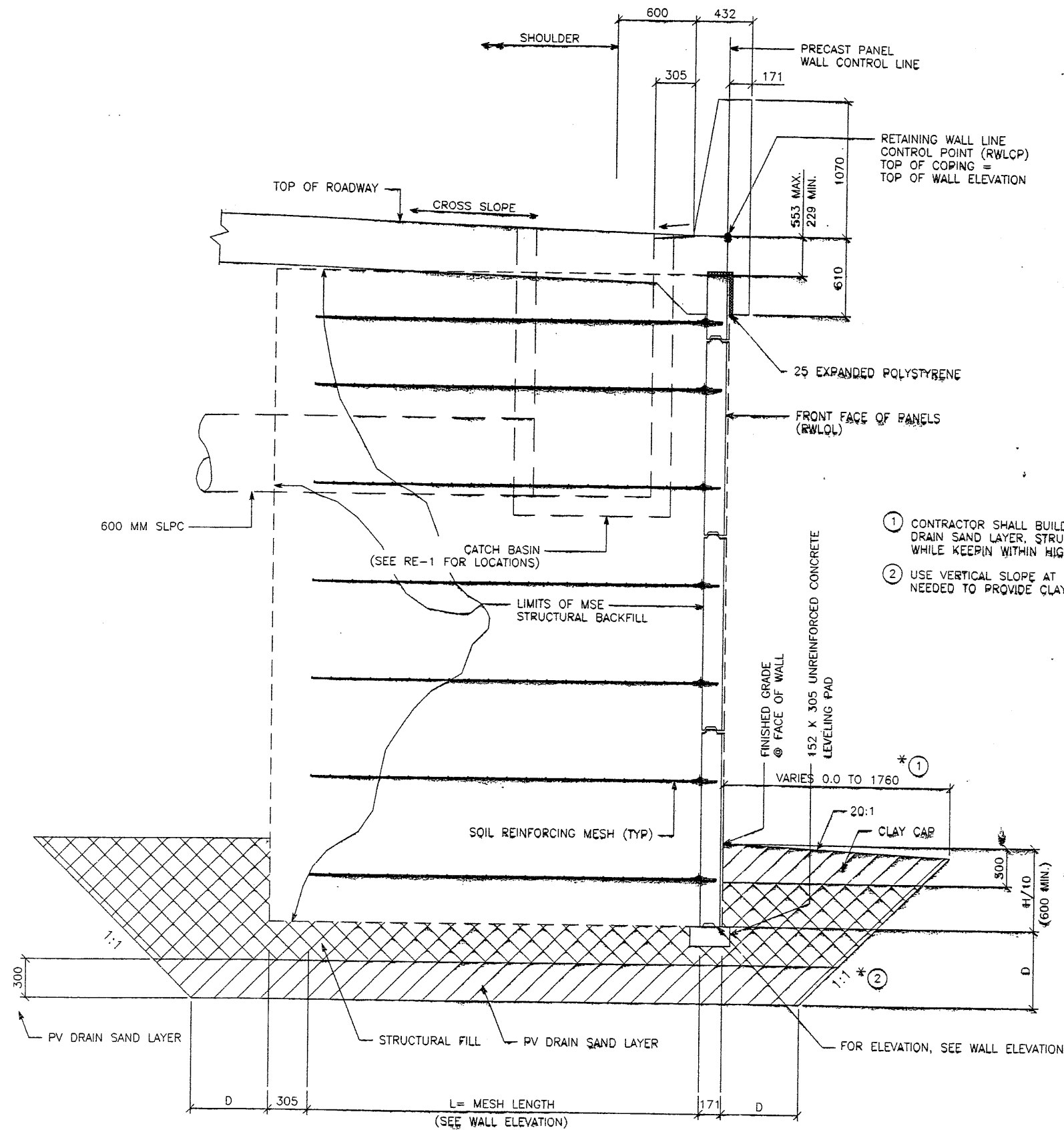


RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-9"
 TYPICAL DETAILS
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO. 2.2R-346-9.12
 JOB NO. 239-0007
 SHF. NO. RE-9

VSL CORPORATION
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- CONTRACTOR SHALL BUILD AS MUCH AS POSSIBLE OF PV DRAIN SAND LAYER, STRUCTURAL FILL, AND CLAY CAP WHILE KEEPIN WITHIN HIGHWAY RIGHT-OF-WAY.
- USE VERTICAL SLOPE AT RIGHT-OF-WAY LINE OR AS NEEDED TO PROVIDE CLAY CAP AS NOTED IN NOTE 1.

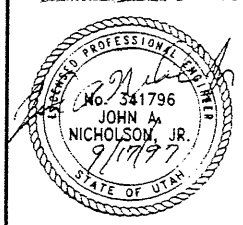
TABLE OF STRUCTURAL FILL

FROM STATION	FROM STATION	D (M)
5+000.000	5+231.111	1.000
5+231.111	5+338.445	0.600

TYPICAL CROSS SECTION
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

13 of 16 METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
△	9-16-97	RELEASE FOR CONSTRUCTION <i>OR</i>

WASATCH CONSTRUCTORS
 SEP 23 1997
 RELEASED FOR CONSTRUCTION

DES.	MM
09-11-97	MM
DRN.	DDO
09-11-97	DDO
CHK.	MM
09-11-97	MM

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone (919) 781-6272
 Fax (919) 781-4669

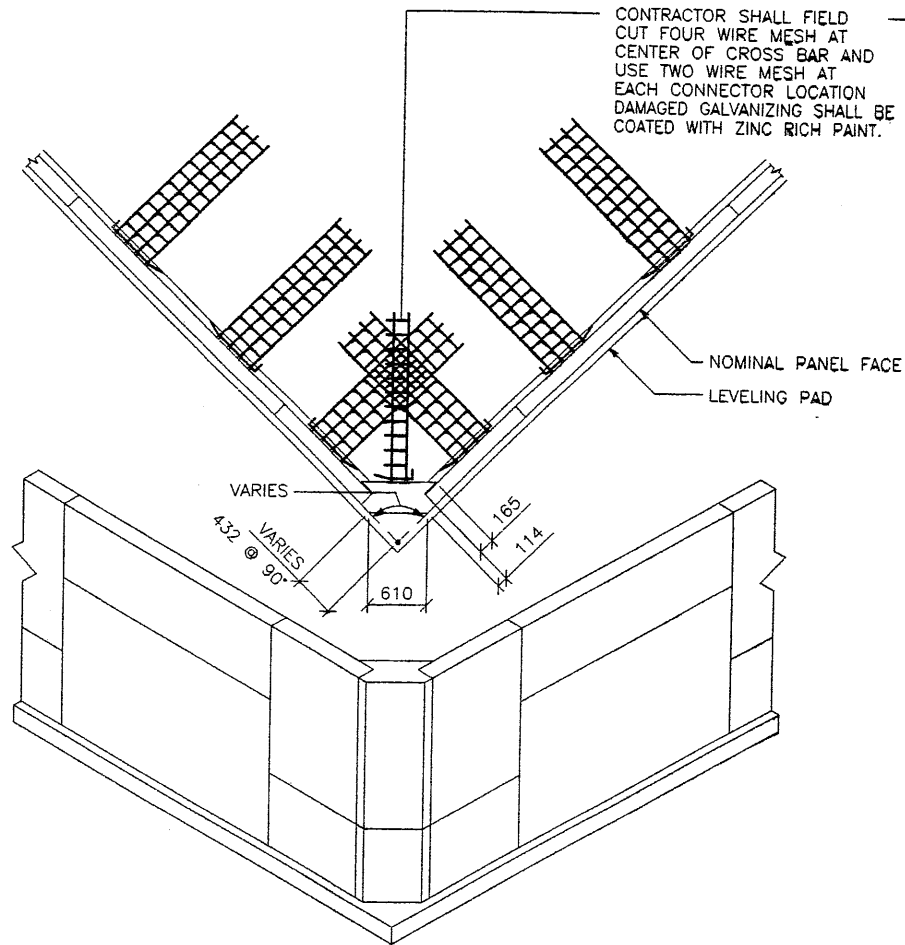


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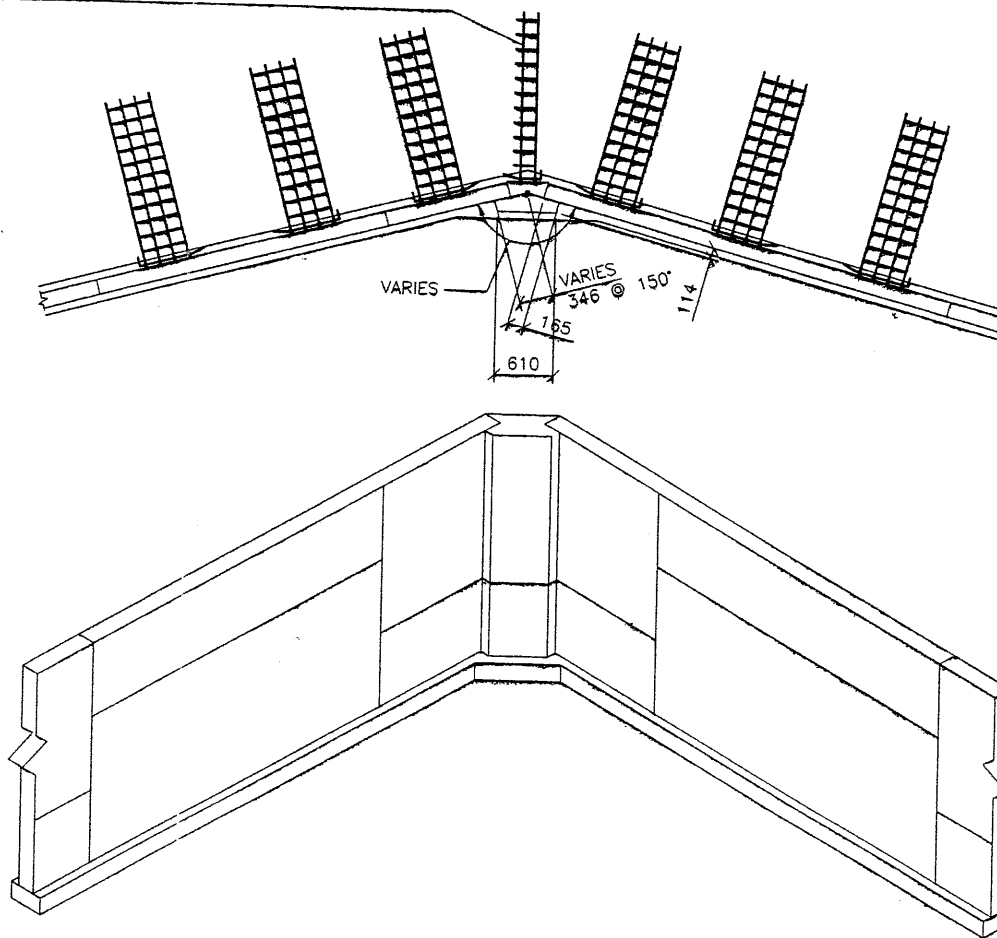
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-9"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 IITAI DEPARTMENT OF TRANSPORTATION

DWG. NO.	2.2R-346-9.13
JOB NO.	239-0007
SHT. NO.	RE-10

CONTRACTOR SHALL FIELD CUT FOUR WIRE MESH AT CENTER OF CROSS BAR AND USE TWO WIRE MESH AT EACH CONNECTOR LOCATION. DAMAGED GALVANIZING SHALL BE COATED WITH ZINC RICH PAINT.



80 OUTSIDE CORNER ELEMENT
PLAN VIEW / ISOMETRIC

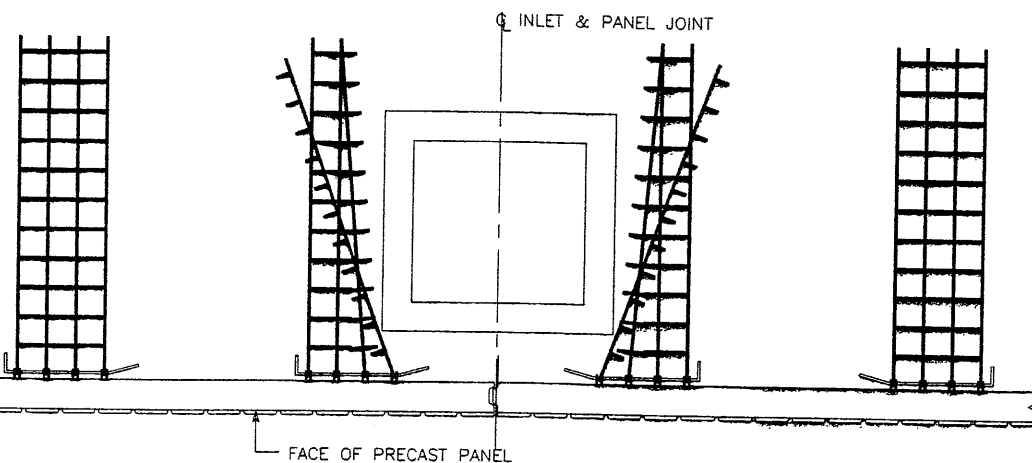


80 INSIDE CORNER ELEMENT
PLAN VIEW / ISOMETRIC

INLET/MANHOLE SHALL BE CENTERED ON CENTERLINE OF CLOSEST OBSTRUCTED PANEL JOINT.

SEE WALL ELEVATIONS FOR LOCATION.

FIELD CUT & SKEW SOIL REINFORCING TO AVOID INLET. DAMAGED GALVANIZING SHALL BE COATED WITH ZINC RICH PAINT.



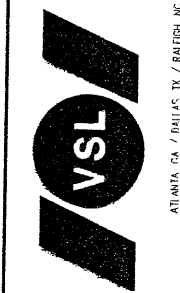
100 INLET OBSTRUCTION DETAIL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	9-16-97	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
SEP 23 1997
RELEASED FOR CONSTRUCTION

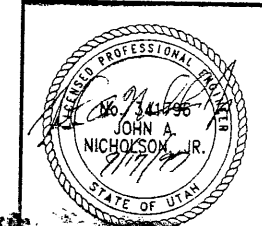
DES.	09-11-97	MM
DRN.	09-11-97	DDO
CHK.	09-11-97	MM

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6272
Fax: (919) 781-6669



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14 of 16 METRIC



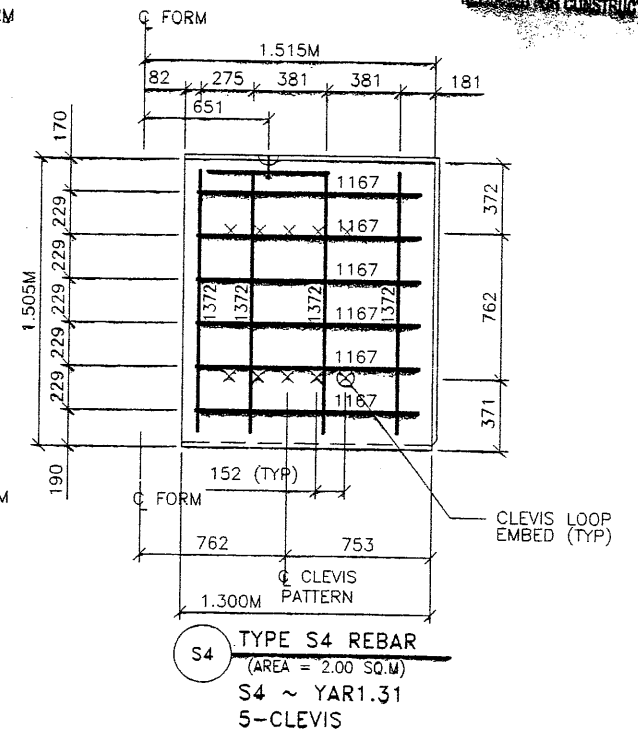
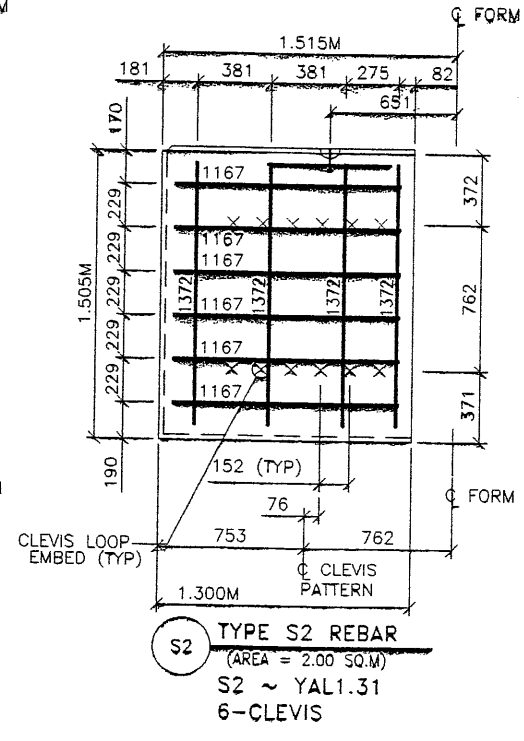
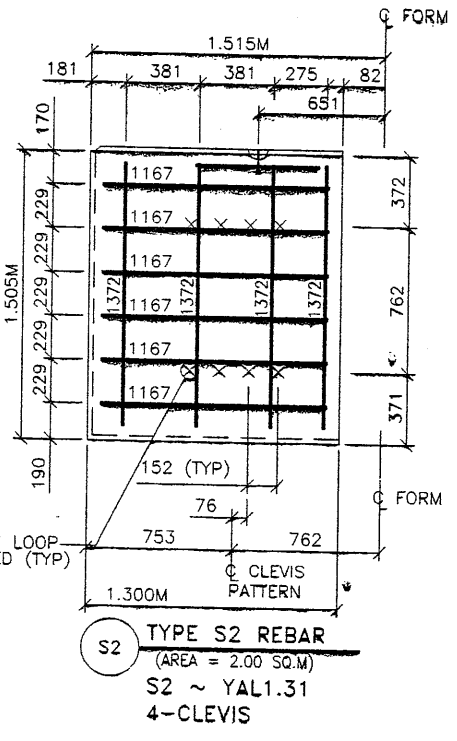
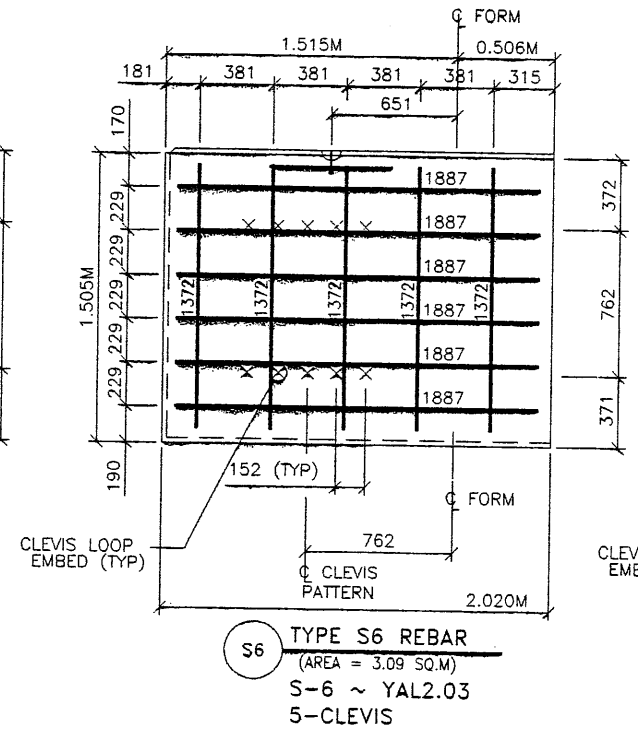
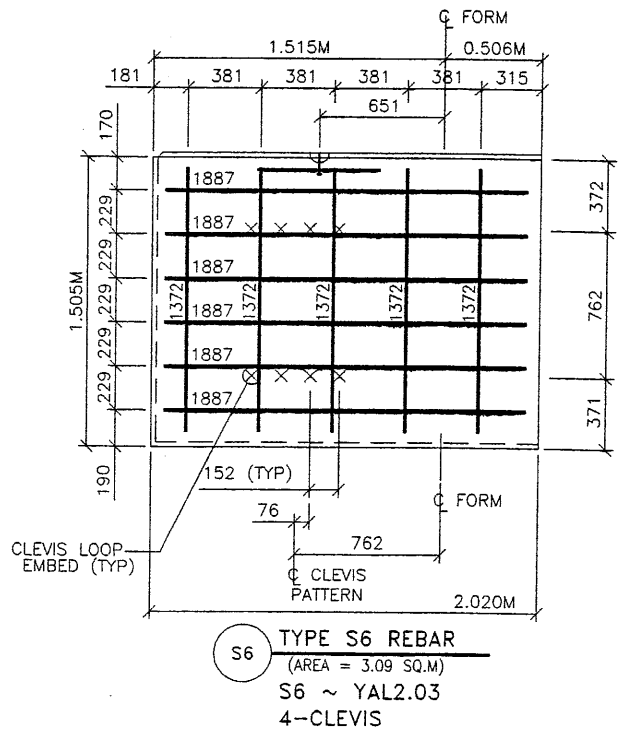
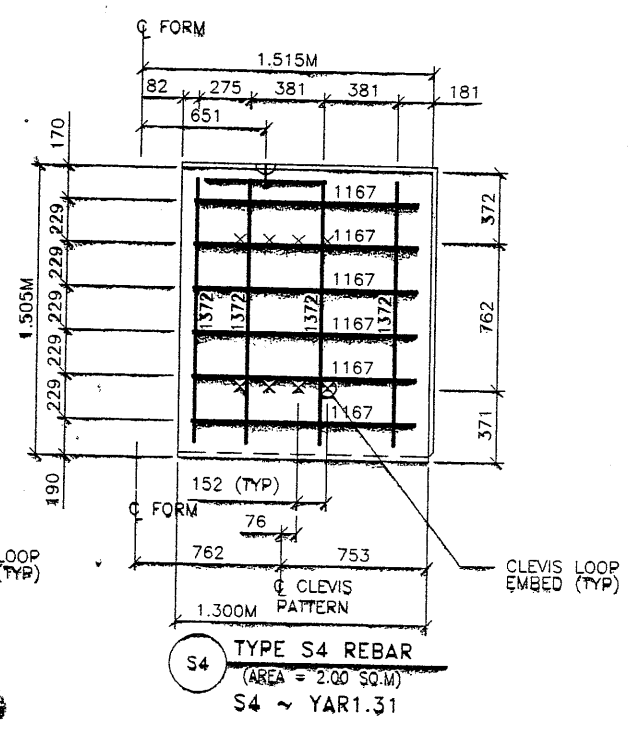
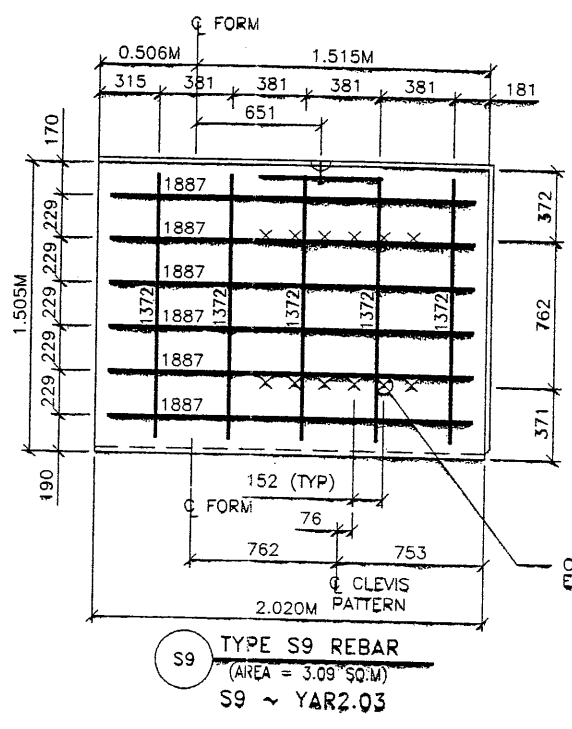
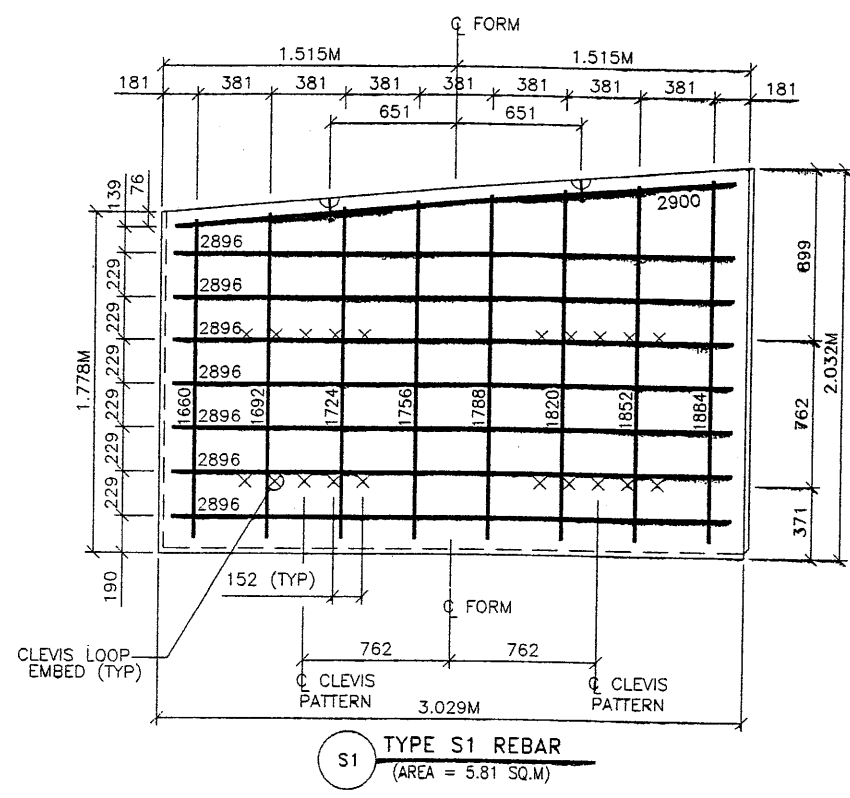
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RETAINED EARTH™ WALLS
PRECAST WALL "R-346-9"
SPECIAL DETAILS
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSPORTATION

DWG. NO.	2.2R-346-9.14
JOB NO.	239-0007
SHT. NO.	RE-11

FINAL PL 6-97 E:\APPROJ\239-0007\35SERIES\33-09.VRT

E:\PROJECT\239-0007\3SERIES\33-09\SPR-02-97 FINAL PLOT



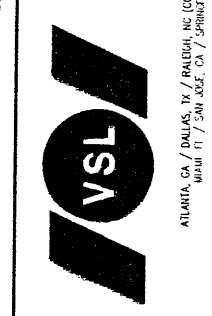
- PANEL REINFORCEMENT NOTES:**
1. PANELS ARE SHOWN BACK FACE.
 2. HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 3. ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 4. ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 5. PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 6. ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 7. CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 8. EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 9. ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 10. VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.

WASATCH CONSTRUCTORS
DEC 04 1997
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	12-02-97	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION

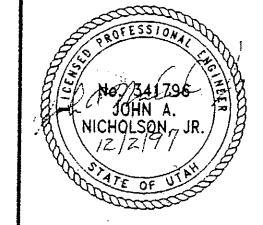
VSL CORPORATION
2600 Plaza Place, Suite 200
Raleigh, NC 27617 Tel: 6372
Fax: (919) 791-4869



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RETAINED EARTH™ WALLS
PRECAST WALL "R-346-9"
SPECIAL PANEL REINFORCEMENT
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

15 of 16 METRIC

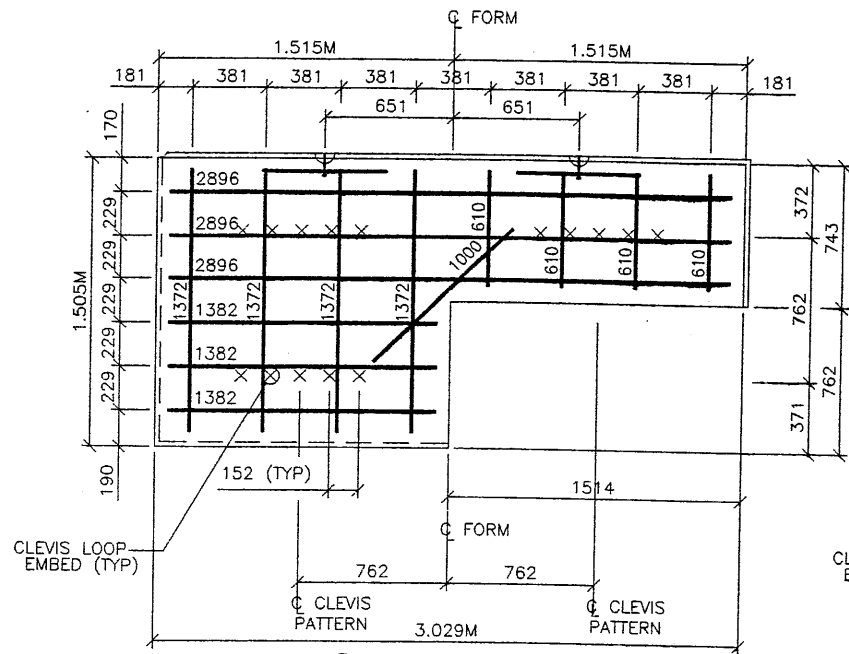


CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

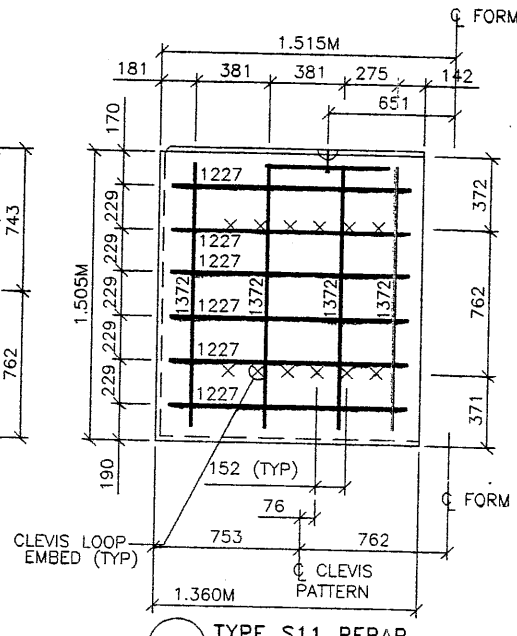
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JOB NO. 239-0007
SHT. NO. RE-12

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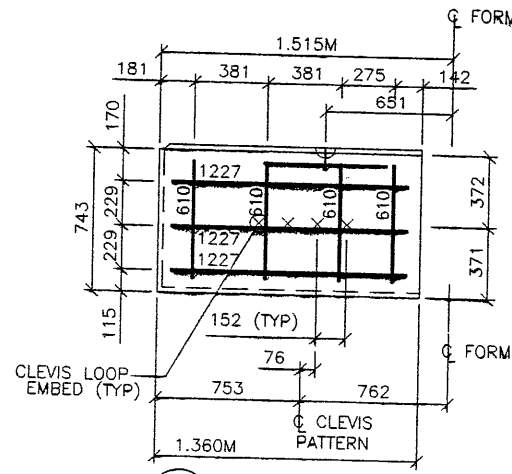
FINAL PLOT 02-97



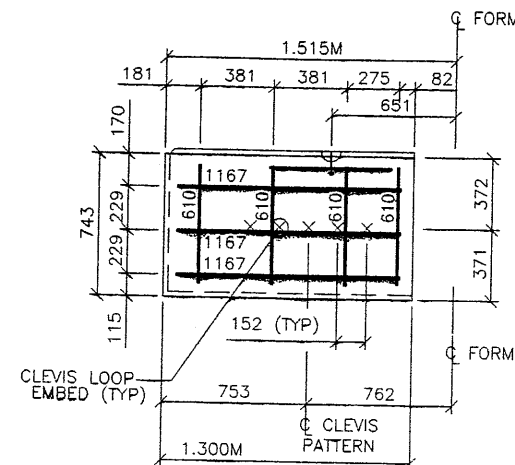
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(AREA = 3.48 SQ.M)



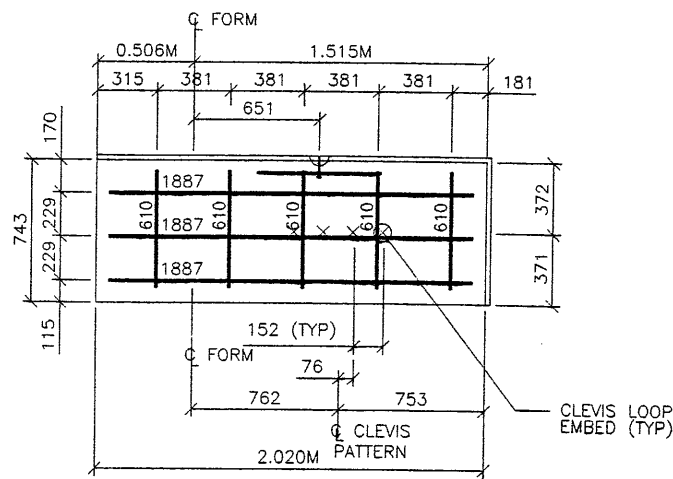
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(AREA = 2.09 SQ.M)
S11 ~ YAL1.37
6-CLEVIS



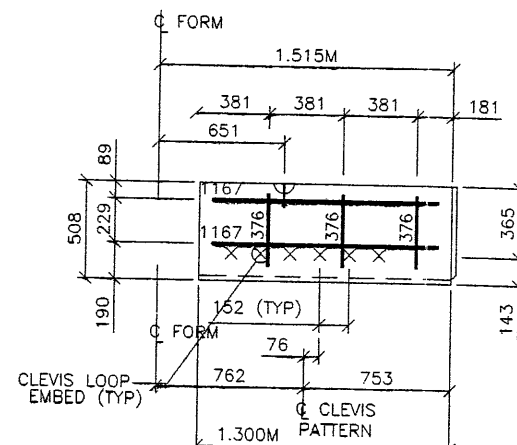
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(AREA = 1.04 SQ.M)
S10 ~ YB2L1.37
4-CLEVIS



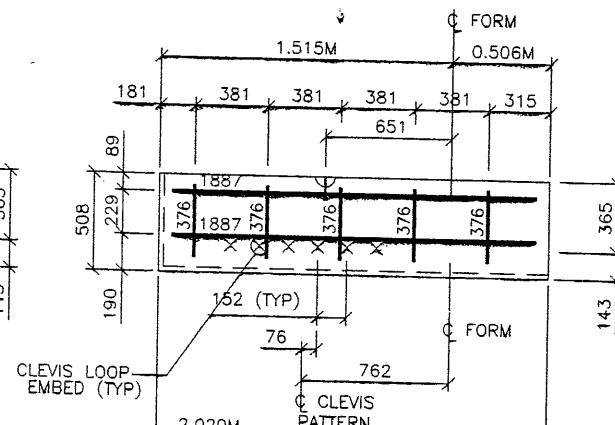
S3 TYPE S3 REBAR
(AREA = 1.00 SQ.M)
S3 ~ YB2L1.31
5-CLEVIS



S8 TYPE S8 REBAR
(AREA = 1.55 SQ.M)
S8 ~ YB2R2.03



S5 TYPE S5 REBAR
(AREA = 0.67 SQ.M)



S7 TYPE S7 REBAR
(AREA = 1.03 SQ.M)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	12-02-97	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
DEC 04 1997
RELEASED FOR CONSTRUCTION

- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
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 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.

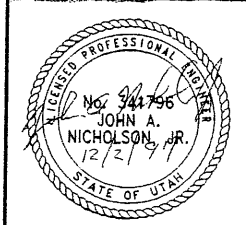
VSL CORPORATION
2940 Plaza Place, Suite 200
Raleigh, NC 27617
Telephone: (919) 781-6772
Fax: (919) 781-4869



ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
MIAMI, FL / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
PRECAST WALL "R-346-9"
SPECIAL PANEL REINFORCEMENT
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

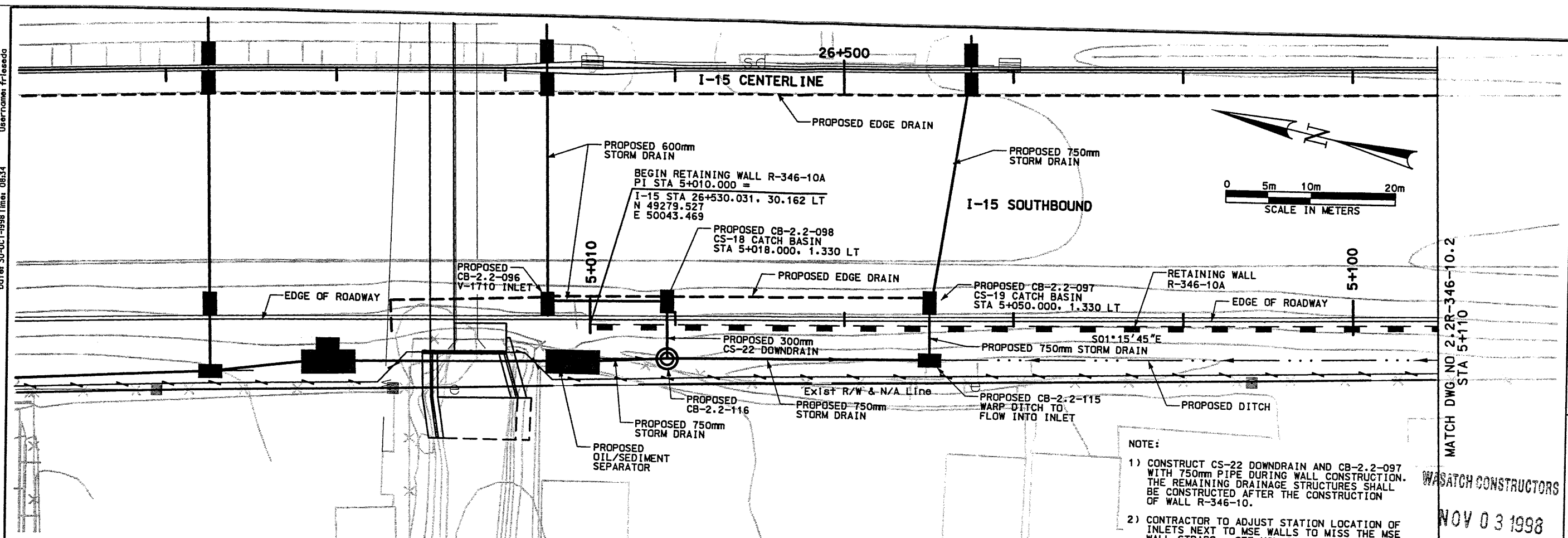
16 of 16 METRIC



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DWG. NO.	2.2R-346-9.16
JOB NO.	239-0007
SHT. NO.	RE-13

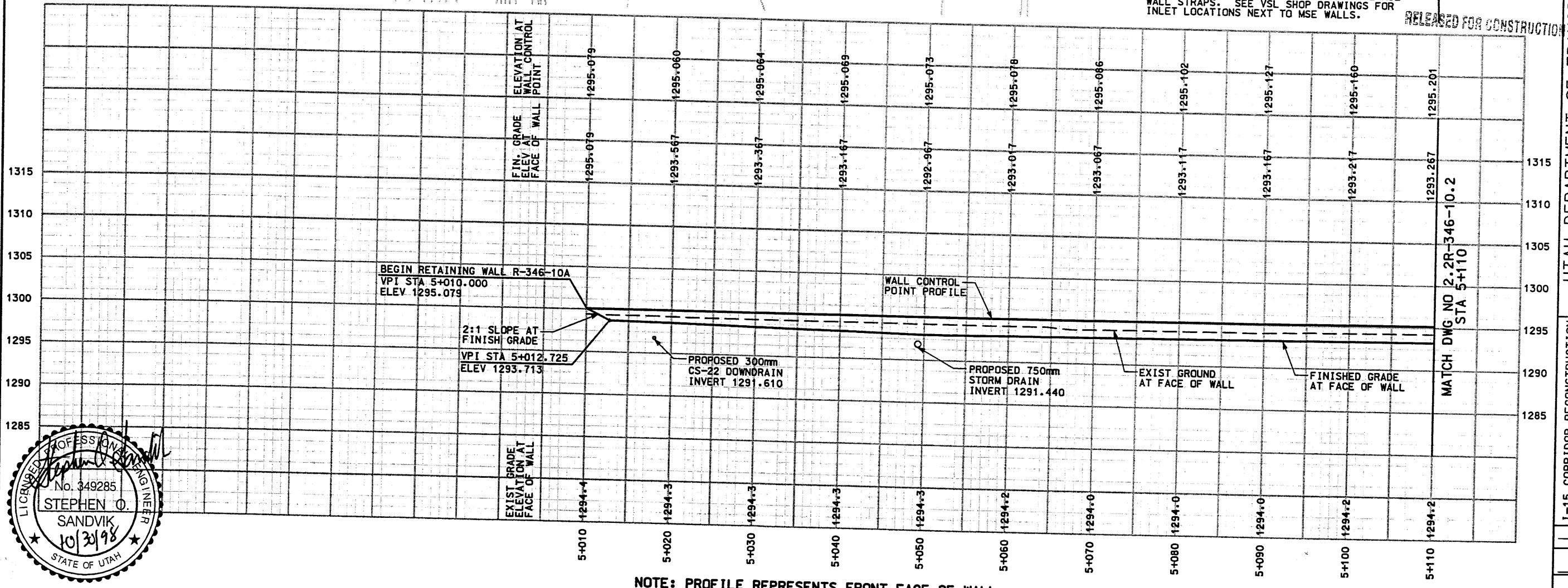
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NOTE:

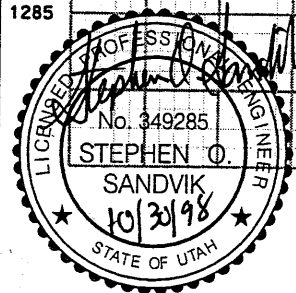
- 1) CONSTRUCT CS-22 DOWNDRAIN AND CB-2.2-097 WITH 750mm PIPE DURING WALL CONSTRUCTION. THE REMAINING DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AFTER THE CONSTRUCTION OF WALL R-346-10.
- 2) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION



NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

SLOPE = H:V

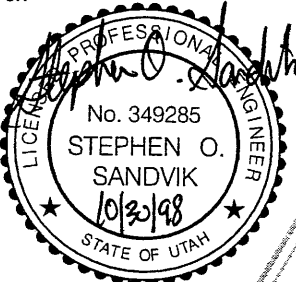
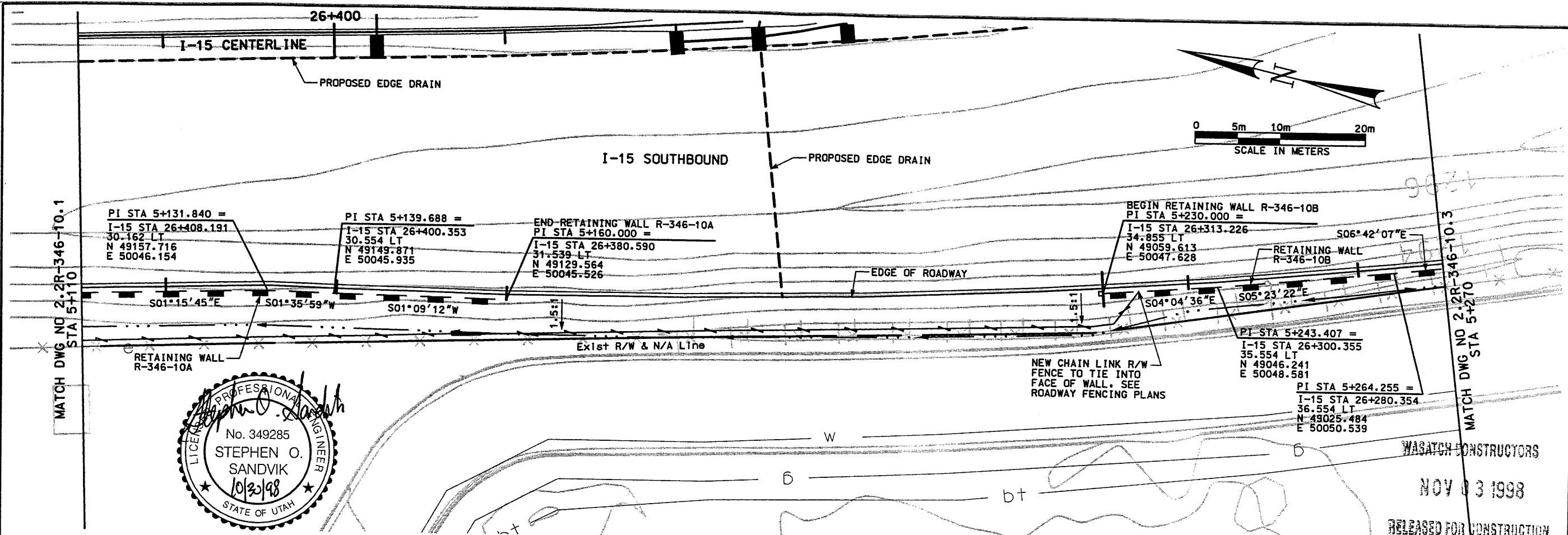


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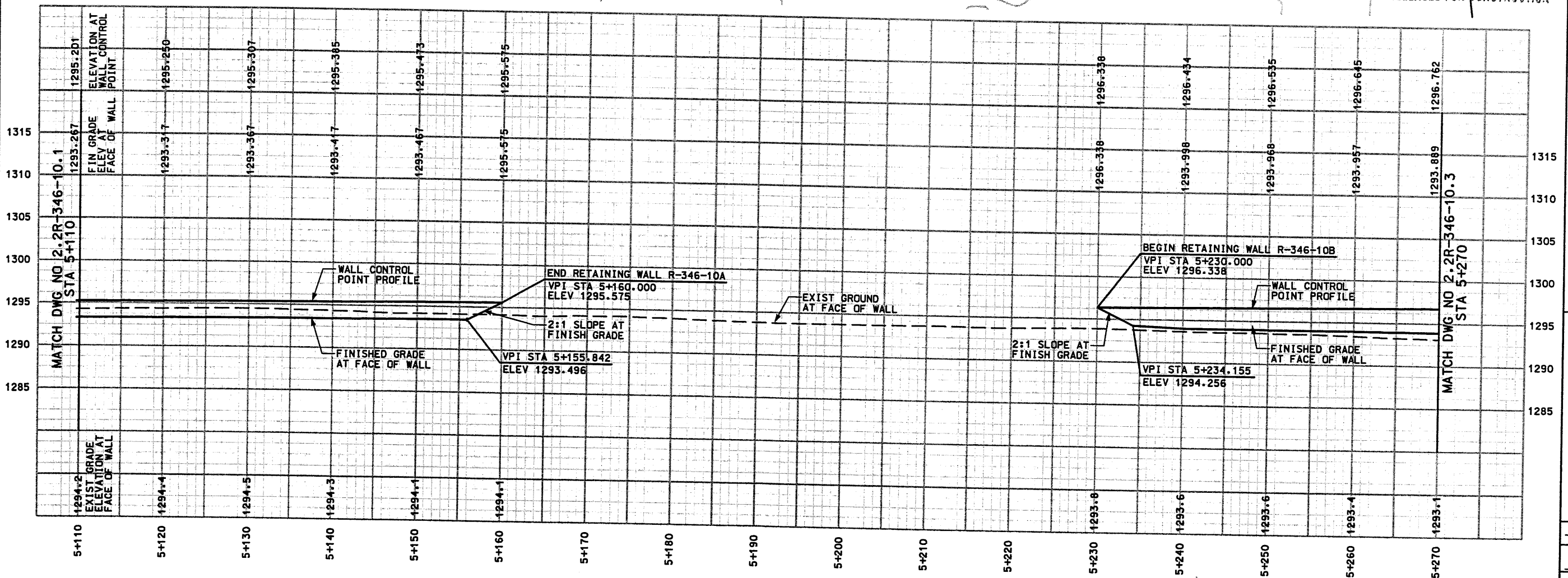
WBS NO. 2213406
 PROJECT NUMBER #SP-15-7(135)296
 COUNTY SALT LAKE
 DWG. NO. 2.2R-346-10.1
 SHEET 1 OF 23
 REF.

UTAH DEPARTMENT OF TRANSPORTATION
 CONTRACT NO. 2.2R-346-10.2
 STA 5+110

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WAGATCH CONSTRUCTORS
 NOV 13 1998
 RELEASED FOR CONSTRUCTION

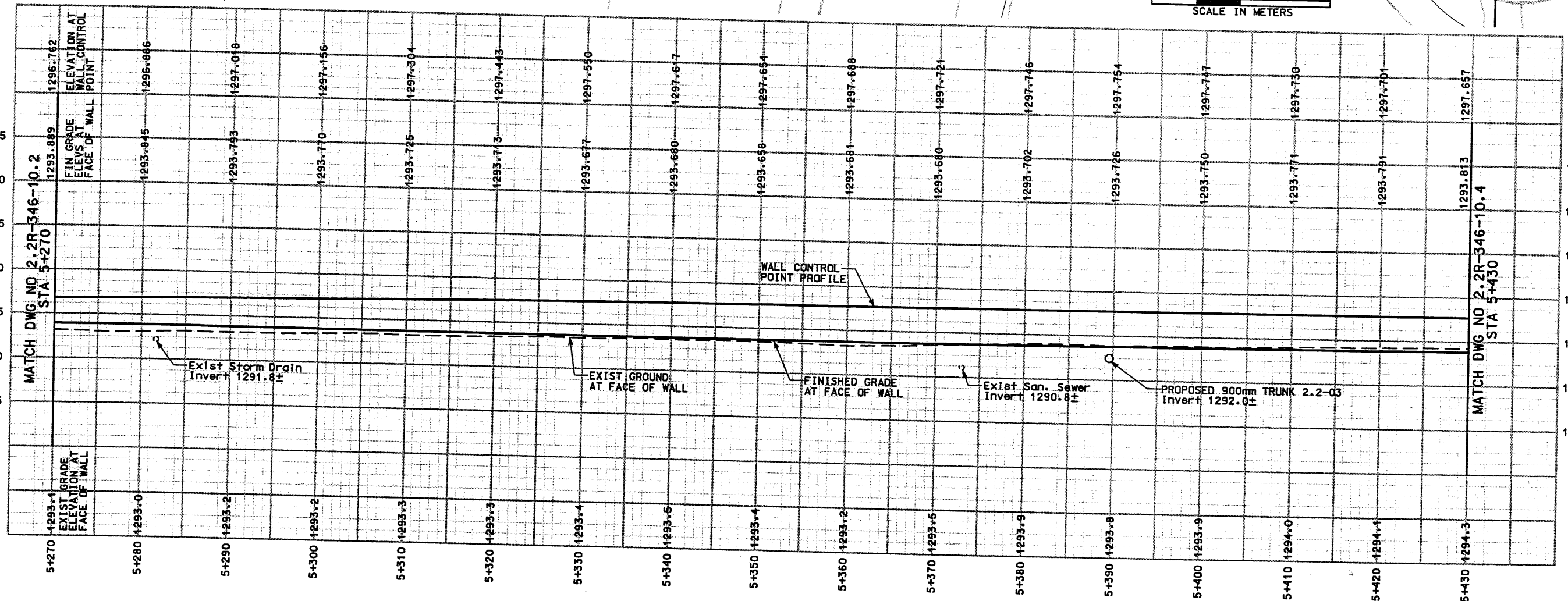
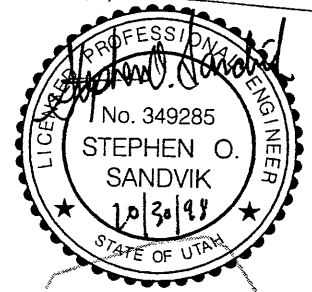
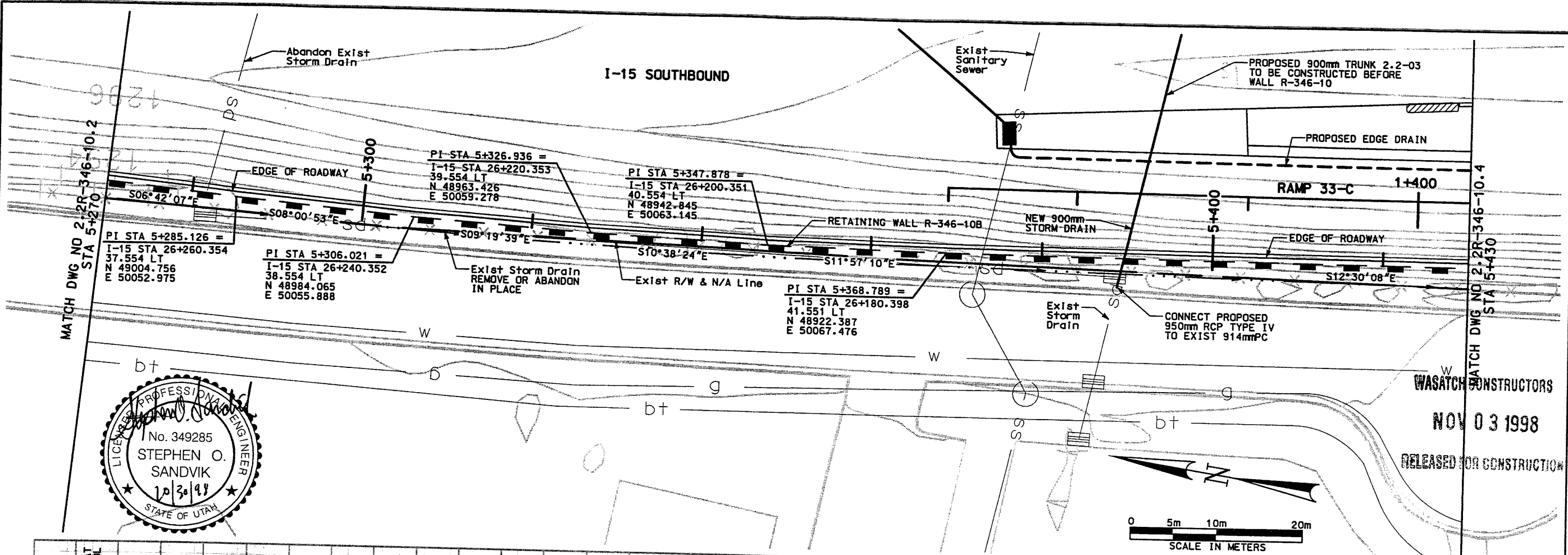


NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

SLOPE = H:V

APPROVED FOR CONSTRUCTION		DESCRIPTION	
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3	/ /	3	/ /
4	/ /	4	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213406	
M.K. CENTENNIAL		SVERDRUP/DE LEUW	
APPROVAL DATE	DESIGN DATE	CHECK DATE	CHECK DATE
10/07/98	10/07/98	10/07/98	10/07/98
DESIGNER	PROJECT DESIGN ENGINEER	DRAMA	PROJECT MANAGER
Stephen O. Sandvik	Randle L. Ross		
DATE	DATE	DATE	DATE
10/07/98	10/07/98	/ /	/ /
I-15 CORRIDOR RECONSTRUCTION		SECTION 2.2	
SITUATION & LAYOUT R-346-10		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-10.2	
SHT. 2 OF 23		REF.	

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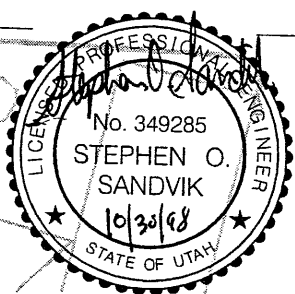
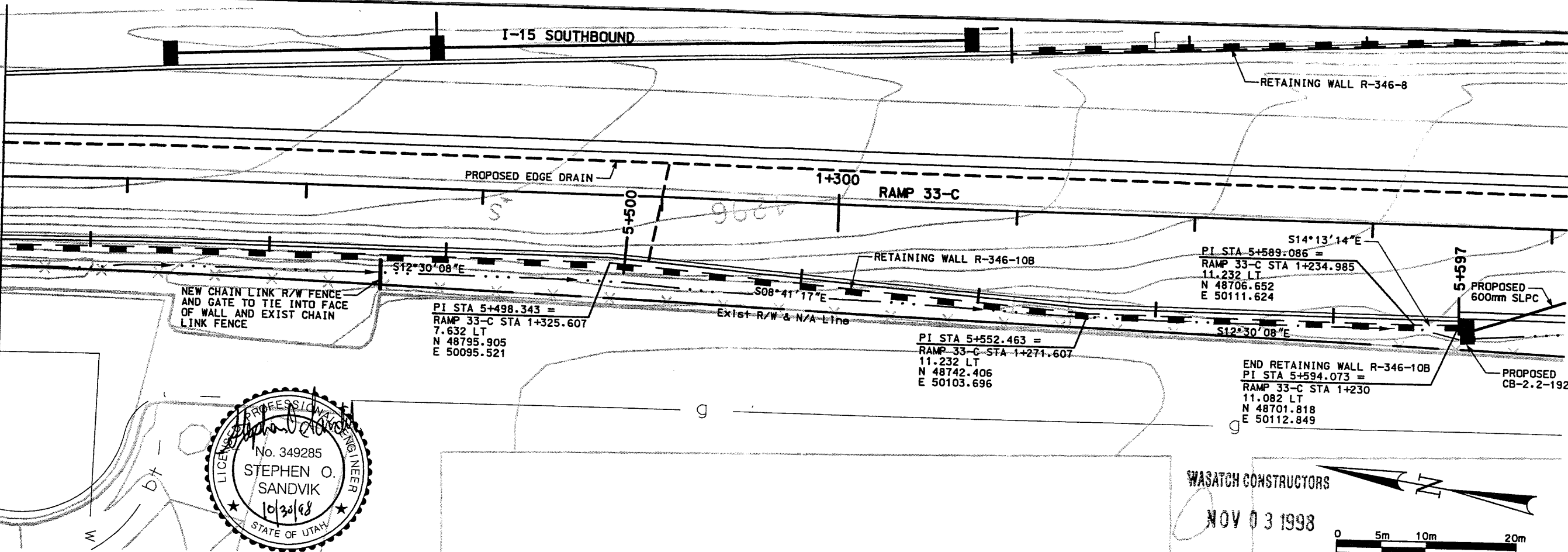


NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

APPROVED FOR CONSTRUCTION		DESCRIPTION	
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Δ	/ /	Δ	/ /
Δ	/ /	Δ	/ /
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL SVERDRUP/DE LEUW		WBS NO. 2213406	
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-10 SECTION 2.2		APPROVAL 10/07/98 Stephen O. Sandvik DESIGN DAF 10/07/98 CHECK BAR 10/07/98 RECORD DATE PROJECT DESIGN ENGINEER DRAWN DAF 10/07/98 CHECK BAR 10/07/98 APPROVED 10/07/98 Rendle L. Ross PROJECT MANAGER QUANT. / /	
SALT LAKE COUNTY DWG. NO. 2.2R-346-10.3		PROJECT NUMBER #SP-15-7(135)296	
SHT. 3 OF 23		REF.	

MATCH DWG NO 2.2R-346-10.4
STA 5+430

MATCH DWG NO 2.2R-346-10.3
STA 5+430



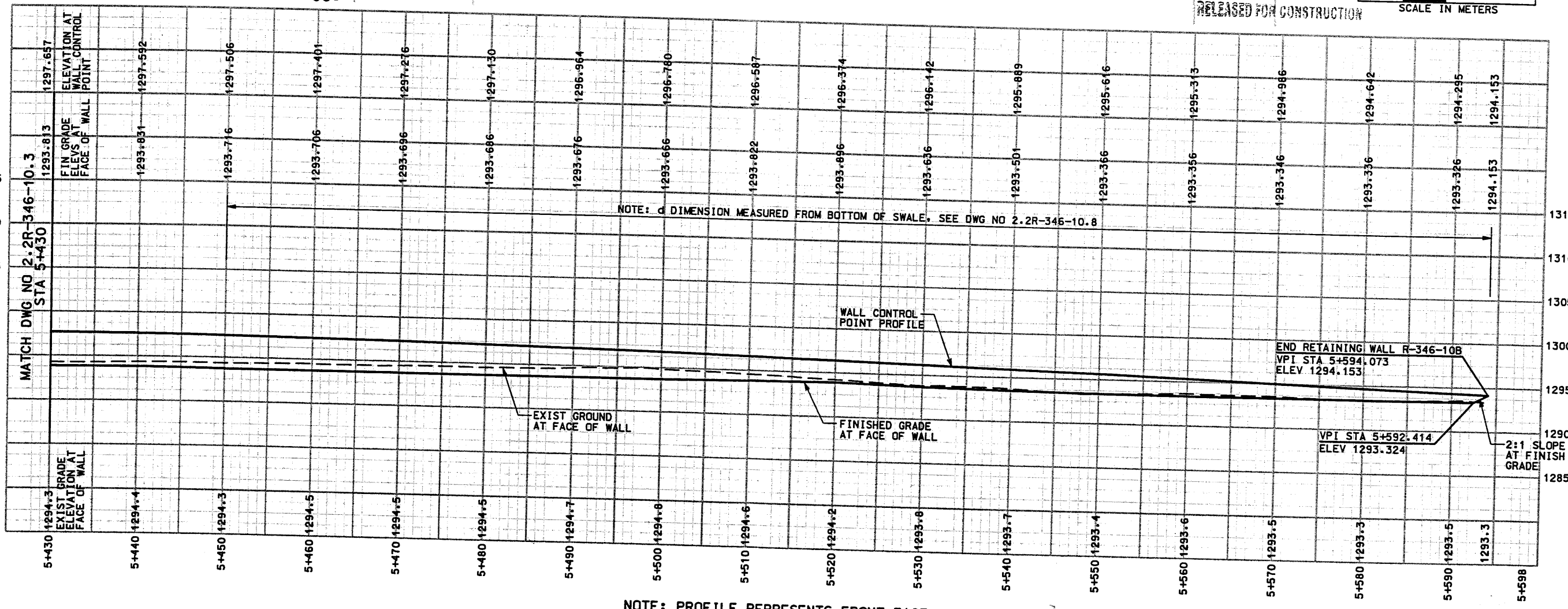
WASATCH CONSTRUCTORS

NOV 03 1998

RELEASED FOR CONSTRUCTION

SCALE IN METERS

0 5m 10m 20m



NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

SLOPE = H:V

UTAH DEPARTMENT OF TRANSPORTATION
MK CENTENNIAL
SVERDRUP/DE LEUW

I-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-346-10
SECTION 2.2
PROJECT #SP-15-7(135)296

SALT LAKE COUNTY
DWG. NO.
2.2R-346-10.4

APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
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4	/ /	/ /

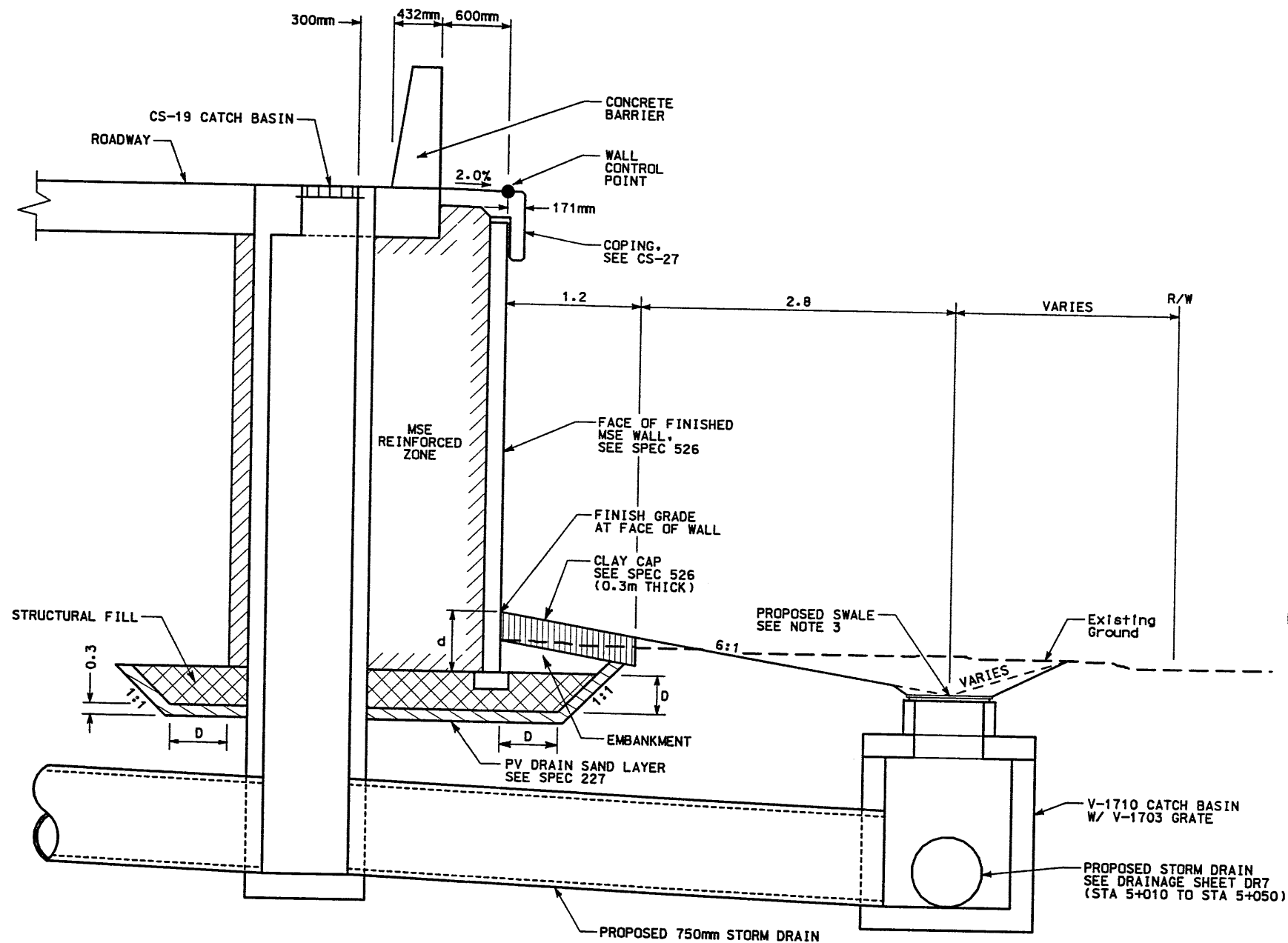
REVISION RECORD:
10/07/98 Stephen O. Sandvik DESIGN DAF 10/07/98
10/07/98 PROJECT DESIGN ENGINEER Randle L. Ross DRAWN DAF 10/07/98
10/07/98 DATE PROJECT MANAGER QUANT. / /

WBS NO. 2213406

REVISION CHECK BAR 10/07/98
CHECK BAR 10/07/98
CHECK BAR 10/07/98
CHECK BAR 10/07/98

SHT. 4 OF 23

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-10
(1-STAGE MSE WALL)
 NTS



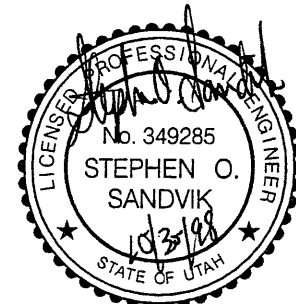
WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

d = EMBEDMENT DEPTH (SEE VSL DETAILS)
 D = DESIGN DEPTH OF GRANULAR BORROW BENEATH WALL (1m MINIMUM) (SEE VSL DETAILS)

DETAIL A
 STA 5+010 TO STA 5+160
 (DOWNDRAIN LOCATED AT STA 5+050.000)

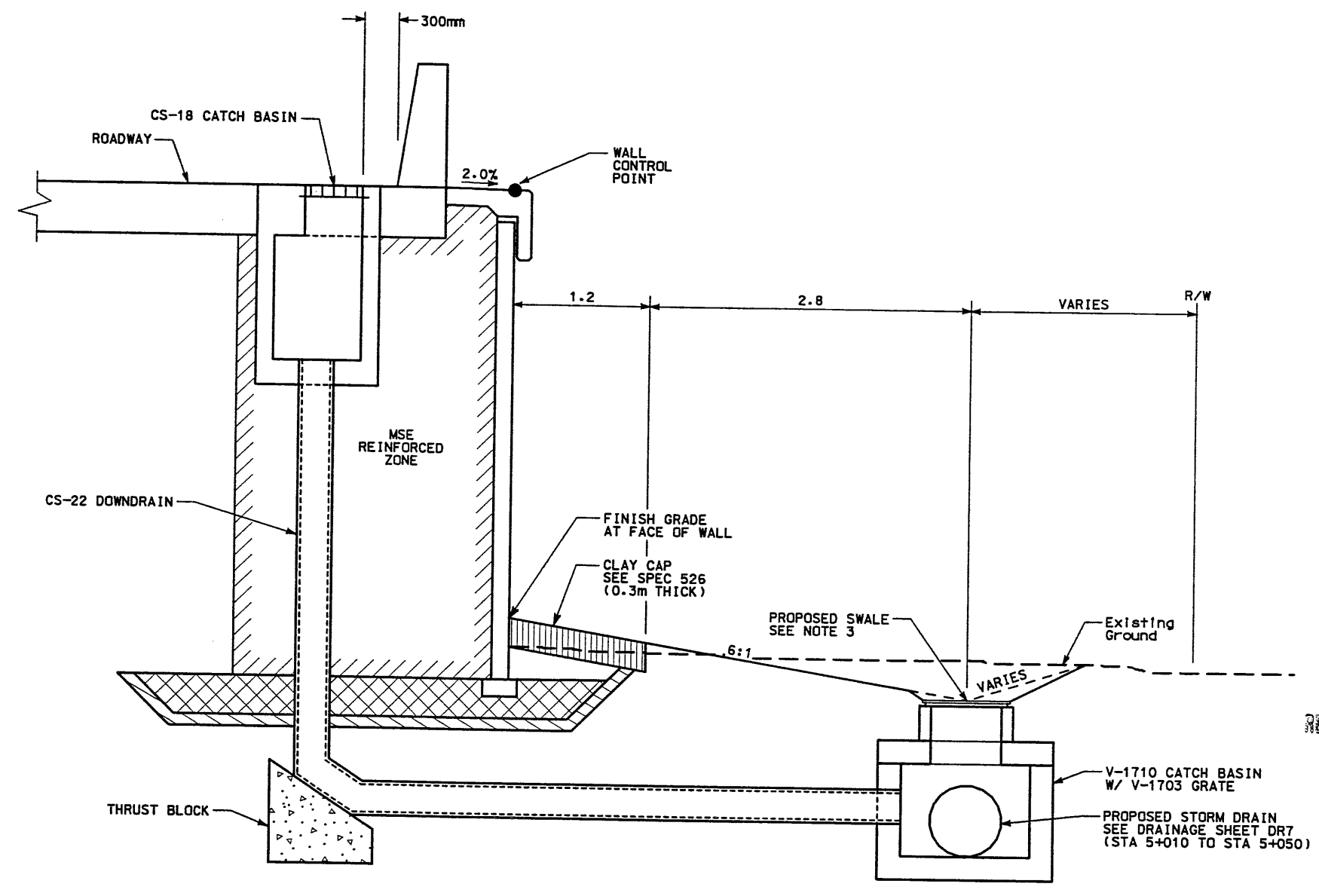
- NOTES:
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 GRANULAR BORROW.
 - 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) SEE DRAINAGE SHEET DR7 FOR DITCH GRADING AND LOCATION.
 - 4) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.

SLOPE = H:V



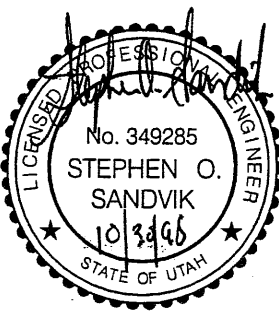
APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
Δ	10/30/98	Δ	10/30/98
Δ	/ /	Δ	/ /
Δ	/ /	Δ	/ /
Δ	/ /	Δ	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213406	
MK CENTENNIAL		CHECK BAR 10/07/98	
SVERRUP/DE LEUW		CHECK BAR 10/07/98	
DESIGN DAF 10/07/98		CHECK DAF 10/07/98	
DESIGN BAR 10/07/98		CHECK BAR 10/07/98	
DRAW DAF 10/07/98		CHECK DAF 10/07/98	
DRAW BAR 10/07/98		CHECK BAR 10/07/98	
PROJECT MANAGER		QUANT.	
Randle L. Ross		/ /	
DATE		DATE	
APPROVED 10/07/98		APPROVED 10/07/98	
DATE		DATE	
STEPHEN O. SANDVIK		PROJECT DESIGN ENGINEER	
10/07/98		DATE	
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346-10		#SP-15-7(135)296	
SECTION 2.2		COUNT	
SALT LAKE COUNTY		DWG. NO.	
2.2R-346-10.5		SHT. 5 OF 23	
REF.		REF.	

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-10
(1-STAGE MSE WALL)
NTS



DETAIL B
DOWNDRAIN AT STA 5+018.000

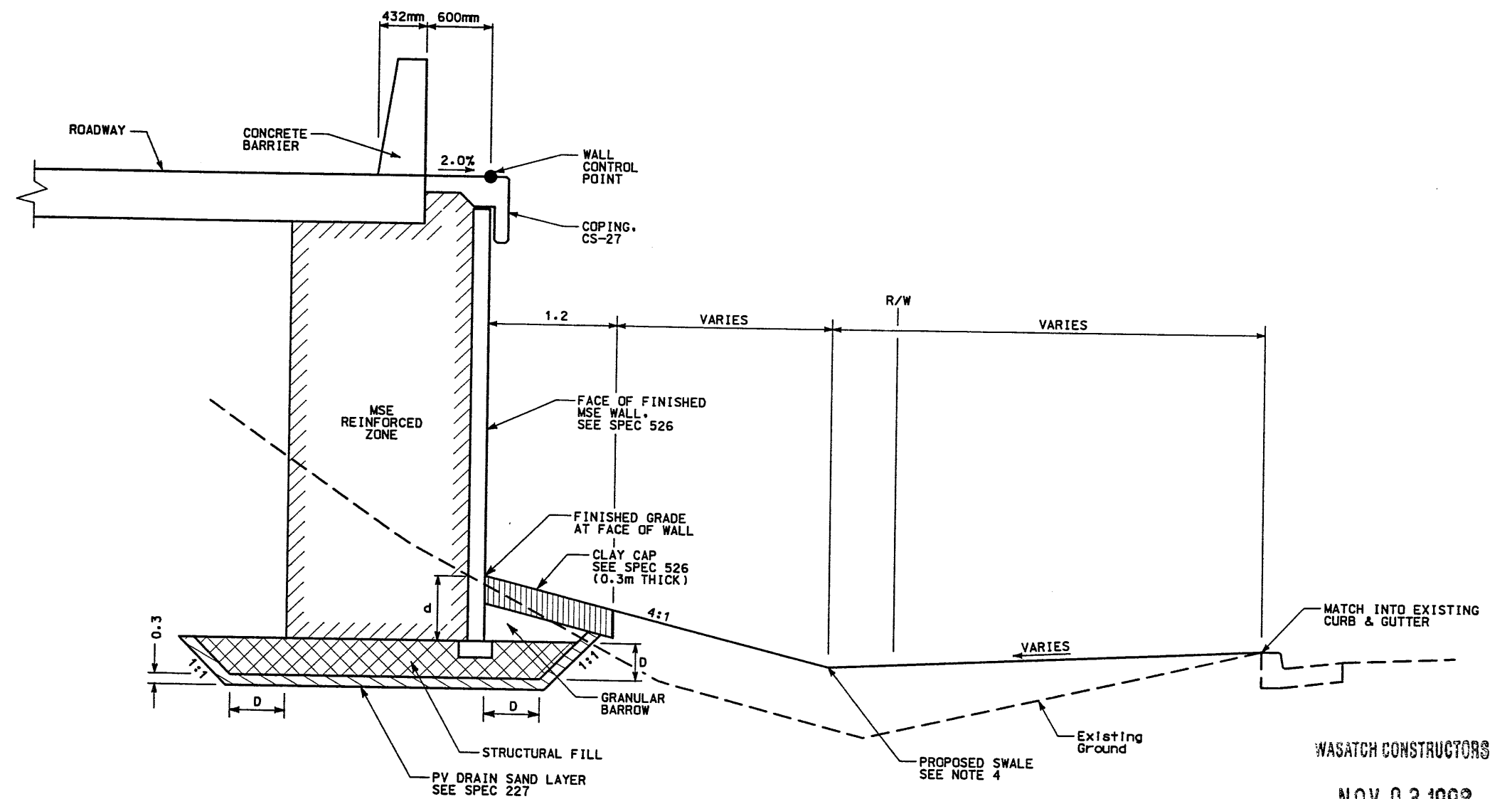
- NOTES:**
- 1) SEE SHT 2.2R-346-10.5 FOR ALL RETAINING WALL DIMENSIONS & CALLOUTS.
 - 2) SEE DRAINAGE SHEET DR7 FOR DITCH GRADING AND LOCATION.
 - 3) CONTRACTOR TO ADJUST STATION LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE WALL STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.



WASATCH CONSTRUCTORS
NOV 03 1998
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	10/30/98	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213406	
MK CENTENNIAL SVERDRUP/DE LEUW		CHECK BAR	10/07/98
APPROVAL	10/07/98	DESIGN DAF	10/07/98
RECOMM.	10/07/98	STEPHEN O. SANDVIK	PROJECT DESIGN ENGINEER
APPROVED	10/07/98	DATE	10/07/98
DATE	10/07/98	QUANT.	/ /
PROJECT NUMBER	#SP-15-7(135)296	PROJECT MANAGER	RANDIE L. ROSS
I-15 CORRIDOR RECONSTRUCTION	WALL DETAIL R-346-10	SECTION 2.2	
SALT LAKE COUNTY	DWG. NO.	2.2R-346-10.6	
SHT.	6	OF	23
REF.			

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-10
(1-STAGE MSE WALL)
NTS

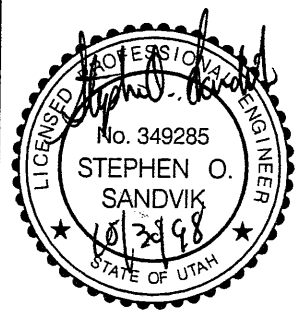


d=EMBEDMENT DEPTH (SEE VSL DETAILS)
D=DESIGN DEPTH OF GRANULAR BORROW BENEATH WALL (1m MINIMUM) (SEE VSL DETAILS)

DETAIL C
STA 5+230 TO STA 5+440
STA 5+440 TO STA 5+450 (TRANS TO DETAIL D)

- NOTES:
- 1) OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 GRANULAR BARROW.
 - 2) THE FOUNDATION BEARING MATERIALS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
 - 3) CONSTRUCT CLAY CAP PER SPECIFICATION 526. CONSTRUCT CLAY CAP AFTER SETTLEMENT PERIOD PER APPROVAL OF GEOTECHNICAL FIELD ENGINEER.
 - 4) SEE DRAINAGE SHEETS DR5, DR6 AND DR7 FOR DITCH GRADING AND LOCATION.

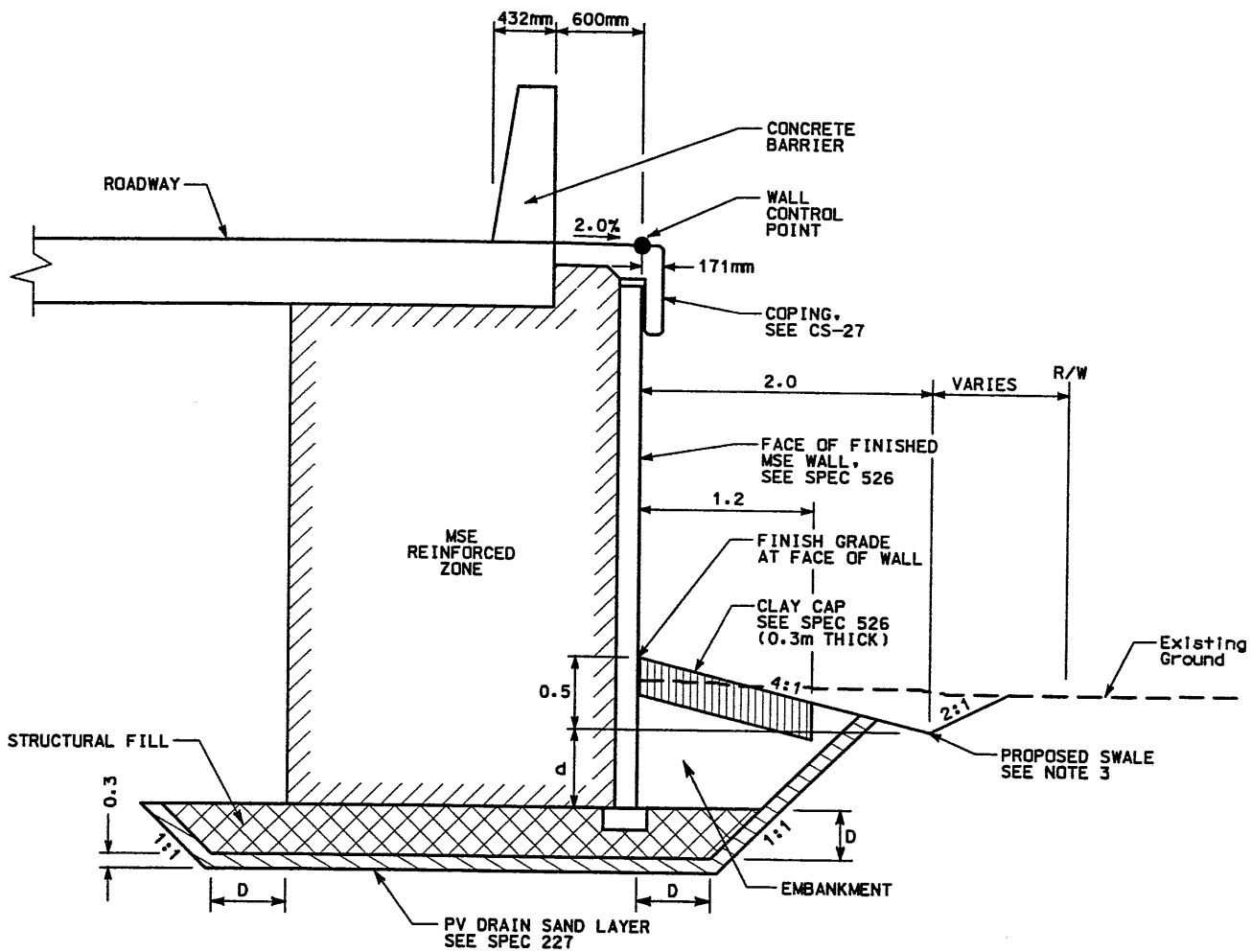
WASATCH CONSTRUCTORS
NOV 03 1998
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
△	10/30/98	△	/ /
△	/ /	△	/ /
△	/ /	△	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO.	
MK CENTENNIAL		2213406	
SVERDRUP/DE LEUW		DATE	
APPROVAL	DESIGN	CHECK	BAR
10/07/98	10/07/98	10/07/98	10/07/98
Stephen O. Sandvik	Stephen O. Sandvik	Stephen O. Sandvik	Stephen O. Sandvik
PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER
APPROVED	DATE	APPROVED	DATE
10/07/98	10/07/98	10/07/98	10/07/98
Randall L. Ross	Randall L. Ross	Randall L. Ross	Randall L. Ross
PROJECT MANAGER	PROJECT MANAGER	PROJECT MANAGER	PROJECT MANAGER
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346-10		#SP-15-7(135)296	
SECTION 2.2		COUNT	
SALT LAKE COUNTY		DWG. NO.	
2.2R-346-10.7		SHT. 7 OF 23	
REF.		REF.	

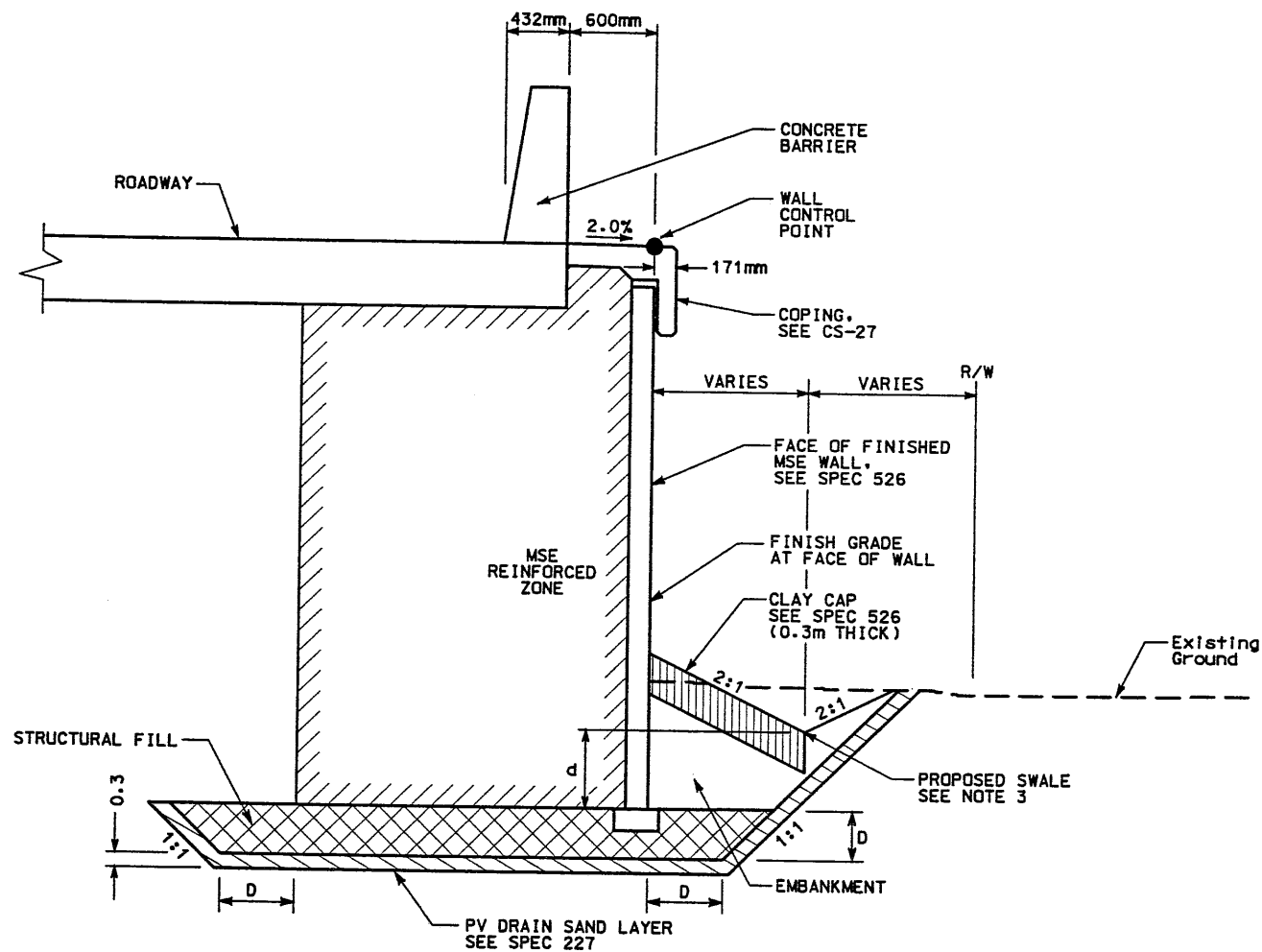
SLOPE = H:V

RETAINING WALL DETAIL
SECTION 2.2 WALL NO. R-346-10
(1-STAGE MSE WALL)
NTS



d = EMBEDMENT DEPTH (SEE VSL DETAILS)
NOTE d FROM BOTTOM OF SWALE
D = DESIGN DEPTH OF GRANULAR BORROW
BENEATH WALL (1m MINIMUM)
(SEE VSL DETAILS)

DETAIL D
STA 5+450 TO STA 5+500
STA 5+500 TO STA 5+520 (TRANS TO DETAIL E)



d = EMBEDMENT DEPTH (SEE VSL DETAILS)
NOTE d FROM BOTTOM OF SWALE, SEE TABLE
D = DESIGN DEPTH OF GRANULAR BORROW
BENEATH WALL (1m MINIMUM)
(SEE VSL DETAILS)

DETAIL E
STA 5+520 TO STA 5+594.073

PROPOSED SWALE ELEV

STA	ELEV
5+520	1293.006
5+530	1293.136
5+540	1293.126
5+550	1293.116
5+560	1293.106
5+570	1293.096
5+580	1293.086
5+590	1293.076
5+594.073	1293.072

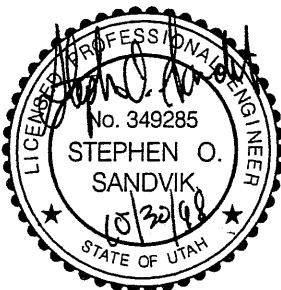
NOTES:

- OVEREXCAVATE EXISTING SOILS TO DEPTH (D) OF 1.0m MINIMUM OR AS SHOWN ON VSL PLANS. REFILL EXCAVATION WITH STRUCTURAL FILL COMPACTED TO THE REQUIREMENTS FOR CORRIDOR SPECIFICATION 220 GRANULAR BARROW.
- THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.
- SEE DRAINAGE SHEET DR5 & DR6 FOR DITCH GRADING AND LOCATION.

WASATCH CONSTRUCTORS

NOV 03 1998

RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
Δ	10/30/98	Δ	10/30/98
Δ	/ /	Δ	/ /
Δ	/ /	Δ	/ /
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213406	
MK CENTENNIAL SVERDRUP/DE LEUW		CHECK BAR 10/07/98	
DESIGN DAF 10/07/98		CHECK BAR 10/07/98	
PROJECT DESIGN ENGINEER		CHECK BAR 10/07/98	
Stephen O. Sandvik		CHECK	
DATE 10/07/98		QUANT. / /	
PROJECT MANAGER		DATE / /	
Randle L. Ross		DATE / /	
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
WALL DETAIL R-346-10		#SP-15-7(135)296	
SECTION 2.2		SALT LAKE COUNTY	
DWC. NO.		2.2R-346-10.8	
SHT. 8 OF 23		REF.	

SLOPE = H:V

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-21-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION	BY

DES. 10-21-98 MM
 DRN 10-21-98 RSW
 CHK 10-21-98 MM
 RETAINED EARTH™
 VSL

VSL CORPORATION
 2640 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6272
 Fax: (919) 761-4959

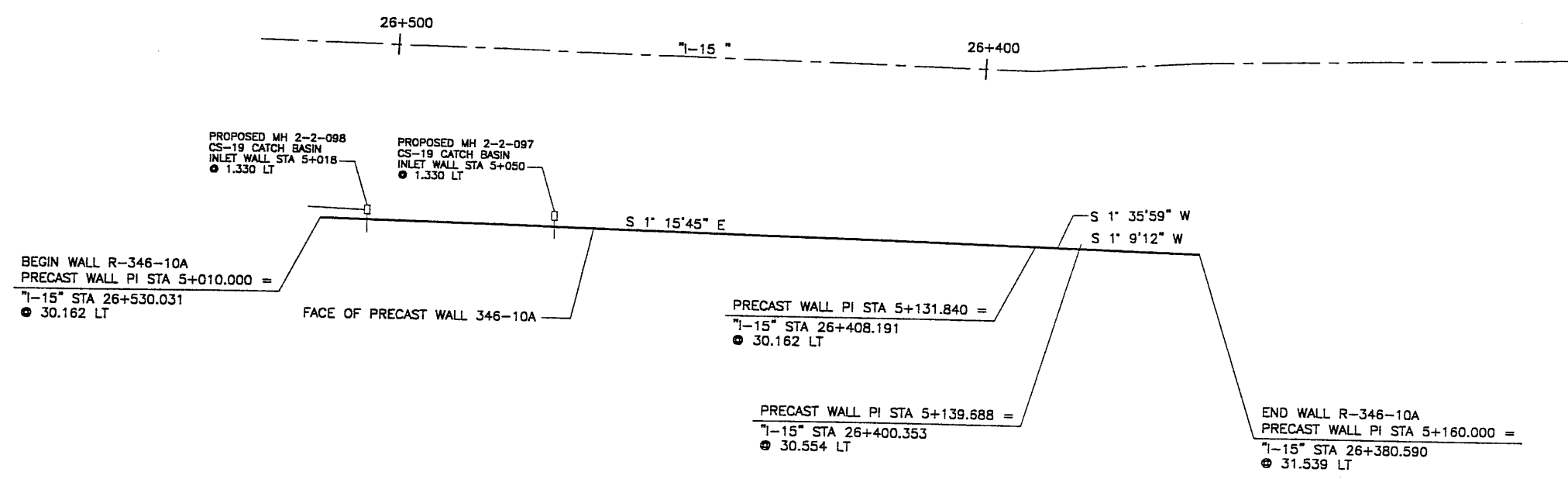
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 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

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RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-346-10A"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-10.9
JOB NO.	239-0007
SHT. NO.	RE-1

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST WALL R-346-10A, NOTES & DESIGN CRITERIA
RE-2	PLAN PRECAST WALL R-346-10B, NOTES & DESIGN CRITERIA
RE-3	TYPICAL CROSS SECTION
RE-4	TYPICAL CROSS SECTION
RE-5	TYPICAL CROSS SECTION
RE-6	TYPICAL CROSS SECTION
RE-7	PRECAST WALL R-346-10A
RE-8	PRECAST WALL R-346-10A
RE-9	PRECAST WALL R-346-10B
RE-10	PRECAST WALL R-346-10B
RE-11	PRECAST WALL R-346-10B
RE-12	PRECAST WALL R-346-10B
RE-13	PRECAST WALL R-346-10B
RE-14	PRECAST WALL R-346-10B
RE-15	Y & SPECIAL PANEL DETAILS



PLAN VIEW MSE WALL "R-346-10A"
 SCALE: 1=500 (FULL SIZE)
 SCALE: 1=1000 (HALF SIZE)

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 34°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)
TRAFFIC SURCHARGE = 250 PSF (12 KPa)
SEISMIC ACCELERATION COFF. = 0.27g (TYP)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

JOHN A. NICHOLSON, JR.
 10/25/98
 LICENSED PROFESSIONAL ENGINEER
 STATE OF UTAH

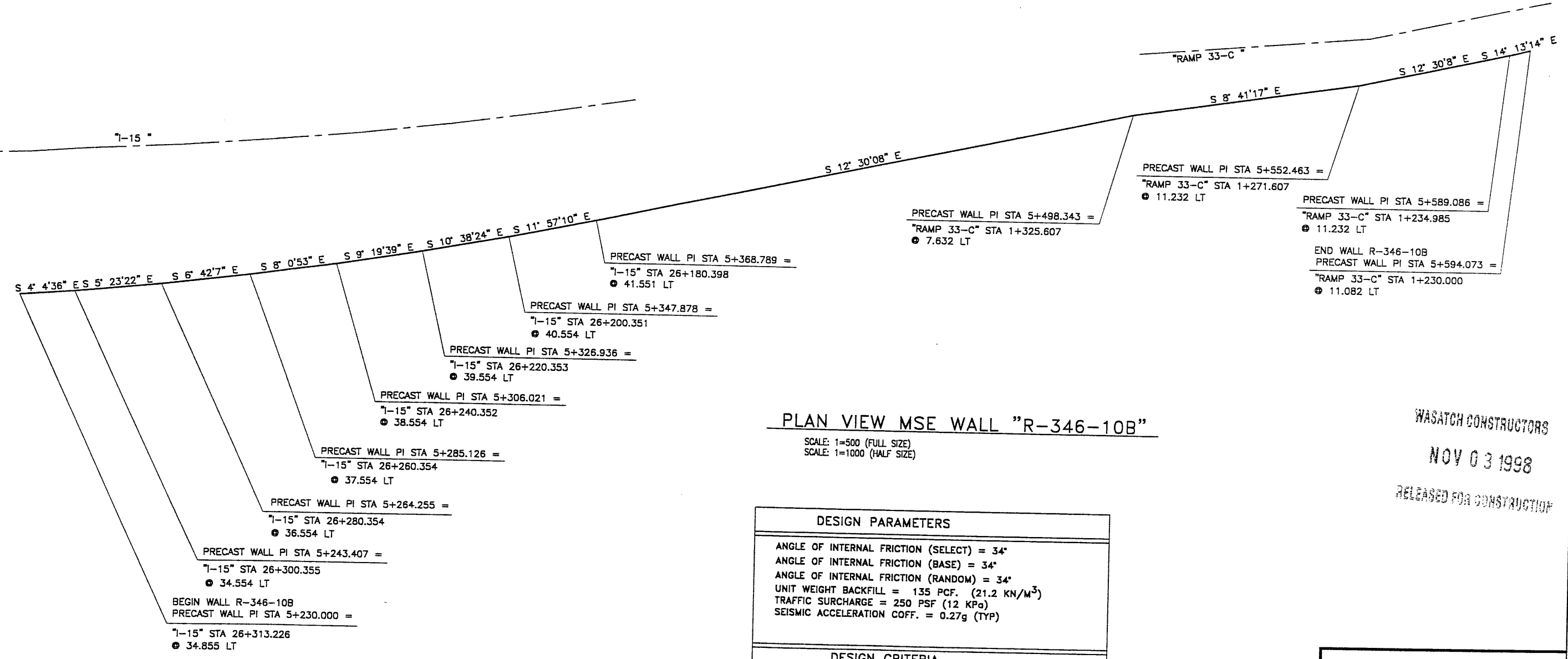
H:\RE_EARTH\PROJECT\239-0007\1998\ES\33-10\RE-1.DWG
 FINA\OT 10-21-98
 H:\RE_EARTH\PROJECT\239-0007\1998\

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-21-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CHK

VSL CORPORATION
 2840 Plaza Blanca, Suite 200
 Raleigh, NC 27613
 Telephone: (919) 781-8272
 Fax: (919) 781-4889

VSL
 ATLANTA, GA / DALLAS, TX / PALO ALTO, CA (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA



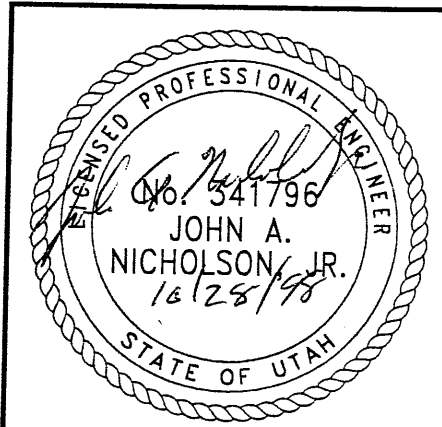
PLAN VIEW MSE WALL "R-346-10B"
 SCALE: 1=500 (FULL SIZE)
 SCALE: 1=1000 (HALF SIZE)

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 34°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/M ³)
TRAFFIC SURCHARGE = 250 PSF (12 KPa)
SEISMIC ACCELERATION COEFF. = 0.27g (TYP)

DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

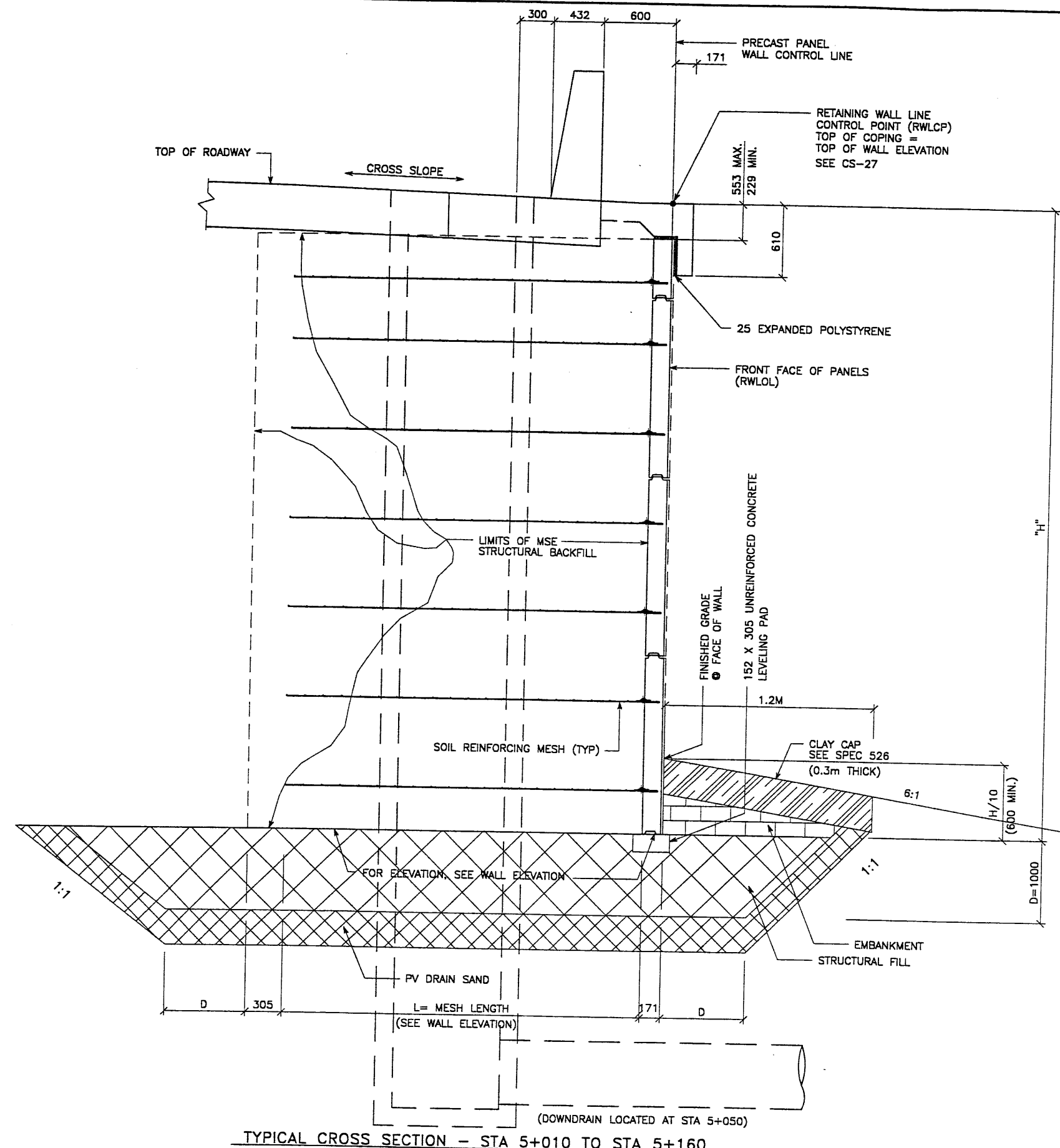


WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

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RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-346-10B"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-10.10
JOB NO.	239-0007
SHT. NO.	RE-2

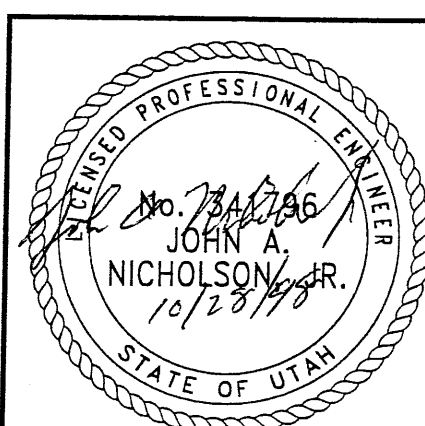


TYPICAL CROSS SECTION - STA 5+010 TO STA 5+160

(SEE DWG. NO. 2.2R-346-10.6 FOR ADDITIONAL INFORMATION)
SCALE: 1:20 (FULL SIZE) SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-21-98	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
NOV 03 1998
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METRIC
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NO.	DATE	DESCRIPTION	NO.	DATE	REVISION	BY

DES. 12-21-98 JN
DRN. 12-21-98 RSW
CHK. 12-21-98 JN

VSL CORPORATION
2810 Plaza Place, Suite 200
Boulder, CO 80501
Tel: (303) 791-8272
Fax: (303) 791-8868

ALANMA, GA. / DANLVS, TX. / WALEGH, NC (CORPORATE OFFICE)
BIRMINGHAM, AL. / SAN JOSE, CA. / SHREVEPORT, LA.

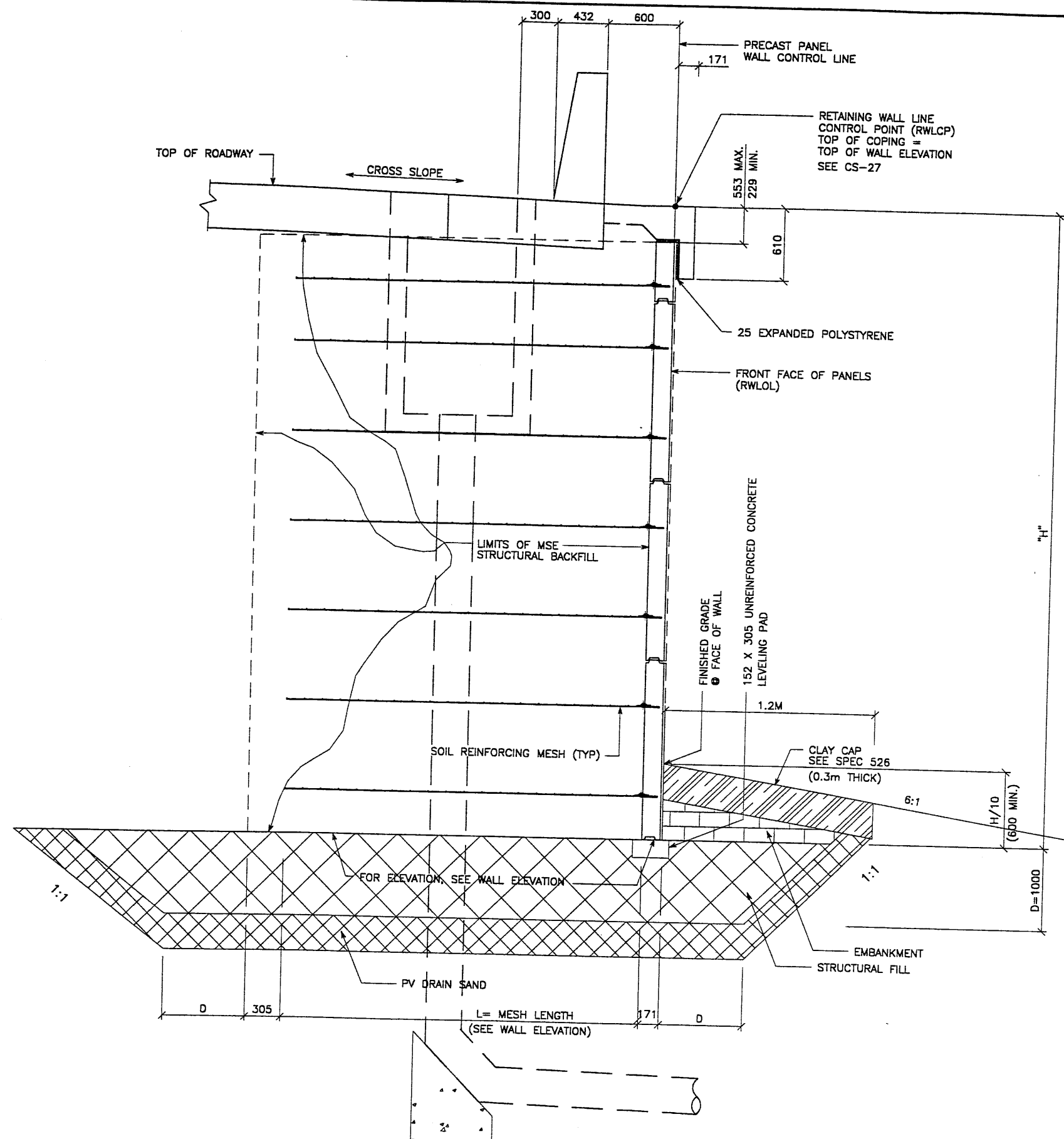
RETAINED EARTH™ WALLS
WIRE FACED WALL "R-346-10"
TYPICAL CROSS SECTION
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.2R-346-10.11
JOB NO. 239-0007
SHT. NO. RE-3

REFERENCE (X-UTAH.DWG)

H:\RE_EARTH\PROJECT\239-0007\1998\IES\33-10\RE-3.DWG

FINAL LOT 12-21-98



TYPICAL CROSS SECTION - DOWNDRAIN AT STA 5+018.000
 (SEE DWG. NO. 2.2R-346-10.6 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)

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METRIC

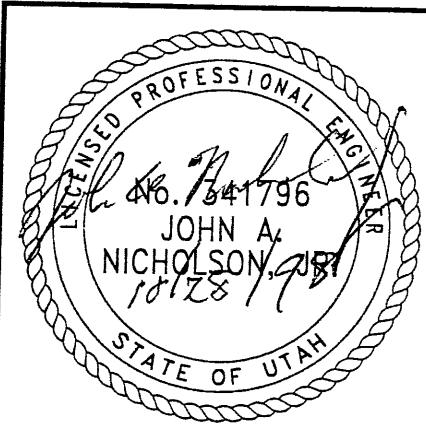
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-21-98	RELEASE FOR CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE	REVISION	BY
JN	RSW	JN				
JN	JN	JN				

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4569

ATLANTA, GA / DALLAS, TX / BALCON, NC (CORPORATE OFFICE)
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WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

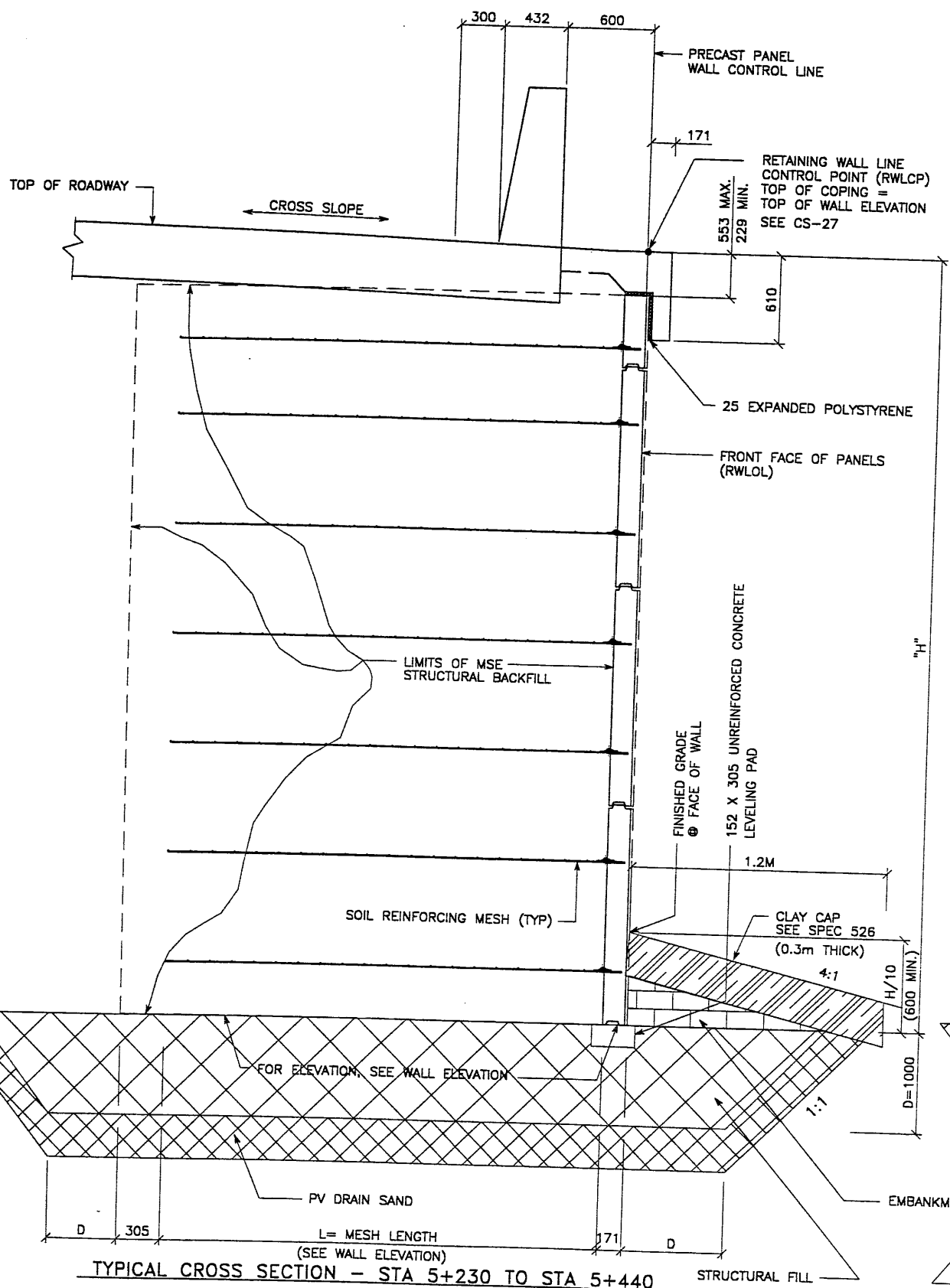


RETAINED EARTH™ WALLS WIRE FACED WALL "R-346-10" TYPICAL CROSS SECTION
UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.2R-346-10.12
JOB NO. 239-0007
SHT. NO. RE-4

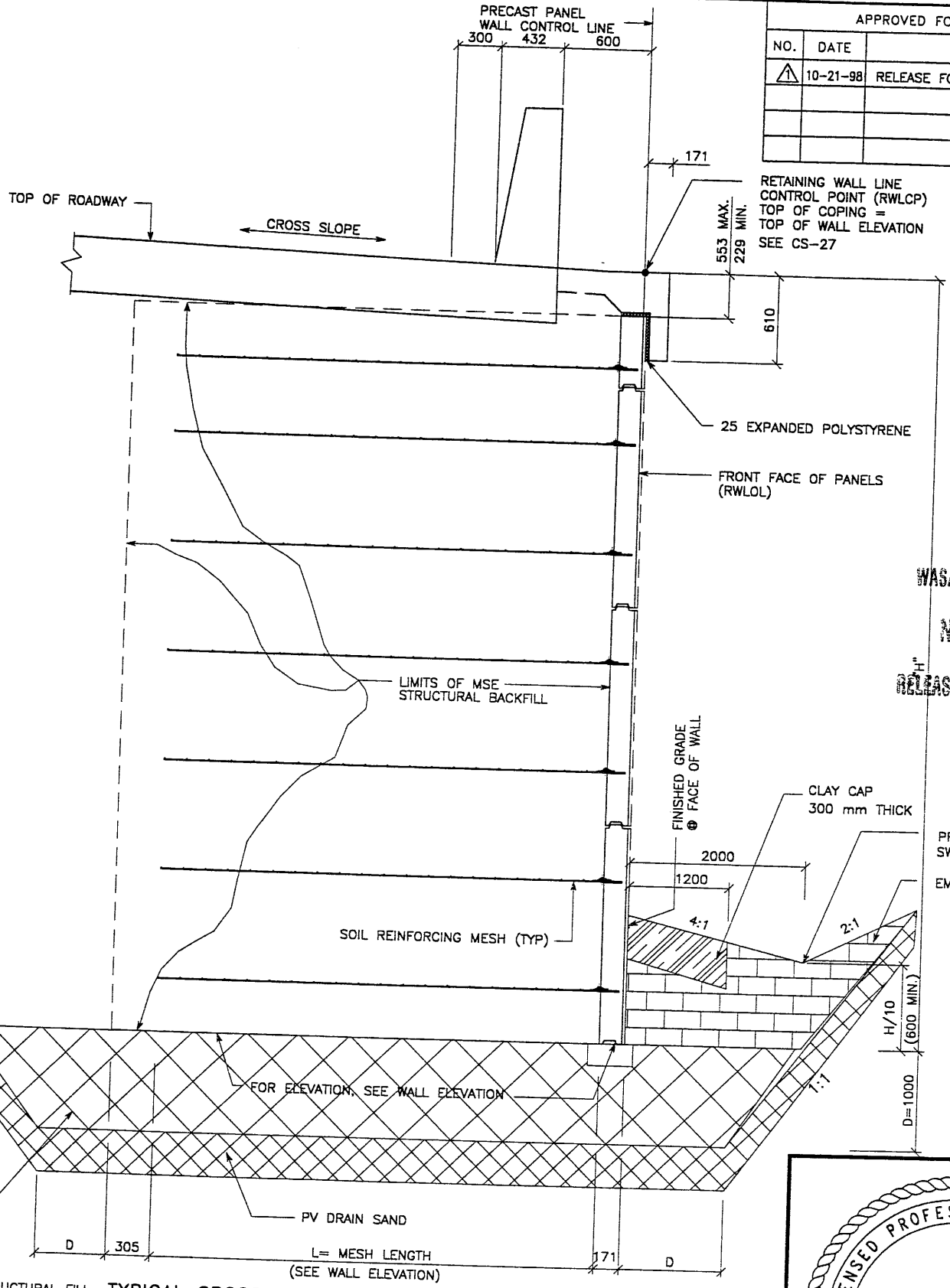
RENCE (X-UTAH.DWG)

H:\RE_EARTH\PROJECT\239-0007\1998\

FINAL 12-21-98



TYPICAL CROSS SECTION - STA 5+230 TO STA 5+440
 5+500 TO 5+520 TRANSITION!
 (SEE DWG. NO. 2.2R-346-10.7 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE) SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 5+450 TO STA 5+500
 (SEE DWG. NO. 2.2R-346-10.7 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE) SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-21-98	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

NO.	DATE	REVISION

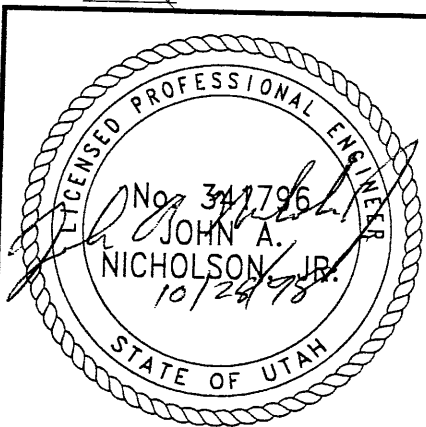
VSL CORPORATION
 7810 Park Drive, Suite 200
 Raleigh, NC 27615
 Telephone: (919) 861-6272
 Fax: (919) 861-9889

RETAINED EARTH™
 VSL

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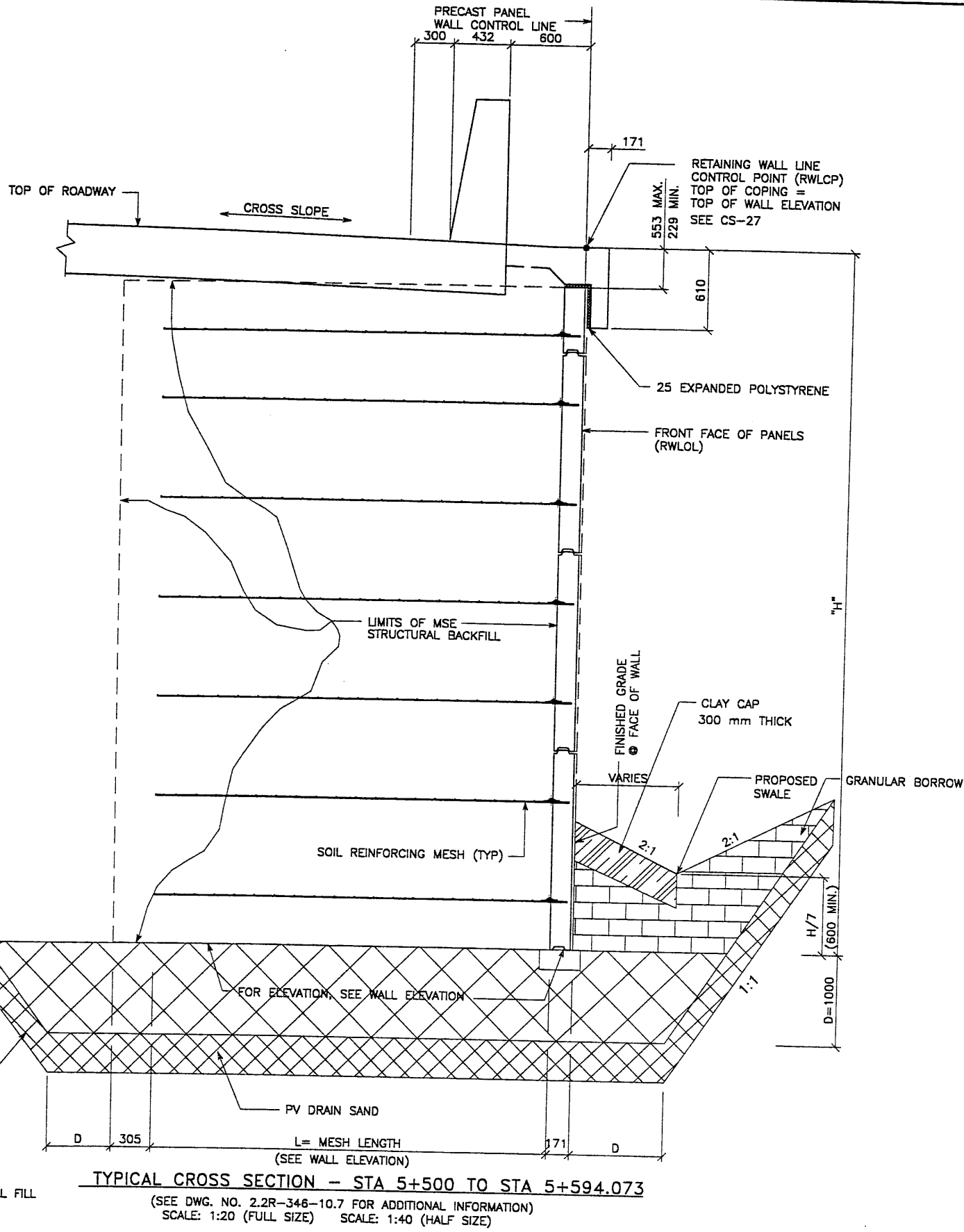
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-10"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.



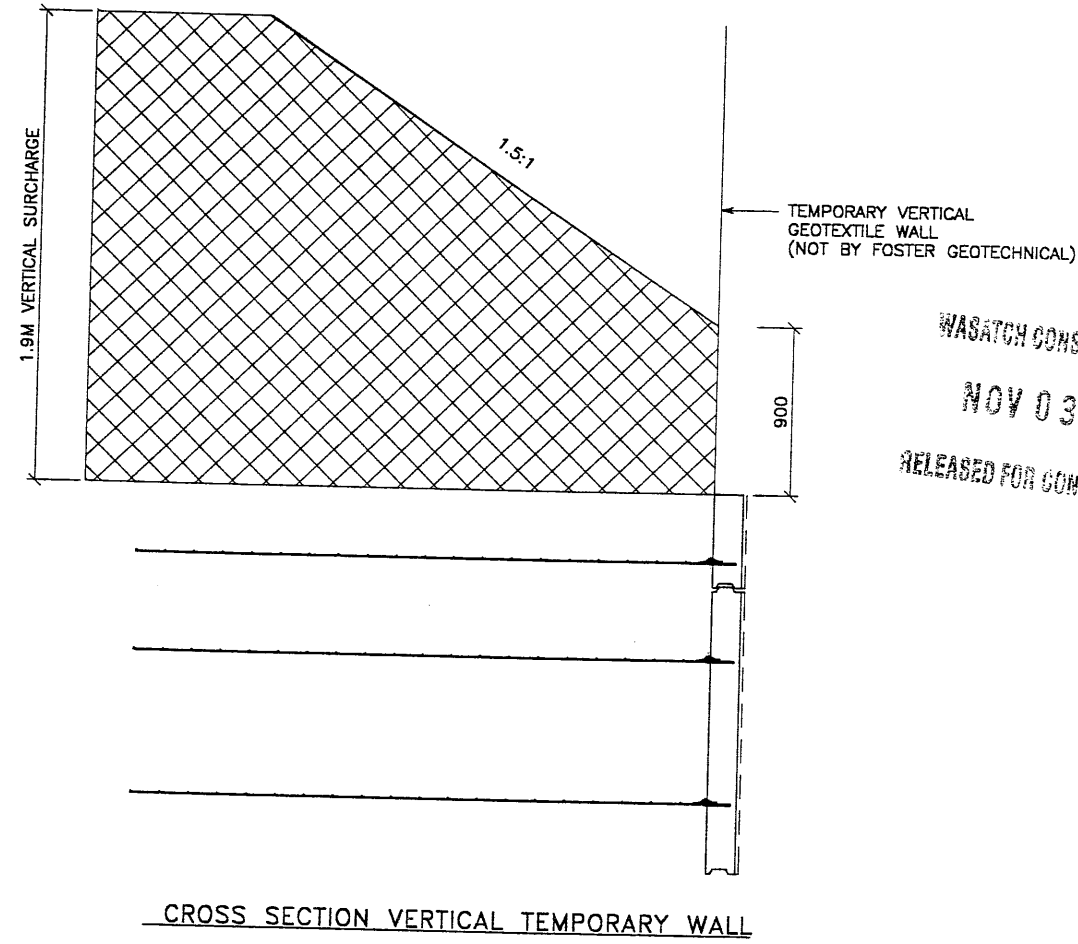
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

DWG. NO.	2.2R-346-10.13
JOB NO.	239-0007
SHT. NO.	RE-5

H:\RE_EARTH\PROJECT\239-0007\1998\DES\33-10\RE-3.DWG
 FINAL 12-21-98



TYPICAL CROSS SECTION - STA 5+500 TO STA 5+594.073
 (SEE DWG. NO. 2.2R-346-10.7 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE) SCALE: 1:40 (HALF SIZE)



CROSS SECTION VERTICAL TEMPORARY WALL

APPROVED FOR CONSTRUCTION			
NO.	DATE	DESCRIPTION	
△	10-21-98	RELEASE FOR CONSTRUCTION	

DES.	MM	DRN.	RSW	CHK.	DATE	NO.	DATE	REVISION	BY

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 981-6869

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

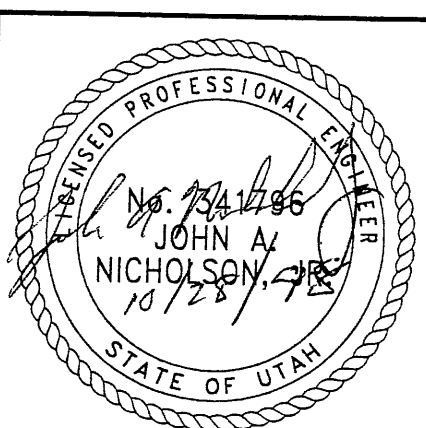
VSL

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

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RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-346-10"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.2R-346-10.14
 JOB NO.
 239-0007
 SHEET NO.
 RE-6

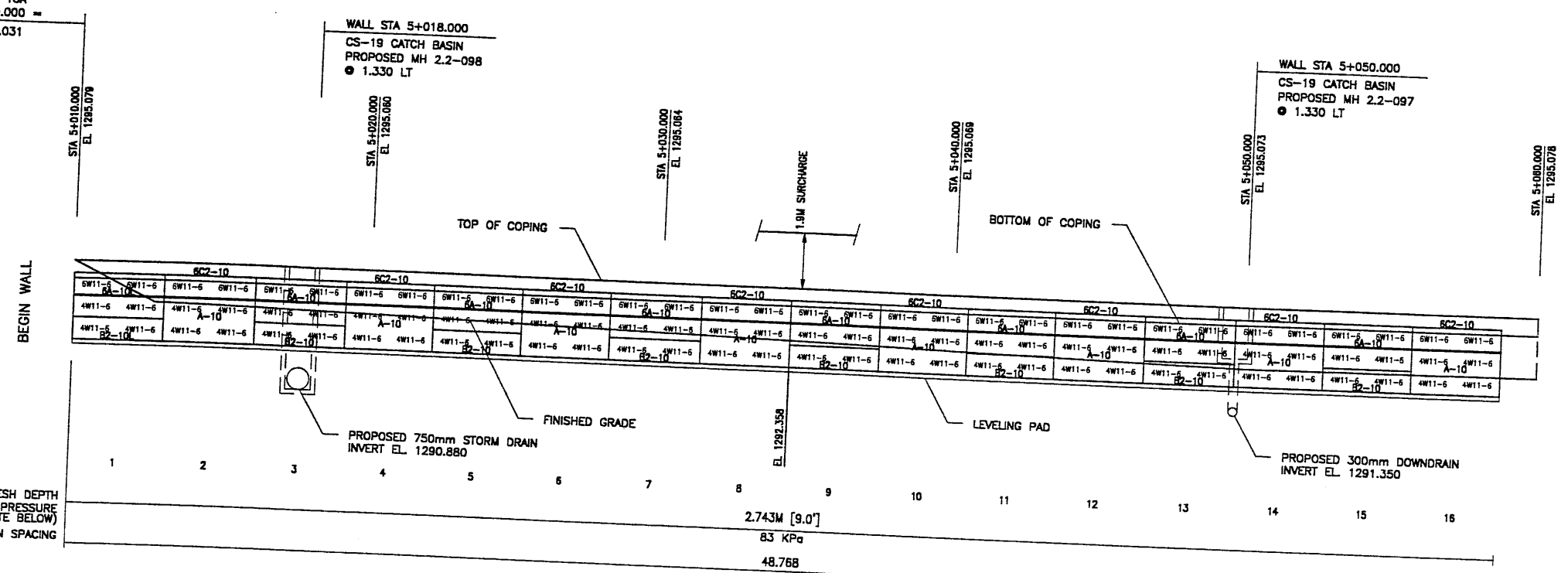


METRIC

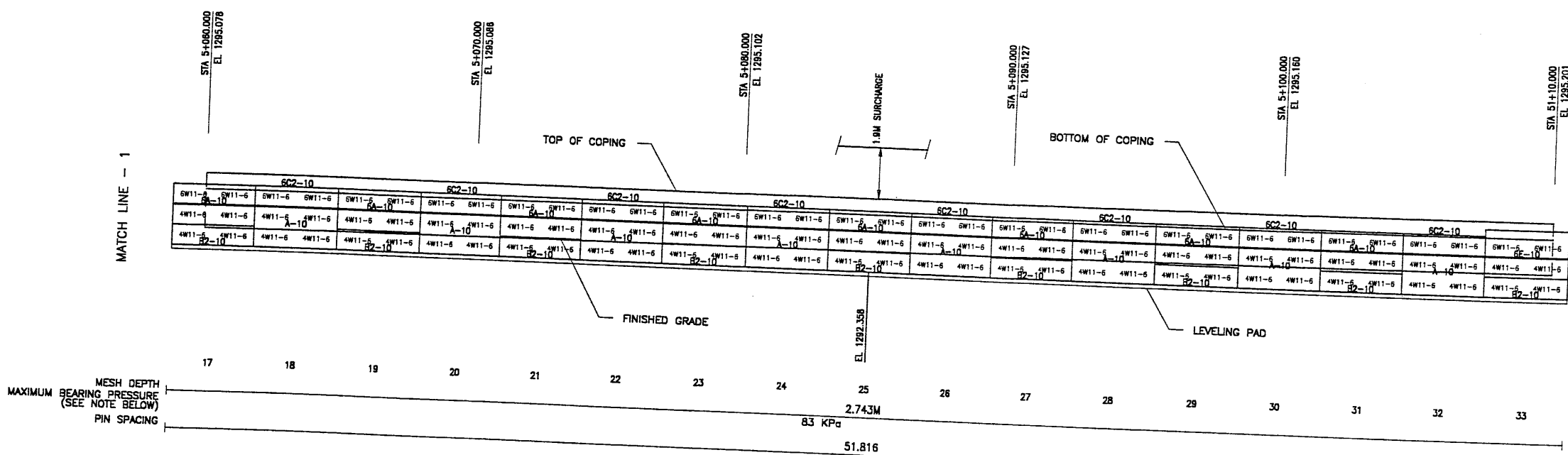
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

REFERENCE (X-UTAH.DWG)
 10\33-10.DWG
 H:\RE_EARTH\PROJECT\239-0007\1998\33SERIF
 FINAL LOT 10-21-98

BEGIN WALL R-346-10A
 WALL PI STA 5+010.000 =
 7-15" STA 26+530.031
 ● 30.162 LT



ELEVATION PRECAST WALL R-346-10A
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 358.58 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)



ELEVATION PRECAST WALL R-346-10A
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 358.58 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-21-98	RELEASE FOR CONSTRUCTION

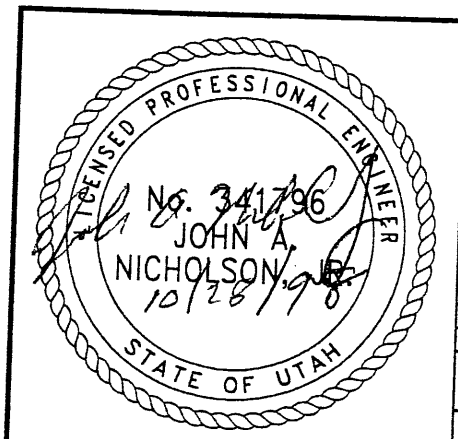
DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	REVISION	BY
MM	MM	MM	VSL				
09-08-98	09-08-98	09-08-98					
LOP							

VSL CORPORATION
 2800 Plaza Place, Suite 200
 Houston, TX 77058-1677
 Tel: (919) 781-6772
 Fax: (919) 781-6839



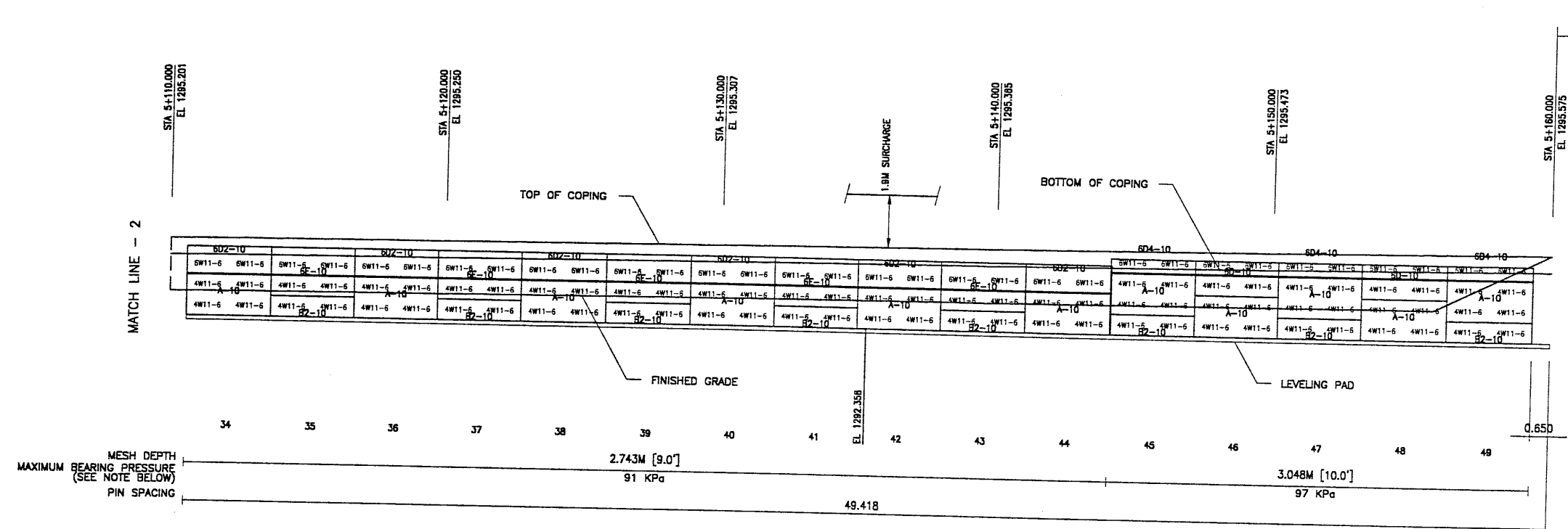
ATLANTA, GA / DENVER, CO / RALEIGH, NC (CORPORATE OFFICE)
 MANLY, WA / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-10A"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-10.15
JOB NO.	239-0007
SHT. NO.	RE-7



ELEVATION PRECAST WALL R-346-10A
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 358.58 SM) SCALE 1:200 (HALF SIZE)

METRIC

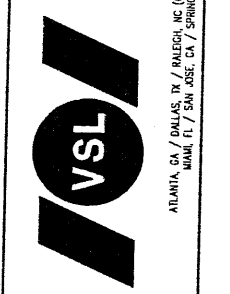
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-21-98	RELEASE FOR CONSTRUCTION

END WALL R-346-10A
 WALL PI STA 5+160.000 =
 7-15" STA 26+380.590
 ● 31.539 LT

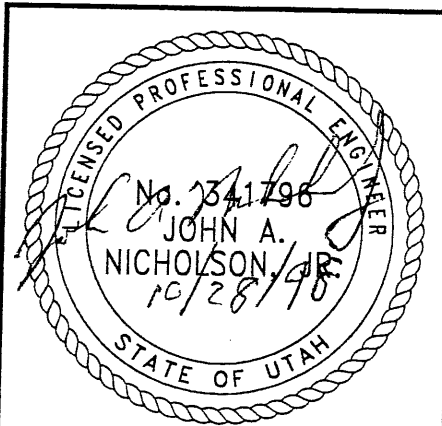
NO.	DATE	REVISION	CHK

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6869



ALABAMA, GA / OKLAHOMA, TX / ARIZONA, NE (CORPORATE OFFICE)
 MANASSAS, VA / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-10A"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-10.16
JOB NO.	239-0007
SHT. NO.	RE-8

FINA DT 10-21-98 H:\RE_EARTH\PROJECT\239-0007\1998\3SERIE 0\33-10B.DWG

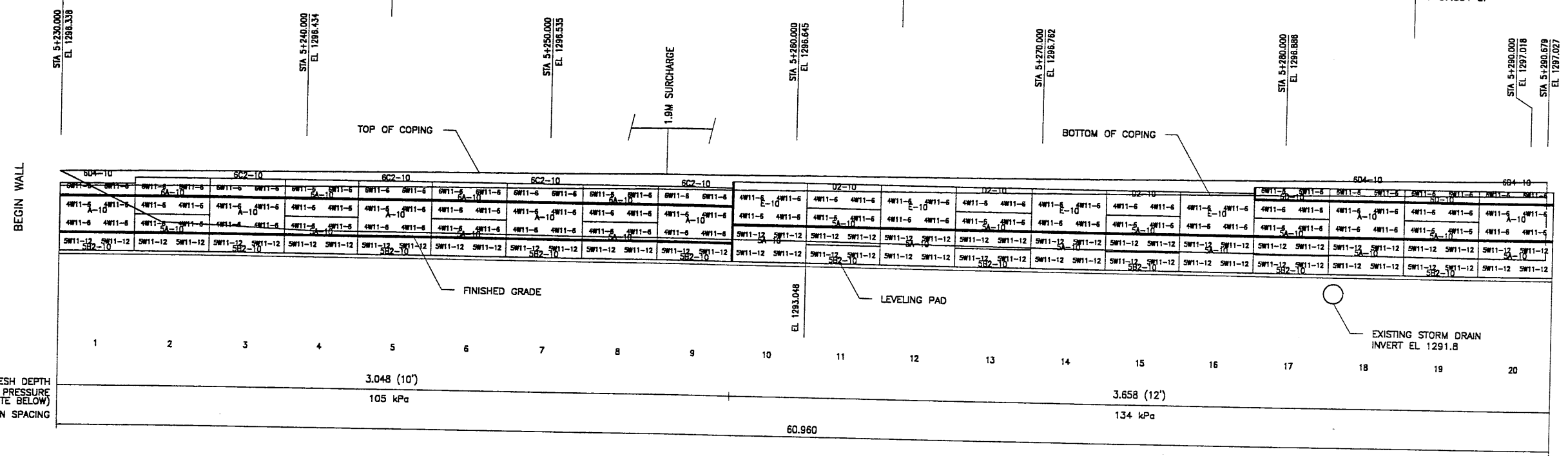
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-21-98	RELEASE FOR CONSTRUCTION

BEGIN WALL R-346-10B
 WALL PI STA 5+230.000 =
 7-15" STA 26+313.226
 ● 34.855 LT

WALL PI STA 5+243.407 =
 7-15" STA 26+300.355
 ● 35.554 LT

WALL PI STA 5+264.255 =
 7-15" STA 26+280.354
 ● 36.554 LT

WALL PI STA 5+285.126 =
 7-15" STA 26+260.354
 ● 37.554 LT



ELEVATION PRECAST WALL R-346-10B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 1365.40 SM)

SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

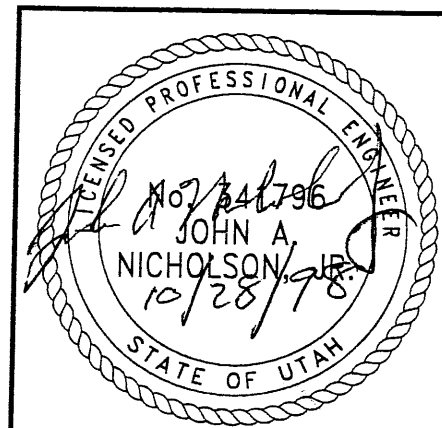
WASATCH CONSTRUCTORS
 NOV 03 1998

RELEASED FOR CONSTRUCTION

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-10B"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-10.17
JOB NO.	239-0007
SHT. NO.	RE-9

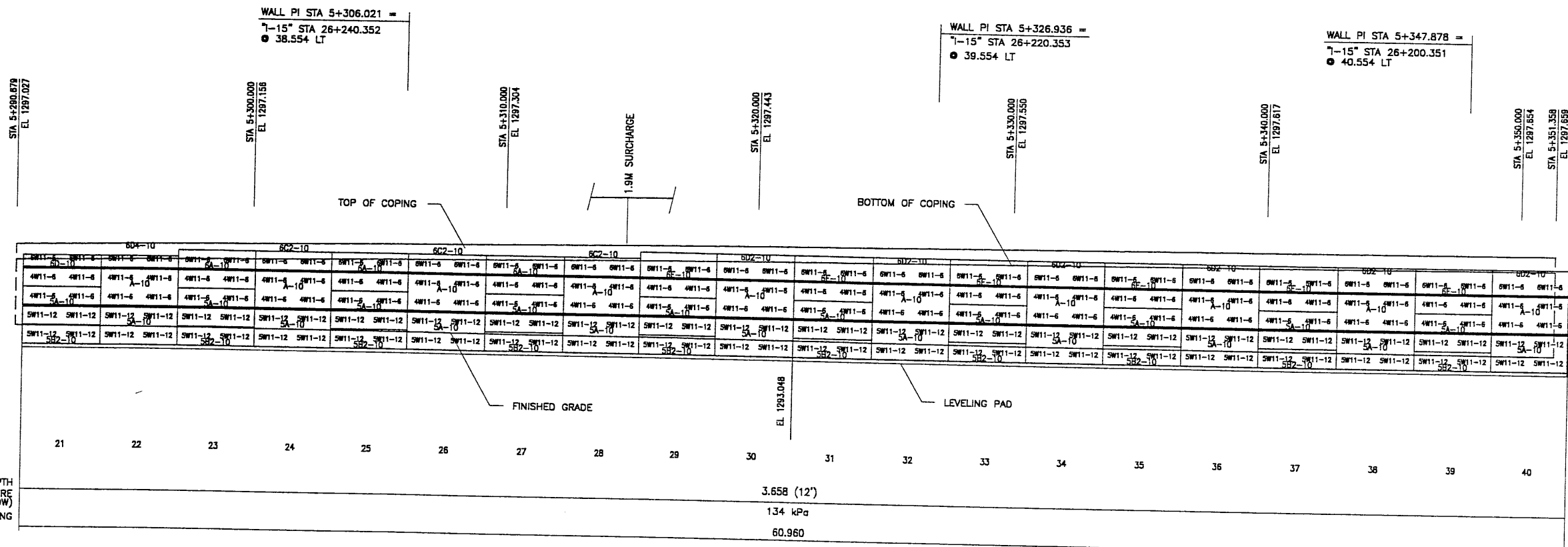
VSL CORPORATION
 2810 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 761-8272
 Fax: (919) 761-4889

ALABAMA, CA / DANAS, TX / PALERMO, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

NO.	DATE	REVISION	CHK

KENCE (X-UTAH.DWG)
 33-10B.DWG
 H:\RE_EARTH\PROJECT\239-0007\1998\335
 10-21-98
 FJMA

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-21-98	RELEASE FOR CONSTRUCTION

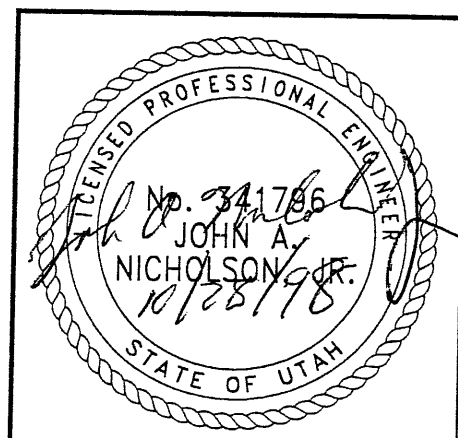


ELEVATION PRECAST WALL R-346-10B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 1365.48 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

METRIC

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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-10B"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

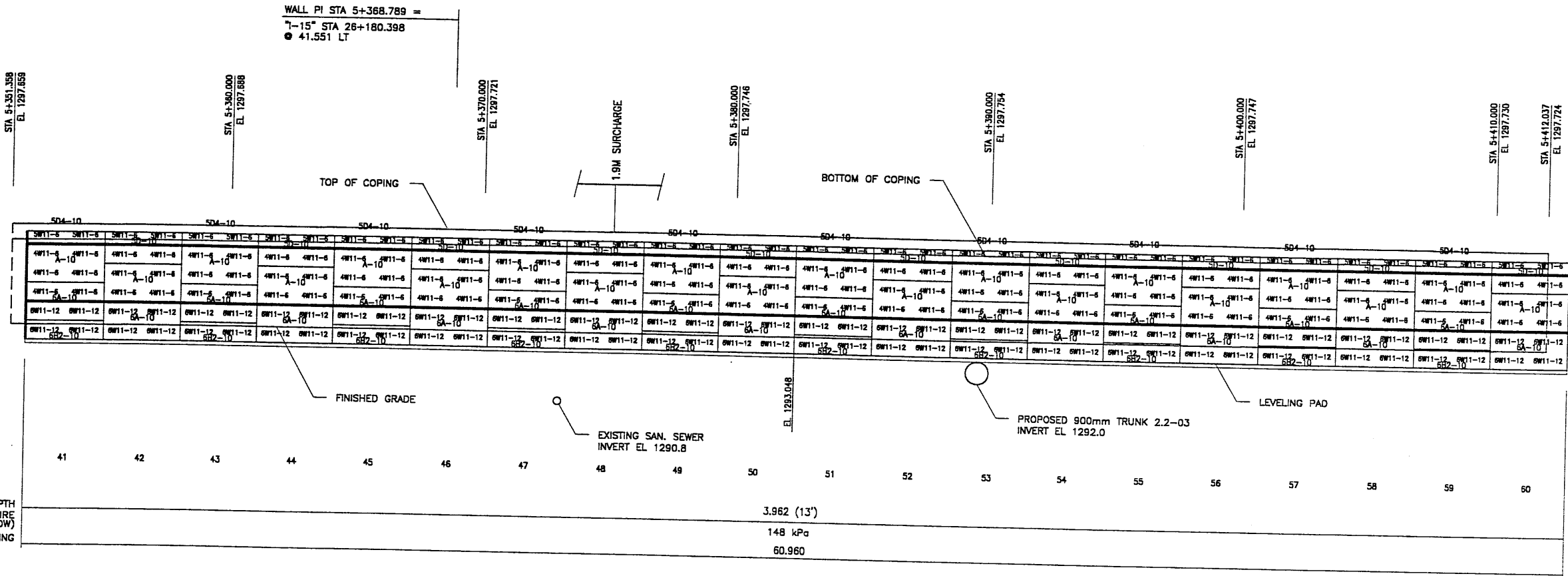
DWG. NO.	2.2R-346-10.18
JOB NO.	239-0007
SHT. NO.	RE-10

VSL
 VSL CORPORATION
 2640 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4989
 ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

NO.	DATE	DESCRIPTION	NO.	DATE

FINA DT 10-21-98 H:\RE_EARTH\PROJECT\239-000\1998\33SERIF 0\33-10B.DWG REVISION (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-21-98	RELEASE FOR CONSTRUCTION <i>SW</i>

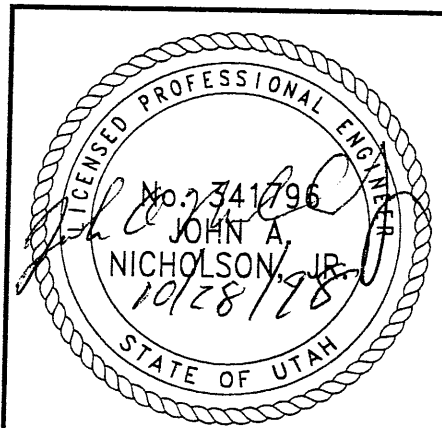


ELEVATION PRECAST WALL R-346-10B
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 1365.48 SM) SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES ARE INDICATED BELOW "MESH DEPTH LINE". REVIEWER TO VERIFY MAXIMUM BEARING CAPACITY OF FOUNDATION.

METRIC

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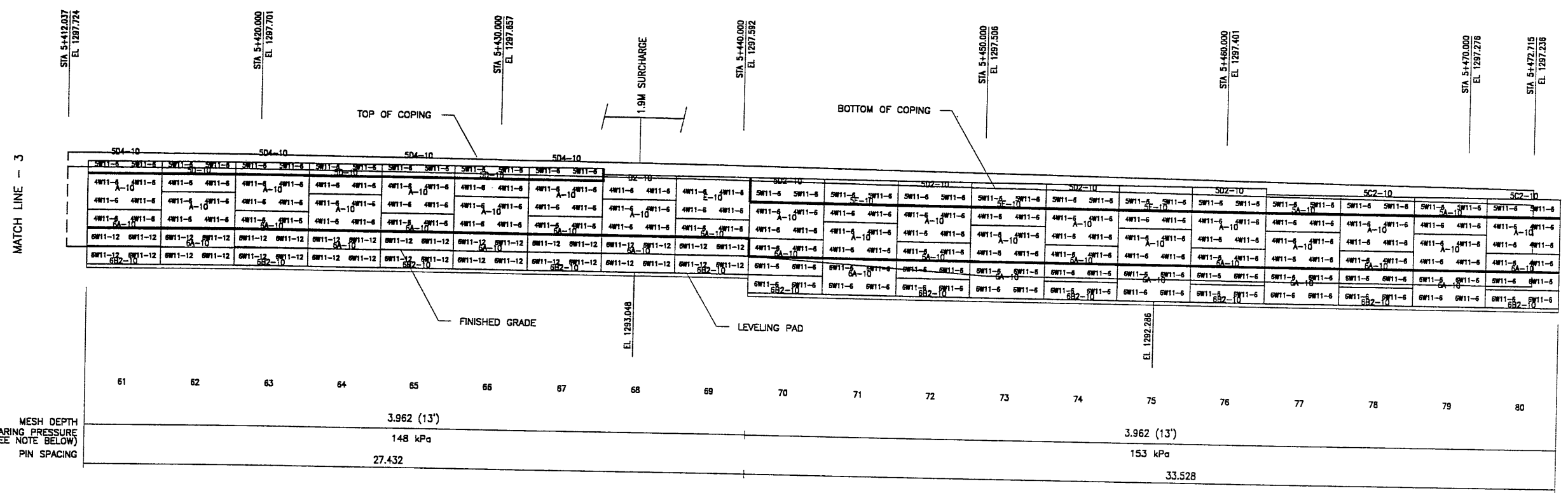


WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

		DES. 10-21-98 JN DRN. 10-21-98 RSW CHK. 10-21-98 JN	RETAINED EARTH™ 	NO. DATE REVISION	BY CHK
VSL CORPORATION 2600 Plaza Place, Suite 200 Raleigh, NC 27617 Tel: (919) 751-4272 Fax: (919) 751-4889		ALABAMA, GA / DANVILLE, TN / RALEIGH, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA			
RETAINED EARTH™ WALLS PRECAST WALL "R-346-10B"		UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.			
DWG. NO. 2.2R-346-10.19		JOB NO. 239-0007			
SHEET NO. RE-11		19 of 23			

FINA' OT 10-21-98 H:\RE_EARTH\PROJECT\239-0007\1998\335.dwg 10\33-10B.DWG REFERENCE (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-21-98	RELEASE FOR CONSTRUCTION



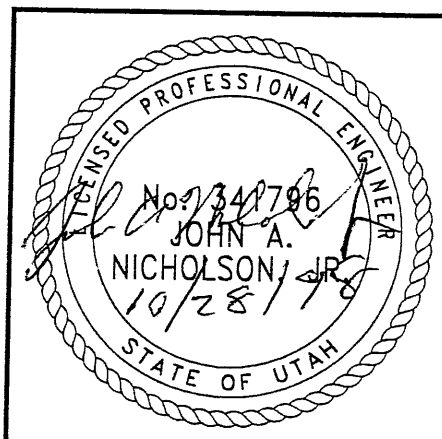
ELEVATION PRECAST WALL R-346-10B
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 1365.48 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

APPROVER NOTE:
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 REFER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

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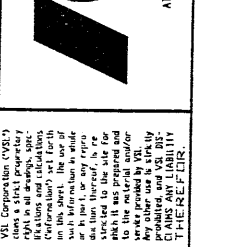
 VSL CORPORATION 2940 Plaza Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-5272 Fax: (919) 781-1669		DIS. 10-21-98 JUN DRN. 10-21-98 RSW CHK. 10-21-98 JUN	NO. DATE NO. DATE NO. DATE	REVISION REVISION REVISION	BY CHK BY CHK BY CHK
 VSL CORPORATION ALABAMA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA		RETAINED EARTH™ VSL	NO. DATE NO. DATE NO. DATE	REVISION REVISION REVISION	BY CHK BY CHK BY CHK
RETAINED EARTH™ WALLS PRECAST WALL "346-10B" UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.		DWG. NO. 2.2R-346-10.20	JOB NO. 239-0007	SHEET NO. RE-12	NO. DATE NO. DATE NO. DATE

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-21-98	RELEASE FOR CONSTRUCTION

DES.	CHK.	DATE	NO.	DATE	REVISION	BY	CHK
JUN							
RSW							
JUN							

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781 6272
 Fax: (919) 781 6959

ATLANTA, GA / DALLAS, TX / BALTIMORE, MD (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA



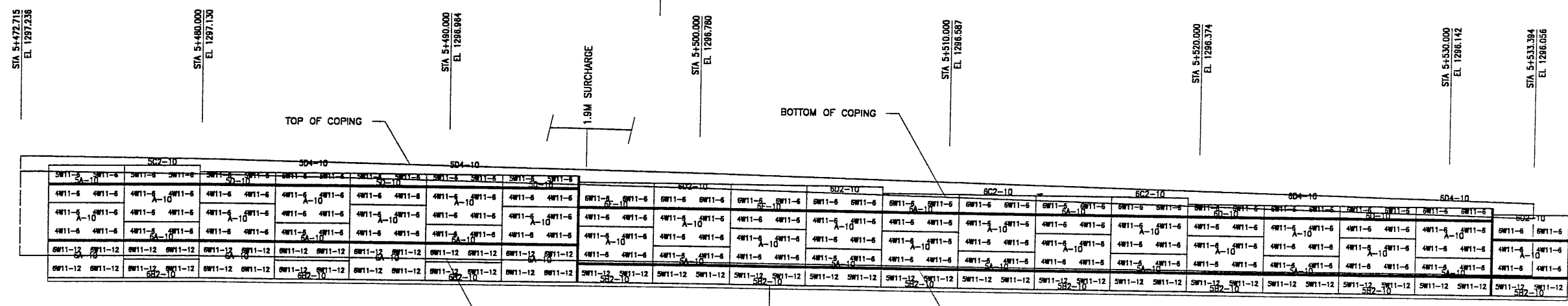
RETAINED EARTH™ WALLS
 PRECAST WALL "346-10B"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
2.2R-346-10.21

JOB NO.
239-0007

SHT. NO.
RE-13

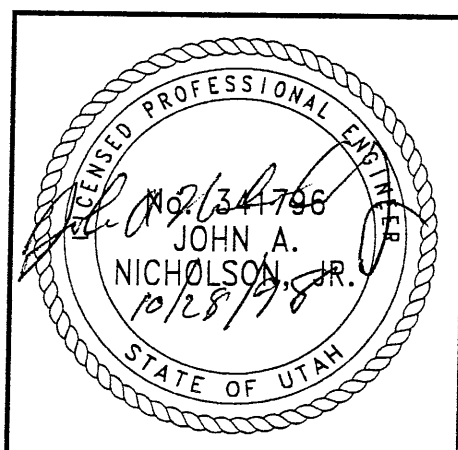
WALL PI STA 5+498.343 =
 RAMP 33-C STA 1+325.607
 ● 7.632 LT



STATION	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
MESH DEPTH	3.962 (13')										3.658 (12')					3.048 (10')				
MAXIMUM BEARING PRESSURE (SEE NOTE BELOW)	153 kPa										127 kPa					115 kPa				
PIN SPACING	60.960																			

ELEVATION PRECAST WALL R-346-10B
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 1365.48 SM) SCALE 1:200 (HALF SIZE)

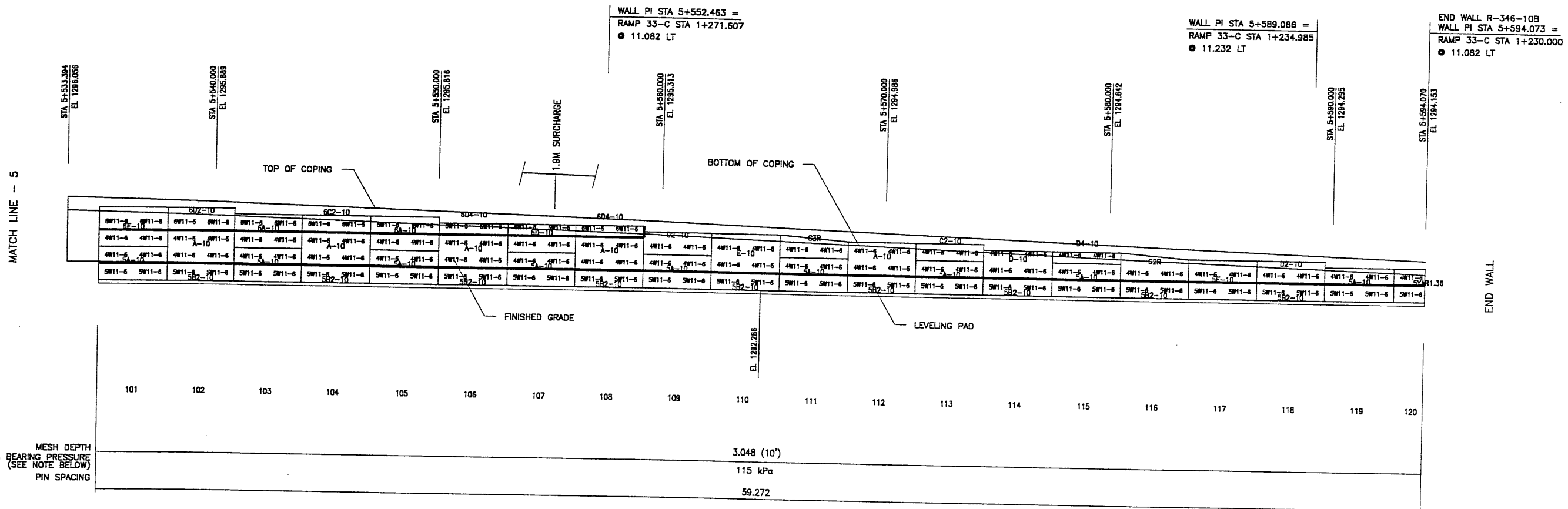
WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-21-98	RELEASE FOR CONSTRUCTION

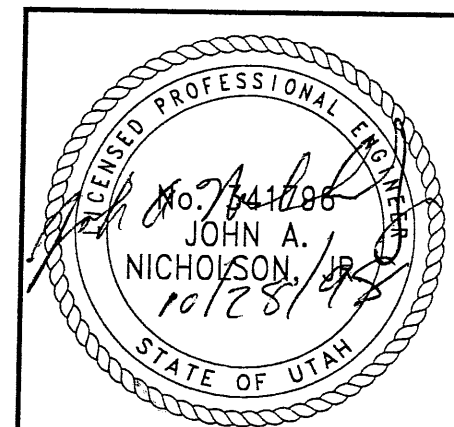


ELEVATION PRECAST WALL R-346-10B
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 1365.48 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

APPROVER NOTE:
 MAXIMUM FINAL UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

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WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	BY	CHK

DES.	JN
DRN.	RSW
CHK.	JN

RETAINED EARTH™

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6272
 Fax: (919) 781-6669

ALUMINA, GA / DANVILLE, VA (CORPORATE OFFICE)
 WASHINGTON, DC / SAN JOSE, CA / SPRINGFIELD, VA

UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

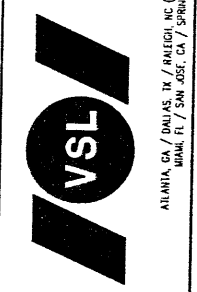
DWG. NO.	2.2R-346-10.22
JOB NO.	239-0007
SHT. NO.	RE-14

FINA: 10-21-98 PROJECT: 239-0007 1998 3SERIES SPECIALS.DWG REFERENCE (X-UTAH.DWG)

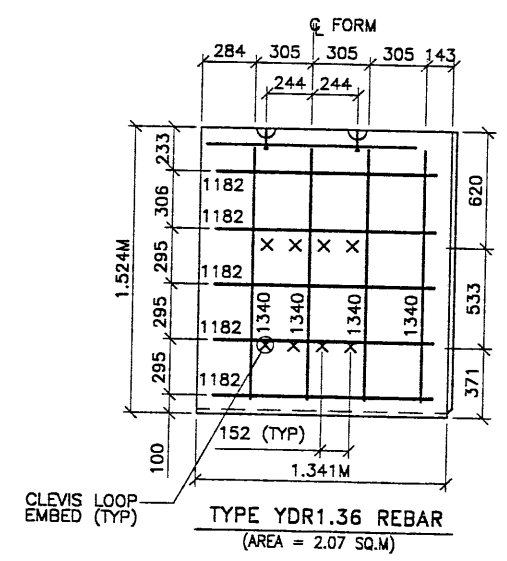
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-21-98	RELEASE FOR CONSTRUCTION

- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 20,700 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm# CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4989

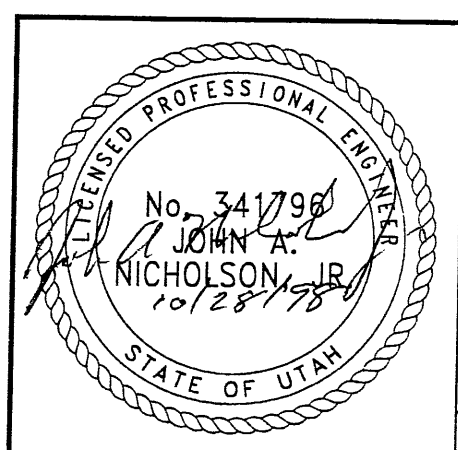


VSL Corporation (VSL) warrants that the design and construction of the retained earth wall shall conform to the specifications and standards set forth in the contract documents. The use of the retained earth wall is at the discretion of the contractor. VSL is not responsible for the design or construction of the wall. Any other use of the wall is at the user's risk. VSL does not warrant the stability of the wall. VSL does not warrant the stability of the wall. VSL does not warrant the stability of the wall.



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



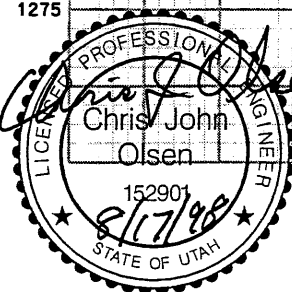
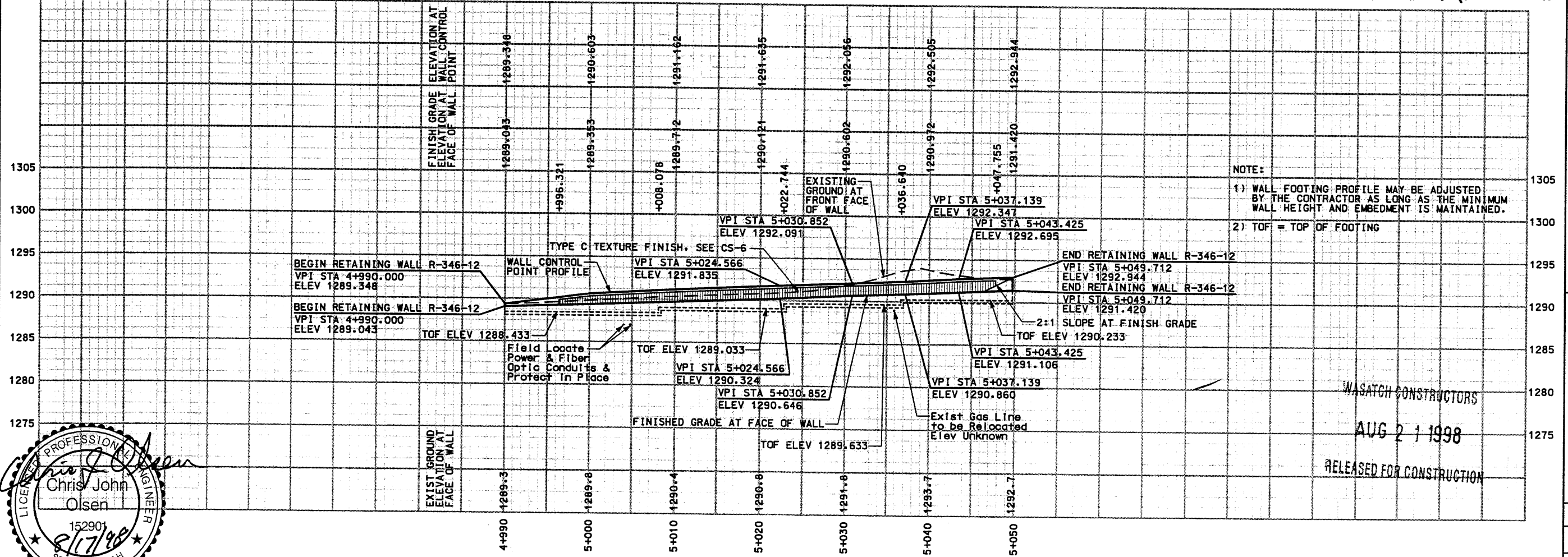
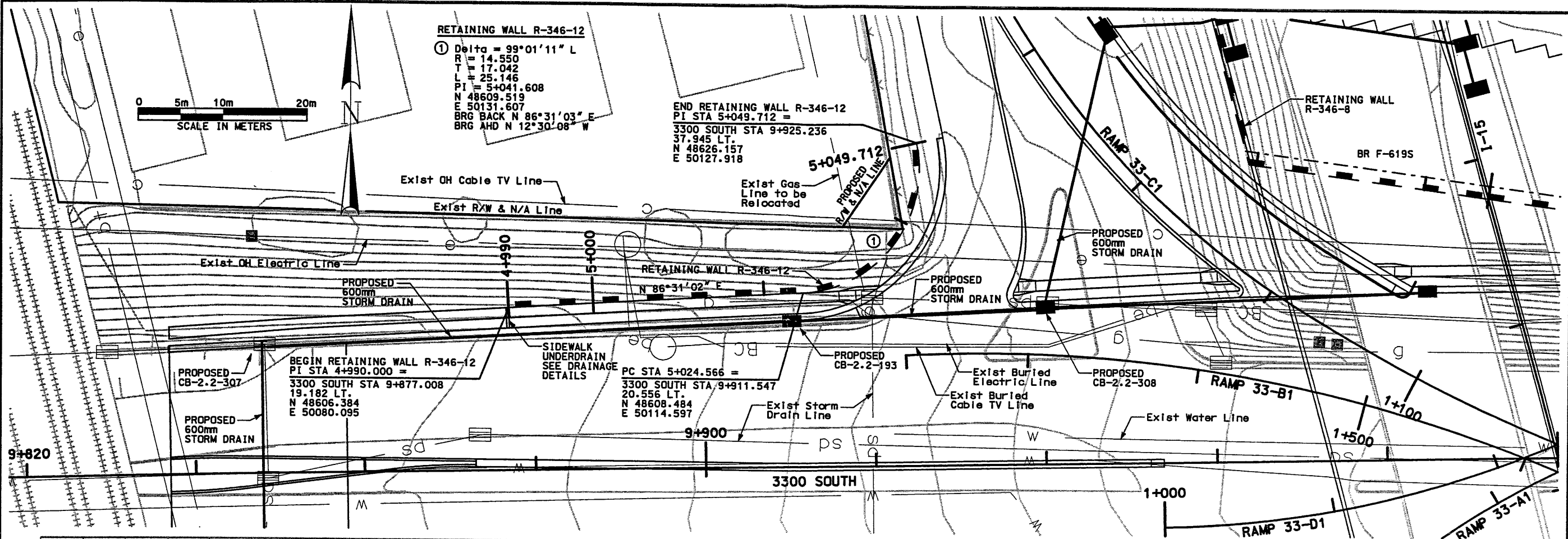
WASATCH CONSTRUCTORS
 NOV 03 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "R-346-10"
 SPECIAL PANEL DETAILS
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.2R-346-10.23
JOB NO.	239-0007
SHT. NO.	RE-15

Date: 17-AUG-1998 Time: 09:42 Username: rfriseda

Filename: o:\dgn\15_cadd\33_371_sheet_files\wds\33_rerwall_12.dgn

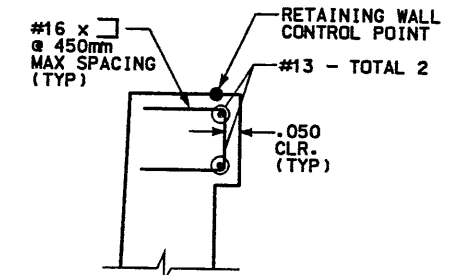
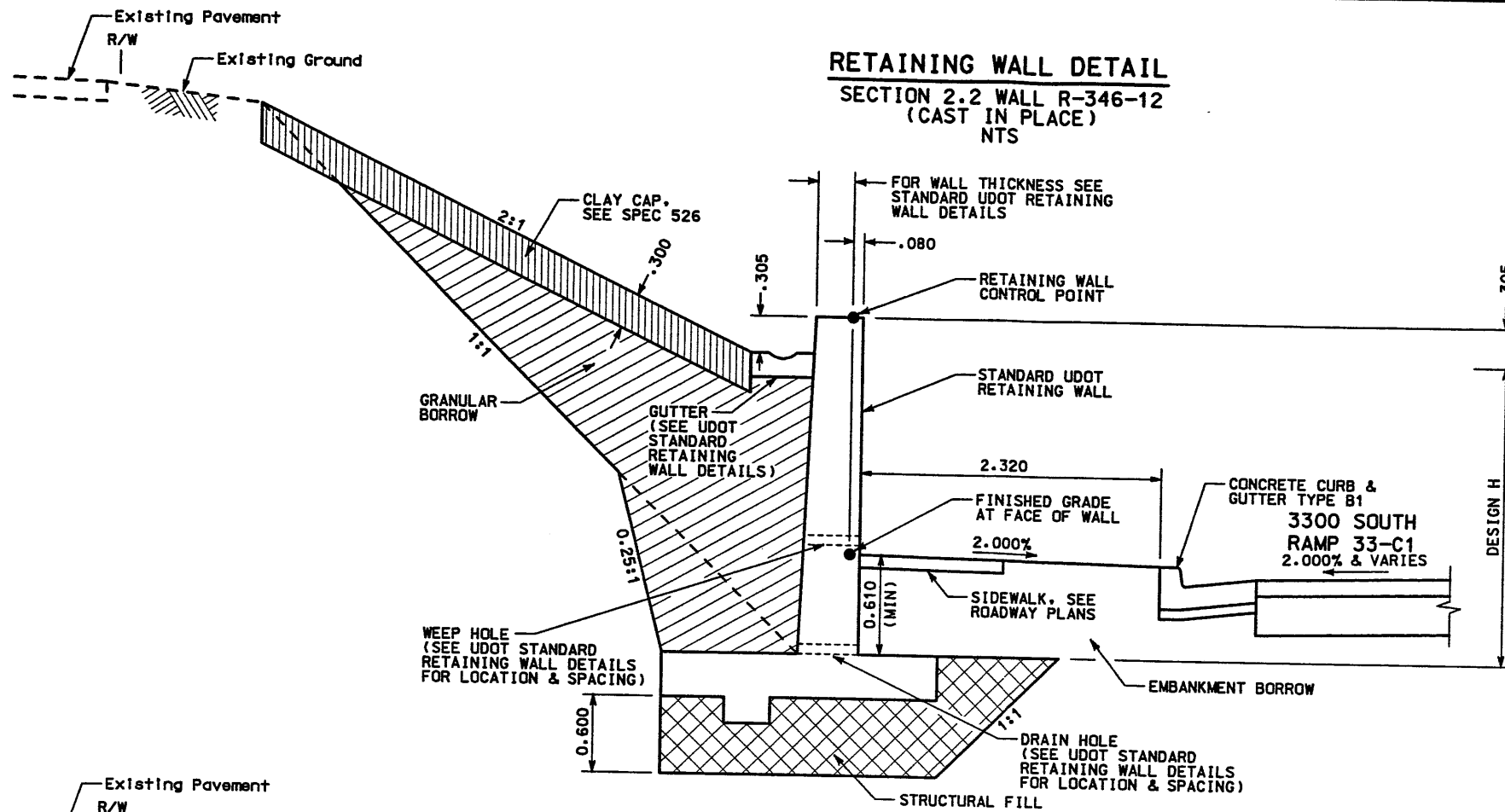


NOTE: PROFILE REPRESENTS FRONT FACE OF WALL

SLOPE = H:V

APPROVED FOR CONSTRUCTION		NO.	DATE	DESCRIPTION
△	8/17/98	1	1	ORIGINAL ISSUE
△	1	1	1	
△	1	1	1	
UTAH DEPARTMENT OF TRANSPORTATION MK CENTENNIAL		WBS NO. 2213407		
I-15 CORRIDOR RECONSTRUCTION SITUATION & LAYOUT R-346-12		SECTION 2.2		
SALT LAKE COUNTY DWG. NO. 2.2R-346-12.1		PROJECT NUMBER *SP-15-7(135)296		
SHT. 1 OF 4		REF.		
APPROVAL RECOMM. DATE 8/17/98		Chris J. Ols PROJECT DESIGN ENGR		
APPROVED DATE 8/17/98		Randle L. Rc PROJECT MANAGER		

RETAINING WALL DETAIL SECTION 2.2 WALL R-346-12 (CAST IN PLACE) NTS



DETAIL C
COPING DETAIL

NOTES:

- 1) SEE CORRIDOR STANDARD SPECIFICATION 221 FOR SPECIAL EXCAVATION REQUIREMENTS WHERE GROUNDWATER IS EXPECTED AT OR ABOVE THE REQUIRED EXCAVATION.
- 2) THE FOUNDATION BEARING MATERIALS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.

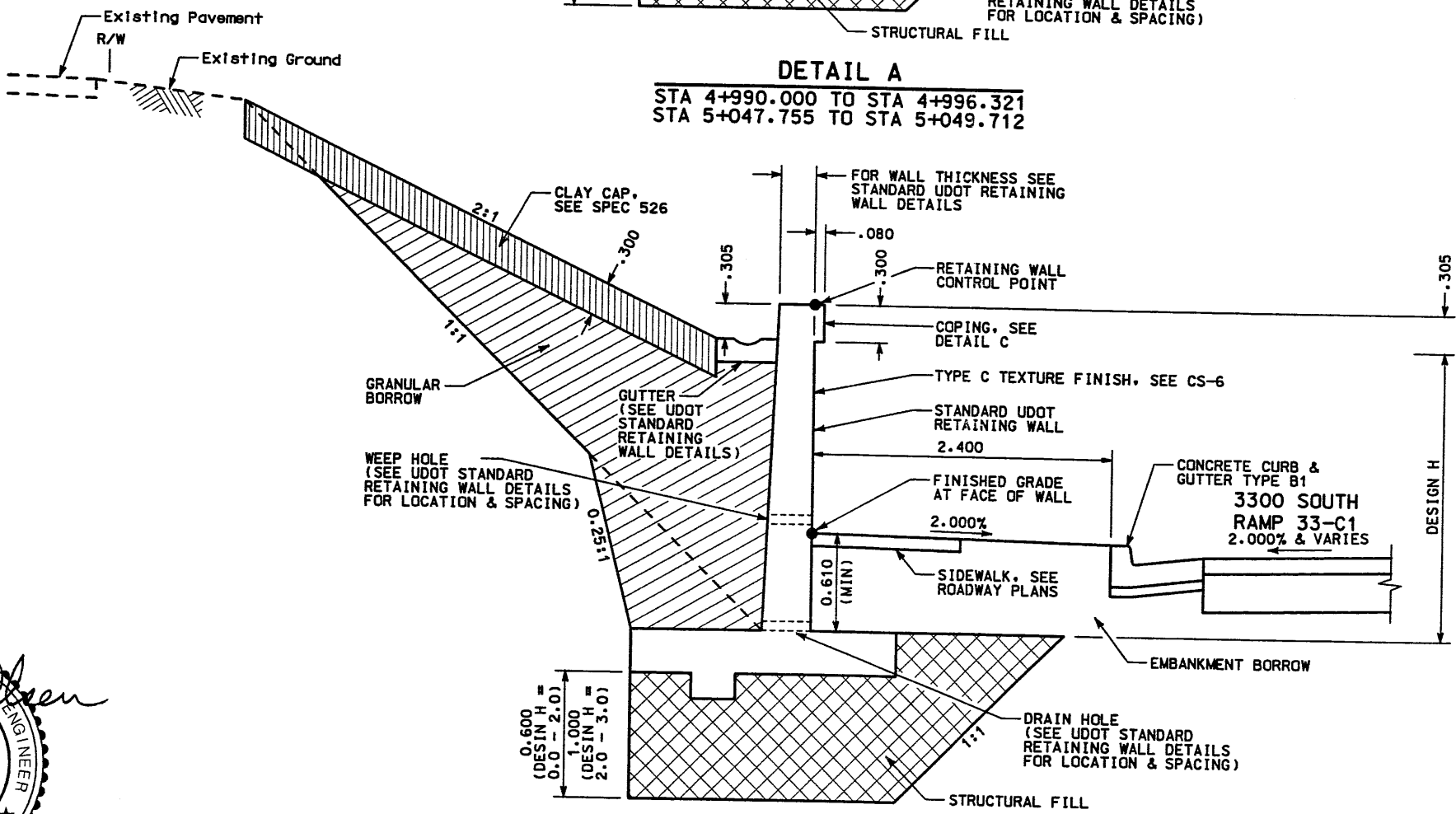
DESIGN HEIGHT TABLE

STA TO STA	DESIGN H
4+990.000 - 4+999.501	1.8
4+999.501 - 5+008.078	2.4
5+008.078 - 5+009.490	1.8
5+009.490 - 5+049.712	2.4

* DESIGN H'S PROVIDED BASED ON ELEVATIONS SHOWN ON PROFILE.

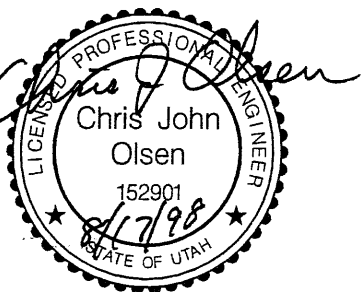
DETAIL A

STA 4+990.000 TO STA 4+996.321
STA 5+047.755 TO STA 5+049.712



DETAIL B

STA 4+996.321 TO STA 5+047.755



WASATCH CONSTRUCTORS
AUG 21 1998
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
Δ	8/17/98	Δ	8/17/98
Δ	8/17/98	Δ	8/17/98
Δ	8/17/98	Δ	8/17/98
UTAH DEPARTMENT OF TRANSPORTATION		WBS NO. 2213407	
MK CENTENNIAL SVERDRUP/DE LEUW		CHECK MAD 8/17/98	
DESIGN DAF 8/17/98	CHECK DAF 8/17/98	DESIGN MAD 8/17/98	CHECK MAD 8/17/98
DESIGNED BY Chris J. Olsen	PROJECT DESIGN ENGINEER	DRAWN BY Randle L. Ross	PROJECT MANAGER
APPROVAL DATE 8/17/98	DATE	APPROVED DATE 8/17/98	DATE
I-15 CORRIDOR RECONSTRUCTION		WALL DETAIL R-346-12	
SECTION 2.2		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.2R-346-12.2	
SHT. 2 OF 4		REF.	

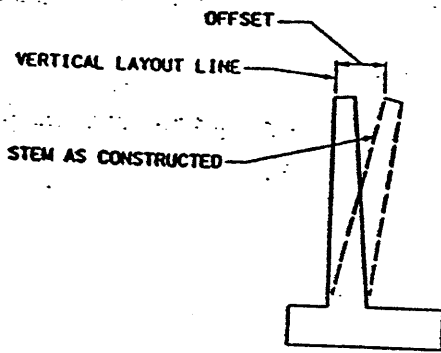
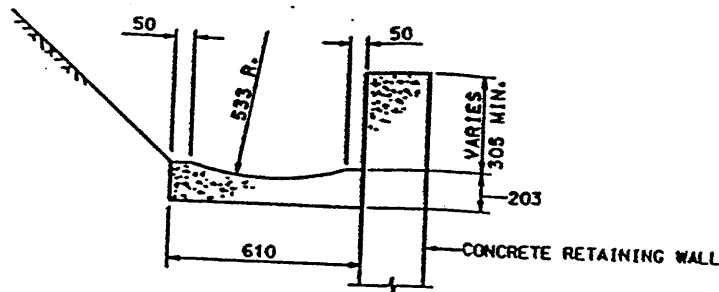


TABLE OF OFFSETS
(IN METERS)

H	OFF.	H	OFF.
1.200	0.006	4.800	0.032
1.800	0.010	5.400	0.038
2.400	0.013	6.000	0.044
3.000	0.016	6.600	0.050
3.600	0.019	7.200	0.057
4.200	0.025	7.800 TO 11.000	0.064

APPROXIMATE WALL OFFSET VALUES

VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER



TYPICAL GUTTER DETAIL

GENERAL NOTES

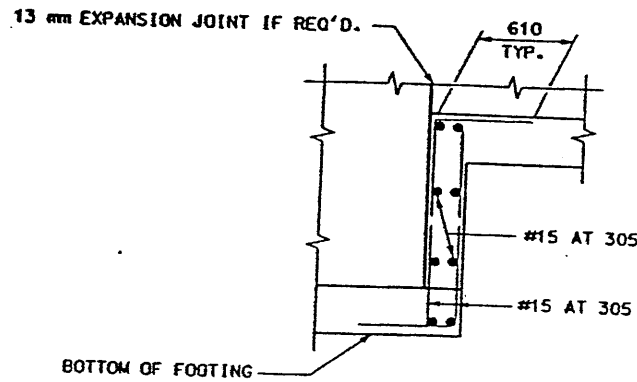
1. USE EPOXY-COATED REINFORCING STEEL CONFORMING TO AASHTO M 31M GRADE 400.
2. DESIGN H MAY BE EXCEEDED BY 150 mm BEFORE GOING TO THE NEXT SIZE.
3. ALL DIMENSIONS SHOWN ARE IN METERS UNLESS SPECIFIED OTHERWISE.

DESIGN DATA

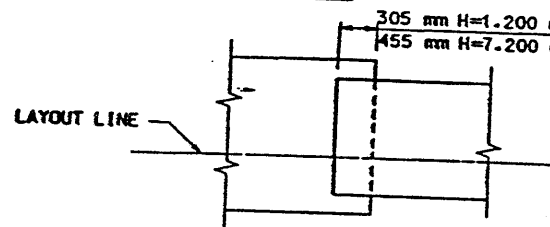
CAST-IN-PLACE CONCRETE: $f_c = 10 \text{ MPa}$; $f_d(\text{REINF.}) = 160 \text{ MPa}$; $n=8$.
EARTH: UNIT DENSITY = 1920 kg/m^3

IN CASE OF SLOPING GROUND CONDITIONS ABOVE THE TOP OF THE WALL. EARTH PRESSURE SHALL BE DETERMINED FROM THE RANKINE EQUATIONS FOR LATERAL EARTH PRESSURE WITH $\phi = 33^\circ 42'$.

610 mm SURCHARGE: EQUIVALENT FLUID PRESSURE = 5.6 kN/m^3 MAX. FOR DETERMINATION OF THE PRESSURE.



ELEVATION

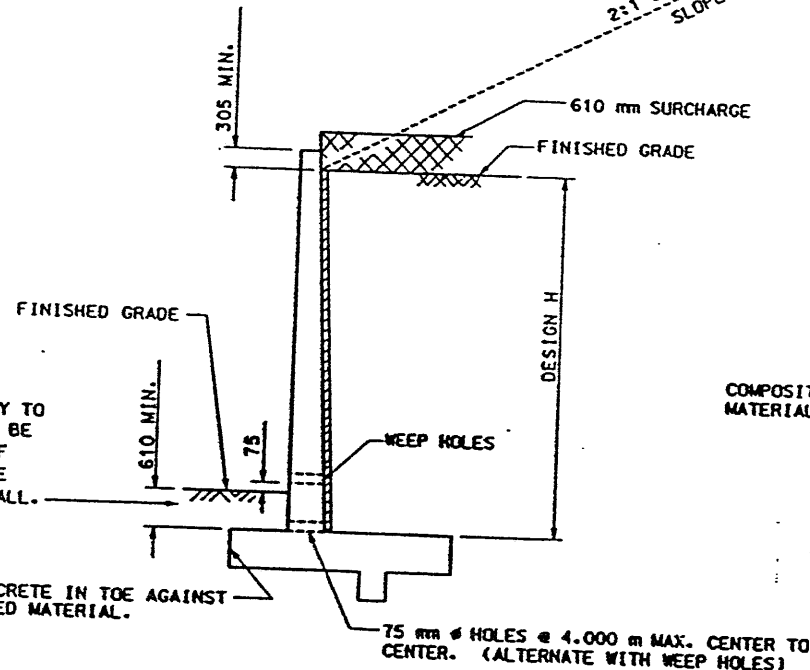


PLAN

FOOTING STEP DETAILS

BACKFILL SUFFICIENTLY TO PREVENT PONDING. TO BE DONE AFTER REMOVAL OF WALL FORMS AND BEFORE BACKFILLING BEHIND WALL.

PLACE CONCRETE IN TOE AGAINST UNDISTURBED MATERIAL.

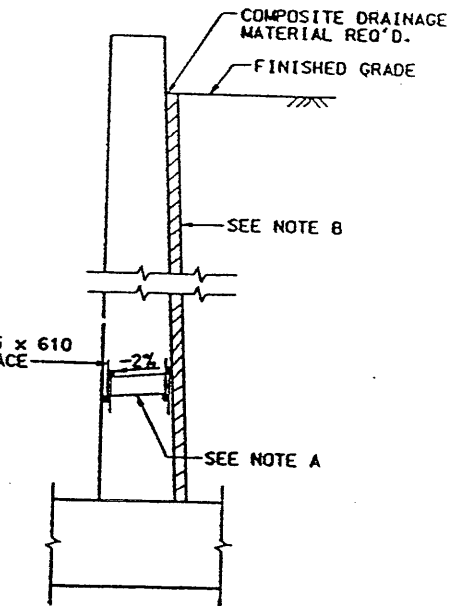


DESIGN AND DRAINAGE

COMPOSITE DRAINAGE MATERIAL

PARTIAL ELEVATION

@ BACK FACE OF WALL



SECTION

WEEP HOLE DETAIL

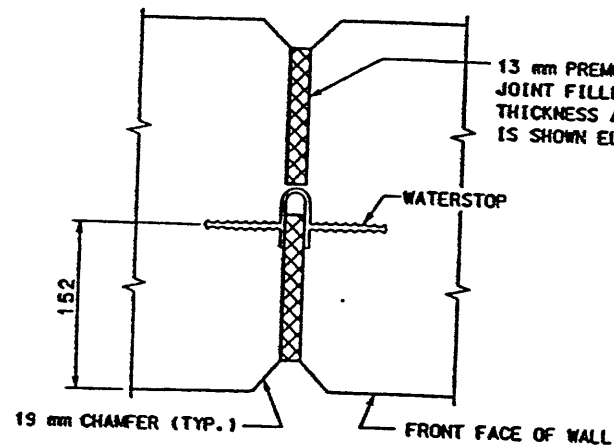
NOTES:

- A. 100 mm ϕ DRAINS @ 4.000 m MAX. CENTER TO CENTER.
- B. COMPOSITE DRAINAGE MATERIAL REQUIRED FROM BOTTOM OF WALL TO TOP OF FINISHED GRADE.

WASATCH CONSTRUCTORS

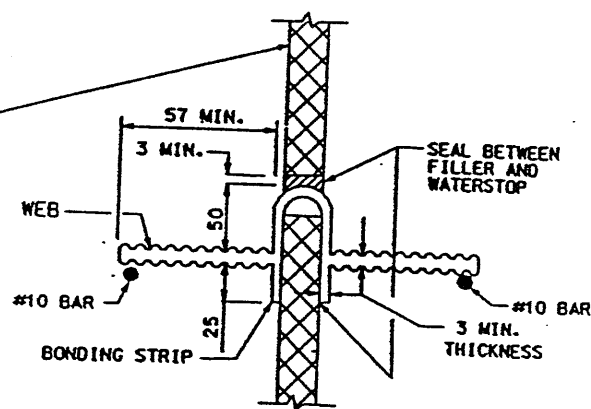
AUG 21 1998

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WALL EXPANSION JOINT (PLAN VIEW)

PLACE JOINTS AT 30.500 m MAX. SPACING

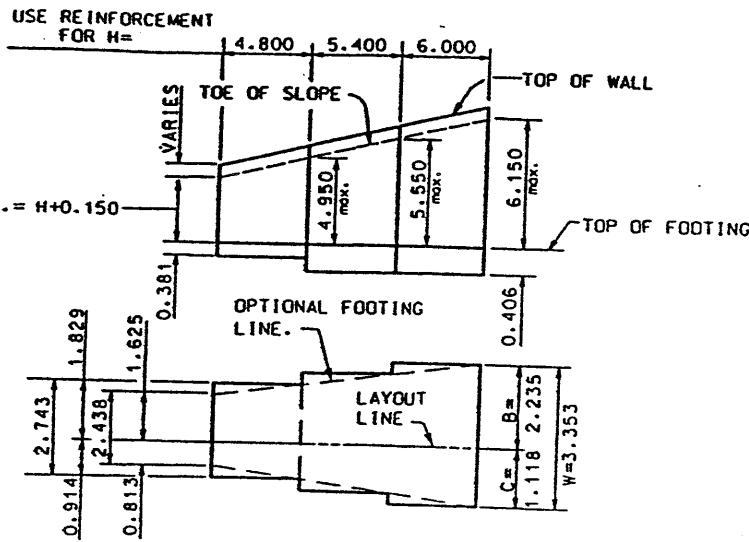


WATERSTOP DETAIL

WATER STOP NOTES

1. WATERSTOP TO HAVE FIVE OR MORE PAIRS OF RAISED RIBS TO PROVIDE 65 mm^2 MIN. RIB CROSS-SECTIONAL AREA ON EACH HALF OF THE WATERSTOP. HEIGHT OF RIBS TO BE 2 mm MIN.
2. HOLES WILL BE PERMITTED IN THE OUTER 13 mm OF THE WEB FOR WIRE, RINGS, ETC. TIE WEB TO #10 REINFORCING BARS @ 305 mm MAX. INTERVALS TO SUPPORT THE WATERSTOP IN PROPER POSITION DURING CONCRETE PLACEMENT. ALTERNATIVE DETAIL MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE CITY, UTAH STRUCTURES DIVISION	DESIGN	DRAWN	CHECK	DATE	BY	REVISIONS
CONCRETE RETAINING WALL STANDARD DETAILS NO. 1	DESIGN	DRAWN	CHECK	DATE	BY	REVISIONS
PROJECT NUMBER: *SP-15-7(135)296	APPROVAL	GROUP LEADER	CHIEF STRUCTURAL ENGR.	DATE	BY	REVISIONS
SALT LAKE COUNTY	2.2R-346-123	ORC. NO.	3 of 4			3/22/95



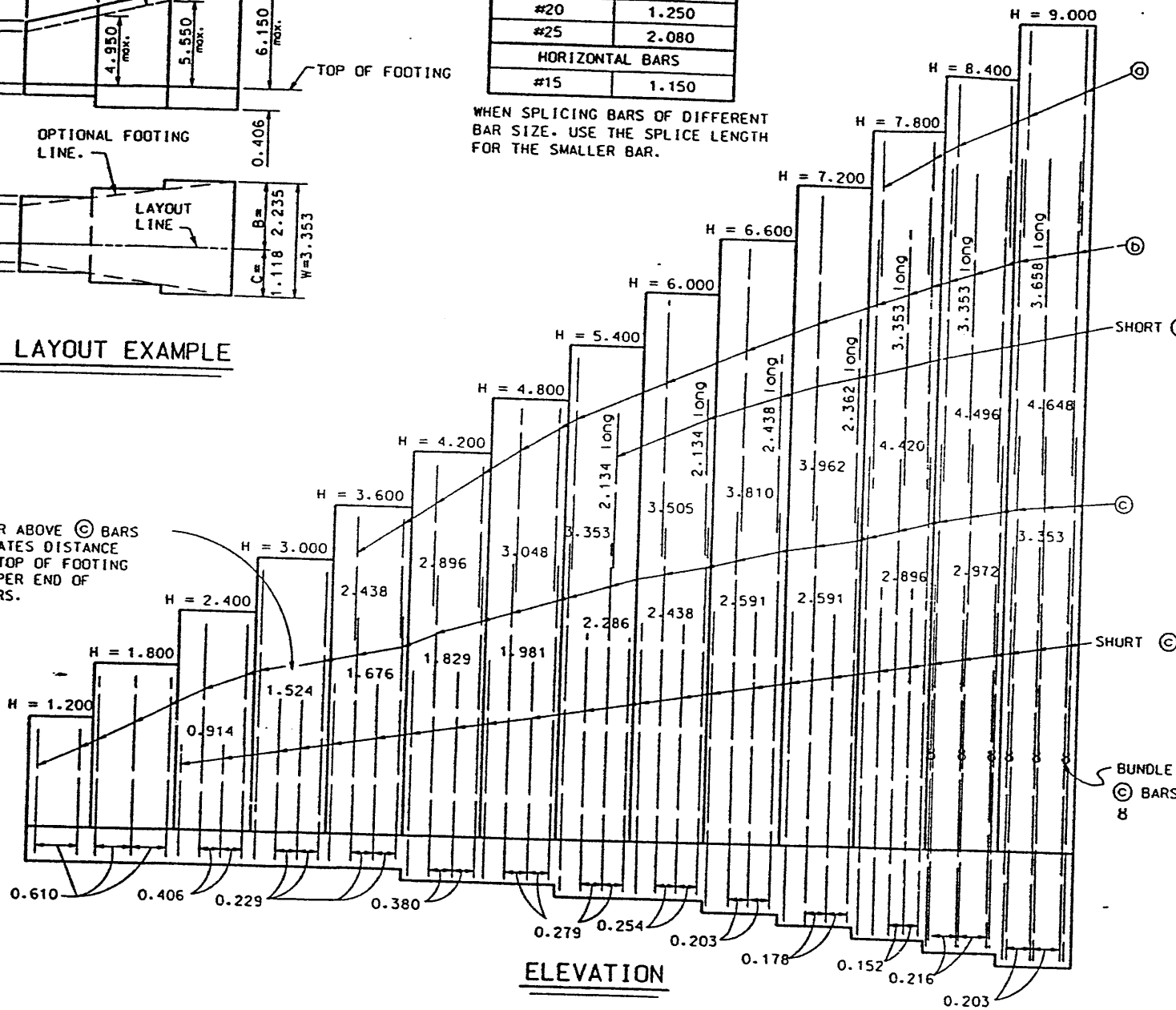
TYPICAL LAYOUT EXAMPLE

BAR SIZE	SPLICE LENGTH
VERTICAL BARS	
#15	0.790
#20	1.250
#25	2.080
HORIZONTAL BARS	
#15	1.150

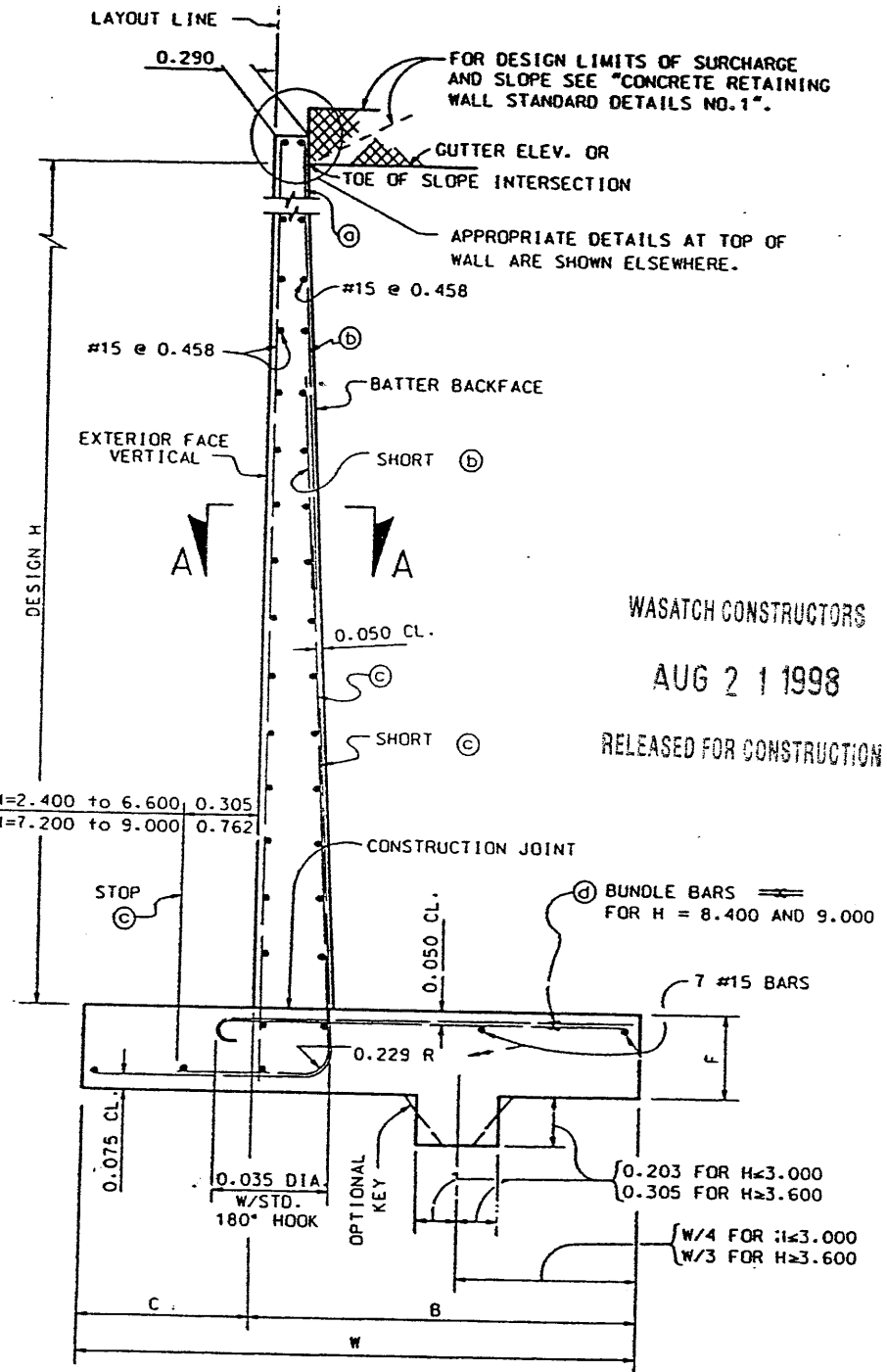
NOTE: BAR CUT-OFFS MAY BE VARIED IN INCREMENTS OF 0.150 m.

WHEN SPLICING BARS OF DIFFERENT BAR SIZE, USE THE SPLICE LENGTH FOR THE SMALLER BAR.

NUMBER ABOVE (C) BARS INDICATES DISTANCE FROM TOP OF FOOTING TO UPPER END OF (C) BARS.

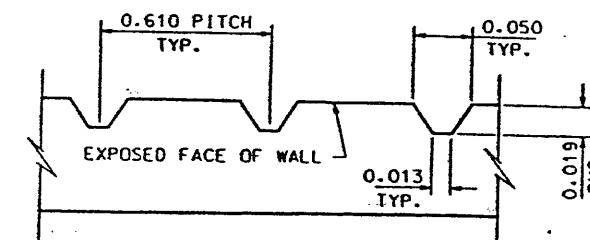


ELEVATION



SPREAD FOOTING SECTION

- NOTES: 1. ALL DIMENSIONS SHOWN ARE IN METERS.
 2. FOR DETAILS NOT SHOWN AND DRAINAGE NOTES SEE "CONCRETE RETAINING WALL STANDARD DETAILS NO. 1."
 3. QUANTITIES APPLY TO DESIGN H PORTION AND EXCLUDE THE ADDED PORTION ABOVE "GUTTER ELEVATION."



SECTION A-A

DESIGN H	1.200	1.800	2.400	3.000	3.600	4.200	4.800	5.400	6.000	6.600	7.200	7.800	8.400	9.000
W	0.965	1.270	1.575	1.880	2.184	2.438	2.743	3.048	3.353	3.657	4.038	4.344	4.648	5.105
C	0.305	0.406	0.508	0.610	0.711	0.813	0.914	1.016	1.118	1.219	1.346	1.448	1.549	1.651
B	0.660	0.864	1.067	1.270	1.473	1.625	1.829	2.032	2.235	2.438	2.692	2.896	3.099	3.454
F SPREAD FTG.	0.356	0.356	0.356	0.356	0.356	0.381	0.381	0.406	0.406	0.457	0.508	0.584	0.660	0.711
BATTER	1:24	1:24	1:24	1:24	1:24	1:24	1:24	1:24	1:24	1:24	1:19	1:16	1:16	1:14
(C) BARS														
(B) BARS					#15e.458	#20e.762	#20e.558	#25e.558	#25e.508	#25e.406	#25e.356	#25e.304	#25e.216	#25e.203
(A) BARS	#15e.610	#15e.610	#15e.406	#15e.229	#20e.229	#30e.380	#30e.279	#35e.279	#35e.254	#35e.203	#35e.178	#35e.152	#35e.216 8	#35e.203 8
(D) BARS	#15e.610	#15e.610	#15e.406	#15e.229	#15e.229	#25e.380	#25e.279	#35e.279	#35e.254	#35e.203	#35e.178	#35e.152	#30e.216 8	#30e.203 8
10 LEVEL SURCHARGE	76.6	91.0	105.3	110.1	134.1	158.0	167.6	191.5	205.9	220.3	234.6	253.8	272.9	296.9
2:1 UNLIMITED SCOPE	52.7	71.8	95.8	119.7	129.3	158.0	172.4	201.1	225.0	263.3	282.5	311.2	340.0	359.1
SPREAD FOOTING	25	30	42	55	76	119	156	219	278	366	451	606	668	754
	0.8	1.2	1.5	1.9	2.4	2.8	3.2	3.7	4.2	4.8	5.9	7.2	8.2	9.7

UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE COUNTY, UTAH STRUCTURES DIVISION		DESIGN	CHECK	CHECK	CHECK
CONCRETE RETAINING WALL STANDARD DETAILS NO. 2		DRAWN	DATE	NO.	BY
PROJECT NUMBER: *SP-15-7(135)296		APPROVED	DATE	NO.	REVISIONS
SALT LAKE COUNTY		REMARKS			
22R-346-12.4		3/22/95			
4 of 4					

WASATCH CONSTRUCTORS
 AUG 21 1998
 RELEASED FOR CONSTRUCTION