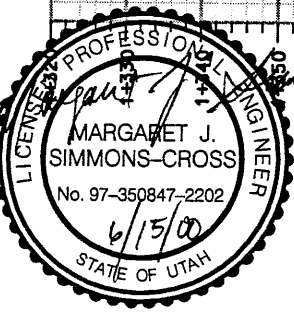
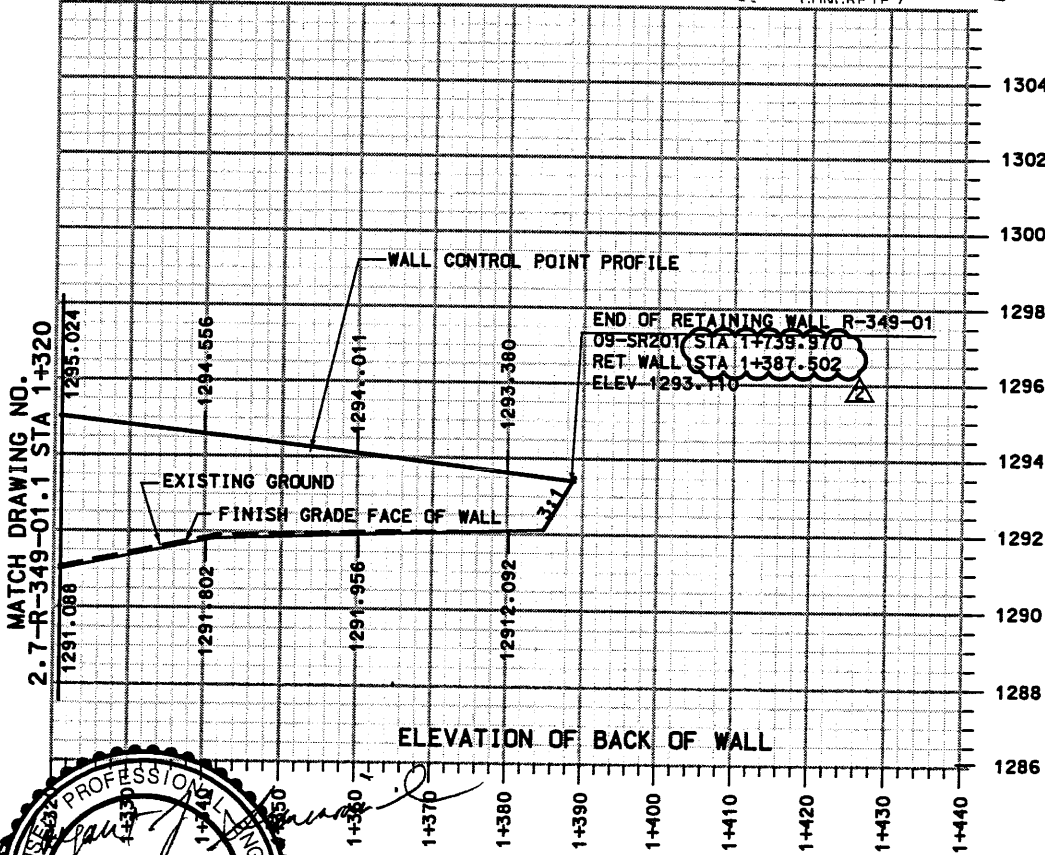
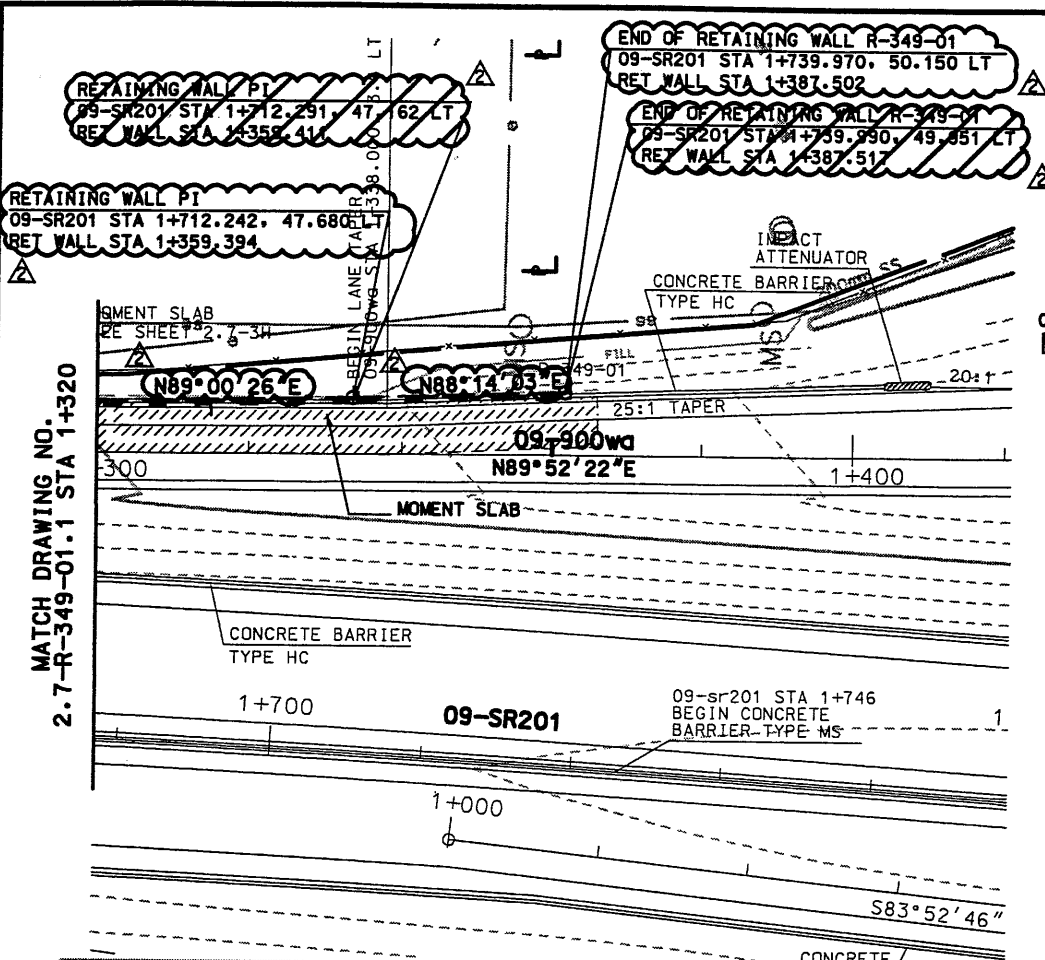
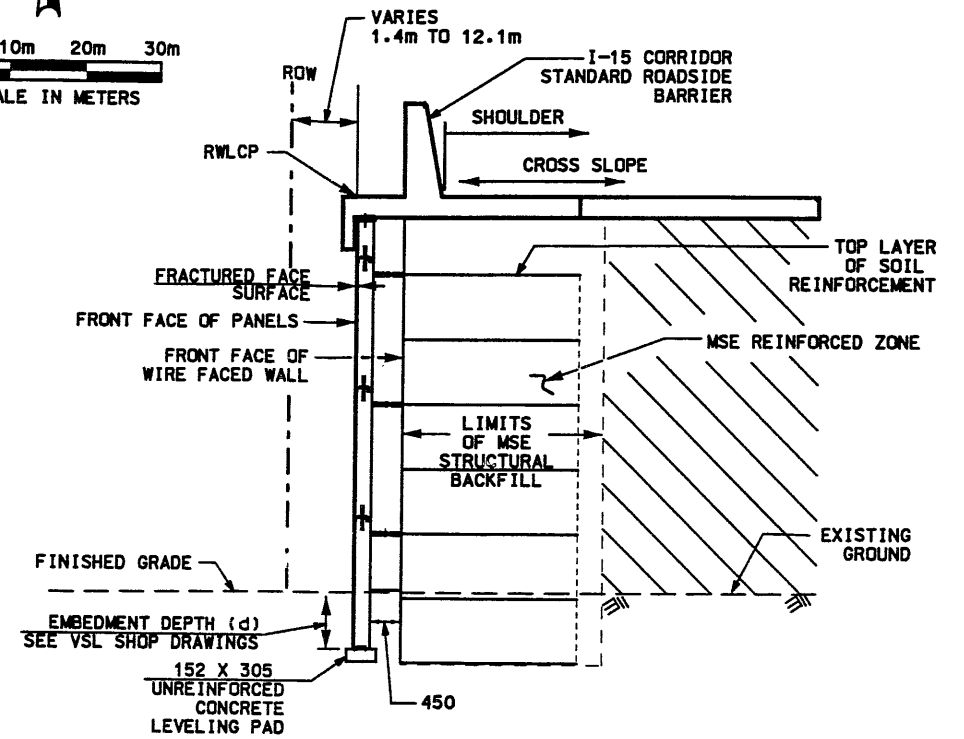
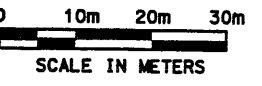


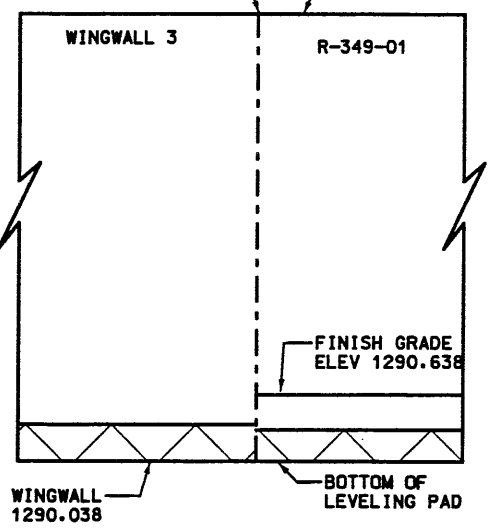
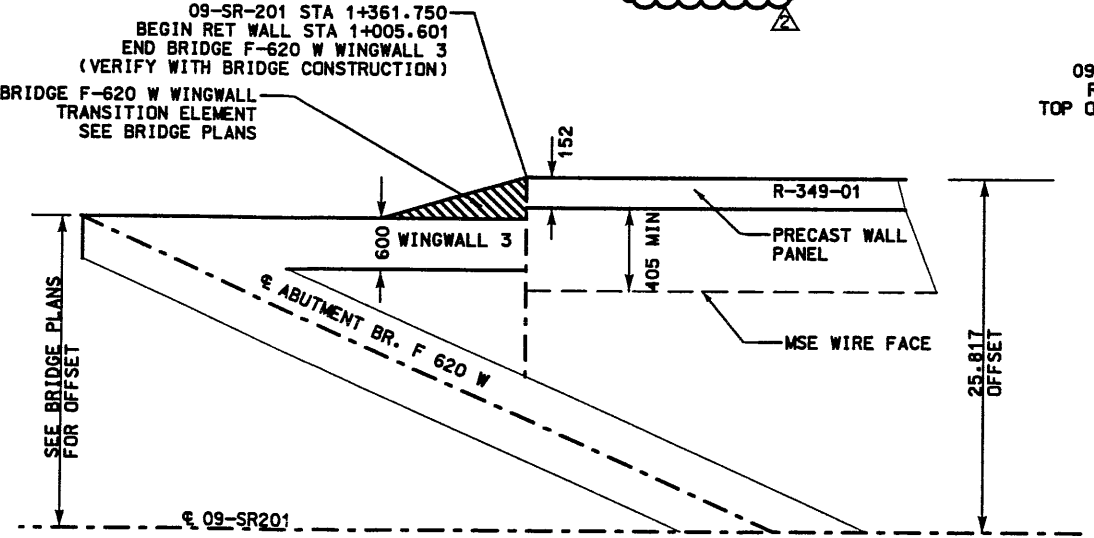
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 Date: 08-JUN-2000 10:15:47
 User: name.wal



- NOTES:**
1. CONSTRUCT WALL TO DESIGN PAVEMENT ELEVATION.
 2. MINIMUM TOE EMBEDMENT H/7 WHERE H EQUALS THE WALL HEIGHT.
 3. REFER TO CS-29 FOR MOMENT SLAB DETAILS.
 4. REFER TO CS-54 FOR COPING/WINGWALL DETAILS.
 5. LOCATE RETRIEVABLE SAMPLES AT RETAINING WALL STA 1+110.000 AND STA 1+310.000 OR 09-SR201 STA 1+455.220 AND STA 1+663.395.
 6. 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.



MSE TWO STAGE WITH MOMENT SLAB
 RET WALL STA 1+021.529 TO STA 1+387.502 NTS



PLAN

ELEVATION

DETAIL AT BEGINNING OF RETAINING WALL

RET WALL STA 1+005.601

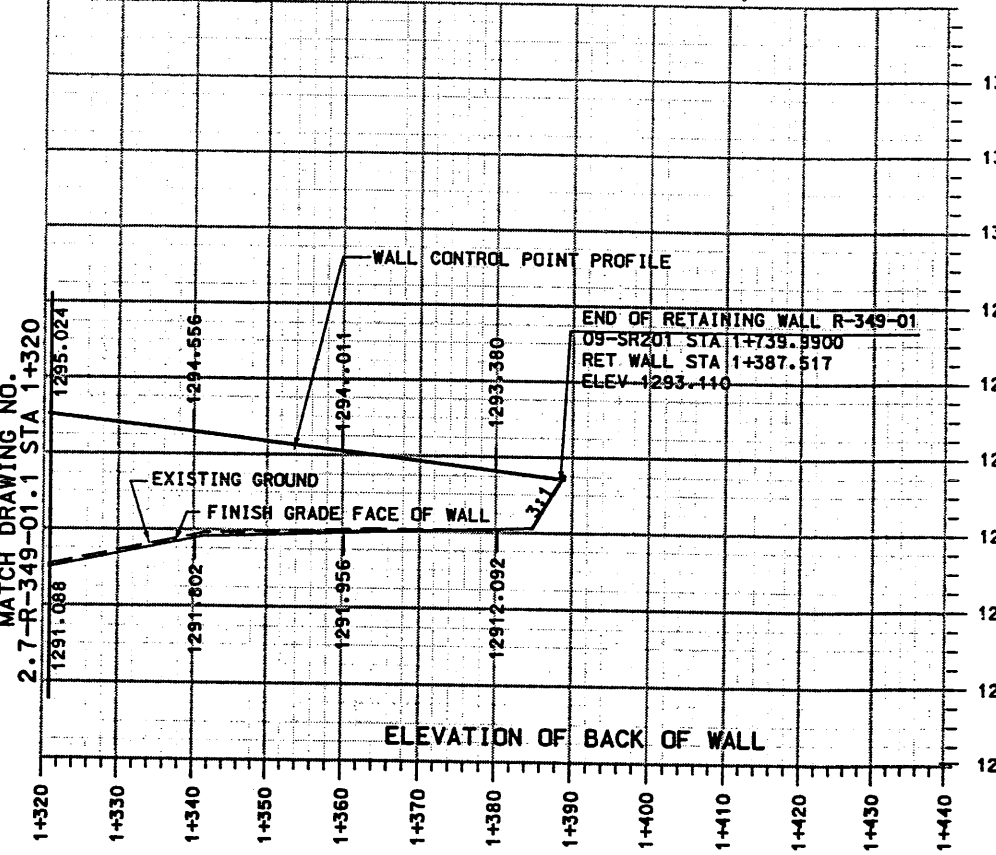
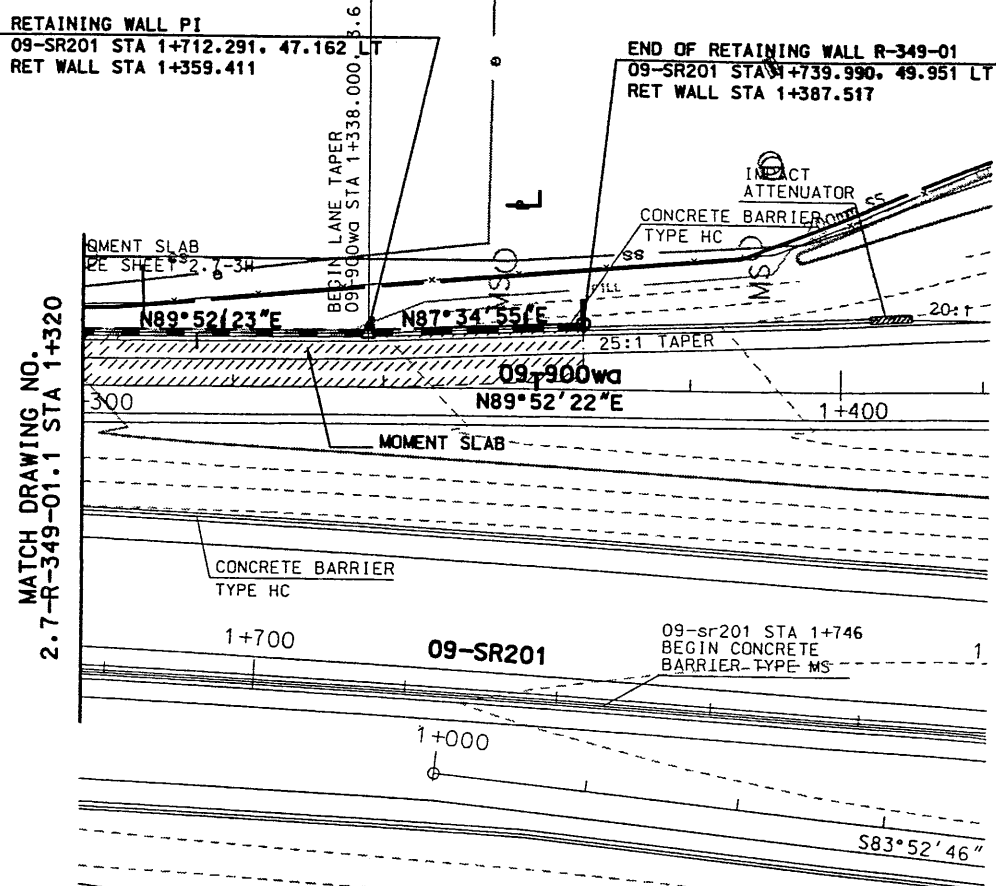
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RFC After Final Approval

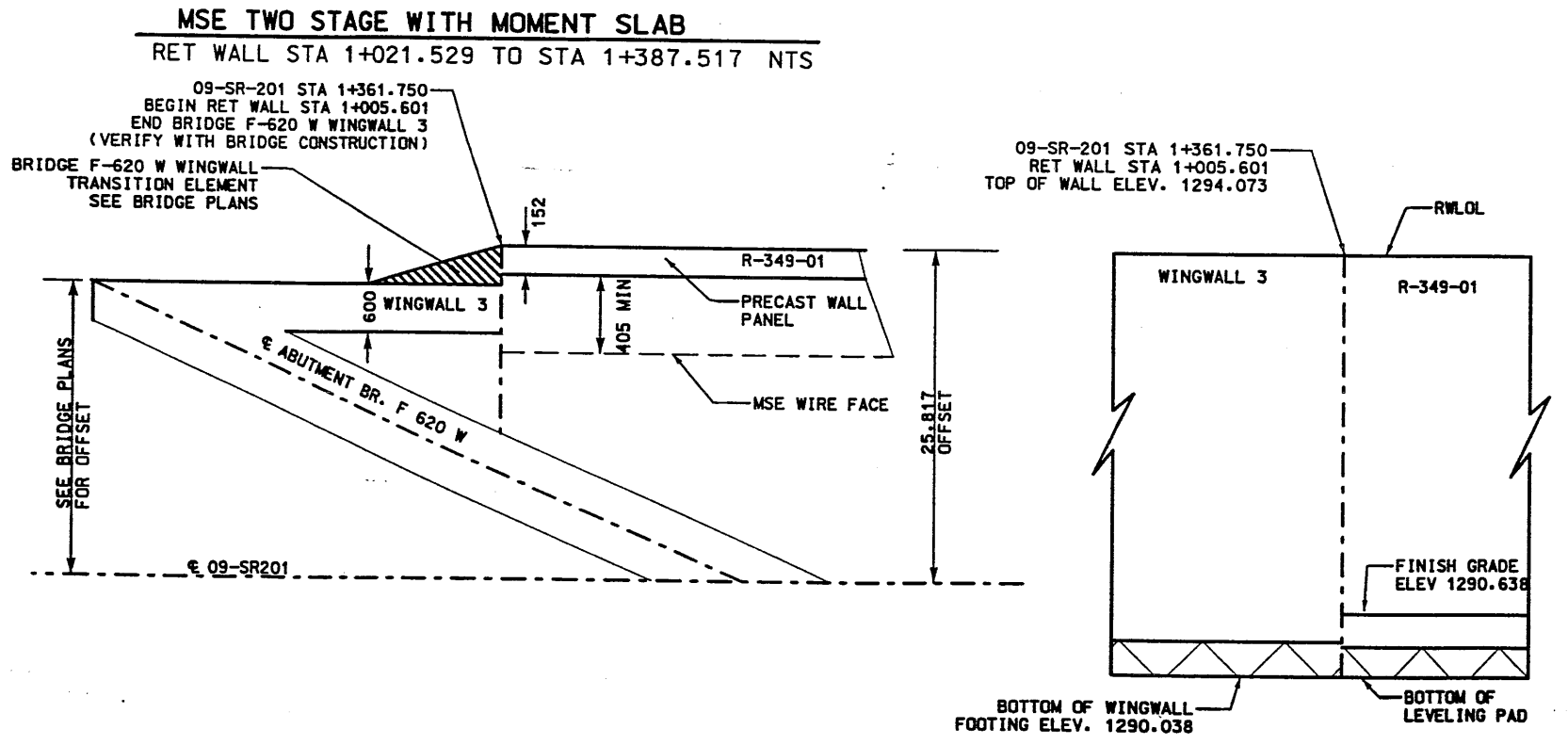
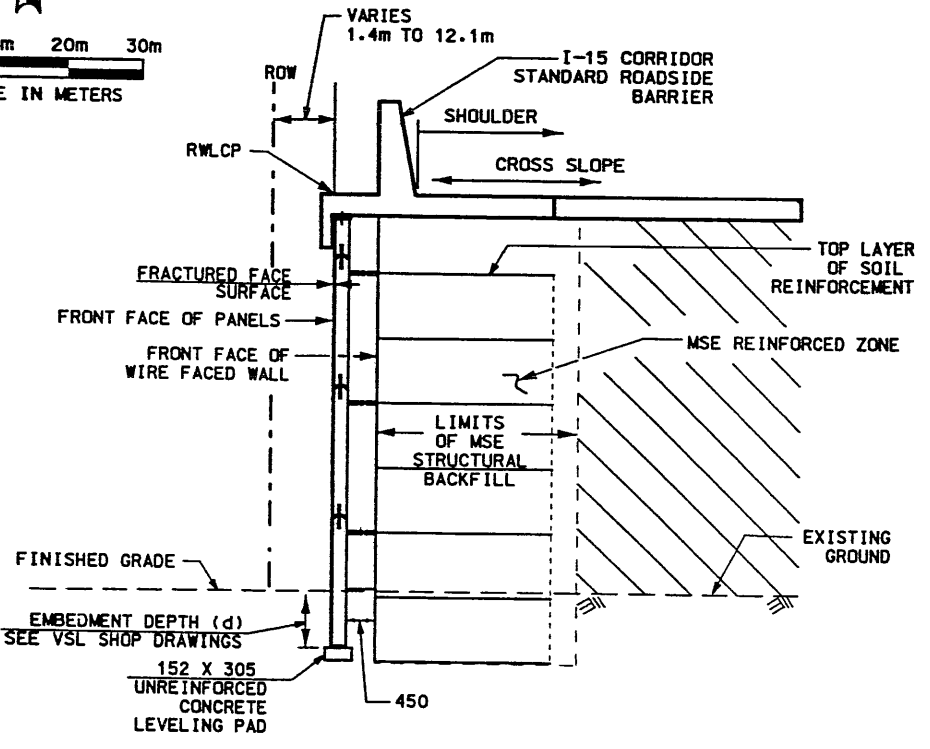
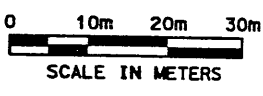
WASATCH CONSTRUCTORS
 JUL 05 2000
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL RELEASE	RELEASE FOR 2ND STAGE CONSTRUCTION. FDC 7-0185
1	10/15/98		
2	06/09/00		
UTAH DEPARTMENT OF TRANSPORTATION		TRACKING NO.	2713403
SVERDRUP/DE LEUW		CHECK MAP 10/98	CHECK MSC 10/98
DESIGN MAP 10/98		CHECK VLR 10/98	CHECK QUANT.
APPROVAL RECORD		DATE	DATE
MARGARET SIMMONS-CROSS		PROJECT DESIGN ENGINEER	SECTION MANAGER
APPROVED 10/15/98		DATE	DATE
1-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	*SP-15-7(135)296
RETAINING WALL 349-01		SECTION 2.7	
SALT LAKE COUNTY		DWG. NO. 2.7-R-349-01.2	
SHT. 2 OF 2			

Date: 15-OCT-1998 Time: 16:09 User: rameshramprtd
 File: c:\adp\15_sod\09_sheets\files\wall\09_wall\ret-001.dgn



- NOTES:**
1. CONSTRUCT WALL TO DESIGN PAVEMENT ELEVATION.
 2. MINIMUM TOE EMBEDMENT H/7 WHERE H EQUALS THE WALL HEIGHT.
 3. REFER TO CS-29 FOR MOMENT SLAB DETAILS.
 4. REFER TO CS-54 FOR COPING/WINGWALL DETAILS.
 5. LOCATE RETRIEVABLE SAMPLES AT RETAINING WALL STA 1+110.000 AND STA 1+310.000 OR 09-SR201 STA 1+455.220 AND STA 1+663.395.
 6. 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.



DETAIL AT BEGINNING OF RETAINING WALL
 RET WALL STA 1+005.601 NTS



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL	RELEASE
Δ	10/15/98		
UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
DESIGN NO.	TRACKING NO.	CHECK DATE	CHECK DATE
	2713403	10/98	10/98
DESIGNER	DRAWN	CHECKED	CHECKED
MARGARET STIMMONS CROSS	JOHN TERRY	JOHN TERRY	JOHN TERRY
DATE	DATE	DATE	DATE
10/15/98	10/15/98	10/15/98	10/15/98
PROJECT NUMBER #SP-15-7(135)296		SECTION MANAGER	
RETAINING WALL 349-01		SECTION 2.7	
I-15 CORRIDOR RECONSTRUCTION		PROJECT NUMBER	
SALT LAKE COUNTY		DWG. NO.	
		2.7-R-349-01.2	
		SHEET 2 OF 12	

OCT 20 1998
 RELEASED FOR CONSTRUCTION

FINAL T 06-12-00 ENCE (X-UTAH.DWG)


DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 34°	
ANGLE OF INTERNAL FRICTION (BASE) = 31°	
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. = 0.12g (TYP)	
SEISMIC ACCELERATION COFF. = 0.32g (AT BRIDGE ABUTMENTS)	
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-07-98	RELEASE FOR 1ST STAGE CONST. ONLY
▲	6-12-00	RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION	BY

DES.	DRN	CHK	JL	DDL	JL	NO.	DATE

VSL CORPORATION
 7840 River Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-8272
 Fax: (919) 781-4868



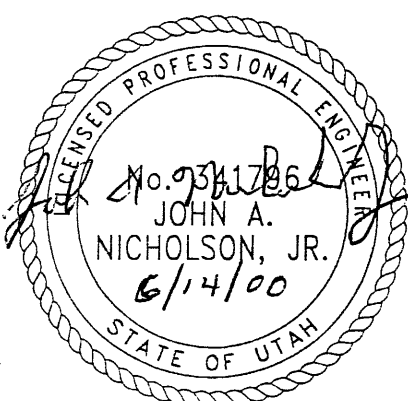
ALUMIA, GA. / DALLAS, TX. / RALEIGH, NC (CORPORATE OFFICE)
 BIRMINGHAM, AL. / SAN JOSE, CA. / SPRINGFIELD, VA.

RETAINED EARTH INDEX	
RE-1	PLAN WIRE FACED WALL R-349-1, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTIONS @ WIRE FACED WALL
RE-3	TYPICAL CROSS SECTIONS
RE-4	WIRE FACED WALL R-349-1
RE-5	WIRE FACED WALL R-349-1
RE-6	WIRE FACED WALL R-349-1
RE-7	WIRE FACED WALL R-349-1
RE-8	WIRE FACED WALL R-349-1
RE-9	WIRE FACED WALL R-349-1
RE-10	WIRE FACED WALL R-349-1
RE-11	PRECAST WALL R-349-1
RE-12	PRECAST WALL R-349-1
RE-13	PRECAST WALL R-349-1
RE-14	PRECAST WALL R-349-1
RE-15	SPECIAL PANEL DETAILS
RE-16	SPECIAL PANEL DETAILS

VSL Corporation (VSL) claims a U.S. patent for its Retained Earth™ structures. VSL is not responsible for the design or construction of any structure that is not a VSL Retained Earth™ structure. VSL is not responsible for any damage or injury to persons or property resulting from the use of any structure that is not a VSL Retained Earth™ structure. VSL is not responsible for any damage or injury to persons or property resulting from the use of any structure that is not a VSL Retained Earth™ structure.

RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-349-1"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-1.3
JOB NO.	239-0007
Sheet No.	RE-1



NOTE
 THE WALL CONNECTIONS ON WALL 349-01 MAY BE ROTATED A MAXIMUM OF 55° VERTICALLY (COL. 1 - 126). 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 -181mm TO 770mm MEASURED AT THE BASE OF THE WALL.

WASATCH CONSTRUCTORS
 JUL 05 2000
 RELEASED FOR CONSTRUCTION

PLAN VIEW MSE WALL "R-349-1"

SCALE: 1=600 (FULL SIZE)
 SCALE: 1=1200 (HALF SIZE)

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS TO BE VERIFIED BY OTHERS. 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

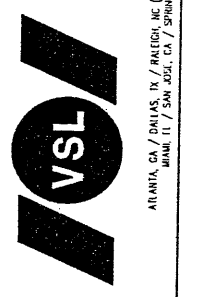
CE (X-UTAH.DWG)
 \9W-01\SUBMTL-3\RE-1.DWG
 H:\RE_EARTH\PROJECT\239-000\1998\9
 10-02-98
 FINAL

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 34°	
ANGLE OF INTERNAL FRICTION (BASE) = 31°	
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. = 0.12g (TYP)	
SEISMIC ACCELERATION COFF. = 0.32g (AT BRIDGE ABUTMENTS)	
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-07-98	RELEASE FOR 1ST STAGE CONST. ONLY

NO.	DATE	REVISION	BY

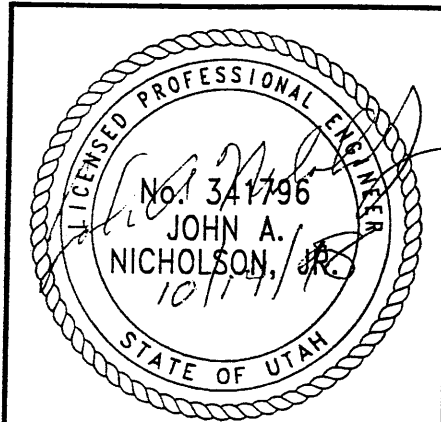
VSL CORPORATION
 2610 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 81-6272
 Fax: (919) 81-4965



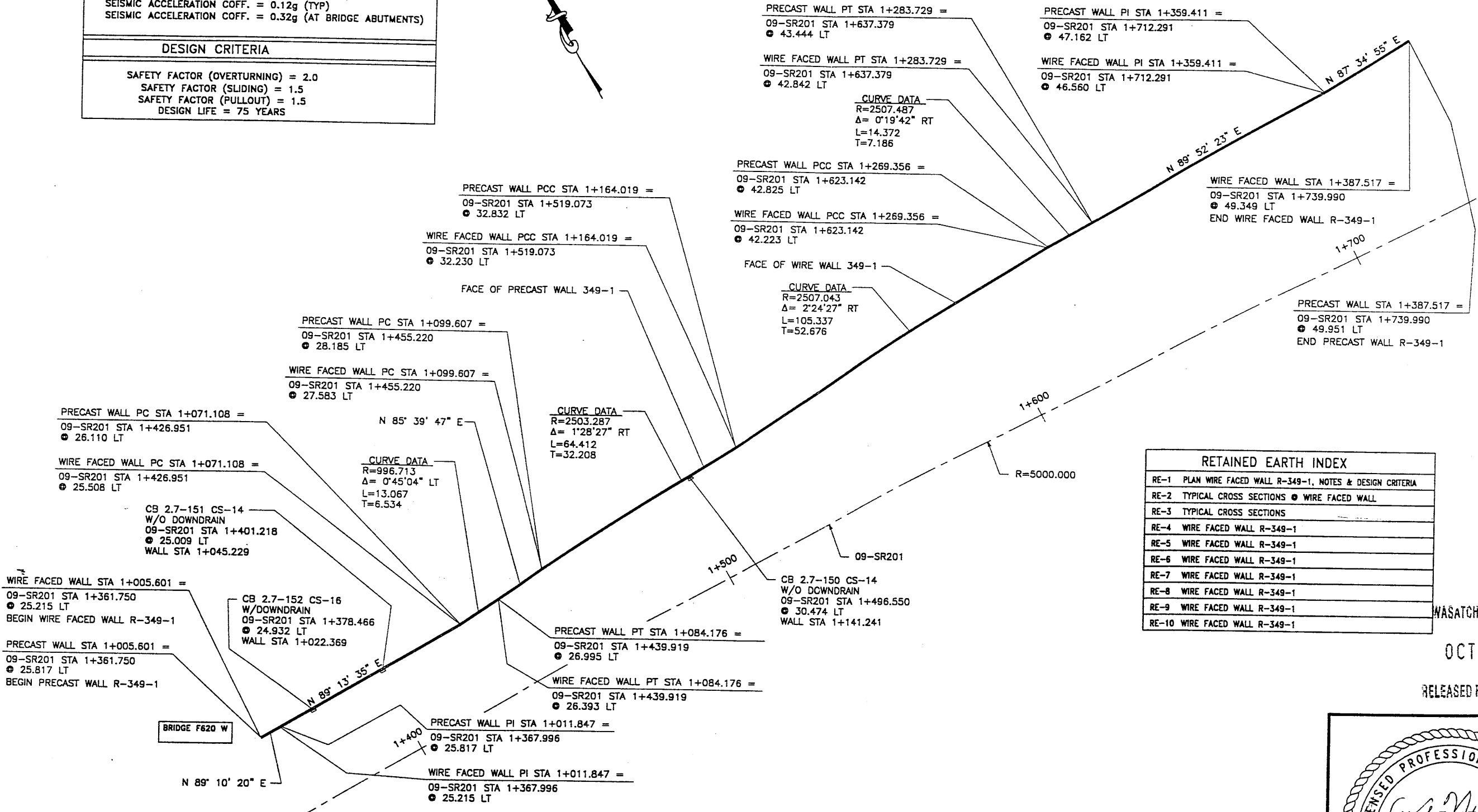
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RETAINED EARTH INDEX	
RE-1	PLAN WIRE FACED WALL R-349-1, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTIONS ● WIRE FACED WALL
RE-3	TYPICAL CROSS SECTIONS
RE-4	WIRE FACED WALL R-349-1
RE-5	WIRE FACED WALL R-349-1
RE-6	WIRE FACED WALL R-349-1
RE-7	WIRE FACED WALL R-349-1
RE-8	WIRE FACED WALL R-349-1
RE-9	WIRE FACED WALL R-349-1
RE-10	WIRE FACED WALL R-349-1

WASATCH CONSTRUCTORS
 OCT 20 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-349-1"
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO.
2.7R-349-1.3
JOB NO.
239-0007
SHT. NO.
RE-1



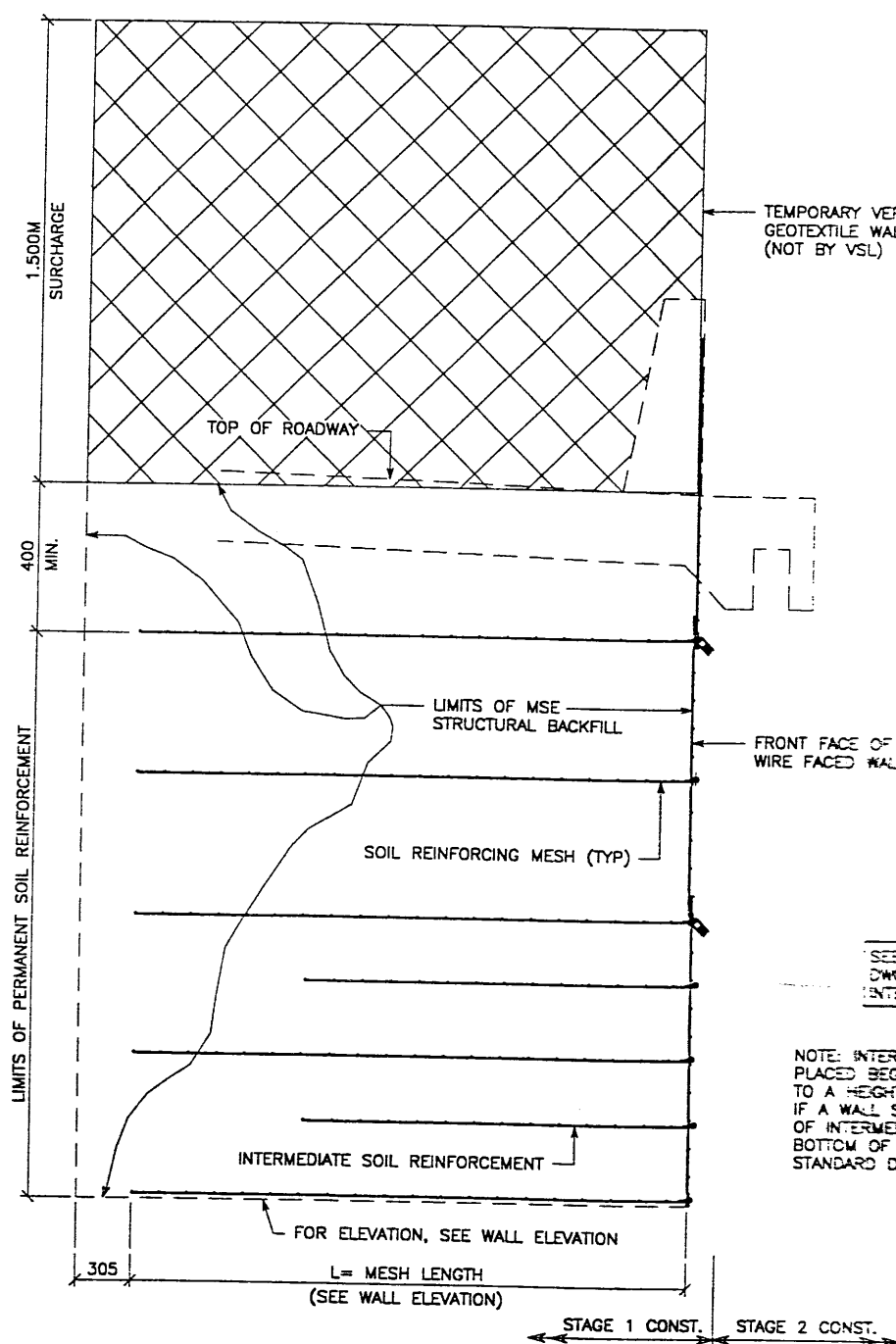
PLAN VIEW MSE WALL "R-349-1"

SCALE: 1=600 (FULL SIZE)
 SCALE: 1=1200 (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.

CE (X-UTAH.DWG)
 9W-01\SUBMITL-3\RE-2.DWG
 H:\RE_EARTH\PROJECT\239-0007\1998\9W
 09-04-98
 FINAL



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

SEE FOSTER GEOTECHNICAL STD
 DWG FOR PLACEMENT OF
 INTERMEDIATE SOIL REINFORCEMENT

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE
 PLACED BEGINNING AT THE BOTTOM OF A WALL SECTION
 TO A HEIGHT ENDING 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
△	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY

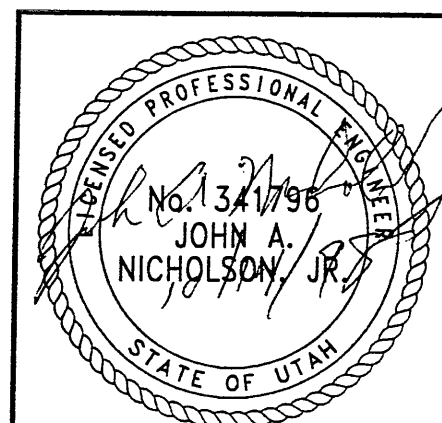
VSL CORPORATION
 2840 Photo Plaza, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4859



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

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 calculations and construction
 details shown on this drawing
 were prepared by VSL or
 under the direct supervision
 of a VSL employee who is
 duly licensed and qualified
 to perform the services
 described herein, and VSL
 accepts full liability for
 the performance of
 these services.

WASATCH CONSTRUCTORS
 OCT 20 1998
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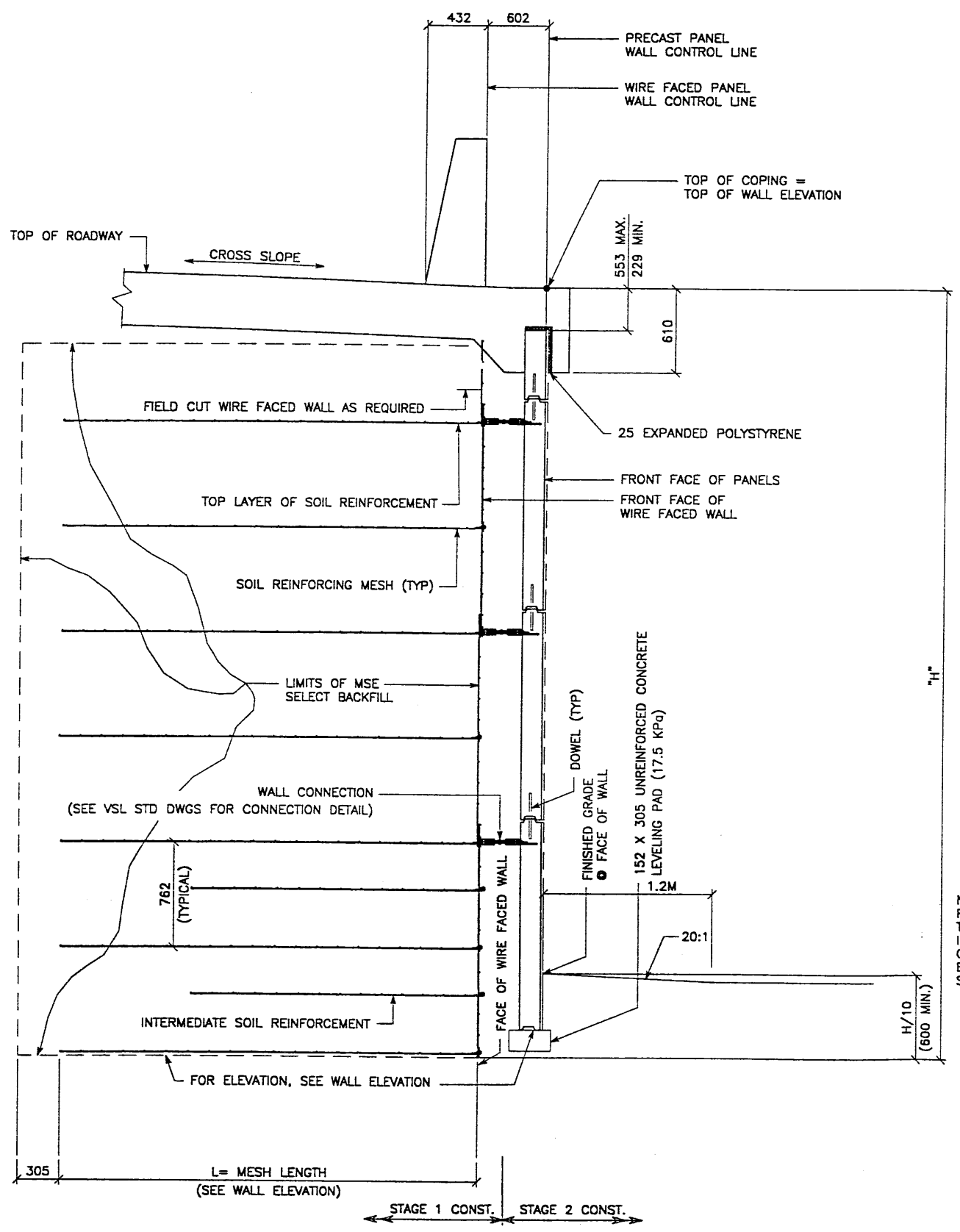
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-1"
 TYPICAL SECTIONS @ WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7-R-349-1.4
JOB NO.	239-0007
SHT. NO.	RE-2

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 09-04-98 H:\RE_EARTH\PROJECT\239-0007\1998\91 5\9W-01\SUBMTL-3\RE-3.DWG NCE (X-UTAH.DWG)



SEE FOSTER GEOTECHNICAL STD DWG FOR PLACEMENT OF INTERMEDIATE SOIL REINFORCEMENT

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE PLACED BEGINNING AT THE BOTTOM OF A WALL SECTION TO A HEIGHT ENDING 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.

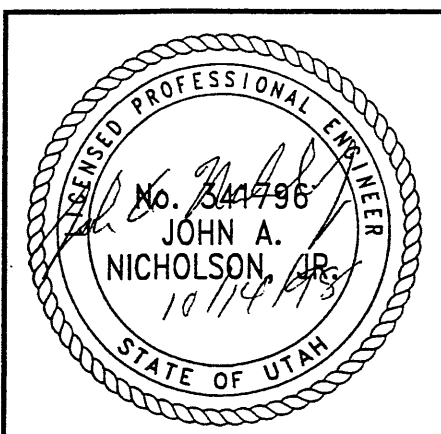
TYPICAL CROSS SECTION - STA 1+024.684 TO STA 1+387.517
 (SEE DWG. NO. 2.7R-349-11.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

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
△	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY <i>W</i>

WASATCH CONSTRUCTORS
 OCT 20 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-1"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.7-R-349-1.5
 JOB NO. 239-0007
 SH. NO. RE-3

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4969

ATLANTA, GA / DANVILLE, VA / RENO, NV (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, MA

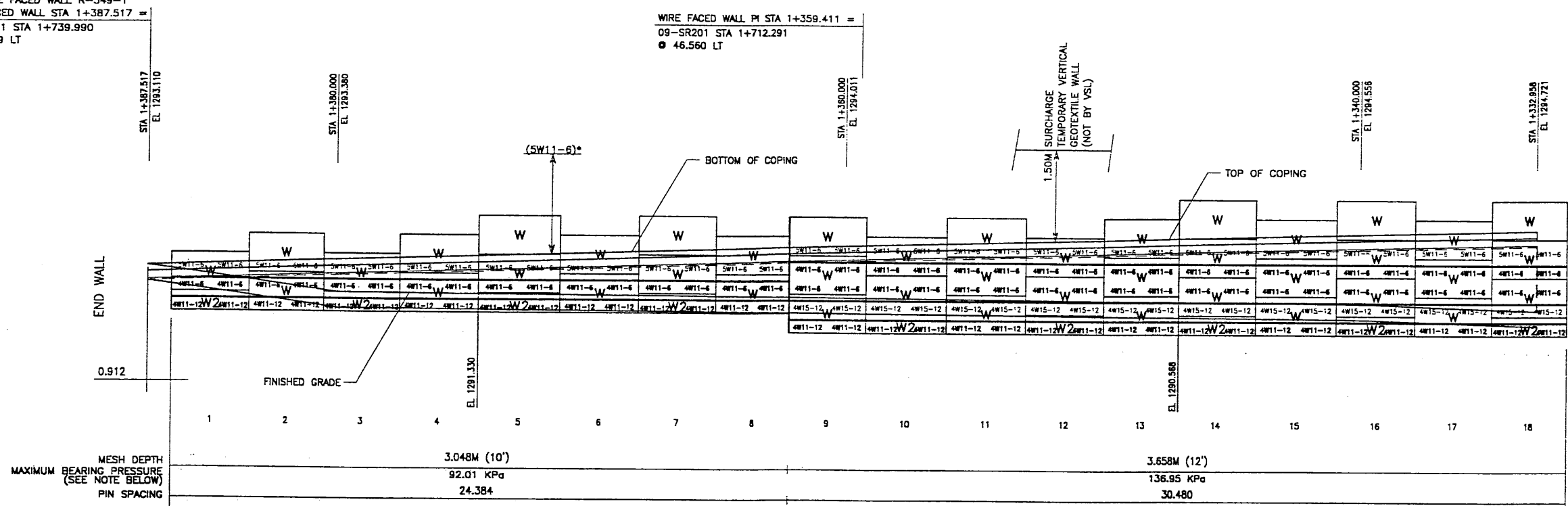
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ICE (X-UTAH.DWG)
 SUBMITL-3\9W-01.DWG
 H:\RE_EARTH\PROJECT\239-0007\1998\9WSERIES\
 10-08-98
 FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY

END WIRE FACED WALL R-349-1
 WIRE FACED WALL STA 1+387.517 =
 09-SR201 STA 1+739.990
 ● 49.349 LT

WIRE FACED WALL PI STA 1+359.411 =
 09-SR201 STA 1+712.291
 ● 46.560 LT



RETAINING WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL

(FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 2361.90 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS

OCT 20 1998

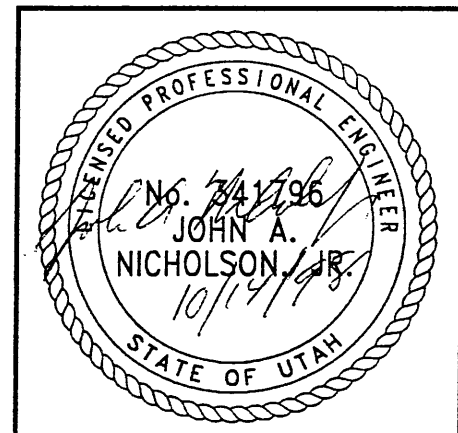
RELEASED FOR CONSTRUCTION

* 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



DES.	JL	09-04-98	RETAINED EARTH™	NO.	DATE	BY	CHK
DRN	DDL	09-04-98					
CHK.	JL	09-04-98					

VSL CORPORATION
 2810 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781 5772
 Fax: (919) 781 4909

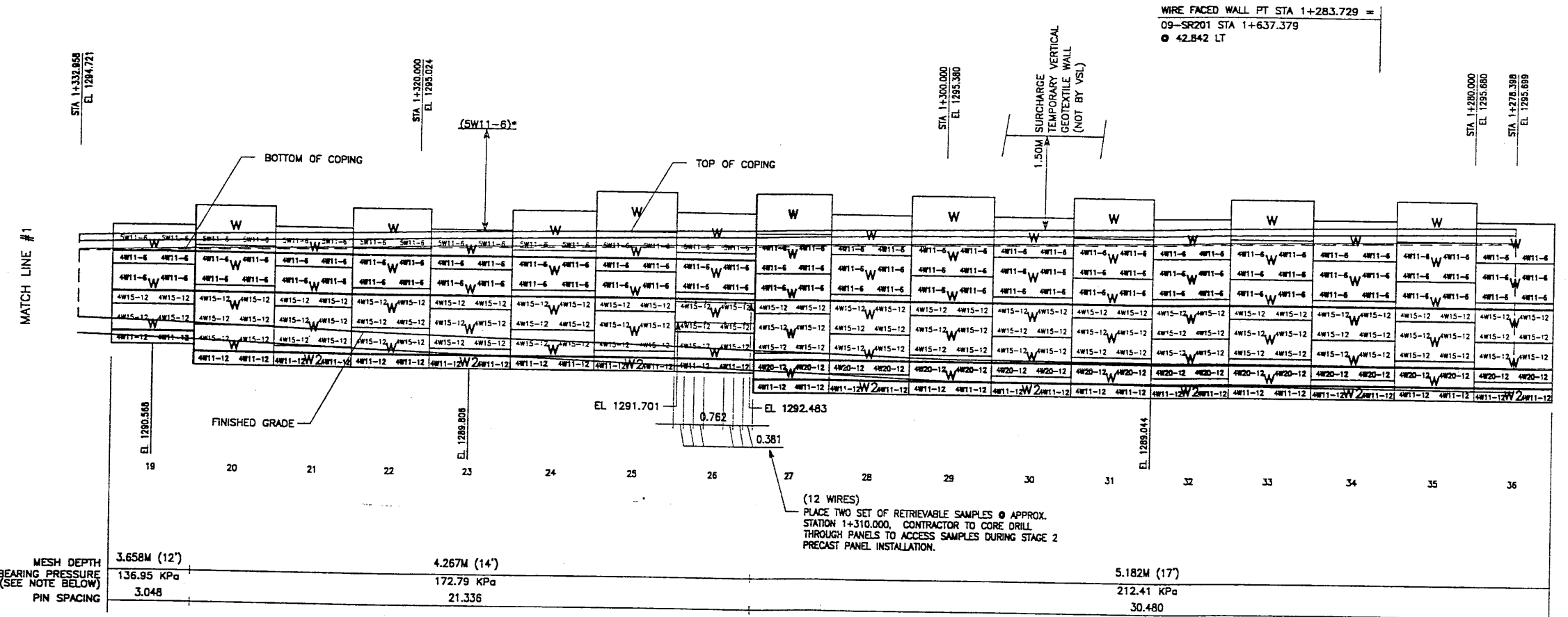
VSL INC. (CORPORATE OFFICE)
 / SPANGLER, VA

RETAINED EARTH™ WALLS
 WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 UTAH 1-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.7R-349-1.6
 JOB NO. 239-0007
 SHEET NO. RE-4

Enlarge for rebar details by Reference panel details of soil reinforcing

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY

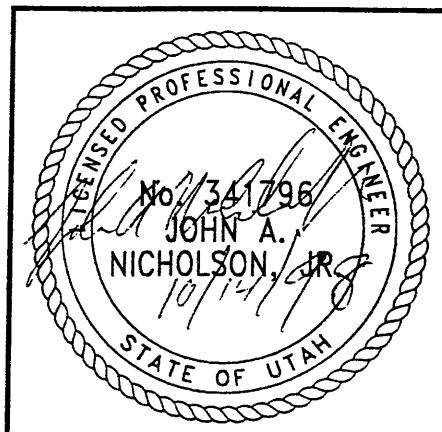


RETAINING WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 2361.90 SM) SCALE 1:200 (HALF SIZE)

* 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.

METRIC

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WASATCH CONSTRUCTORS
 OCT 20 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		NO.	DATE	REVISION
NO.	DATE			
1	10-08-98			

DIST.	09-04-98	JL			
DRN.	09-04-98	DDL			
CHK.	09-04-98	JL			

RETAINED EARTH™	
DES.	09-04-98 JL
DRN.	09-04-98 DDL
CHK.	09-04-98 JL

VSL CORPORATION	
2640 Para Place, Suite 200	
Raleigh, NC 27612	
Telephone: (919) 781-8272	
Fax: (919) 81-4869	

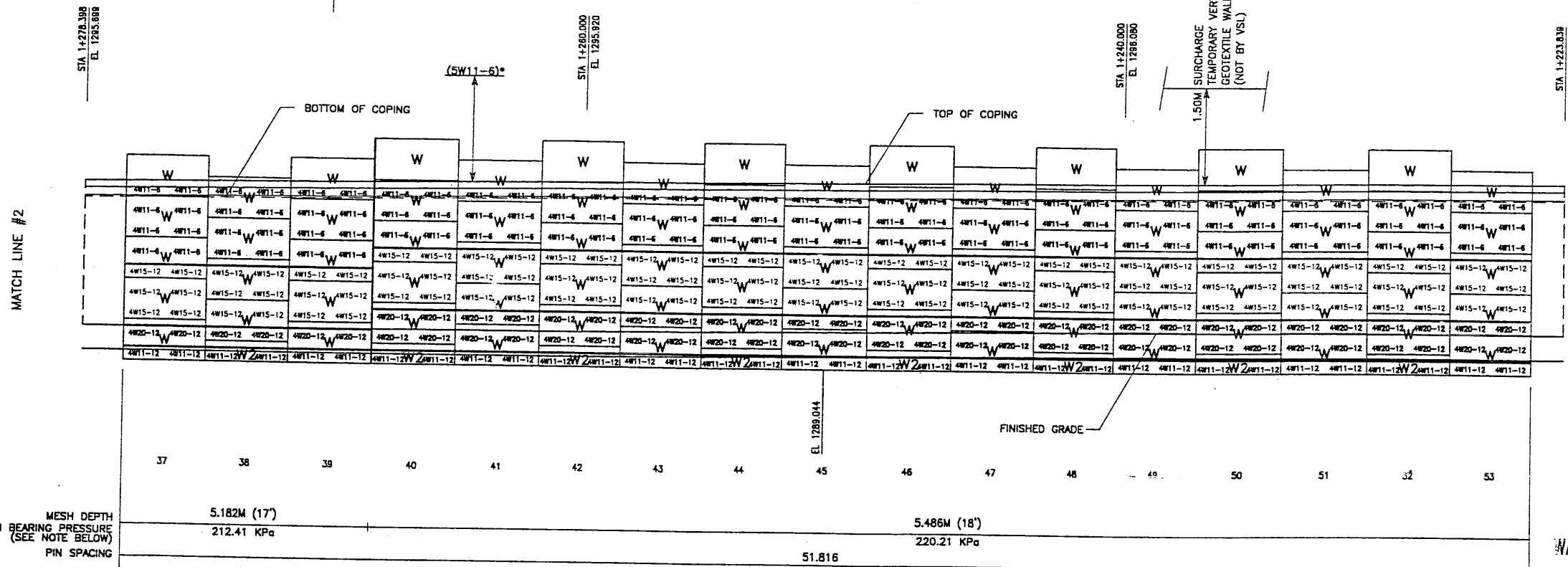
VSL CORPORATION	
2640 Para Place, Suite 200	
Raleigh, NC 27612	
Telephone: (919) 781-8272	
Fax: (919) 81-4869	

RETAINED EARTH™ WALLS	
WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL	
UTAH I-15 RECONSTRUCTION	
SALT LAKE COUNTY, UTAH	
UTAH DEPARTMENT OF TRANSP.	

DWG. NO.	2.7R-349-1.7
JOB NO.	239-0007
SHT. NO.	RE-5

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY

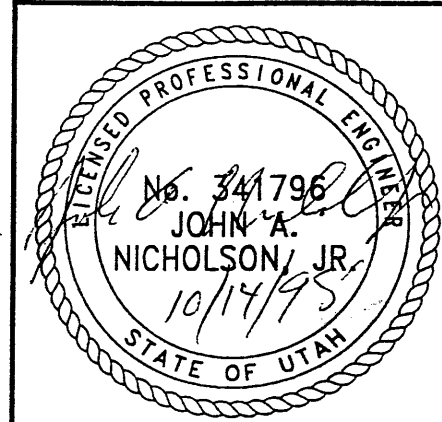
WIRE FACED WALL PCC STA 1+269.356 =
 09-SR201 STA 1+623.142
 ● 42.223 LT



RETAINING WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 2361.90 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 OCT 20 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.

DES.	DIR.	CHK.	RETAINED EARTH™	NO.	DATE	REVISION	BY	CHK
JL	DDL	JL						
09-04-98	09-04-98	09-04-98						

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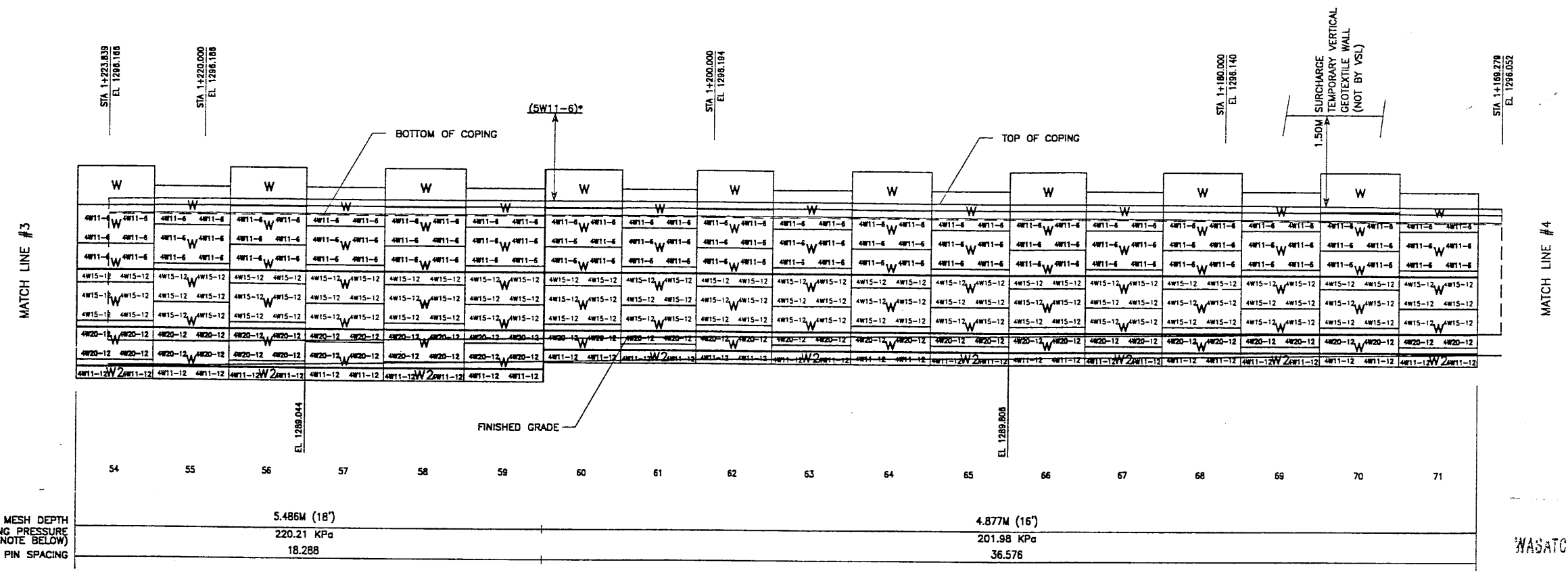
RETAINED EARTH™ WALLS
 WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.7R-349-1.8
 JOB NO. 239-0007
 SHT. NO. RE-6

CE (X-UTAH.DWG) SUBMITL-3\9W-01.DWG H:\RE_EARTH\PROJECT\239-0007\1998\9WSERIES\ 10-08-98 FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY <i>OL</i>

NO.	DATE	REVISION



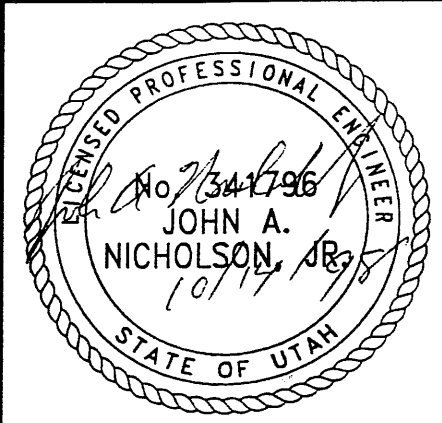
RETAINING WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 2361.90 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 OCT 20 1998
 RELEASED FOR CONSTRUCTION

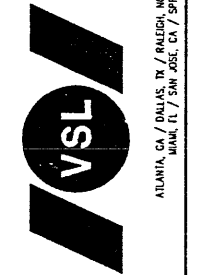
* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.
 NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

METRIC

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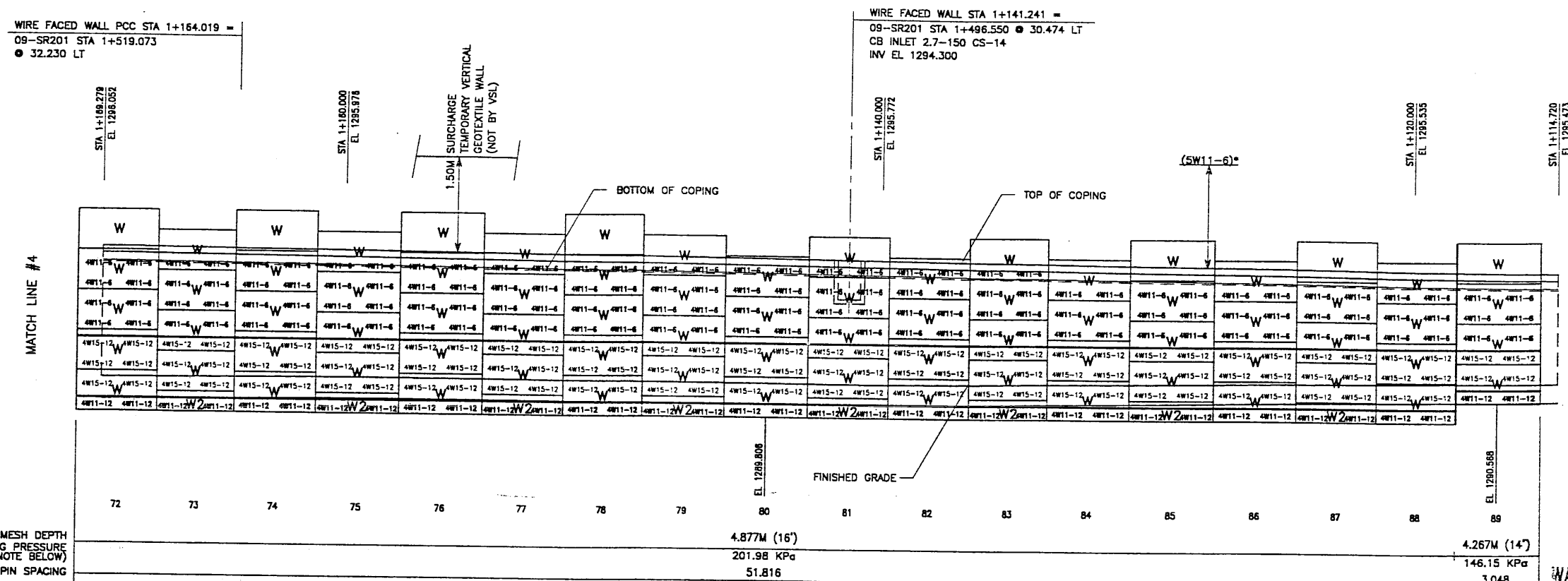
RETAINED EARTH™ WALLS
 WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-1.9
JOB NO.	239-0007
SHT. NO.	RE-7

VCE (X-UTAH.DWG) / SUBMITL-3\9W-01.DWG / H:\RE_EARTH\PROJECT\239-000\1998\9WSERIES\ / T 10-08-98 / FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY

NO.	DATE	REVISION



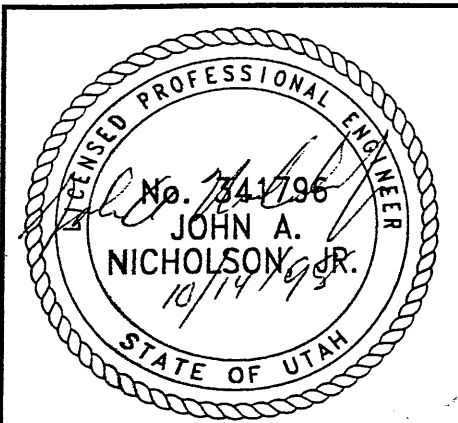
RETAINING WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 2361.90 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 OCT 20 1998
 RELEASED FOR CONSTRUCTION

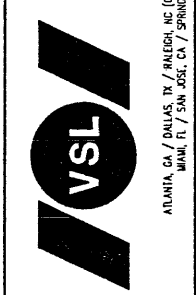
* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.
 NOTE: THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

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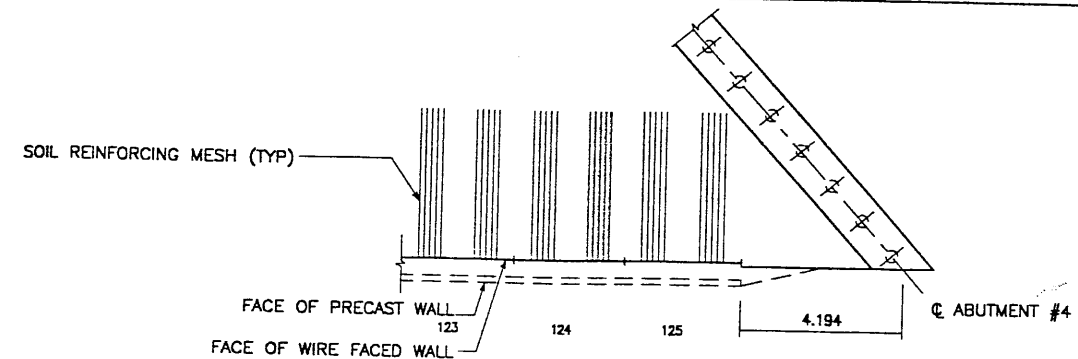
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RETAINED EARTH™ WALLS
 WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-1.10
JOB NO.	239-0007
SHT. NO.	RE-8

CE (X-UTAH.DWG)
SUBMIT-3\9W-01.DWG
H:\RE_EARTH\PROJECT\239-0007\988\9WSERIES
FINAL 10-08-98

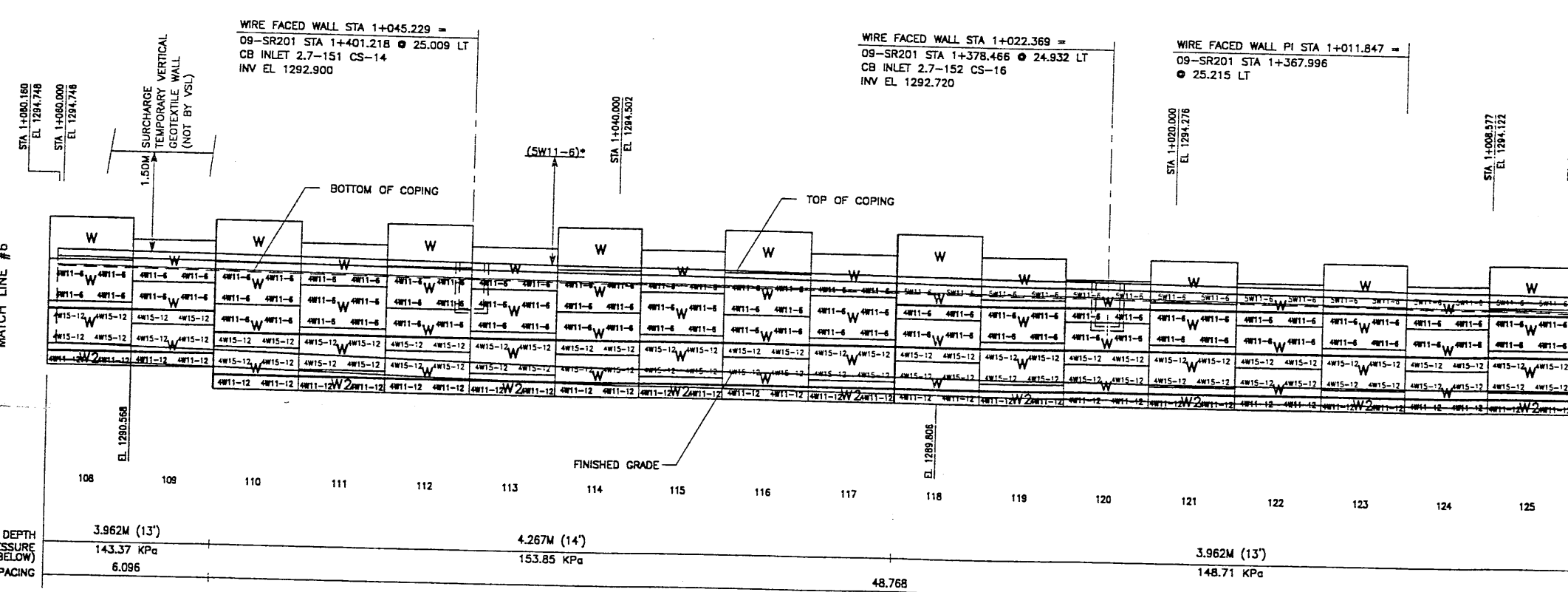
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	10-08-98	RELEASE FOR 1ST STAGE CONST. ONLY



NO.	DATE	REVISION

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RETAINING WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
(FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
(TOTAL SURFACE AREA OF FACING = 2361.90 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
OCT 20 1998
RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
WALL "R-349-1" - 1ST STAGE: WIRE FACED WALL
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

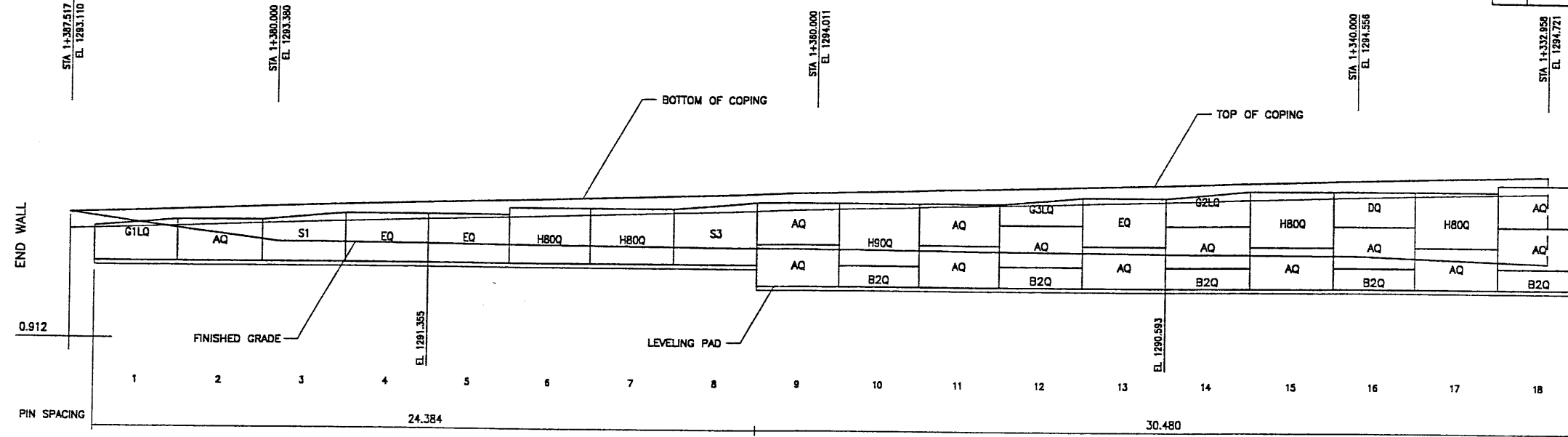
DWG. NO.	2.7R-349-1.12
JOB NO.	239-0007
SHT. NO.	RE-10

* 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
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FINAL 06-12-00 X INCE (X-UTAH.DWG)

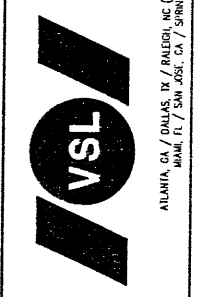
END PRECAST WALL R-349-1
 PRECAST WALL STA 1+387.502 =
 09-SR201 STA 1+739.970
 ● 50.150 LT



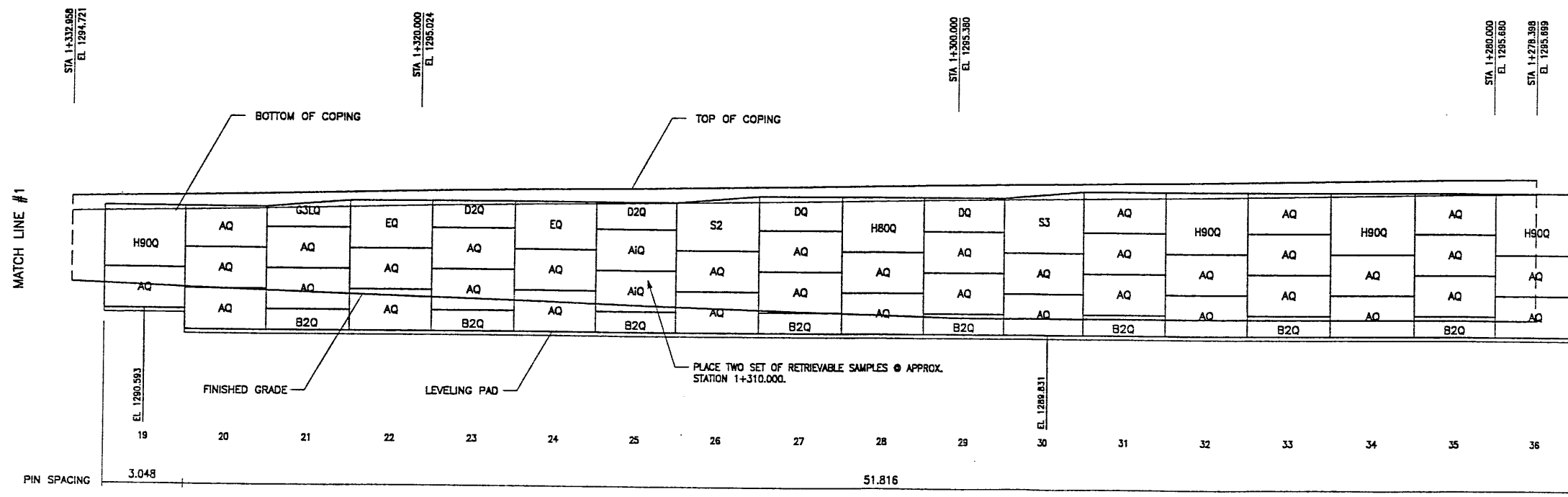
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	06-12-00	RELEASE FOR 2ND STAGE CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE	REVISION	CHK
06-12-00	JN					
06-12-00	DSW					
06-12-00	JN					

VSL CORPORATION
 2940 Plaza Place, Suite 200
 Raleigh, NC 27617 Tel: 919-672-4800
 Fax: (919) 761-4889



WASATCH CONSTRUCTORS
 JUL 0 5 2000
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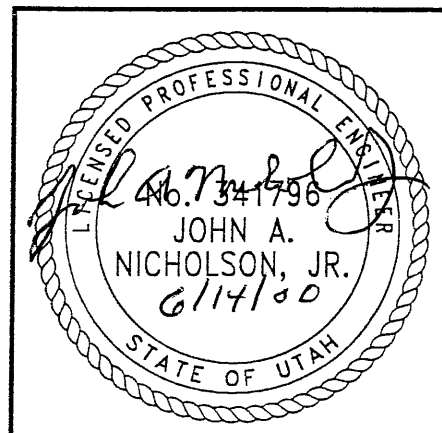


RETAINING WALL "R-349-1" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1801.01 SM)

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

METRIC

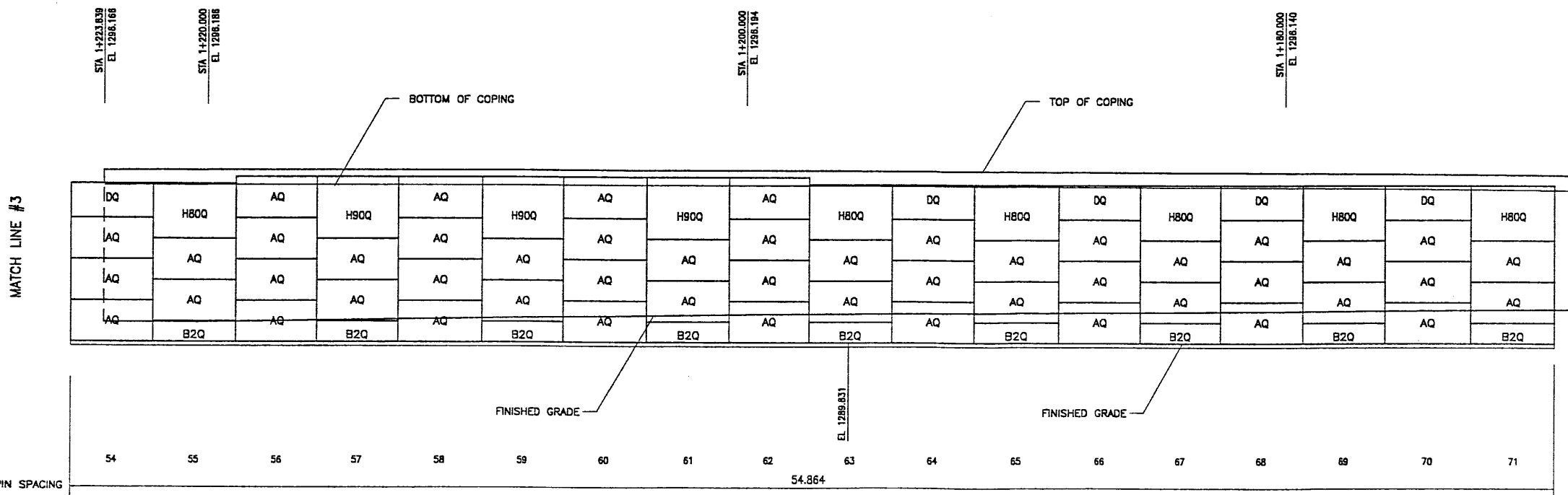
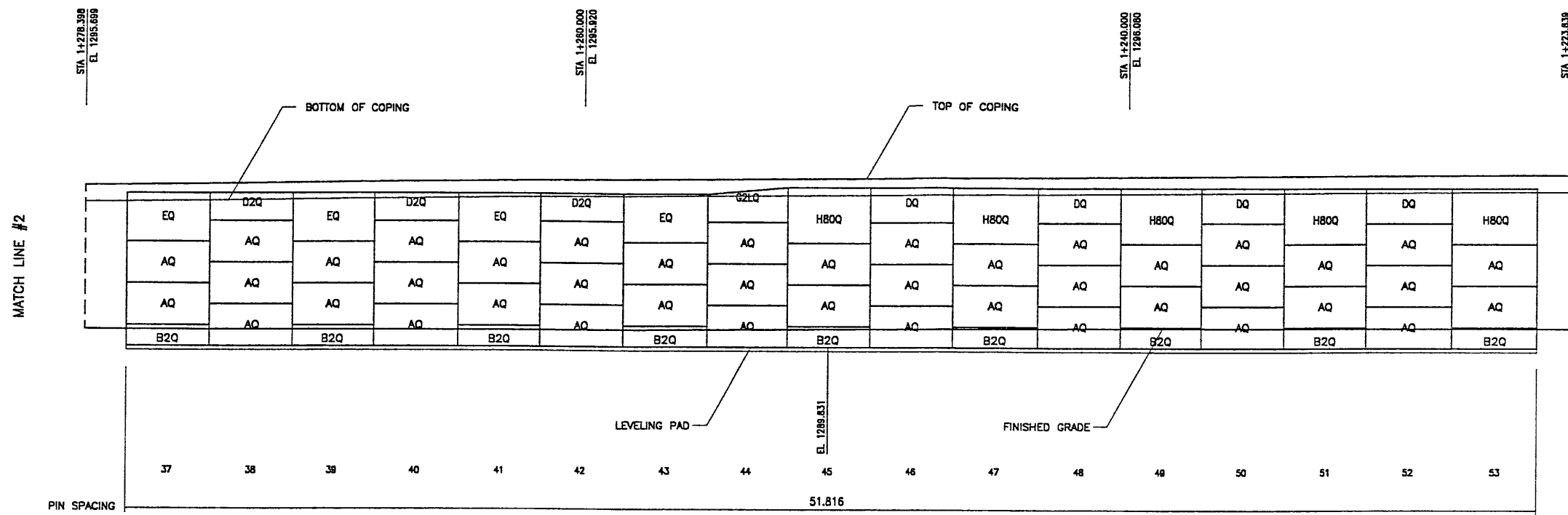
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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



RETAINED EARTH™ WALLS
WALL "R-349-1" - 2ND STAGE: PRECAST WALL
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.7R-349-1.13
JOB NO. 239-0007
SHT. NO. RE-11

RFC After Final Approval

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-12-00	RELEASE FOR 2ND STAGE CONSTRUCTION



RETAINING WALL "R-349-1" - 2ND STAGE: PRECAST WALL

(FRONT FACE SHOWN)
(TOTAL SURFACE AREA OF FACING = 1801.01 SM)

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

METRIC

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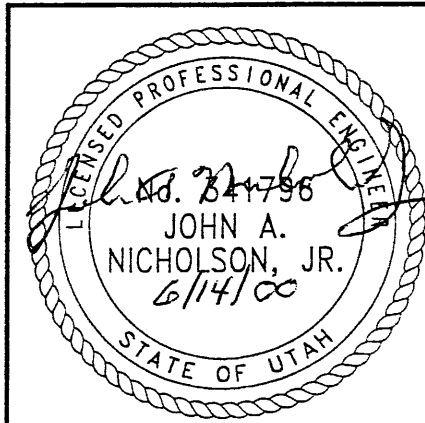
MATCH LINE #3

MATCH LINE #4

WASATCH CONSTRUCTORS

JUL 05 2000

RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
WALL "R-349-1" - 2ND STAGE: PRECAST WALL
UTAH 1-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-1.14
JOB NO.	239-0007
Sht. NO.	RE-12

VSL CORPORATION
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Raleigh, NC 27612
Telephone: (919) 781-6772
Fax: (919) 781-4889

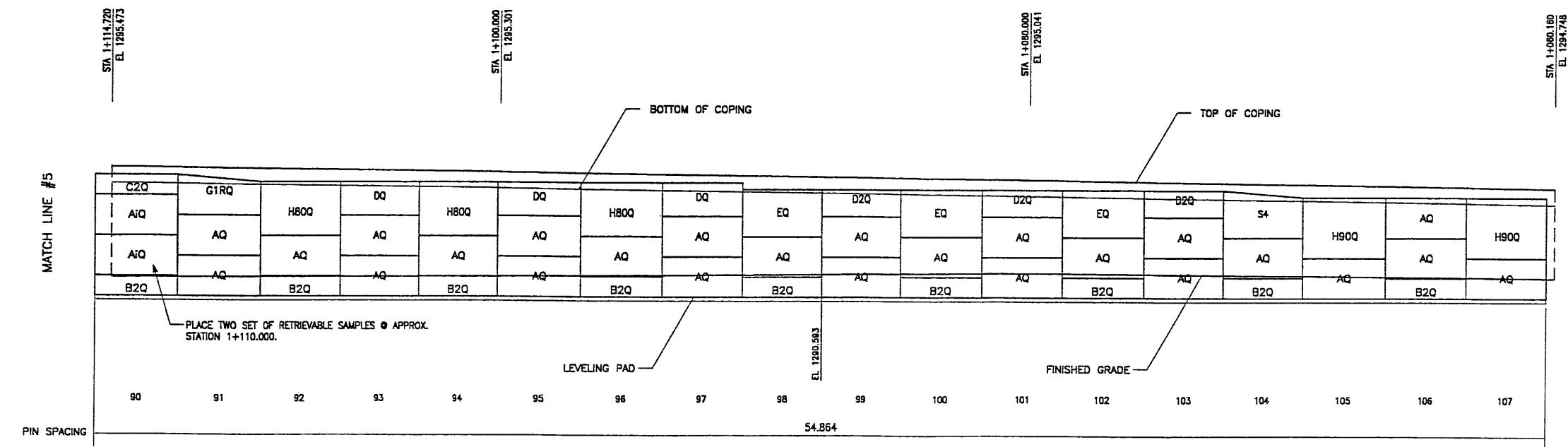
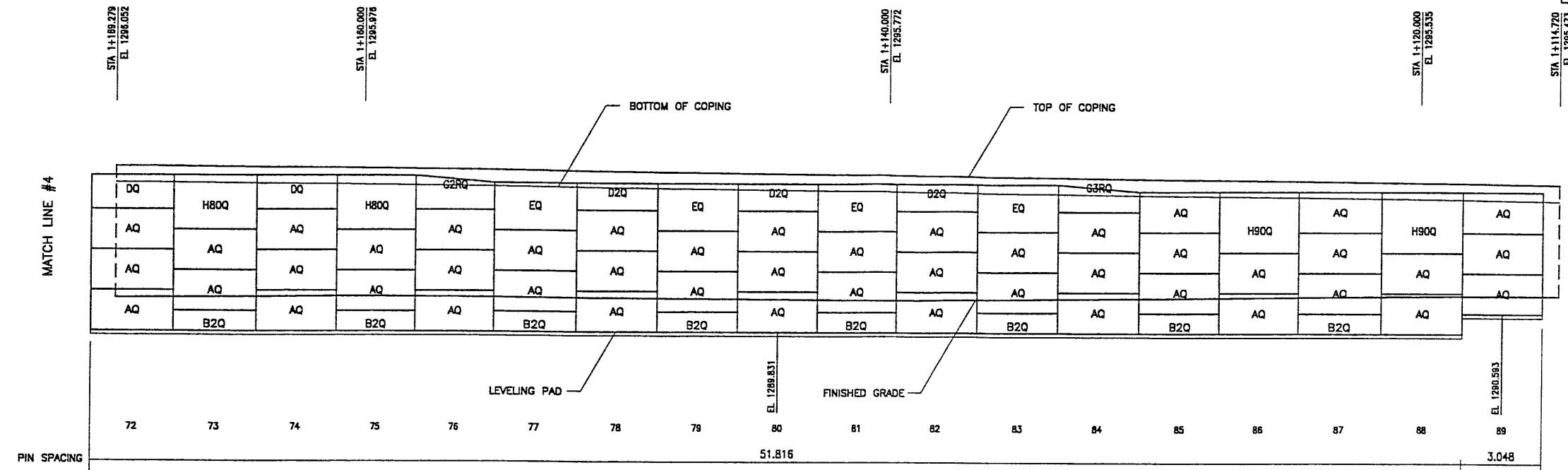


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DES.	06-12-00	JN
DRN.	06-12-00	DSW
CHK.	06-12-00	JN
RETAINED EARTH™		
NO.		
DATE		
REVISION		
BY		
CHK		

H:\RE_EARTH\PROJECT\239-0007\1998\9WSERIE 01\SUBMITL-3\9W-01.DWG
 ENGE (X-UTAH.DWG)
 T 06-12-00
 FINAL

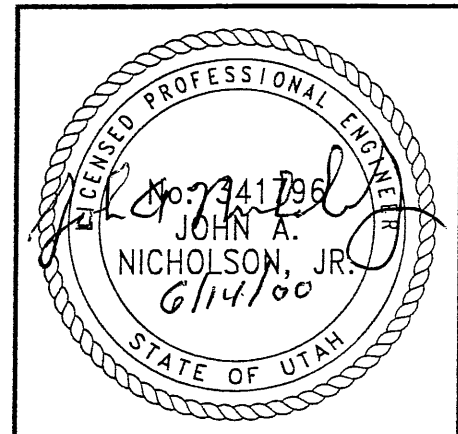


RETAINING WALL "R-349-1" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 1801.01 SM)

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

METRIC

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 STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE
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 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
JUL 05 2000
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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	06-12-00	RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION

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UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO.
2.7R-349-1.15
JOB NO.
239-0007
SHT. NO.
RE-13

RFC After Final Approval

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	06-12-00	RELEASE FOR 2ND STAGE CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE	REVISION
06-12-00	JN				
06-12-00	DSW				
06-12-00	JN				

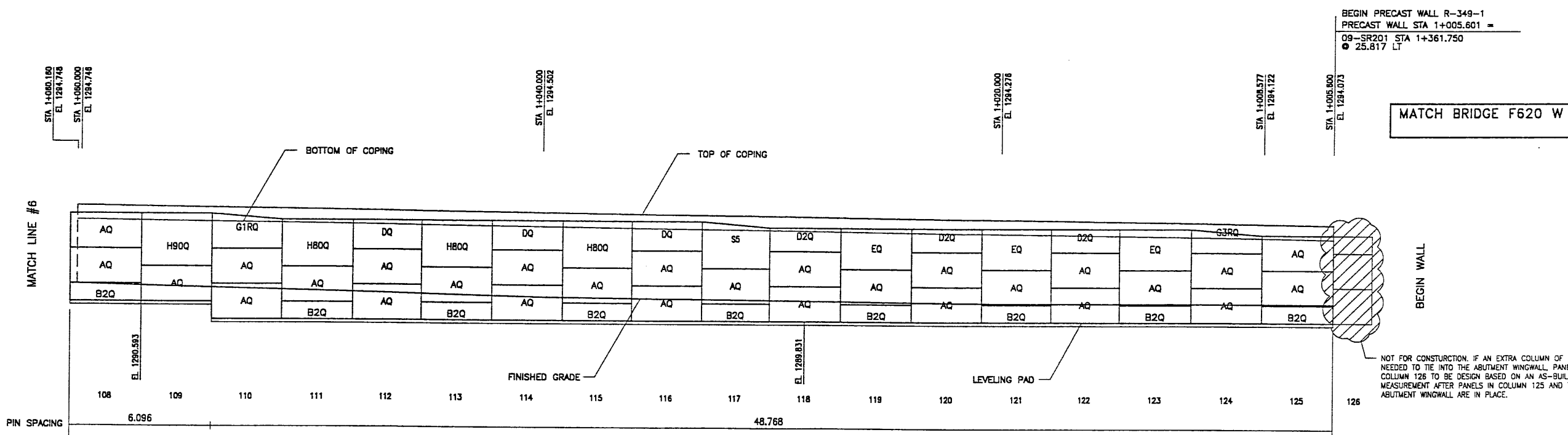
VSL CORPORATION
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 Raleigh, NC 27612
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 Fax: (919) 781-4869



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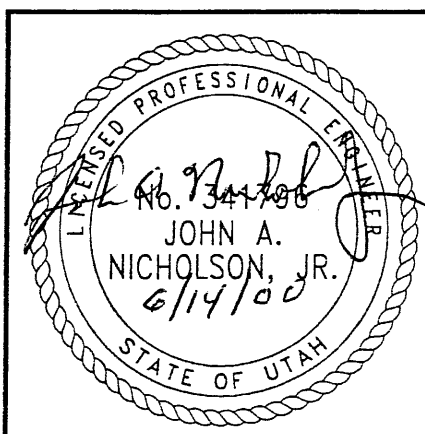
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RETAINED EARTH™ WALLS
WALL "R-349-1" - 2ND STAGE: PRECAST WALL
UTAH 1-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.7R-349-1.16
JOB NO: 239-0007
SHT. NO. RE-14



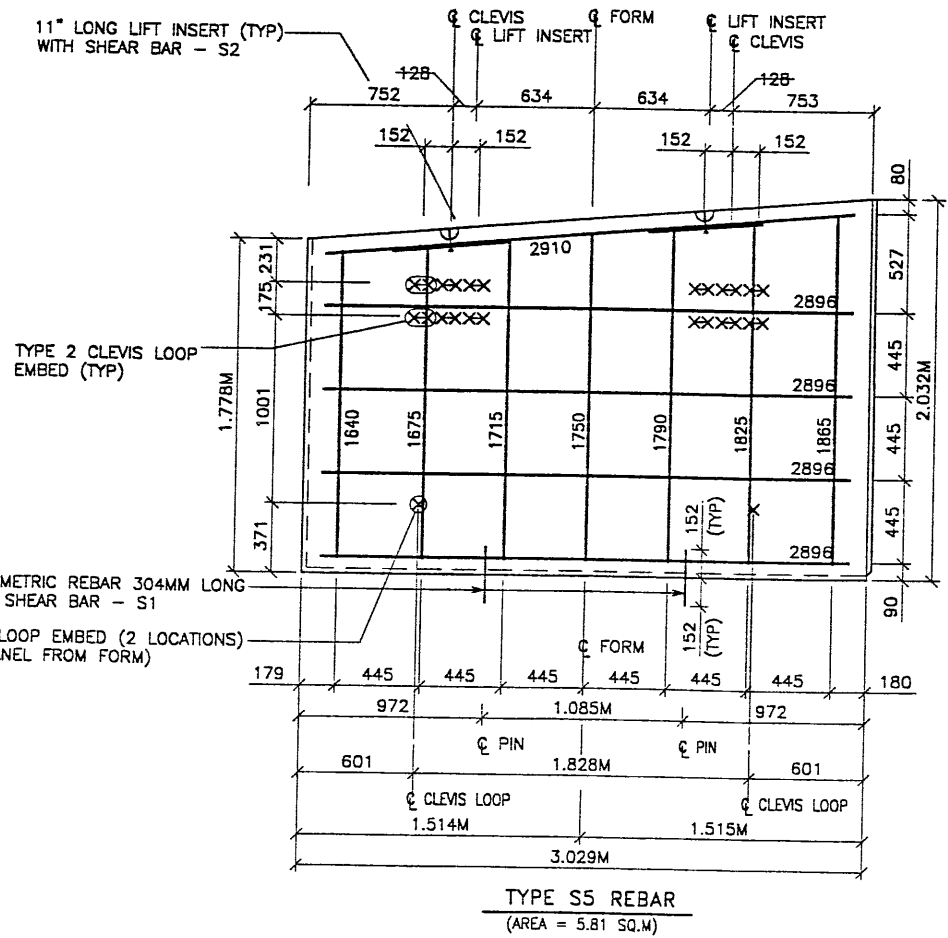
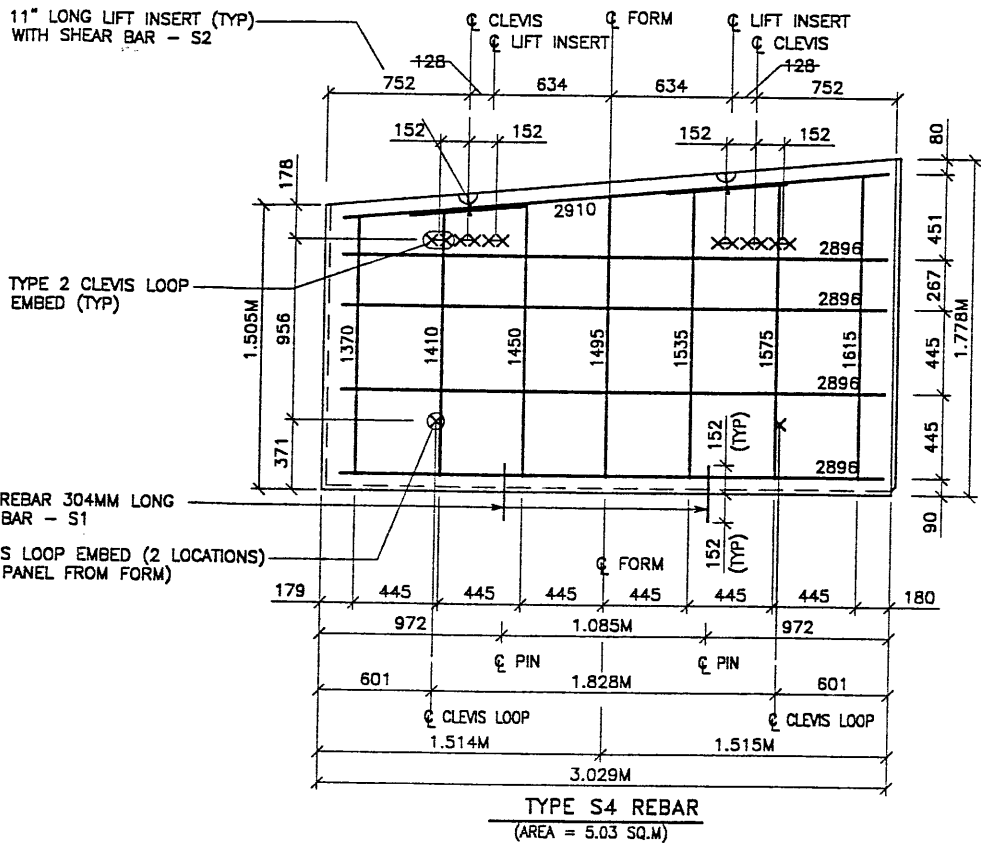
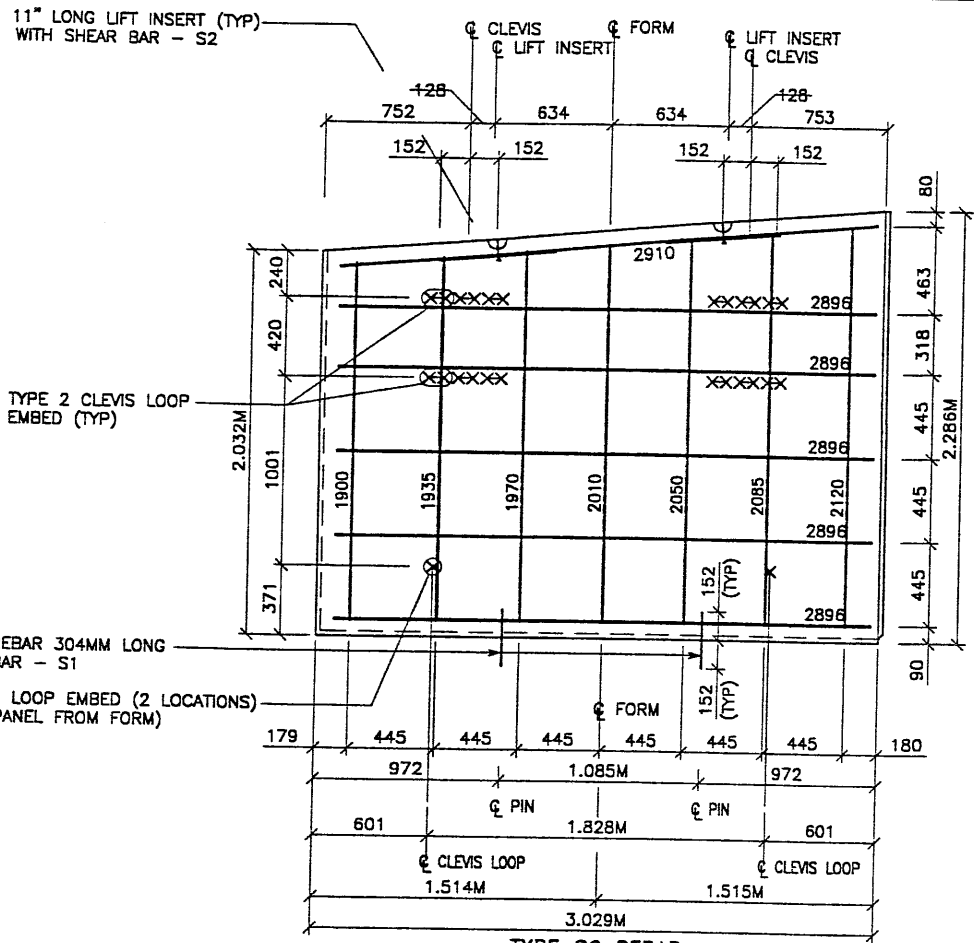
RETAINING WALL "R-349-1" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 1801.01 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 JUL 0 5 2000
 RELEASED FOR CONSTRUCTION



METRIC

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△ 06-12-00		RELEASE FOR 2ND STAGE 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 25,200 KPa.
 8. EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 9. ALL PANELS TO USE 9.5mmØ WIDE CLEVIS LOOPS.
 10. VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 11. 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.
 12. SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS

NO.	DATE	DESCRIPTION	BY	CHK

VSL CORPORATION
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 Raleigh, NC 27615
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 Fax: (919) 761-6969

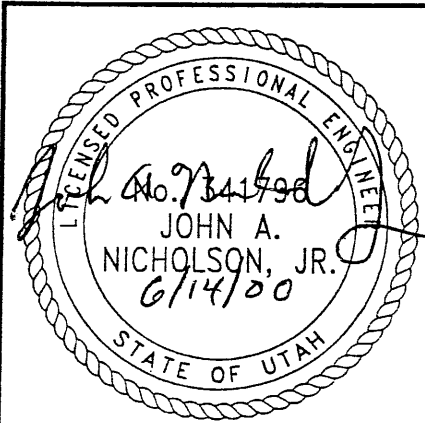
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WASATCH CONSTRUCTORS

JUL 05 2000

RELEASED FOR CONSTRUCTION

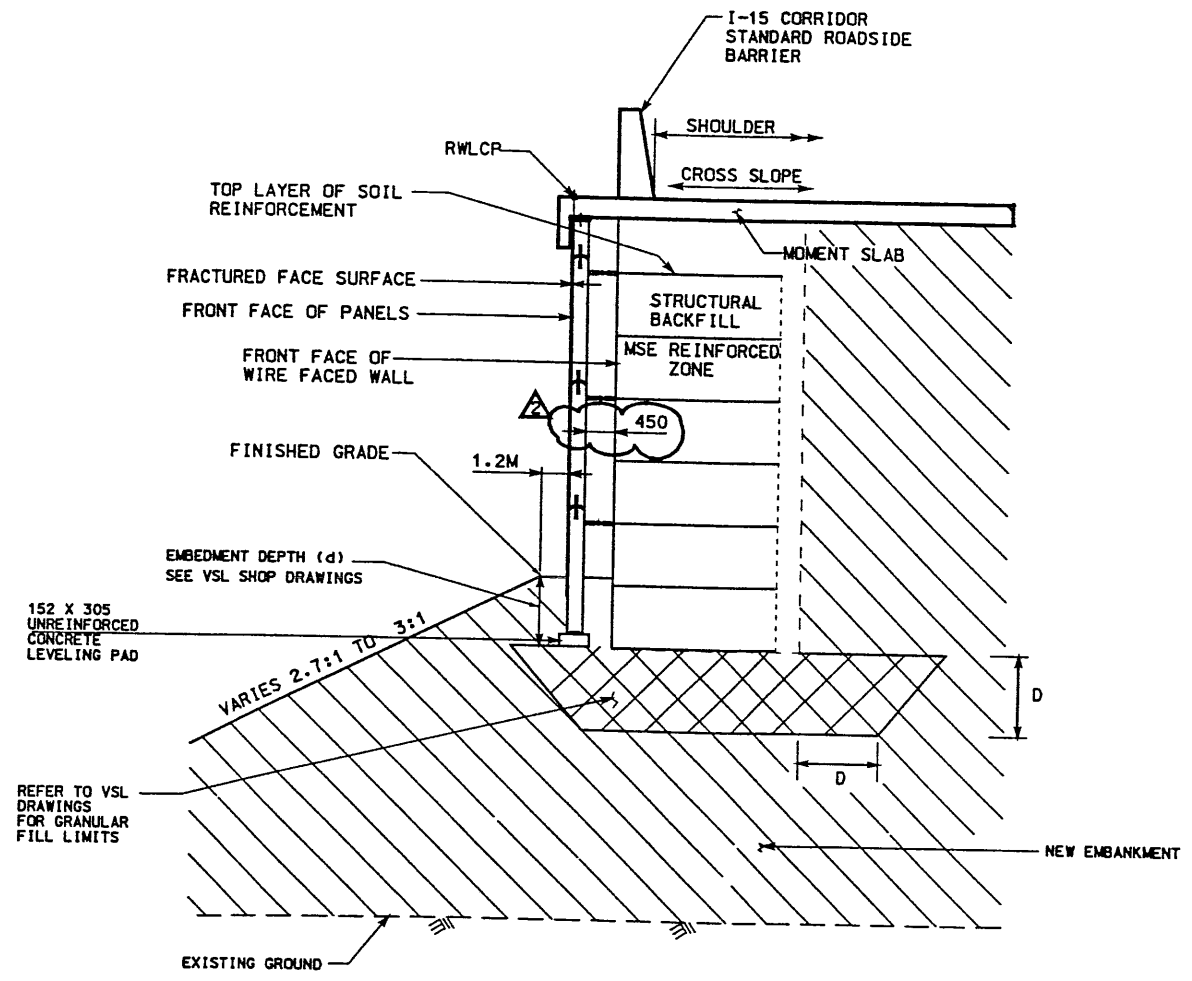
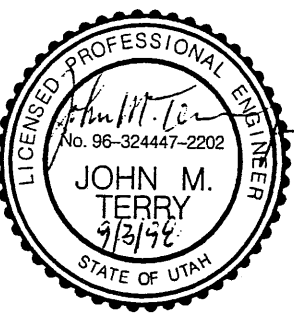


METRIC

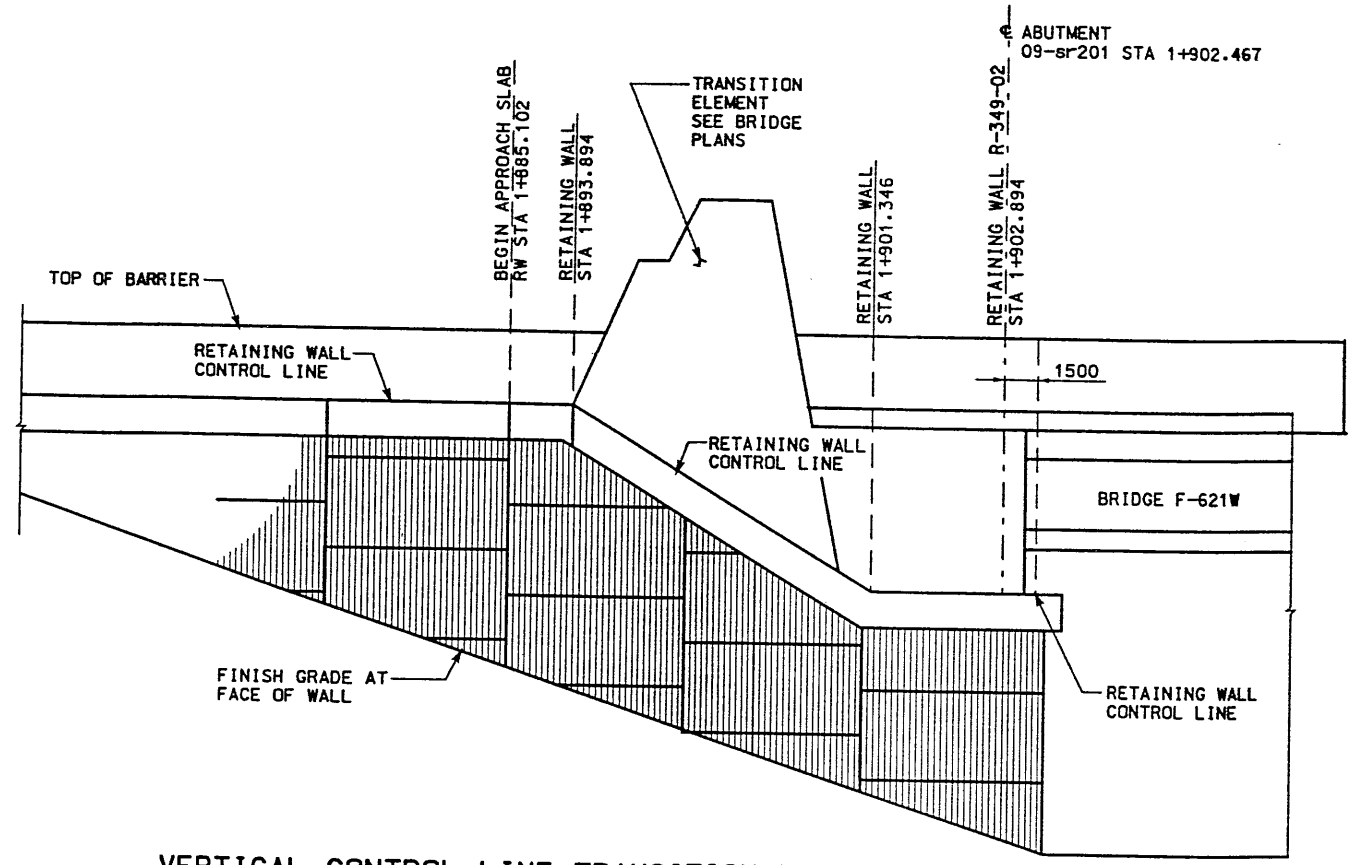
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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

RETAINED EARTH™ WALLS WALL R-349-1"	DWG. NO. 2.7R-R349-1.18
2-STAGE PANEL REINFORCEMENT	JOB NO. 239-0007
UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH	SHT. NO. RE-16
UTAH DEPARTMENT OF TRANSP.	

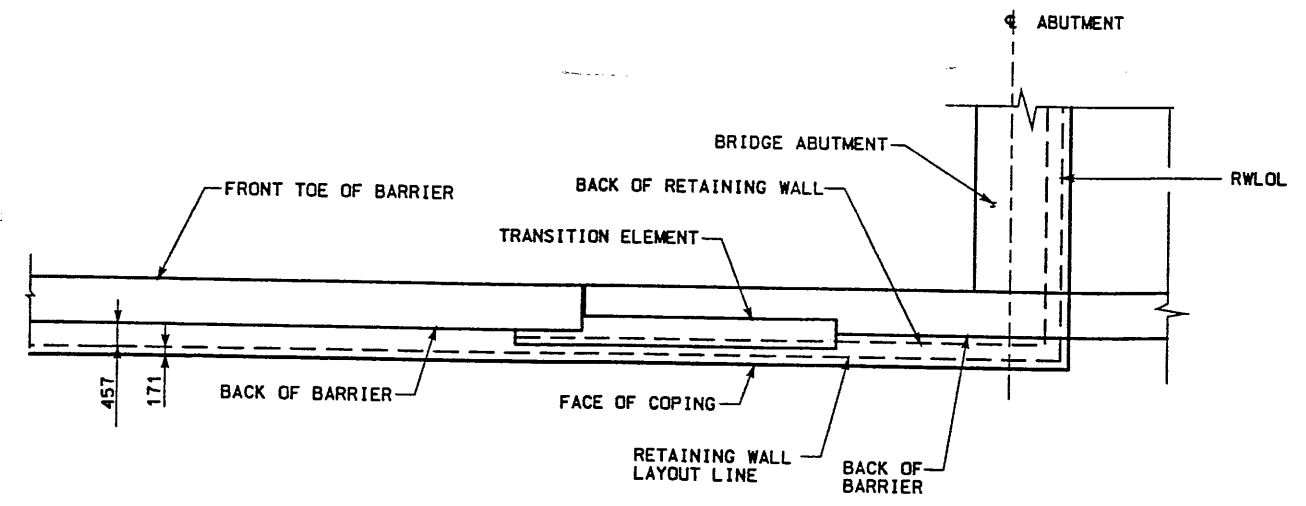
Date: 03-SEP-1998 Time: 15:11 User: name: rcalm
 File: name: rcalm\15_cadd\09_97\sheet_files\wall\09_wall\dat_002.2.dgn



MSE TWO STAGE WITH MOMENT SLAB CAP
 RET WALL STA 1+870.000 TO STA 1+893.894 NTS



VERTICAL CONTROL LINE TRANSITION DETAIL
 AT FACE OF WALL
 NTS

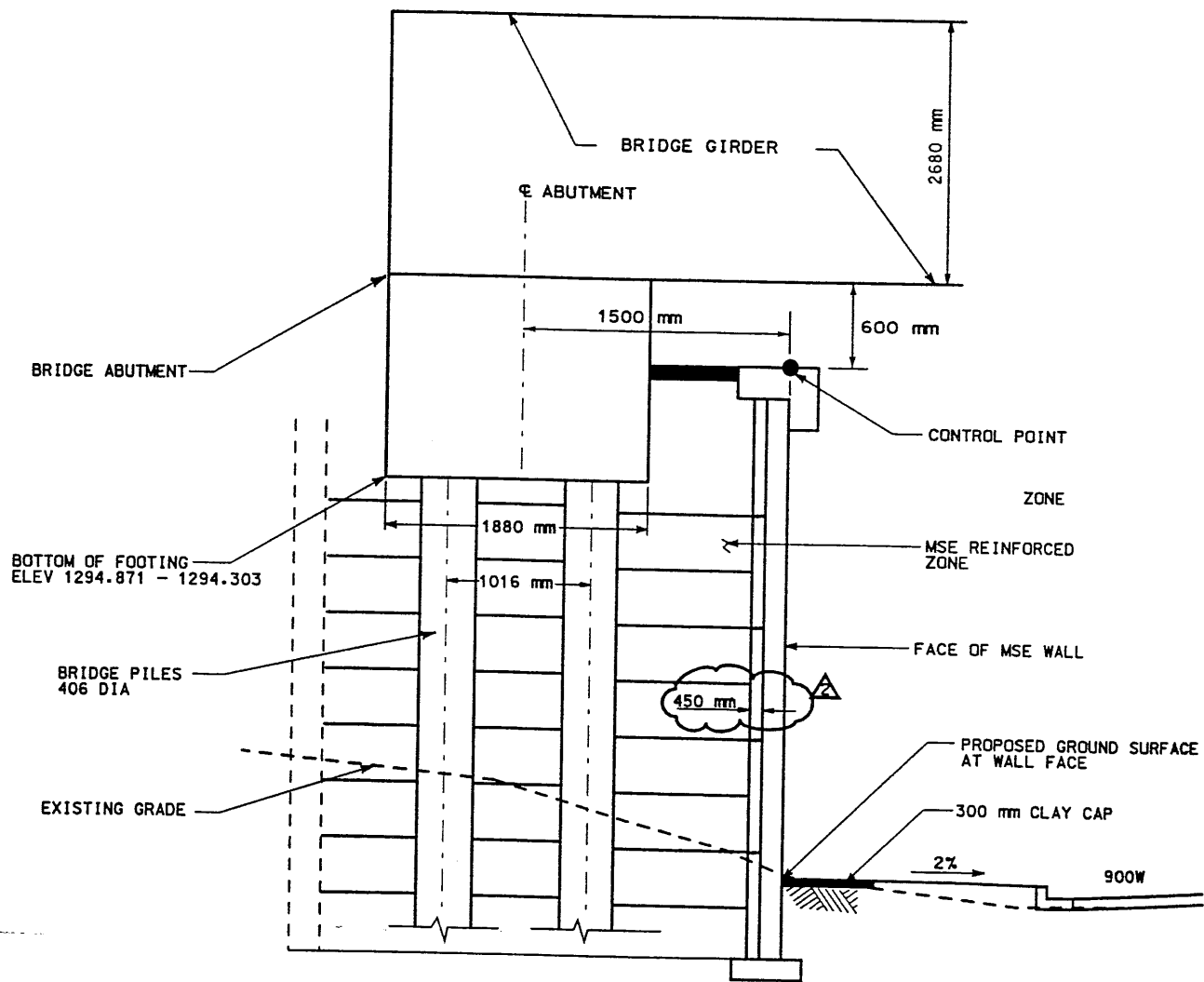


HORIZONTAL CONTROL LINE DETAIL
 NTS

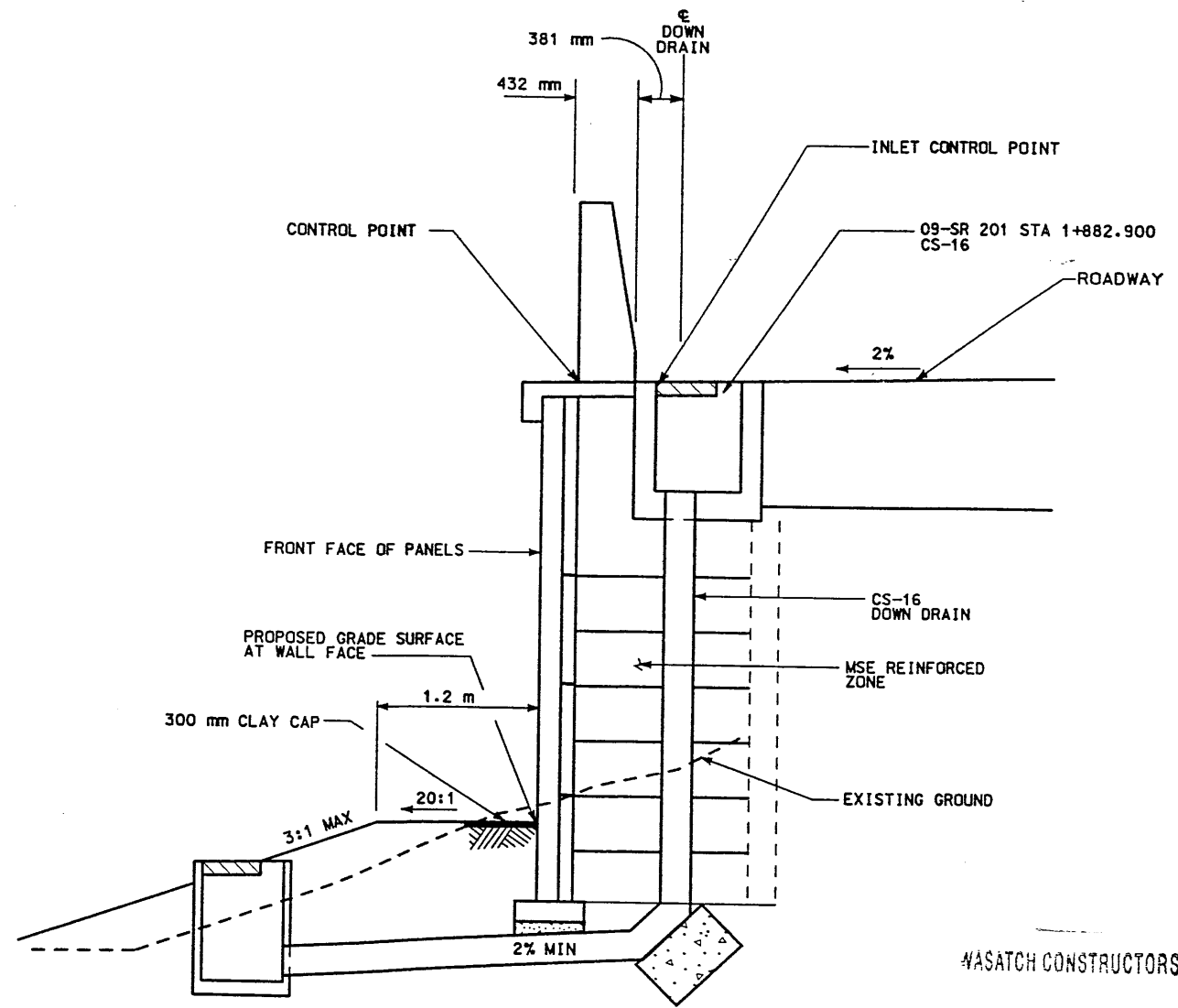
- NOTES:**
- FOR DETAILS FOR WALL COPING AT BRIDGE SEE CS-54.
 - REFER TO CS SHEET 29 FOR MOMENT SLAB DETAILS.
 - REFER TO DRAINAGE PLANS AND PROFILES FOR ADDITIONAL INFORMATION REGARDING PROPOSED DRAINAGE INSTALLATIONS
 - THE FOUNDATION BEARING MATERIALS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW TO DEPTH (D) IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL RELEASE	
1	6/9/98		
2	9/3/98	WIRE FACE GAP UPDATE	
UTAH DEPARTMENT OF TRANSPORTATION		TRACKING NO.	2713412
SVERDRUP/DE LEUW		CHECK MSC	2/98
MARGARET SIMMONS-CROSS		CHECK RAP	2/98
DATE 2/8/98		DRAWN VLR	2/98
PROJECT DESIGN ENGINEER		CHECK RAP	2/98
JOHN TERRY		CHECK	
SECTION MANAGER		QUANT.	
I-15 CORRIDOR RECONSTRUCTION		SITUATION AND LAYOUT-349-02	
SECTION 2.7		PROJECT NUMBER *SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.7-R-349-02.2	
SHT. 2 OF 8			



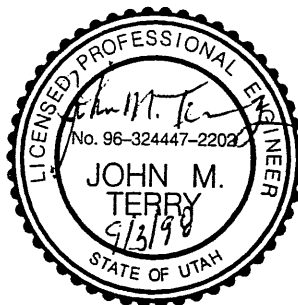
SECTION AT BRIDGE (FROM BACK OF WALL)
RET WALL STA 1+904.505 TO STA 1+929.048 NTS



SECTION AT DOWN DRAIN
RET WALL STA 1+883.287 NTS

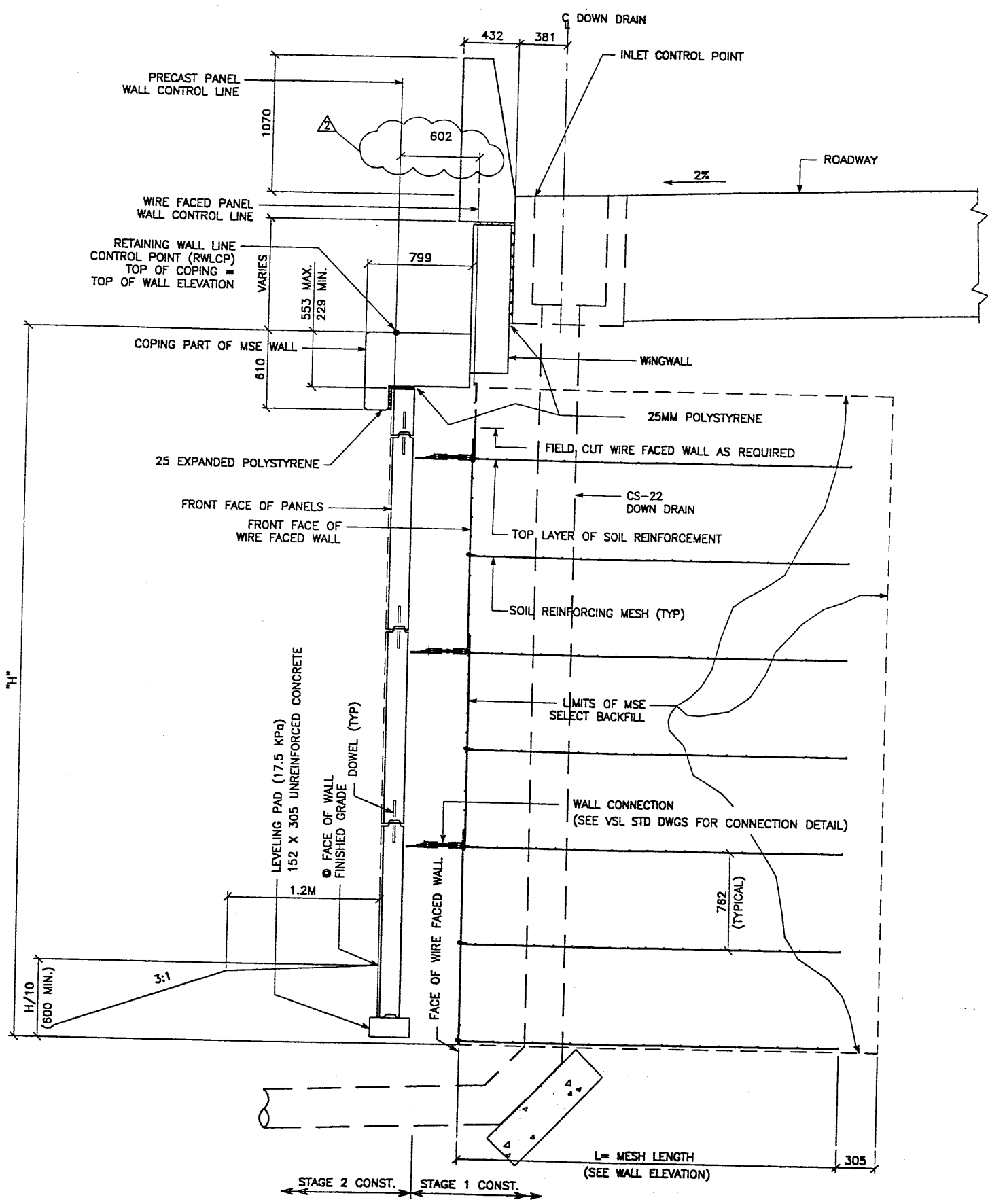
MASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION

RETAINING WALL DETAILS
R-349-02 NTS



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL RELEASE	WIRE FACE GAP UPDATED
1	6/9/98		
2	9/3/98		
UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
DESIGN	DATE	CHECK	DATE
MARGARET SIMMONS-CROSS	2/98	JIT	2/98
PROJECT DESIGN ENGINEER			
JOHN TERRY			
SECTION MANAGER			
DESIGN	DATE	CHECK	DATE
RAP	2/98		
WLR	2/98		
QUANT.			
TRACKING NO.	2713412		
I-15 CORRIDOR RECONSTRUCTION			
SITUATION AND LAYOUT R-349-02			
SECTION 2.7			
PROJECT NUMBER *SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO. 2.7-R-349-02.3			
SHT. 3 OF 8			

04-03-98 H:\RE_EARTH\PROJECT\239-0007\1998\9W-03\RE-3 VCE (X-UTAH.DWG)

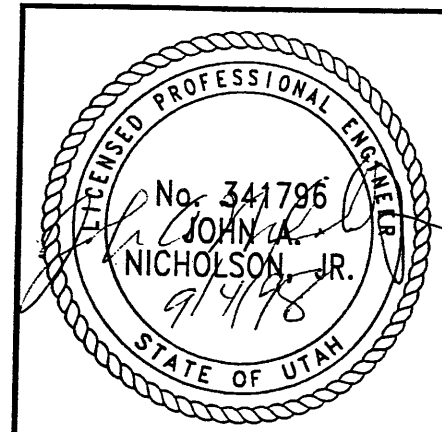


TYPICAL CROSS SECTION - STA 1+883.287
 (SEE DWG. NO. 2.7R-349-02.3 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)

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.

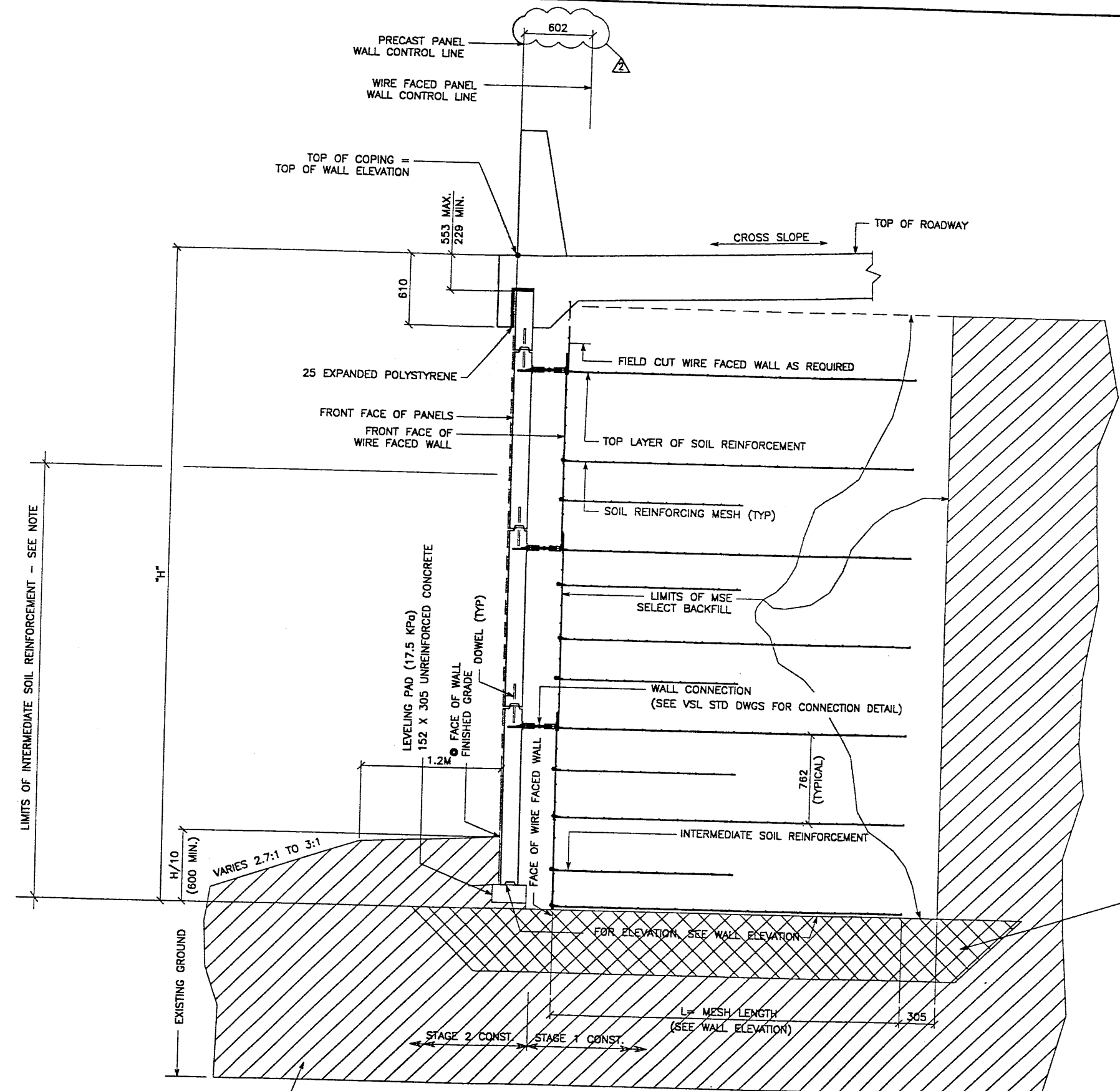
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-08-98	RELEASE FOR 1ST STAGE CONST. ONLY
2	07-31-98	CHANGED OFFSET TO WIRE FACED WALL <i>[Signature]</i>

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



D.S. 04-03-98 JL		RETAINED EARTH™	NO.	DATE	BY
DRN 04-03-98 LOP					
CHK 04-03-98 JL					
VSL CORPORATION 2840 Plaza Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-6272 Fax: (919) 781-4869		ATLANTA, GA / BALTIMORE, MD / BALEIGH, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA			
RETAINED EARTH™ WALLS WIRE FACED WALL "R-349-2" TYPICAL CROSS SECTION UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.		DWG. NO. 2.7R-349-02.6 JOB NO: 239-0007 SHT. NO. RE-3			

ICE (X-UTAH.DWG)
 H:\RE_EARTH\PROJECT\239-0007\1998\p\n\9W-03\RE-4
 H:\RE_EARTH\PROJECT\239-0007\1998\p\n\04-03-98
 FINAL



TYPICAL CROSS SECTION - STA 1+870.000 TO STA 1+880.000
 (SEE DWG. NO. 2.7R-349-02.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE PLACED FROM THE BOTTOM OF WALL TO A HEIGHT 5M ABOVE THE BOTTOM OF WALL. IF THE WALL IS LESS THAN 5M TALL, PLACE THE INTERMEDIATE SOIL REINFORCEMENT FOR THE FULL HEIGHT OF WALL. SEE VSL STANDARD DRAWINGS FOR PLACEMENT DETAILS.

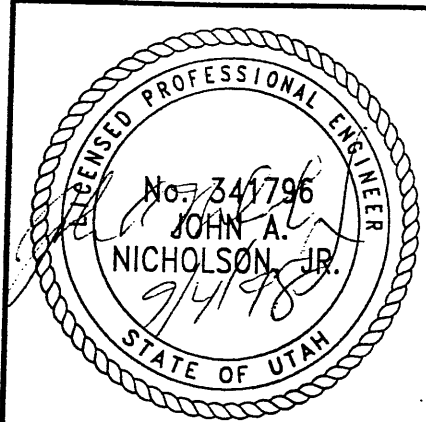
GRANULAR FILL
 (GRANULAR FILL LIMITS TO BE DETERMINED BY THE FIELD GEOTECHNICAL ENGINEER)

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
△	06-08-98	RELEASE FOR 1ST STAGE CONST. ONLY
△	07-31-98	CHANGED OFFSET TO WIRE FACE WALL, ADDED INTERMEDIATE SOIL REINFORCEMENT

VASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		NO.	DATE	REVISION	BY	CHK
△	06-08-98					
△	07-31-98					

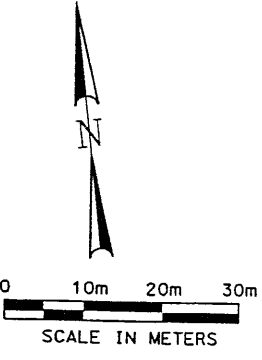
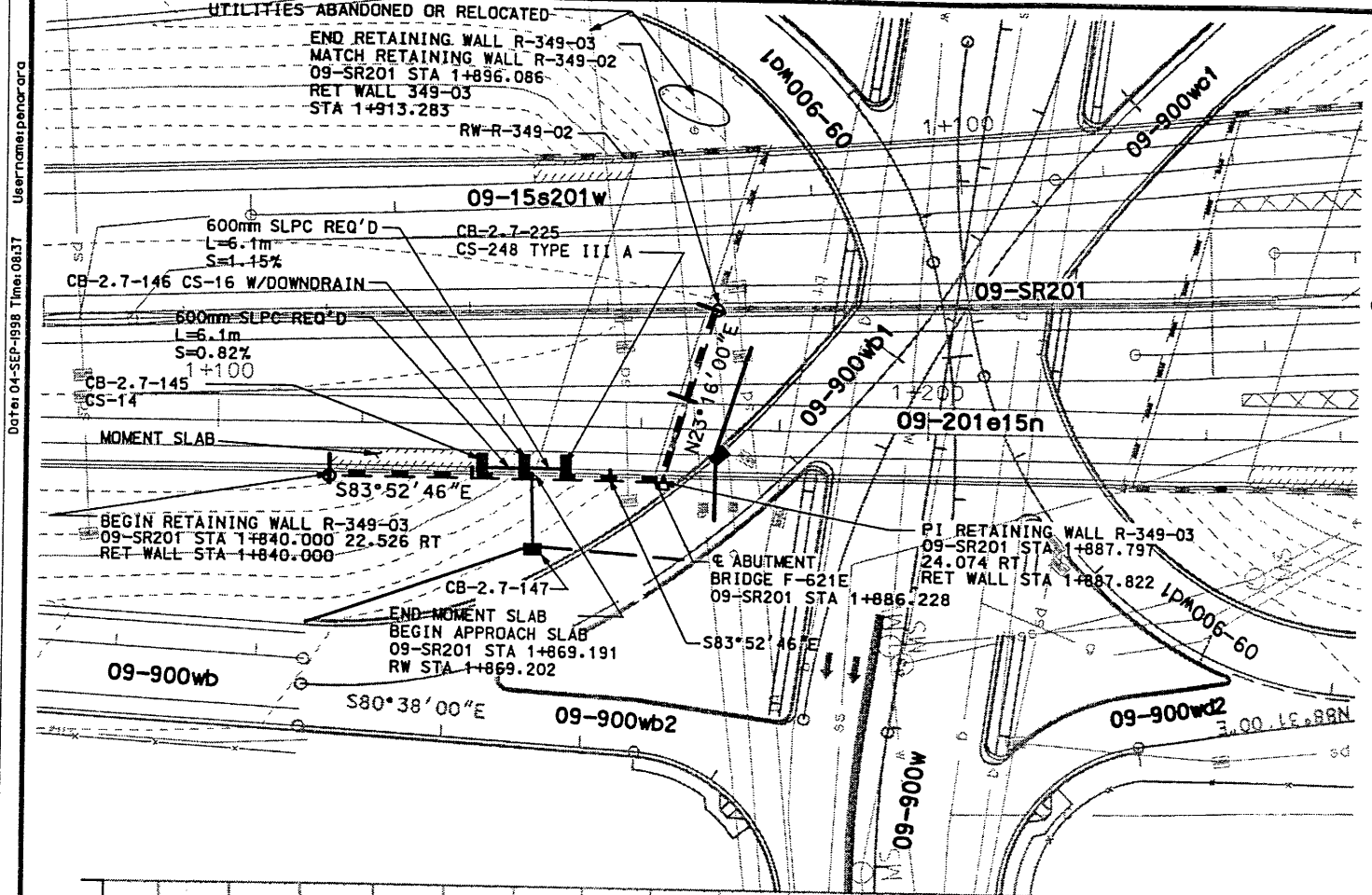
DES.	04-03-98	JL				
DRN.	04-03-98	LOP				
CHK.	04-03-98	JL				

RETAINED EARTH™
 VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8772
 Fax: (919) 781-6959

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

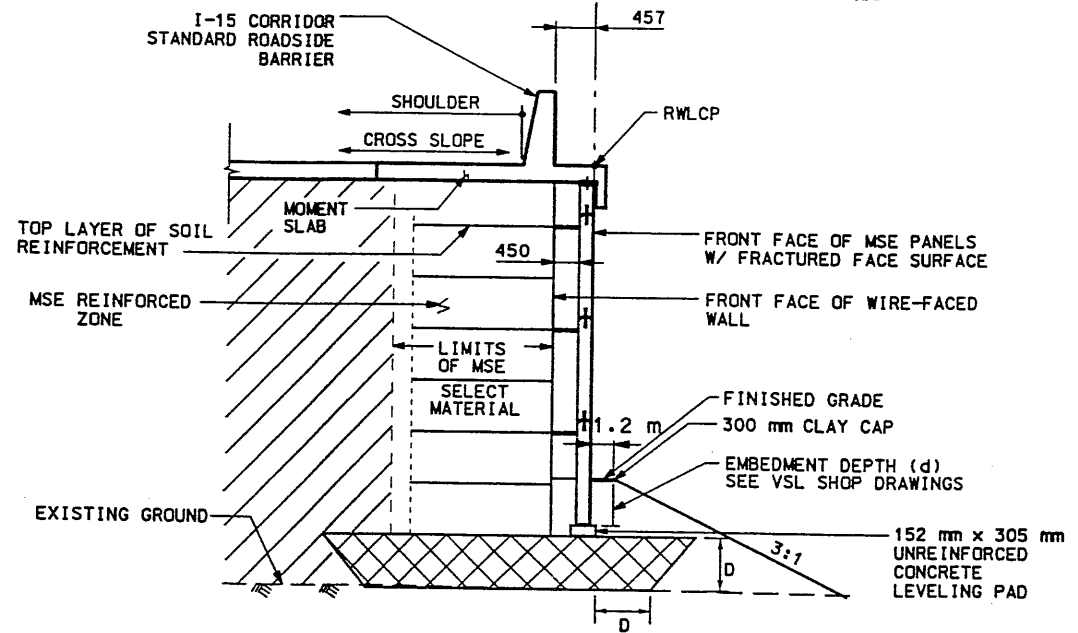
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-2"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.7R-349-02.7
 JOB NO.
 239-0007
 SHT. NO.
 RE-4

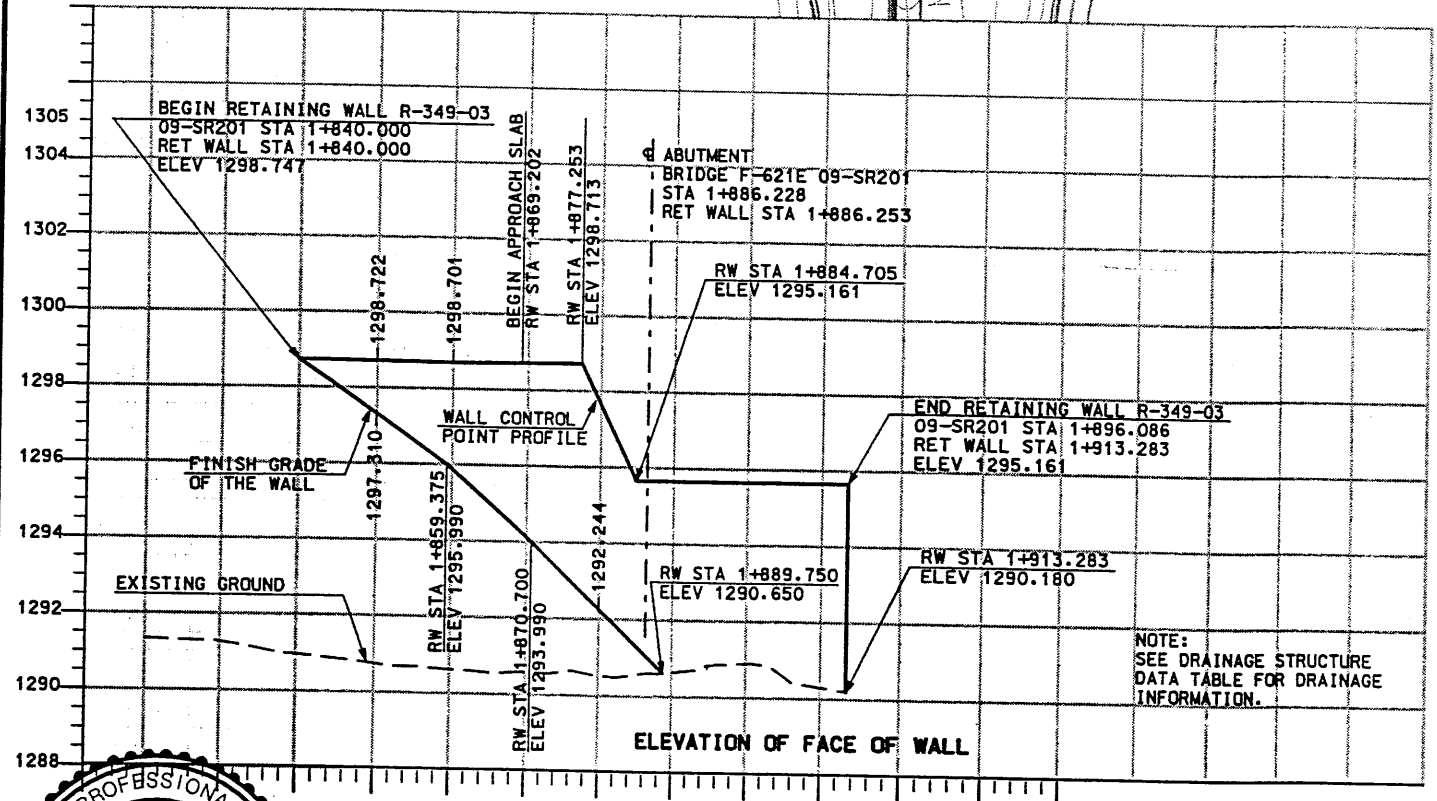


- NOTES:**
- REFER TO CS SHEET 224 & 227 FOR APPROACH SLAB DETAILS.
 - REFER TO CS SHEET 29 FOR MOMENT SLAB DETAILS.
 - CONFIRM DRAINAGE INSTALLATION WITH DRAINAGE PLANS (DWG 2.5-DR4)
 - REFER TO CS SHEET 54 FOR COPING DETAILS
 - THE FOUNDATION BEARING MATERIALS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER DURING SITE PREPARATION. ANY UNDESIRABLE MATERIALS WILL NEED TO BE REMOVED AND REPLACED WITH BORROW TO DEPTH (D) IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT THE BASE OF THE WALL.

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



MSE TWO STAGE WITH MOMENT SLAB CAP
 RET WALL STA 1+840.000 TO STA 1+877.263
 NTS



MSE WALL R-349-03

DRAINAGE STRUCTURE DATA										
TYPE	ID NO.	STATION 09-SR201	OFFSET TO CONTROL POINT	STATION R-349-03	COL	LINE	GRATE (MH) ELEV	FL (INCOMING)	FL (OUTGOING)	FORMED INVERT
CS-16	CB-2.7-146	1+867.477	22.526	1+867.585	A	9	1298.71	1297.00 (W) 1297.00 (E)	1296.71	NO
CS-14	CB-2.7-145	1+861.384	22.329	1+861.395	A	6	1298.72	—	1297.05	NO
CS-248 IIIA	CB-2.7-225	1+873.567	22.724	1+873.585	A	6	1298.72	—	1297.07	NO
	CB-2.7-147									

SEE DRAINAGE PLANS

NOTE: ADJUST FLOWLINE ELEVATIONS AND INVERT ELEVATIONS TO MISS WALL STRAPS



APPROVED FOR CONSTRUCTION

DESCRIPTION

DATE 9/1/98

INITIAL RELEASE

NO. 1

UTAH DEPARTMENT OF TRANSPORTATION

SVERDRUP/DE LEUW

DESIGN R-349-03

CHECK AD 9/98

CHECK JBC 9/98

CHECK JIN 9/98

CHECK QUANT.

TRUCKING NO. 2713412

APPROVAL RECORD:

9/1/98 MARGARET STIMMONS-CROSS PROJECT DESIGN ENGINEER

9/1/98 JOHN TERRY PROJECT DESIGN ENGINEER

DATE 9/1/98

SECTION MANAGER

SECTION 2.7

PROJECT NUMBER #SP-15-7(135)296

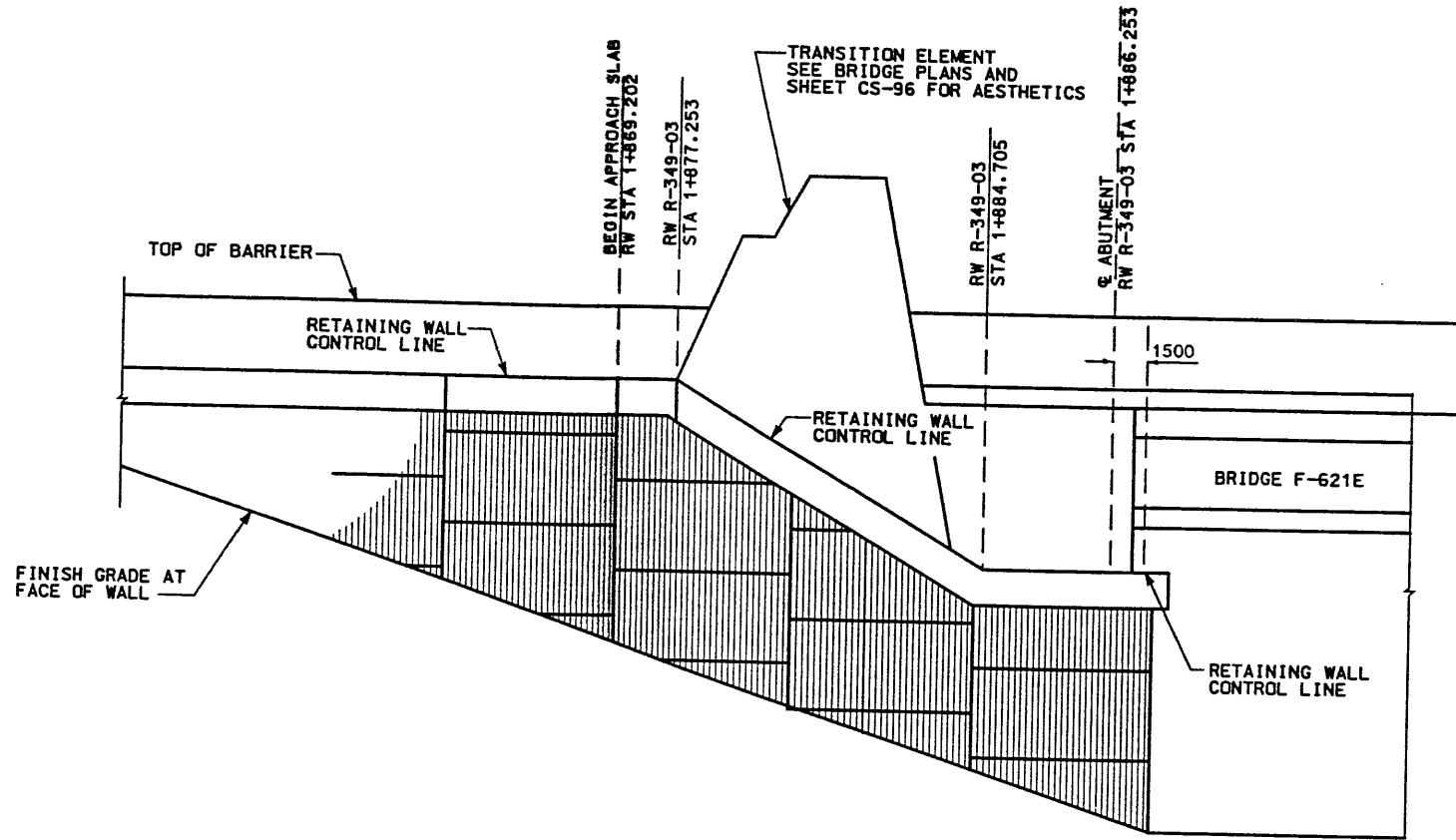
I-15 CORRIDOR RECONSTRUCTION

SITUATION & LAYOUT R-349-03

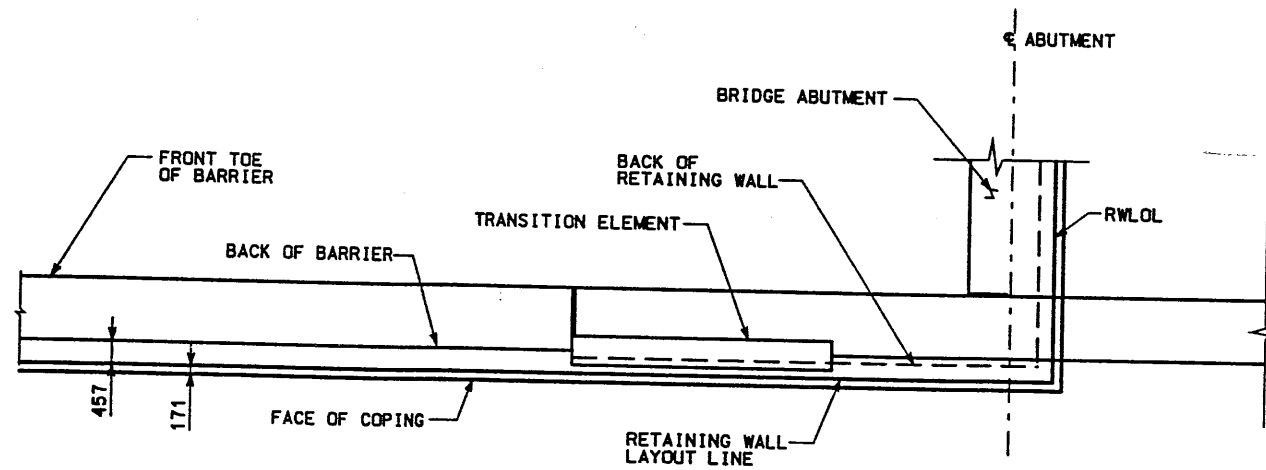
SALT LAKE COUNTY

DWG. NO. 2.7-R-349-03.1

SHT. 1 OF 9



VERTICAL CONTROL LINE TRANSITION DETAIL
NTS

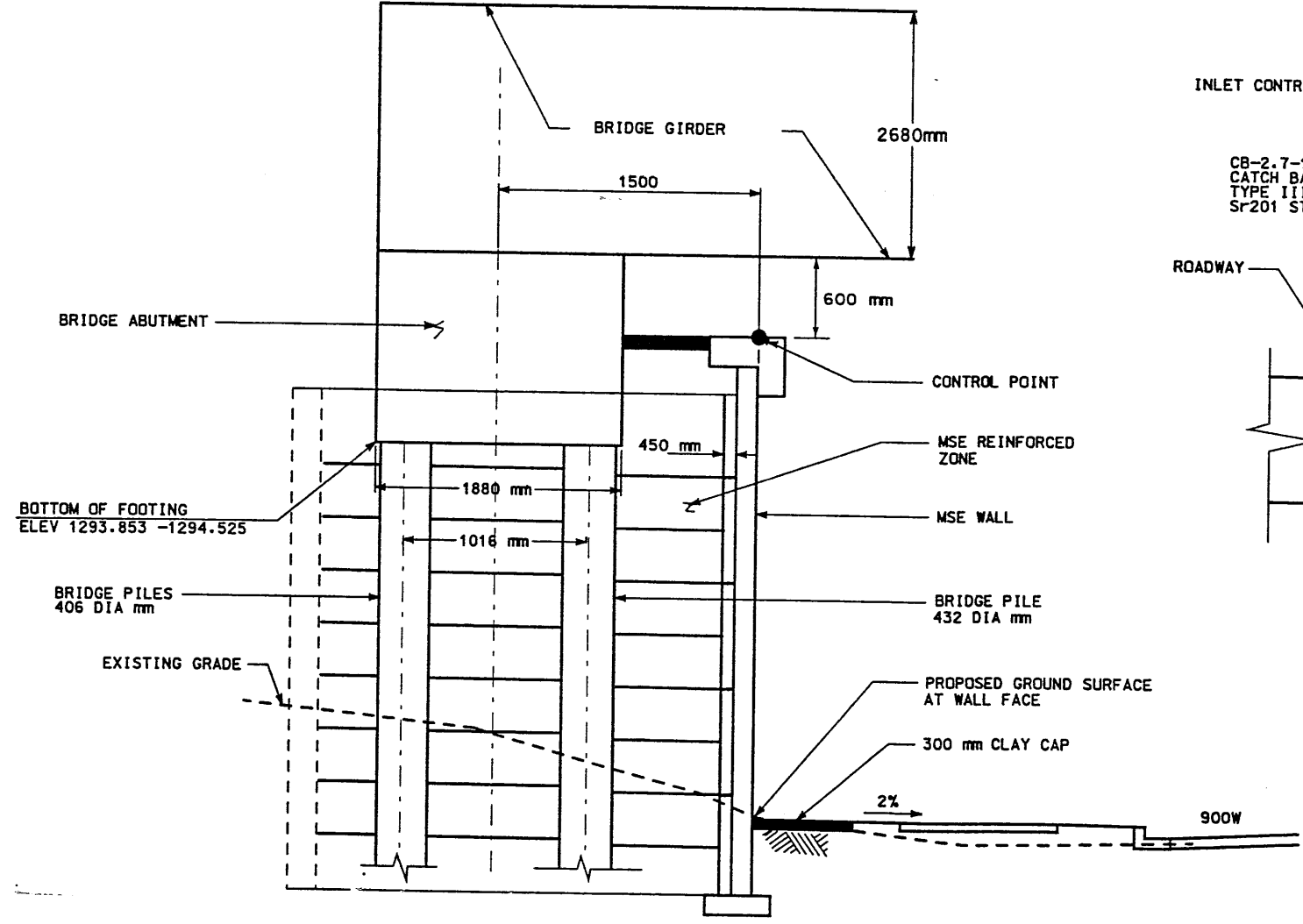
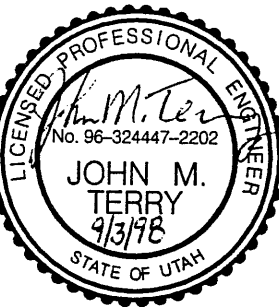


HORIZONTAL CONTROL LINE TRANSITION DETAIL
NTS

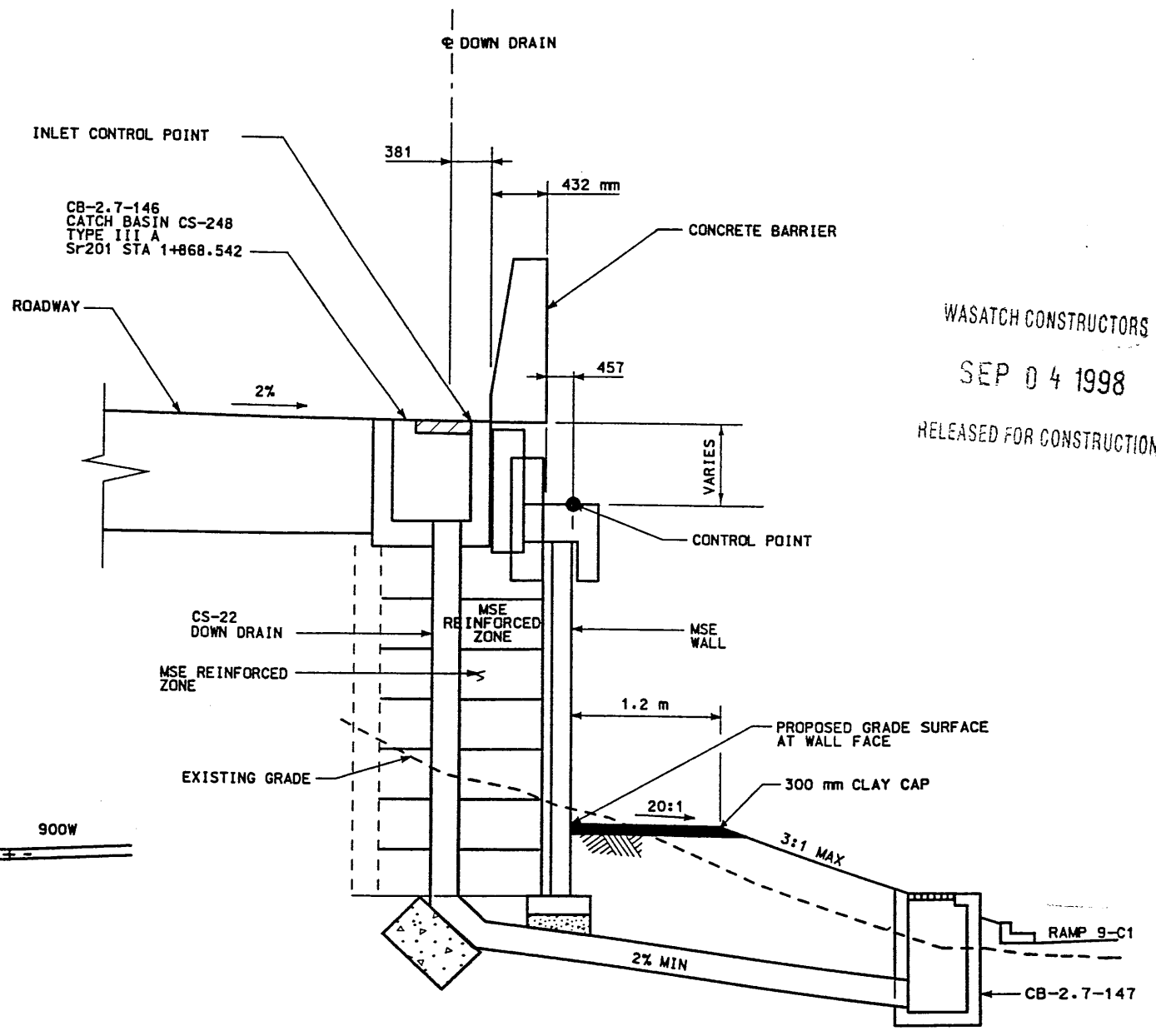
WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL	RELEASE
1	9/1/98		
UTAH DEPARTMENT OF TRANSPORTATION		TRACKING NO.	2713412
SVERDRUP/DE LEUW		CHECK	CHECK
DESIGN	RAP	9/98	9/98
DRAWN	VAS	9/98	9/98
QUANT.			
APPROVAL RECORD	9/1/98	MARGARET SIMMONS-CROSS	DESIGN
DATE	9/1/98	PROJECT DESIGN ENGINEER	
APPROVED	9/1/98	JOHN TERRY	SECTION MANAGER
I-15 CORRIDOR RECONSTRUCTION		SITUATION & LAYOUT R-349-03	
SECTION 2.7		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.7-R-349-03.2	
SHT. 2		OF 9	



SECTION AT BRIDGE
RW STA 1+840.00 TO 1+877.253 NTS



SECTION AT DOWN DRAIN
RW STA 1+868.573 NTS

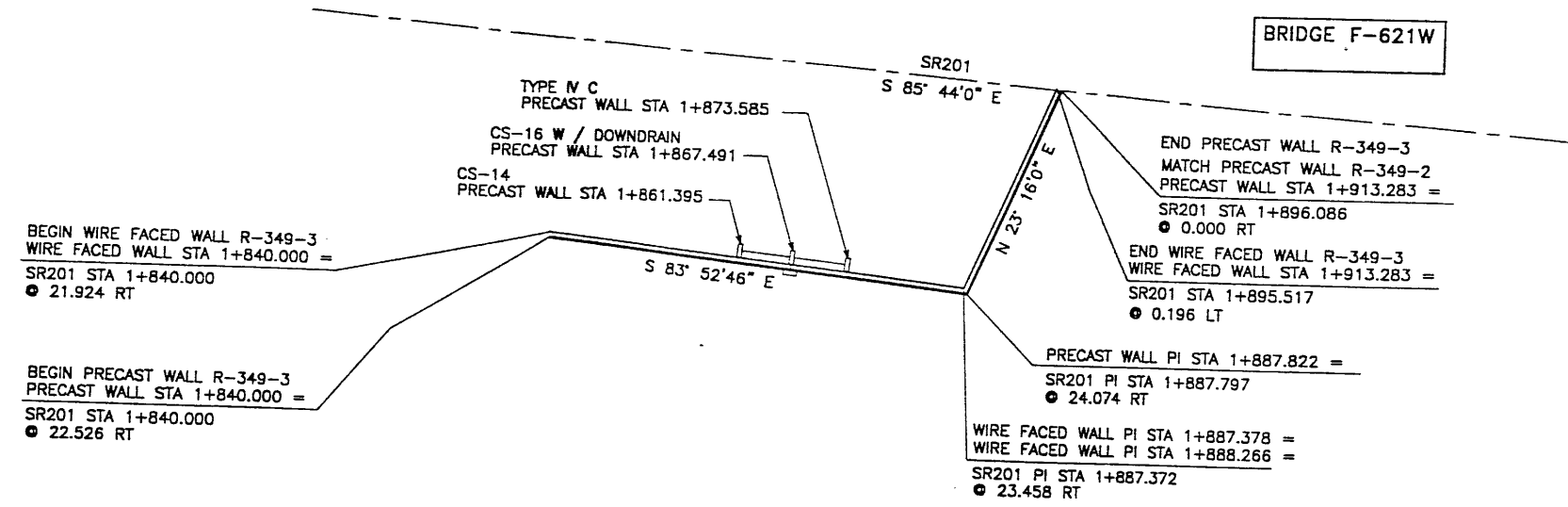
RETAINING WALL DETAIL
FOR R-349-03 NTS

WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL	RELEASE
1	9/1/98		
UTAH DEPARTMENT OF TRANSPORTATION			
SVERDRUP/DE LEUW		DESIGN	TRACKING NO.
DESIGN	RAP	9/98	2713412
DRWN	VLB	9/98	
QUANT.			
I-15 CORRIDOR RECONSTRUCTION			
SITUATION & LAYOUT R-349-03			
SECTION 2.7			
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO. 2.7-R-349-03.3			
APPROVAL		APPROVED	
RECOMM.	DATE	DATE	DATE
MARGARET SIMMONS CROSS	9/1/98	JOHN TERRY	9/1/98
PROJECT DESIGN ENGINEER		SECTION MANAGER	
SHT. 3 OF 9			

FINAL 06-04-98 H:\RE_EARTH\PROJECT\239-0007\1998\9W-03\SUBMTL-1\RE-1.DWG

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	08-13-98	RELEASE FOR 1ST STAGE CONST. ONLY



BRIDGE F-621W

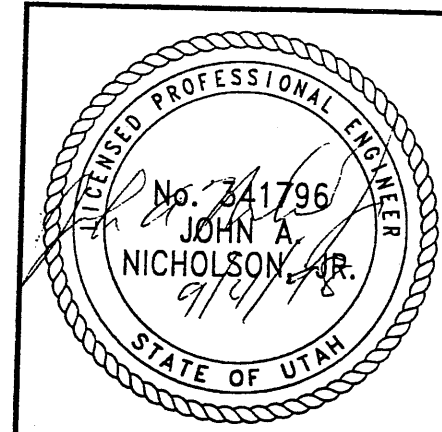
WASATCH CONSTRUCTORS
SEP 04 1998
RELEASED FOR CONSTRUCTION

PLAN VIEW MSE WALL "R-349-3"

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

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 31°
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. = 0.134g (TYP)
SEISMIC ACCELERATION COFF. = 0.34g (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 WIRE FACED WALL R-349-3, NOTES & DESIGN CRITERIA
RE-2 TYPICAL CROSS SECTIONS ● WIRE FACED WALL
RE-3 TYPICAL CROSS SECTION
RE-4 TYPICAL CROSS SECTION
RE-5 WIRE FACED WALL R-349-3
RE-6 WIRE FACED WALL R-349-3



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.

NO.	DATE	DESCRIPTION	NO.	DATE	BY	CHK

DLS.	08-13-98	JL	RETAINED EARTH™
DRN.	08-13-98	RSW	
CHK.	08-13-98	JL	

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-8272
Fax: (919) 781-1969

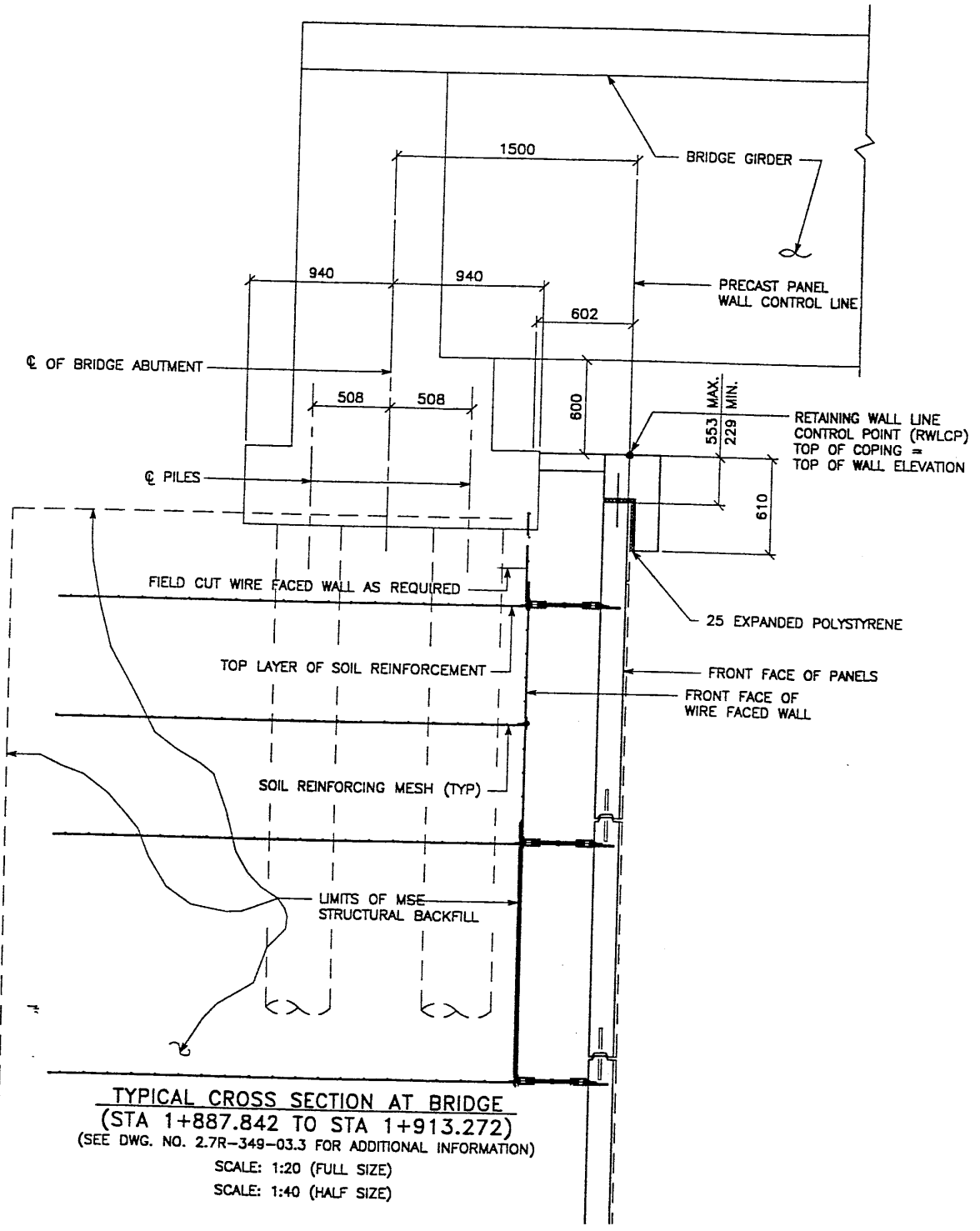
ATLANTA, GA / DALLAS, TX / FALCON, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
PLAN VIEW MSE WALL "R-349-3"
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-3.4
JOB NO.	239-0007
SHT. NO.	RE-1

4 of 9

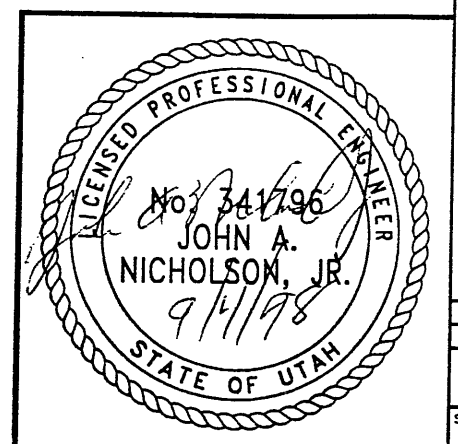
FINAL 06-04-98 H:\RE_EARTH\PROJECT\239-0007\1998\99W-03\SUBMITL-2\RE-2.DWG ENCE (X-UTAH.DWG)



TYPICAL CROSS SECTION AT BRIDGE
 (STA 1+887.842 TO STA 1+913.272)
 (SEE DWG. NO. 2.7R-349-03.3 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	08-13-98	RELEASE FOR 1ST STAGE CONST. ONLY <i>cl</i>

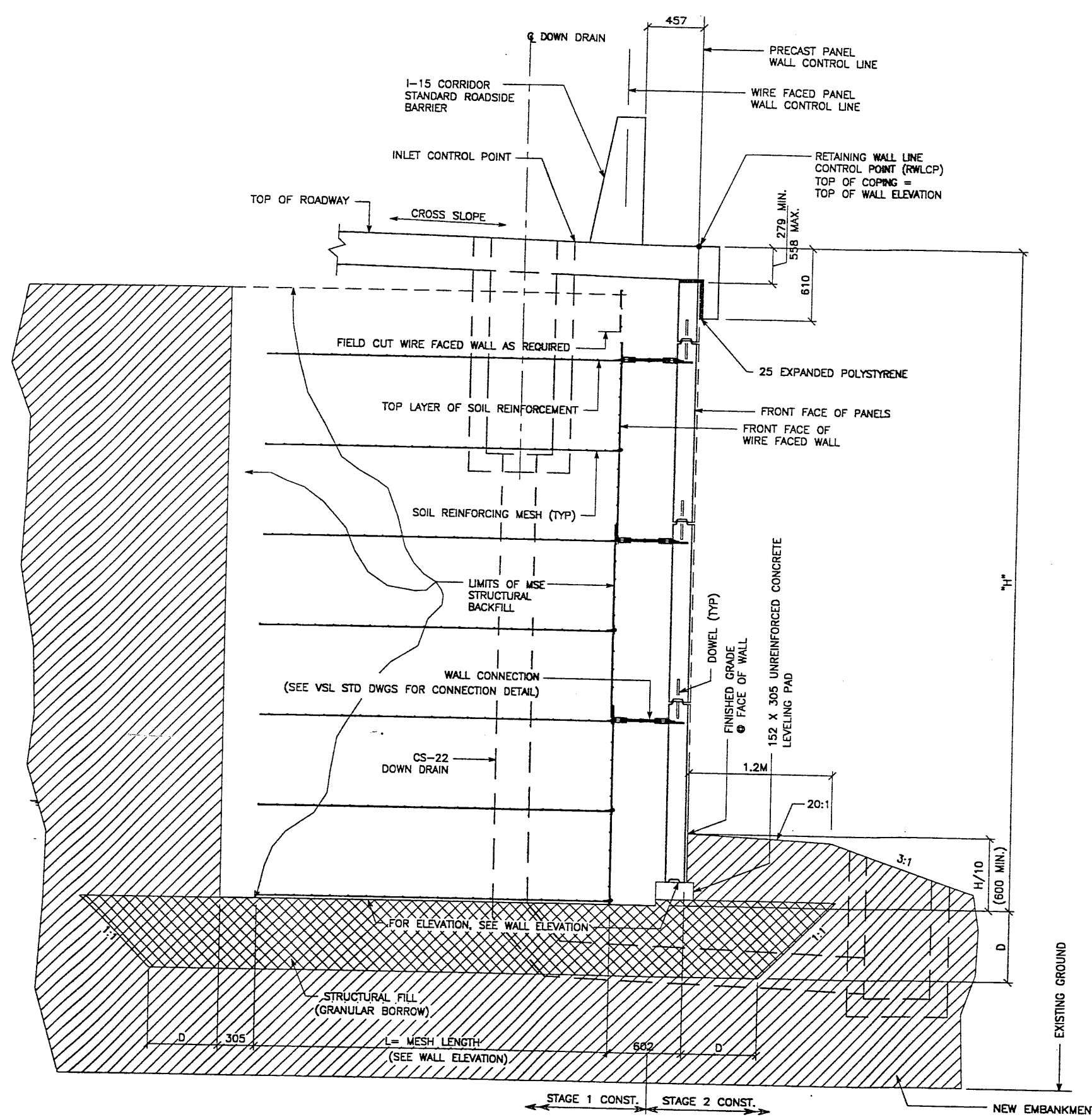
WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



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.

DES:	08-13-98	JL	RETAINED EARTH™
DRN:	08-13-98	RSW	
CHK:	08-13-98	JL	
VSL CORPORATION 2810 Plaza Plaza, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-6772 Fax: (919) 781-6889 ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA			
VSL <small>US Construction Practice: VSL is not a design firm. The use of VSL's Retained Earth™ structures is subject to the design and construction of the project. The use of VSL's Retained Earth™ structures is not a warranty of performance. VSL is not responsible for the design or construction of the project. VSL is not responsible for the design or construction of the project.</small>			
RETAINED EARTH™ WALLS WIRE FACED WALL "R-349-3" TYPICAL CROSS SECTIONS UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.			
DWG. NO.			
2.7R-349-3.5			
JOB NO:			
239-0007			
SIT. NO.			
RE-2			
5 of 9			

ICE (X-UTAH.DWG)
 \9W-03\SUBMITL-4\RE-3.DWG
 H:\RE_EARTH\PROJECT\239-0007\1998\9W
 06-04-98
 FINAL



TYPICAL CROSS SECTION - STA 1+868.542
 (SEE DWG. NO. 2.7R-349-03.3 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
△	08-13-98	RELEASE FOR 1ST STAGE CONST. ONLY

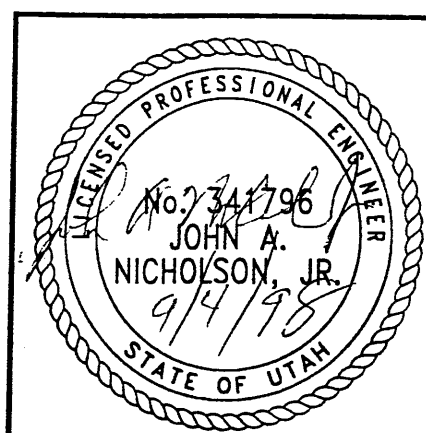
VASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	BY	CHK
JL	RSW	JL					
08-13-98	08-13-98	08-13-98					

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

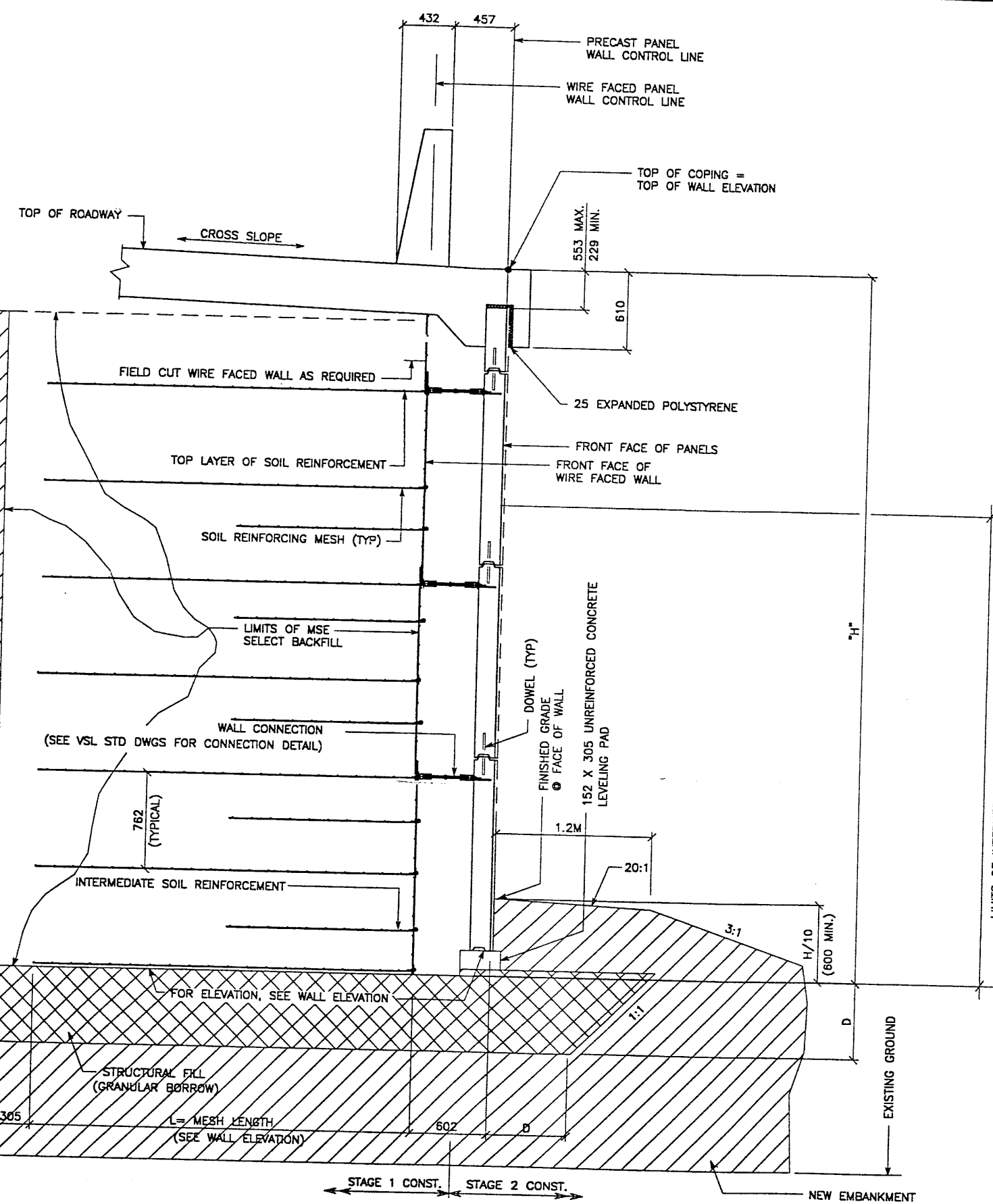


VSL Corporation (the "Company") warrants that the design and construction of the retaining wall system shown on this drawing shall conform to the design and construction shown on this drawing. The use of the retaining wall system shown on this drawing is subject to the material and workmanship of the contractor. VSL Corporation shall not be responsible for any failure of the retaining wall system due to the material and workmanship of the contractor. THIS WARRANTY IS LIMITED TO THE RETAINING WALL SYSTEM SHOWN ON THIS DRAWING.



RETAINED EARTH™ WALLS WIRE FACED WALL "R-349-3" TYPICAL CROSS SECTION
UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.7R-349-3.6
JOB NO. 239-0007
SHT. NO. RE-3

NCE (X-UTAH.DWG)
 H:\RE_EARTH\PROJECT\239-0007\1998\9
 T 06-04-98
 FINAL



TYPICAL CROSS SECTION - STA 1+830.000 TO STA 1+877.384
 (SEE DWG. NO. 2.7R-349-03.1 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

LIMITS OF INTERMEDIATE SOIL REINFORCEMENT - SEE NOTE

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 TO DEPTH (D) IN ORDER TO ACHIEVE ACCEPTABLE CONDITIONS AT BASE OF WALL.

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE PLACED FROM THE BOTTOM OF WALL TO A HEIGHT 5M ABOVE THE BOTTOM OF WALL. IF THE WALL IS LESS THAN 5M TALL, PLACE THE INTERMEDIATE SOIL REINFORCEMENT FOR THE FULL HEIGHT OF WALL. SEE VSL STANDARD DRAWINGS FOR PLACEMENT DETAILS.

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	CHK
△	08-13-98	RELEASE FOR 1ST STAGE CONST. ONLY	<i>[Signature]</i>

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

DES.	08-13-98	JL	RETAINED EARTH™
DRN.	08-13-98	RSW	
CHK.	08-13-98	JL	
NO.			
DATE			
REVISION			
BY			

VSL CORPORATION
 2840 Plaza Proce, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6072
 Fax: (919) 781-6959

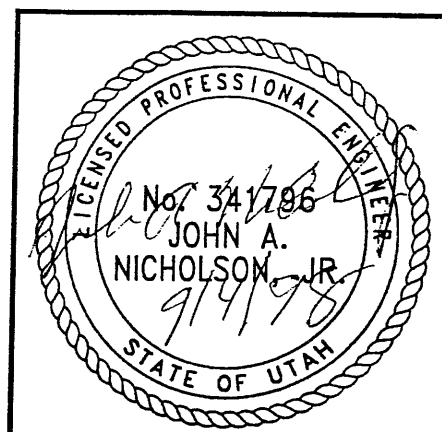
ATLANTA, GA / DALLAS, TX / DENVER, CO (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

VSL

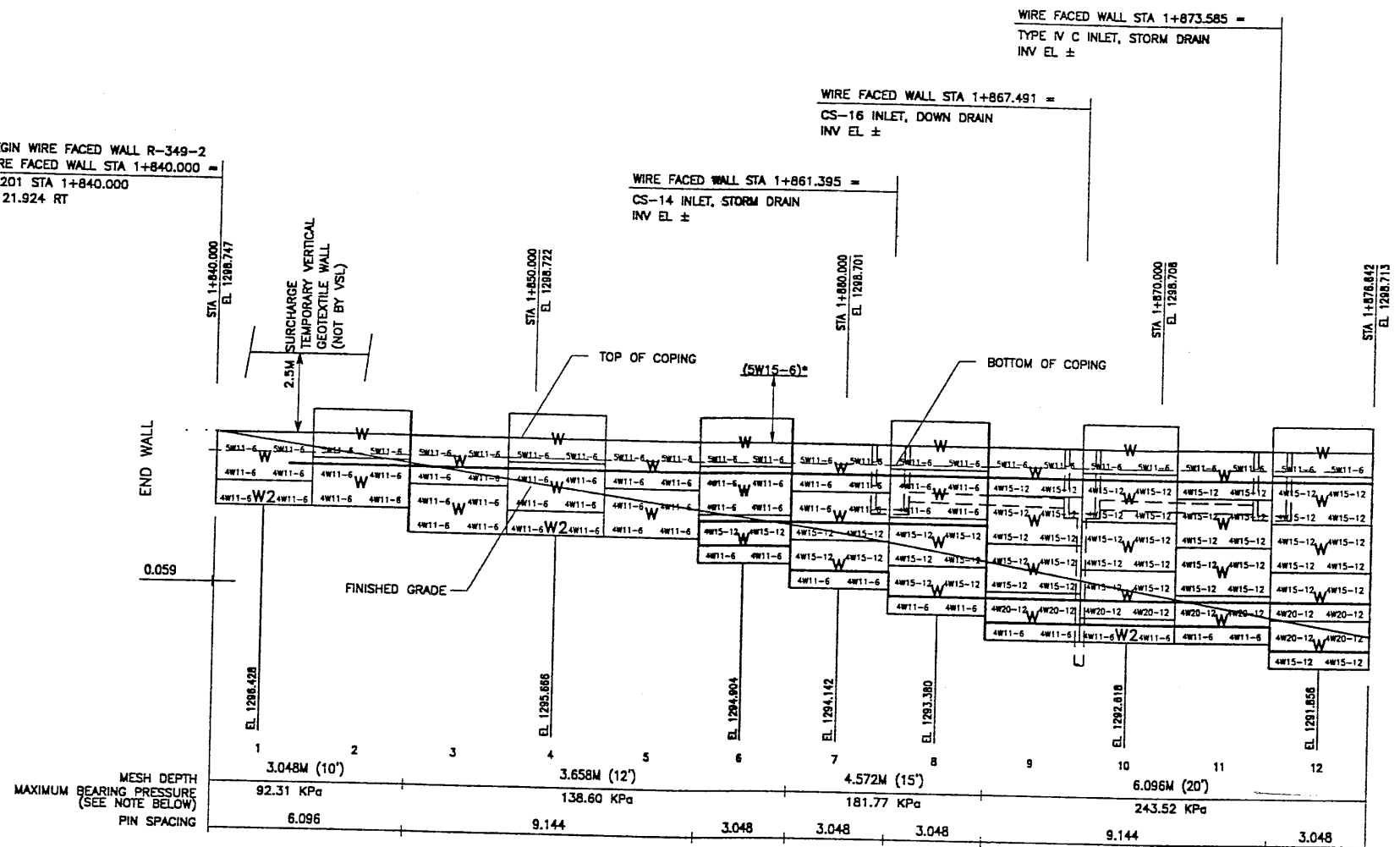
VSL Corporation (VSL) is a leading provider of geotechnical engineering services and construction management. VSL is a global leader in the design and construction of retaining walls, earth anchors, and soil reinforcement systems. VSL's extensive experience and expertise in these areas has made it a trusted partner for clients worldwide. VSL's commitment to innovation and quality has resulted in numerous successful projects and a strong reputation in the industry.

RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-3"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.7R-349-3.7
 JOB NO.
 239-0007
 SHEET NO.
 RE-4



BEGIN WIRE FACED WALL R-349-2
 WIRE FACED WALL STA 1+840.000 =
 SR201 STA 1+840.000
 @ 21.924 RT



RETAINING WALL "R-349-3" - 1ST STAGE: WIRE FACED WALL

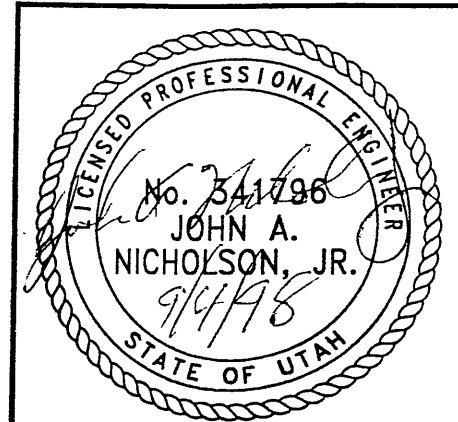
(FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 397.53 SM) SCALE 1:200 (HALF SIZE)

* 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

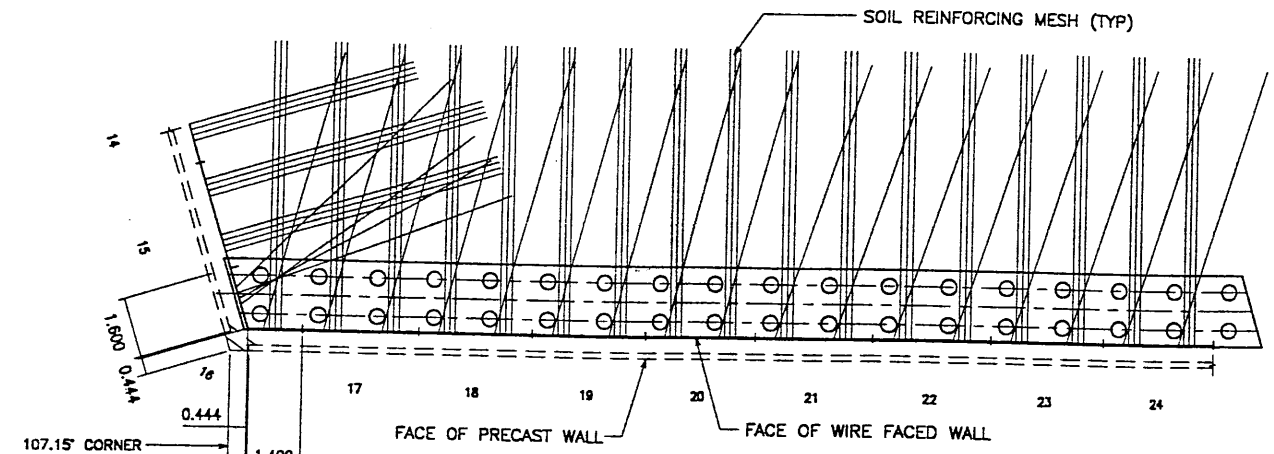


APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	08-13-98	RELEASE FOR 1ST STAGE CONST. ONLY

VASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

DES. 08-13-98 JL		NO. DATE		REVISION	CHK
DRN. 08-13-98 RSW		NO. DATE			
CHK. 08-13-98 JL		NO. DATE		REVISION	
VSL RETAINED EARTH™		NO. DATE		REVISION	
<p>VSL CORPORATION 7840 Pines Plaza, Suite 200 Raleigh, NC 27617 781-6272 Telephone: (919) 781-4869 Fax: (919) 781-4869</p>					
<p>VSL ATLANTA, GA / CHICAGO, IL / HOUSTON, TX / JACKSONVILLE, FL / LOS ANGELES, CA / PHOENIX, AZ / RICHMOND, VA WASHINGTON, DC / SAN JOSE, CA / SPRINGFIELD, VA</p>					
<p>RETAINED EARTH™ WALLS WALL "R-349-3" - 1ST STAGE: WIRE FACED WALL UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.</p>					
DWG. NO.		27R-349-3.8			
JOB NO.		239-0007			
SHT. NO.		RE-5			

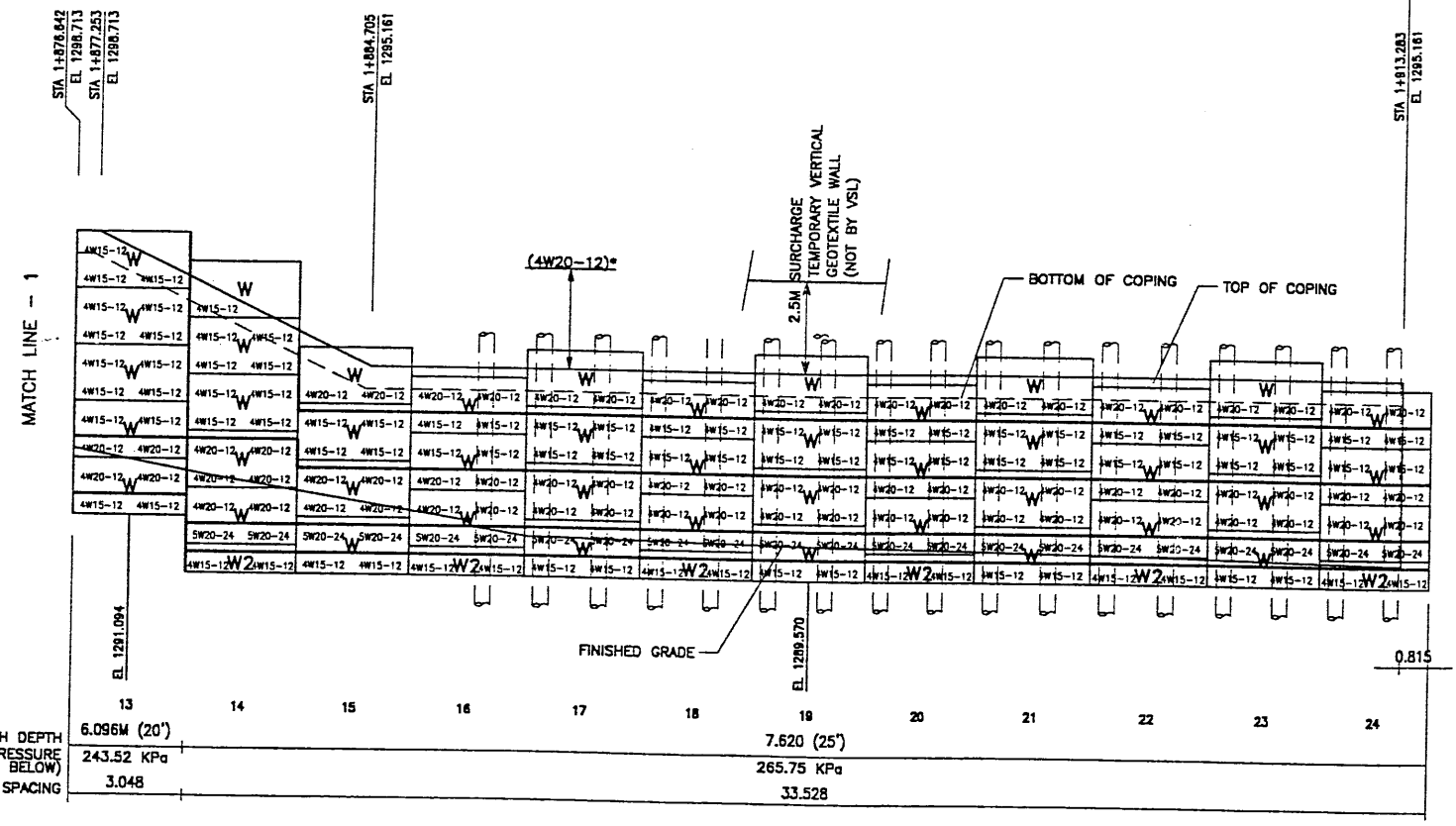
06-04-98
 FINAL
 H:\RE_EARTH\PROJECT\239-0007\1998\9MSERIE
 JUBMTL-4\9W-03.DWG
 3E (X-UTAH.DWG)



PLAN VIEW PRECAST WALL R-349-3

WIRE FACED WALL PI STA 1+887.378 =
 WIRE FACED WALL PI STA 1+888.266 =
 SR201 STA 1+887.372
 ● 23.458 RT

END WIRE FACED WALL R-349-3
 WIRE FACED WALL STA 1+913.283 =
 SR201 STA 1+895.517
 ● 0.196 LT



RETAINING WALL "R-349-3" - 1ST STAGE: WIRE FACED WALL (FRONT FACE SHOWN)

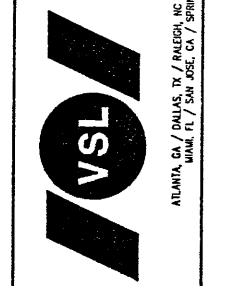
(TOTAL SURFACE AREA OF FACING = 397.53 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

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

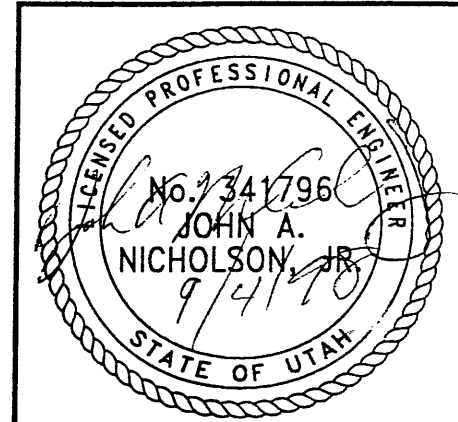
NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURES AT FINAL STAGE FOR STATIC LOAD CONDITION.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	08-13-98	RELEASE FOR 1ST STAGE CONST. ONLY

VSL CORPORATION
 2840 Pines Plaza, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6889



WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



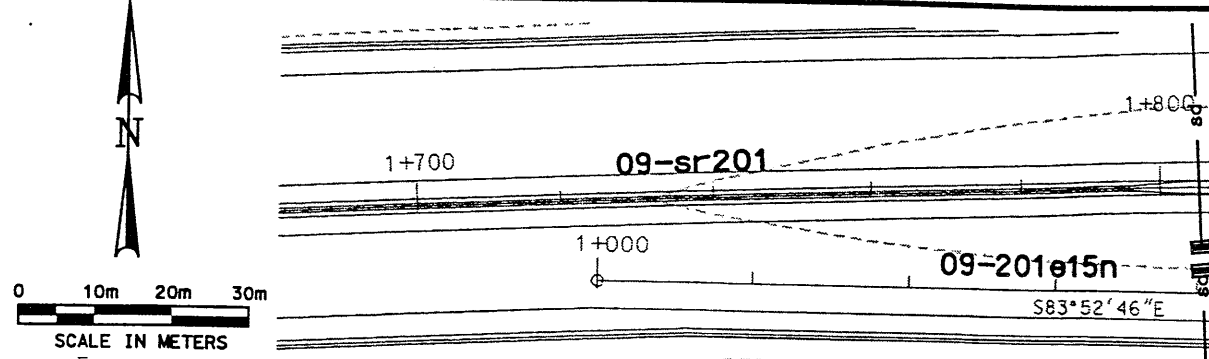
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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

VSL Corporation (USA) uses a strict proprietary method and calculation information to their advantage in their design. It is not to be used or reproduced without the written permission of VSL. VSL DISCLAIMS ANY LIABILITY THEREFOR.

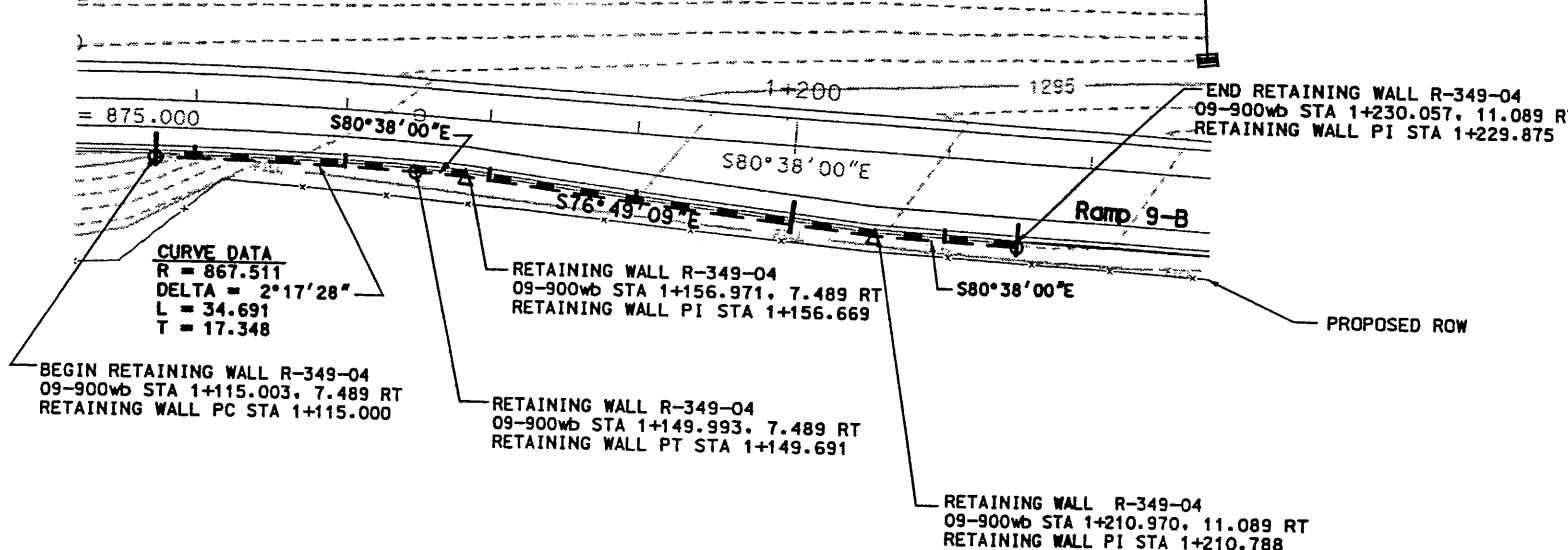
RETAINED EARTH™ WALLS
 WALL "R-349-3" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	27R-349-3.9
JOB NO.	239-0007
SHT. NO.	RE-6

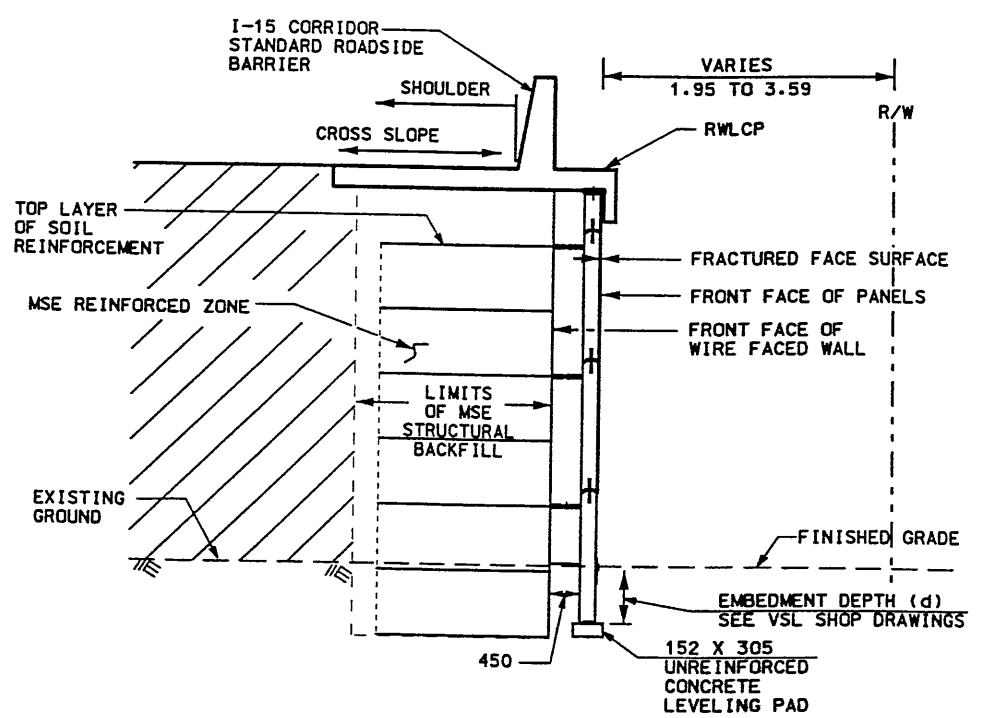
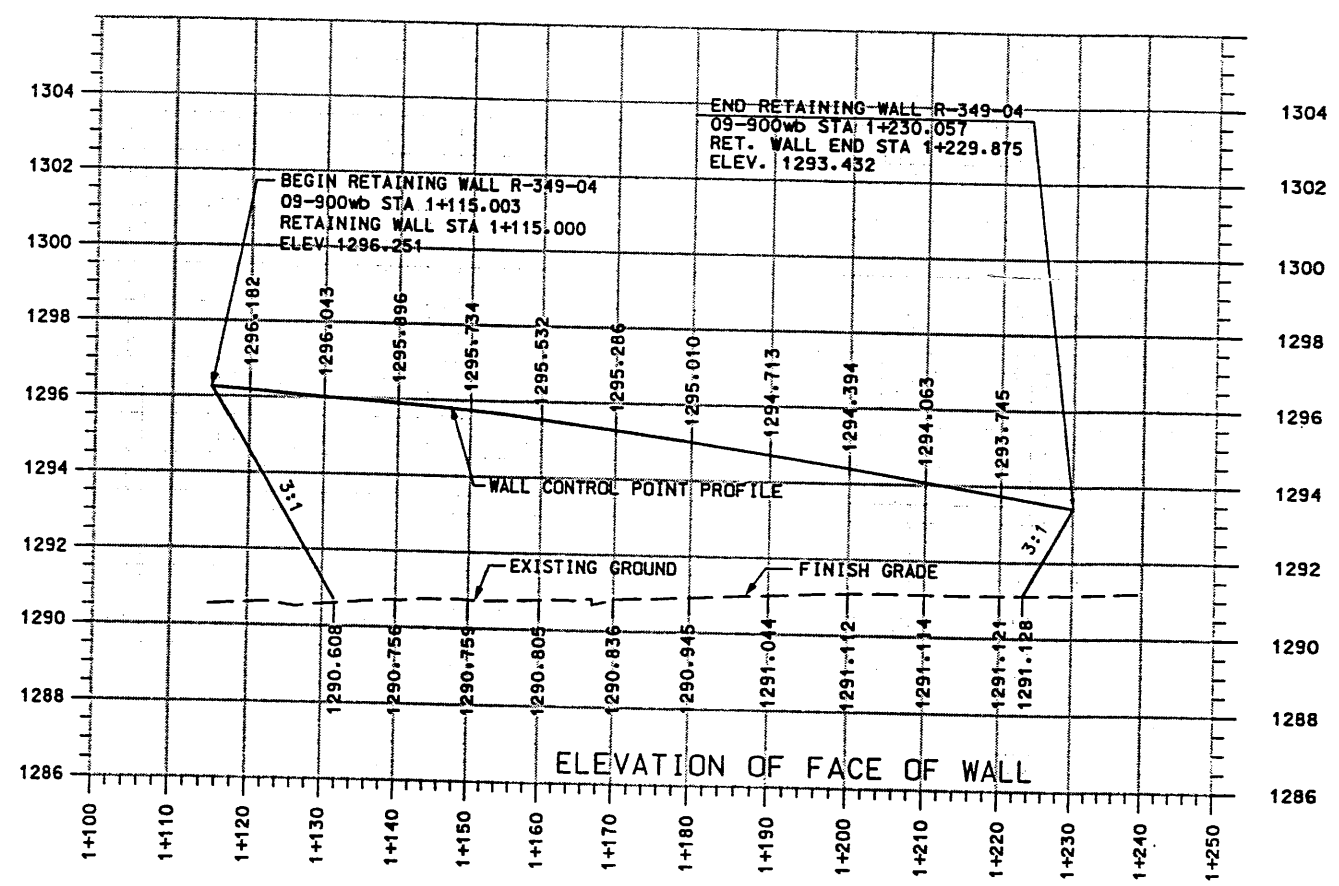
Date: 02-SEP-1998 Time: 09:49 User: nmapenar.crc



- NOTES:**
- REFER TO SHEET CS-29 FOR MOMENT SLAB DETAILS.
 - LOCATE RETREIVABLE WIRE SAMPLES AT RET. WALL STA 1+145.000.
 - DETAIL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.



WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

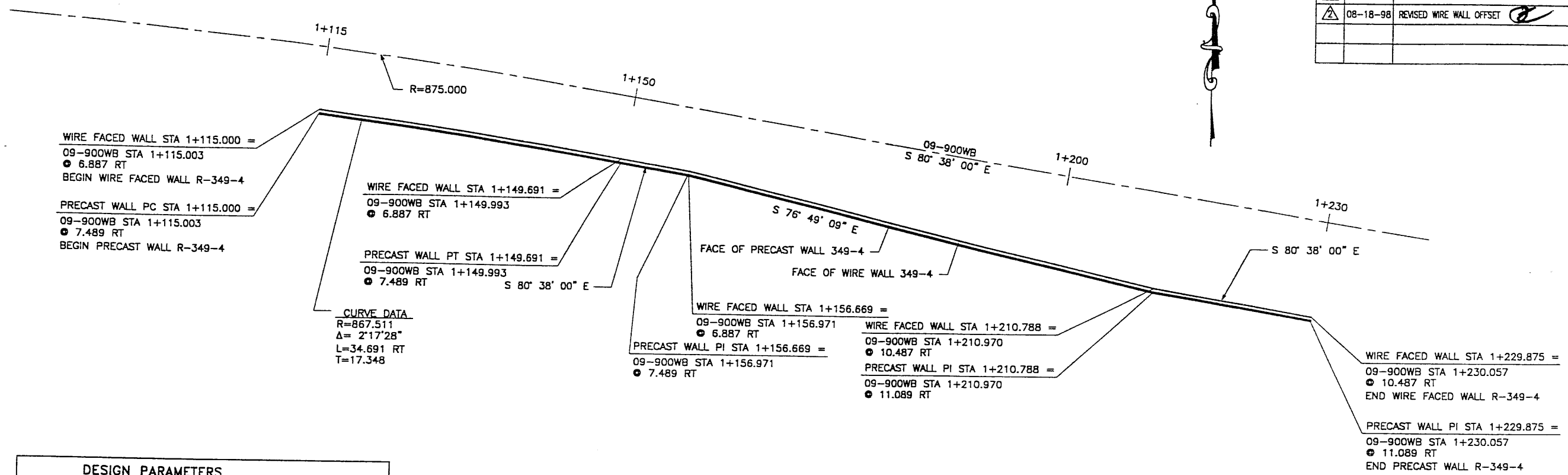


TWO STAGE WITH MOMENT SLAB CAP
 RET WALL STA 1+115.000 TO STA 1+229.875
 NTS

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL RELEASE	WIRE FACE GAP UPDATE/MINOR GEOMETRY CHANGE
1	3/23/98		
2	9/1/98		
UTAH DEPARTMENT OF TRANSPORTATION		TRACKING NO.	2713411
SVERDRUP, DE LEUW		CHECK R/P	1/98
DESIGN		CHECK M/C	1/98
DRAWN		CHECK	
PROJECT NO. 152-7(135)296		DESIGNER	MARGARET SIMMONS-CROSS
DATE 1/28/98		PROJECT DESIGN ENGINEER	JOHN TERRY
APPROVED 1/28/98		DATE	
SECTION MANAGER		SECTION MANAGER	
I-15 CORRIDOR RECONSTRUCTION		SECTION 2.7	
SITUATION & LAYOUT 349-04		PROJECT NUMBER *SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.7-R-349-04.1	
SHT. 1 OF 6			

H:\RE_EARTH\PROJECT\239-0007\1998\19W-04\SUBMITL-4\RE-1
 09-01-98
 FINA

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	03-03-98	RELEASE FOR 1ST STAGE CONST. ONLY
▲	08-18-98	REVISED WIRE WALL OFFSET



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 (12 KPa)
SEISMIC ACCELERATION COFF. = 0.134g (TYP)
SEISMIC ACCELERATION COFF. = 0.34g (AT BRIDGE ABUTMENTS)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

PLAN VIEW MSE WALL "R-349-4"

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

RETAINED EARTH INDEX
RE-1 PLAN WIRE FACED WALL R-349-4, NOTES & DESIGN CRITERIA
RE-2 TYPICAL CROSS SECTION @ WIRE FACED WALL
RE-3 TYPICAL CROSS SECTION
RE-4 WIRE FACED WALL R-349-4
RE-5 WIRE FACED WALL R-349-4

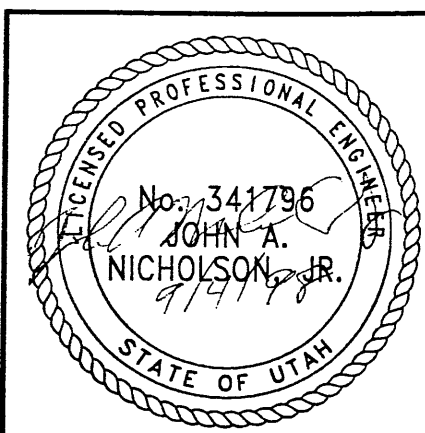
WASATCH CONSTRUCTORS

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.



REVISION		NO.	DATE	BY	CHK

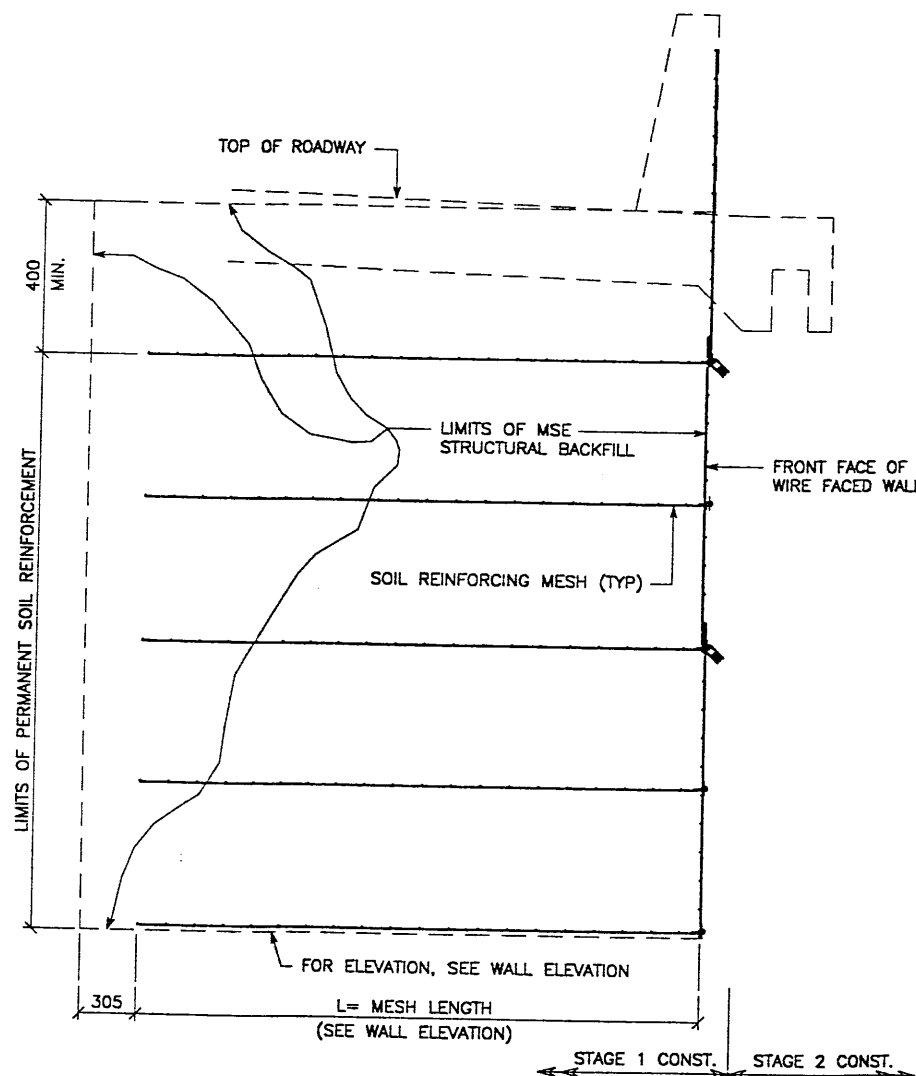
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4989

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

RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-349-4"
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.3R-349-4.2
 JOB NO:
 239-0007
 SHEET NO.
 RE-1

FINAL 03-13-98 H:\RE_EARTH\PROJECT\239-0007\1998\9W-04\SUBMITL-4\RE-2.dwg (X-UTAH.DWG)



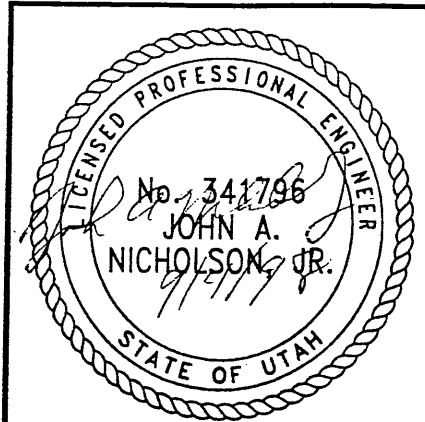
TYPICAL CROSS SECTION
AT FINAL PHASE OF WIRE FACE WALL
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

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	03-03-98	RELEASE FOR 1ST STAGE CONST. ONLY

WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-4"
 TYPICAL SECTIONS @ WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7-R-349-4.3
JOB NO.	239-0007
SHT. NO.	RE-2

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-8869

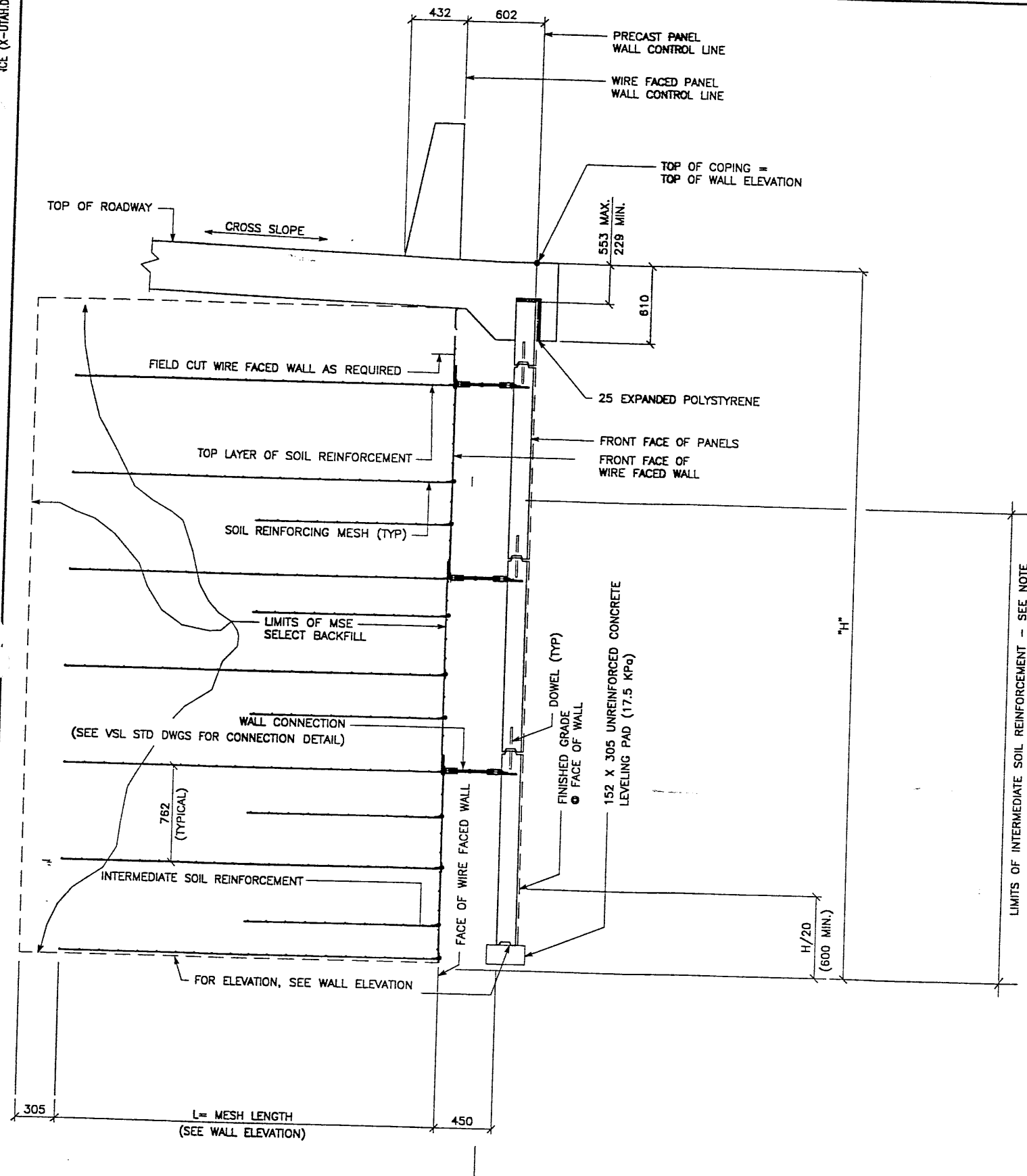


ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MANASSAS, VA / SAN JOSE, CA / SPRINGFIELD, VA

VSL Corporation ("VSL") warrants that the design, calculations and construction details shown on this sheet are in accordance with the specifications and standards referred to in this sheet. The use of such information in other projects without the express written consent of VSL Corporation is prohibited. VSL Corporation shall not be liable for any claims or damages arising from the use of such information in other projects. VSL CORPORATION DISCLAIMS ANY LIABILITY THEREFOR.

DES.	02-23-98	MM
DRN.	02-23-98	DDO
CHK.	02-23-98	MM

NO.	DATE	REVISION



TYPICAL CROSS SECTION - STA 1+115.000 TO STA 1+229.875
 (SEE DWG. NO. 2.7R-349-04 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

NOTE: INTERMEDIATE SOIL REINFORCEMENT SHALL BE PLACED FROM THE BOTTOM OF WALL TO A HEIGHT 5M ABOVE THE BOTTOM OF WALL. IF THE WALL IS LESS THAN 5M TALL, PLACE THE INTERMEDIATE SOIL REINFORCEMENT FOR THE FULL HEIGHT OF WALL. SEE VSL STANDARD DRAWINGS FOR PLACEMENT DETAILS.

LIMITS OF INTERMEDIATE SOIL REINFORCEMENT - SEE NOTE

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	03-03-98	RELEASE FOR 1ST STAGE CONST. ONLY
2	08-18-98	REVISED WIRE WALL OFFSET, ADDED INTERMEDIATE SOIL REINFORCEMENT

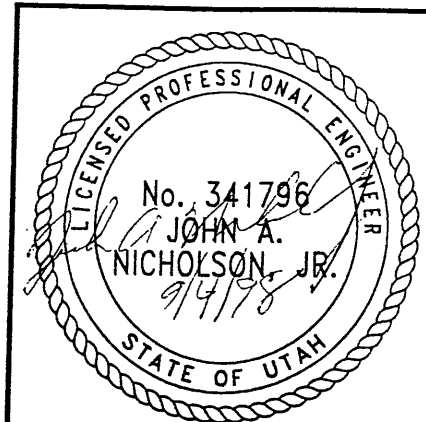
DES.	DRN.	CHK.	NO.	DATE	REVISION
XX	JHU	XX			

VASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4569



Jack de Sta. VSL / Foster Drgs. for Int. Sp. for Int. Sp.



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-349-4"
 TYPICAL CROSS SECTION
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.
 DWG. NO. 2.7-R-349-4.4
 JOB NO. 239-0007
 SHT. NO. RE-3

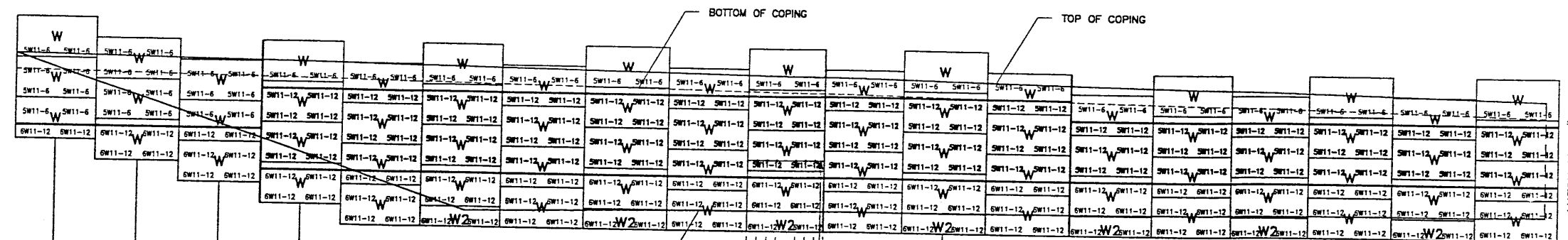
ICE (X-UTAH.DWG)
SUBMITL-4\9W-04
H:\RE_EARTH\PROJECT\239-0007\1998\9WSERIES\1
01-01-98
FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	03-03-98	RELEASE FOR 1ST STAGE CONST. ONLY

BEGIN WIRE FACED WALL R-349-4
WIRE FACED WALL STA 1+115.000 =
09-900WB STA 1+115.003
● 6.887 RT

WIRE FACED WALL PT STA 1+149.691 =
09-900WB STA 1+149.993
● 6.887 RT

WIRE FACED WALL PI STA 1+156.669 =
09-900WB STA 1+156.971
● 6.887 RT



RELEASED FOR CONSTRUCTION
SEP 04 1998
WASATCH CONSTRUCTORS

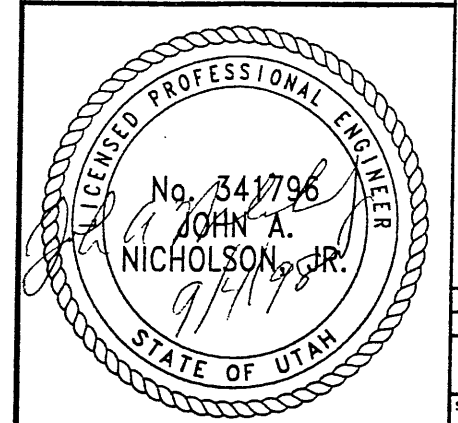
MESH DEPTH
MAXIMUM BEARING PRESSURE
(SEE NOTE BELOW)
PIN SPACING

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
3.658M	3.048	3.048	3.048	3.048	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M	4.572M
154 KPa	3.048	3.048	3.048	3.048	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa	195 KPa
3.048	3.048	3.048	3.048	3.048	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720	45.720
182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa	182 KPa

RETAINING WALL "R-349-4" - 1ST STAGE: WIRE FACED WALL
(FRONT FACE SHOWN)
(TOTAL SURFACE AREA OF FACING = 624.77 SM)
SCALE 1:100 (FULL SIZE)
SCALE 1:200 (HALF SIZE)

METRIC

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DES.	01-01-98	XX		VSL CORPORATION 2940 Plaza Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-8272 Fax: (919) 781-4889
DRN.	01-01-98	JHU		
CHK.	01-01-98	XX		
RETAINED EARTH™				NO. DATE REVISION BY CHK
RETAINED EARTH™ WALLS WALL "R-349-4" - 1ST STAGE: WIRE FACED WALL UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.				
DWG. NO. 2.3R-349-4.5				
JOB NO. 239-0007				
SHT. NO. RE-4				

ICE (X-UTAH.DWG)
 SUBMTL-4\9W-04
 H:\RE_EARTH\PROJECT 239-0007\1998\9WSERIF.C
 FINAL 01-01-98

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	03-03-98	RELEASE FOR 1ST STAGE CONST. ONLY
△	08-18-98	REVISED WIRE WALL OFFSET

STA 1+172.435
 EL. 1295.219

STA 1+180.000
 EL. 1295.010

STA 1+190.000
 EL. 1294.713

STA 1+200.000
 EL. 1294.394

STA 1+210.000
 EL. 1294.063

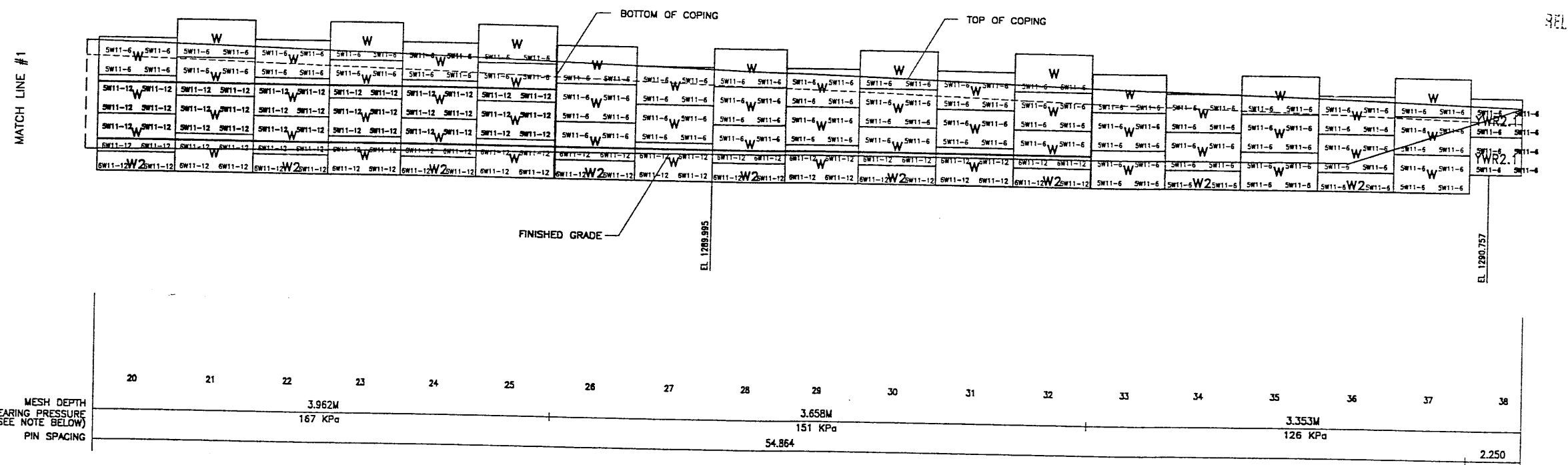
STA 1+220.000
 EL. 1293.745

STA 1+229.875
 EL. 1293.432

WIRE FACED WALL PI STA 1+210.788 =
 08-900WB STA 1+210.970
 ● 10.487 RT

END WIRE FACED WALL R-349-4
 WIRE FACED WALL STA 1+229.875=
 90-900WB STA 1+230.057
 ● 10.487 RT

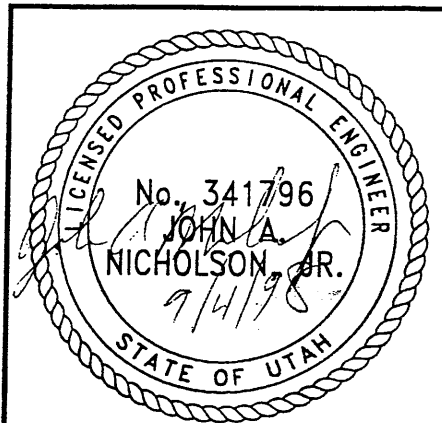
WASATCH CONSTRUCTORS
 SEP 04 1998
 RELEASED FOR CONSTRUCTION



RETAINING WALL "R-349-4" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 624.77 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.



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

RETAINED EARTH™ WALLS
 WALL "R-349-4" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 2.3R-349-4.6

JOB NO.
 239-0007

SHT. NO.
 RE-5

DES. 01-01-98 XX
 DRN 01-01-98 JHU
 CHK 01-01-98 XX

RETAINED EARTH™
 VSL

NO. DATE REVISION
 NO. DATE