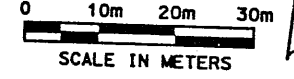
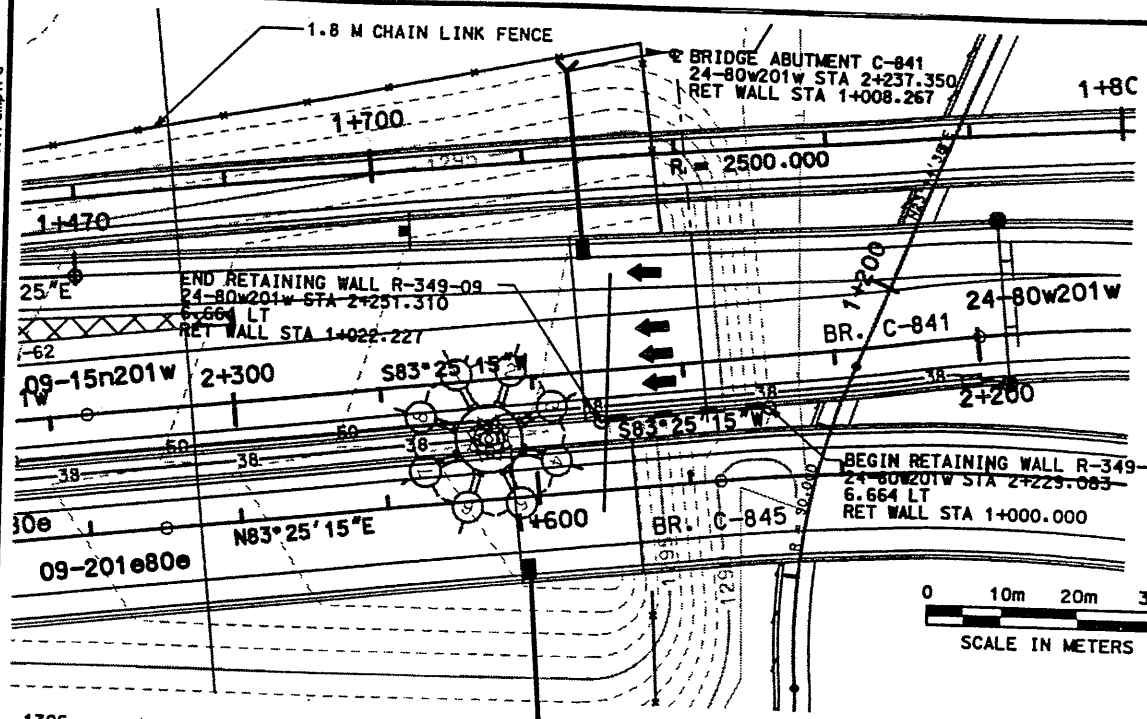
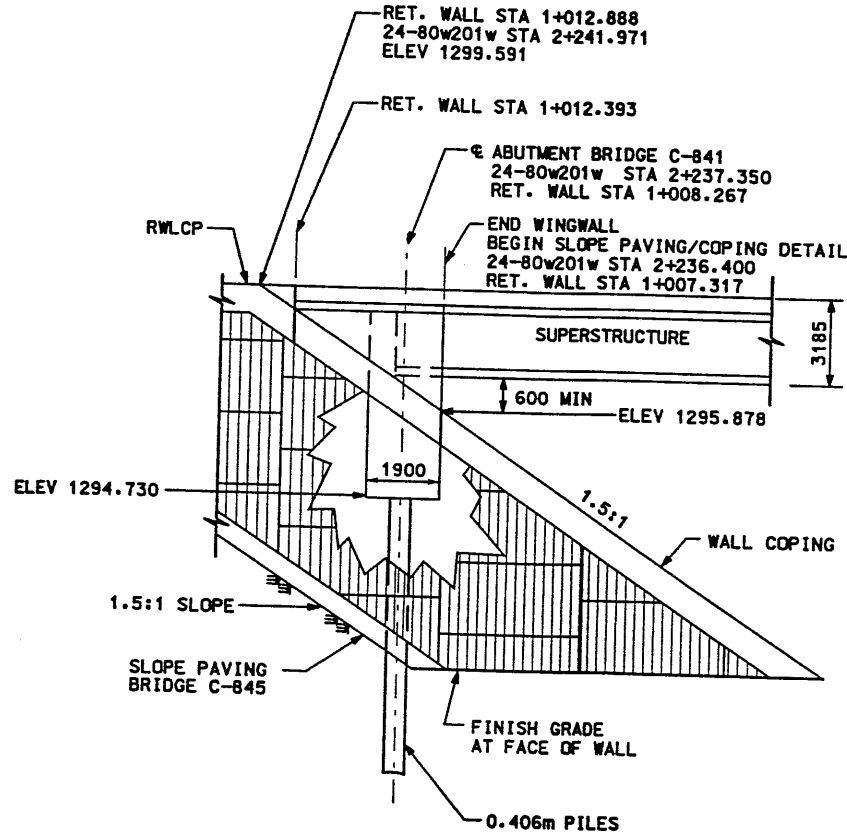
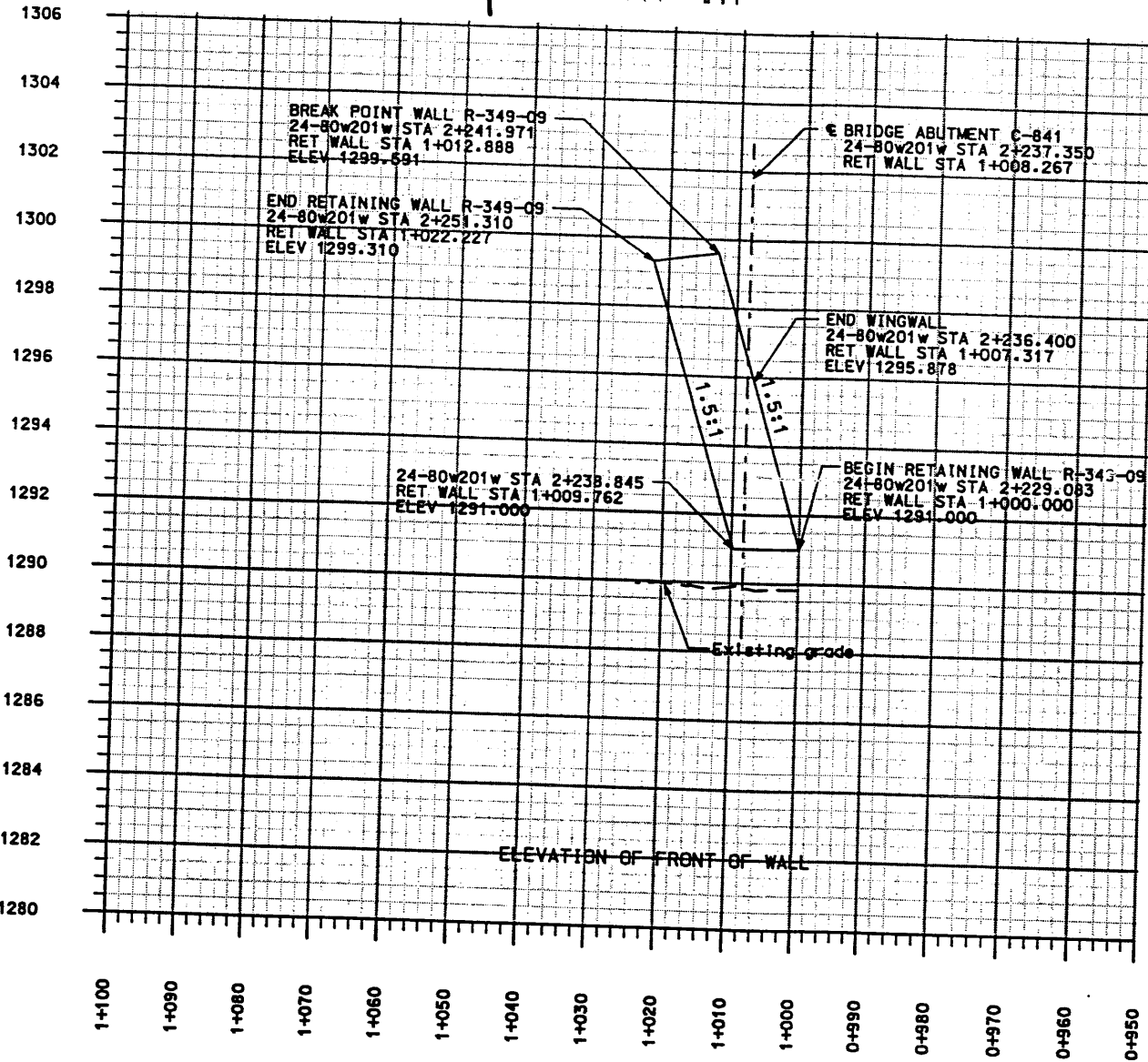


Date: 18-NOV-1998 Time: 09:02 User name: fcomp1r-d



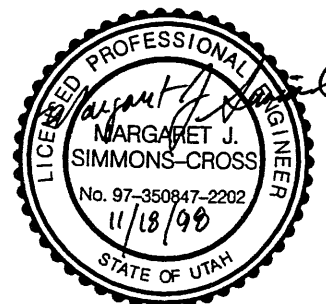
NOTES:

1. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. CONFIRM LOCATION OF DRAINAGE STRUCTURES WITH DRAINAGE PLANS.



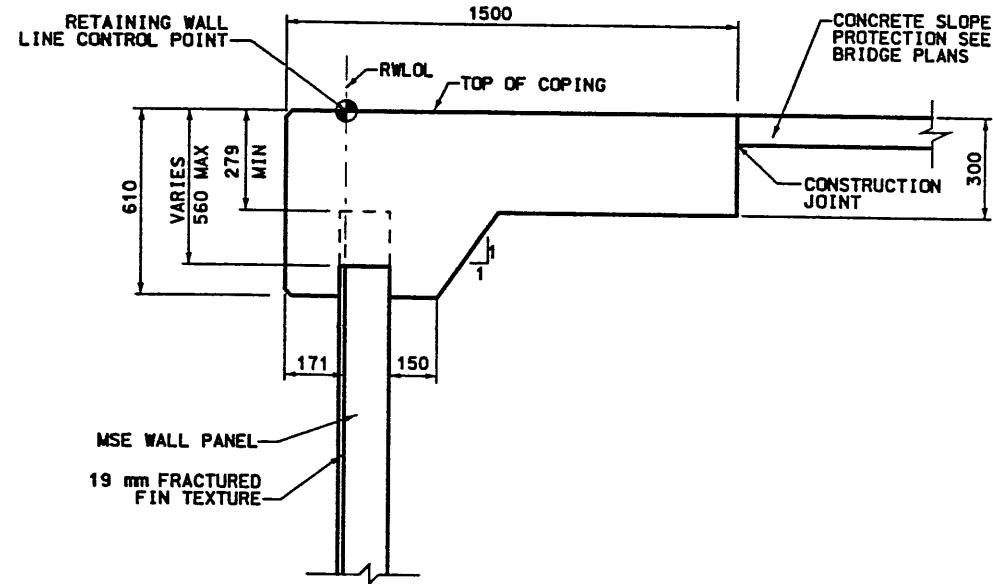
BRIDGE C-841 ABUTMENT DETAIL
NTS

WASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION

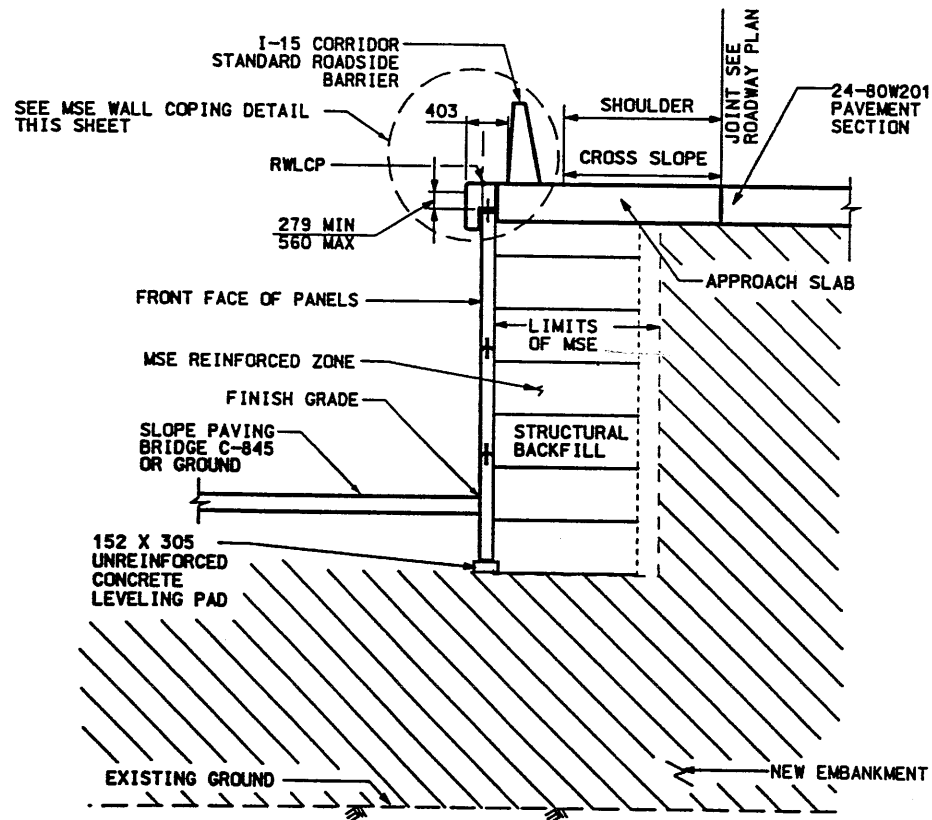


APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
	11/18/98		
INITIAL RELEASE			
TRACKING NO.		2713409	
DESIGN	JHS	CHECK	MSC
DATE	11/7/98	CHECK	MSC
DRAWN	JHS	CHECK	MSC
DATE	11/7/98	CHECK	MSC
QUANT.		CHECK	
UTAH DEPARTMENT OF TRANSPORTATION			
SVERRUP/DE LEUW			
1-15 CORRIDOR RECONSTRUCTION			
SITUATION & LAYOUT R-347-09			
SECTION 2.7			
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO. 2.7-R-349-09.1			
SHT. 1 OF 2			

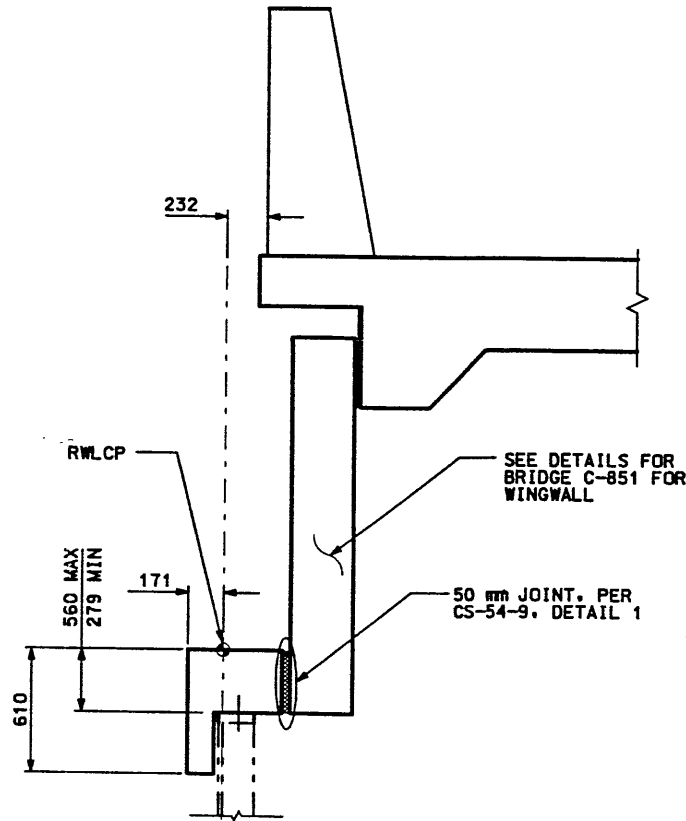
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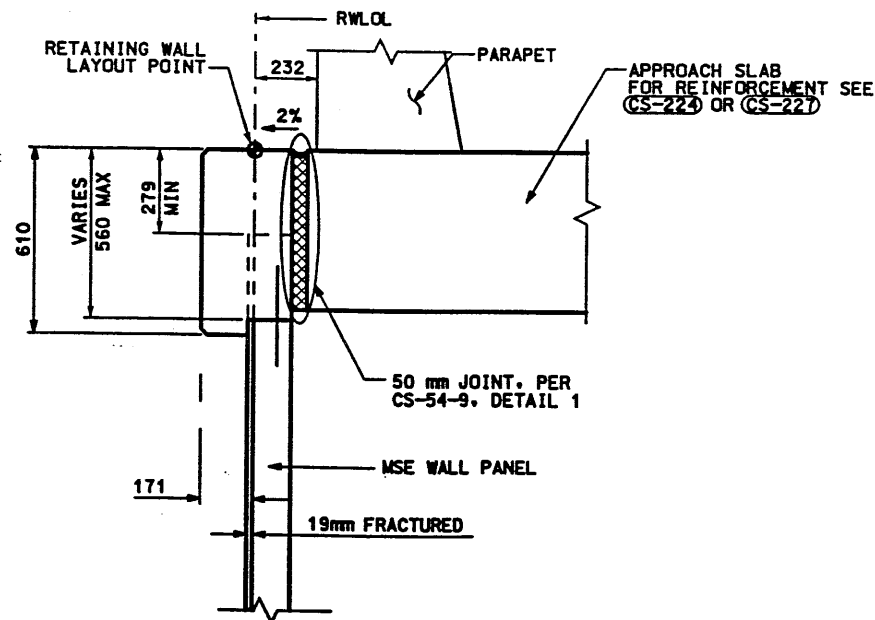
(REFER TO CS-54-5 SECTION J)
MSE SINGLE STAGE WALL SECTION @ SLOPE PAVING
 RET WALL STA 1+000.000 TO STA 1+007.317 NTS



(REFER TO CS-28-1)
MSE SINGLE STAGE WALL SECTION
 RET WALL STA 1+012.393 TO STA 1+022.227 NTS



(REFER TO CS-54-6 SECTION N)
MSE SINGLE STAGE WALL SECTION @ WINGWALL
 RET WALL STA 1+007.317 TO STA 1+012.393 NTS



(REFER TO CS-54-6 SECTION O)
MSE WALL COPING DETAIL
 RET WALL STA 1+012.393 TO STA 1+022.227 NTS

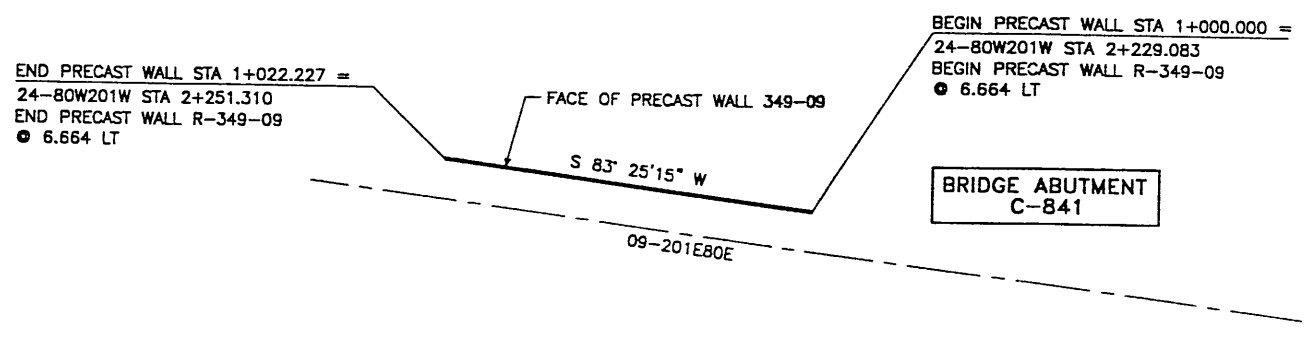
NOTES:

1. REFER TO DWG NO. CS-54 FOR WALL COPING AND REINFORCING DETAILS.
2. SEE BRIDGE C-842 PLANS FOR WINGWALL DETAILS.
3. ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

UTAH DEPARTMENT OF TRANSPORTATION
 SVERDRUP/DE LEUW
 WASATCH CONSTRUCTORS
 DEC 0 2 1998
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APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL	RELEASE
Δ	11/18/98		
UTAH DEPARTMENT OF TRANSPORTATION		TRACKING NO.	2713409
SVERDRUP/DE LEUW		CHECK	11/18
DESIGN		MANUSETT SIMMONS-CROSS	11/18
DRAWN		JOHN TERRY	11/18
QUANT.		SECTION MANAGER	
REVISION		DATE	DATE
11/20/98		11/20/98	11/20/98
APPROVED		DATE	DATE
11/10/98		11/10/98	11/10/98
I-15 CORRIDOR RECONSTRUCTION		SITUATION & LAYOUT R-347-09	
SECTION 2.7		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY			
DWG. NO. 2.7-R-349-09.2			
SHT. 2 OF 7			

FINAL 11-23-98 H:\RE_EARTH\PROJ 9-0007\1998\9WSERIES\9W-11\RE-1 X:\ENGINE (X-UTAH.DWG)



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	11-16-98	RELEASE FOR CONSTRUCTION

DES.	CHK.	DATE	NO.	REVISION	BY
JIN	RSW	11-23-98			

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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: 5W11-6 MESH HAS FIVE (5) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" 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 VSL STANDARD SHEET STD-7 FOR DETAILS.

PLAN VIEW WALL "R-349-09"

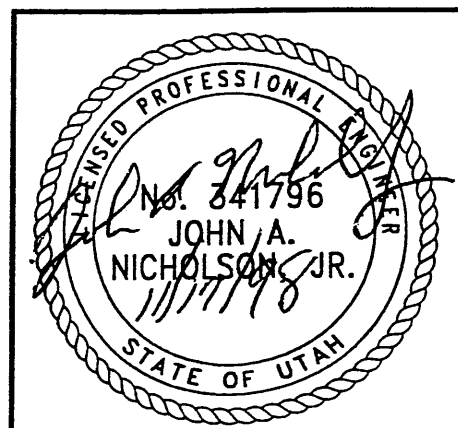
SCALE: 1=250 (FULL SIZE)
 SCALE: 1=500 (HALF SIZE)

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 250 YEAR SEISMIC)
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-349-09, NOTES & DESIGN CRITERIA
RE-2 TYPICAL CROSS SECTION
RE-3 TYPICAL CROSS SECTIONS
RE-4 ELEVATION PRECAST WALL "R-349-09"
RE-5 SPECIAL PANEL DETAILS

METRIC

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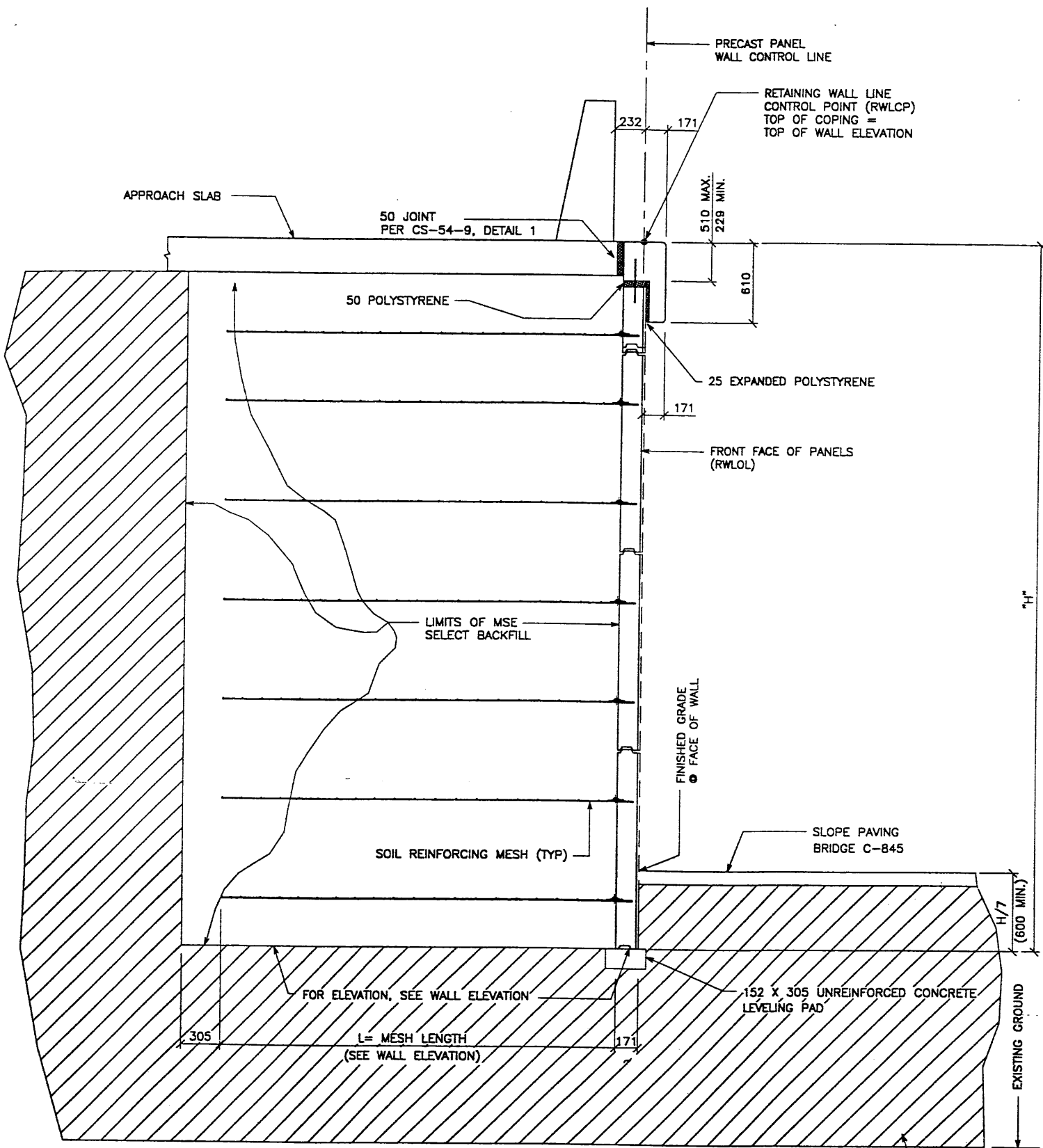


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 DEC 0 2 1998
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RETAINED EARTH™ WALLS
 PLAN VIEW PRECAST WALL "R-349-09"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-09.3
JOB NO.	239-0007
SHT. NO.	RE-1



TYPICAL CROSS SECTION - STA 1+012.393 TO 1+02.227

(LOOKING DOWN STATION)
 (SEE DWG. NO. 2.7R-349-09.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

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NO.	DATE	DESCRIPTION
△	11-16-98	RELEASE FOR CONSTRUCTION

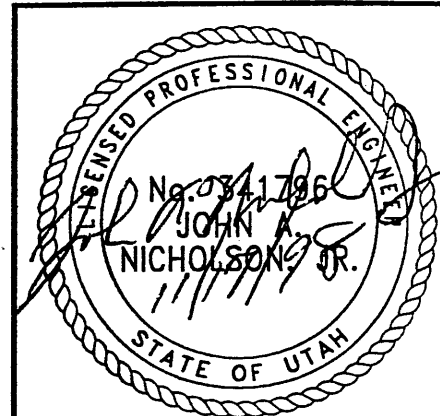
DES.	DRN.	CHK.	NO.	DATE	REVISION	BY	CHK.
JN	RSW	JN					
JN	JN	JN					

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DEC 0 2 1998
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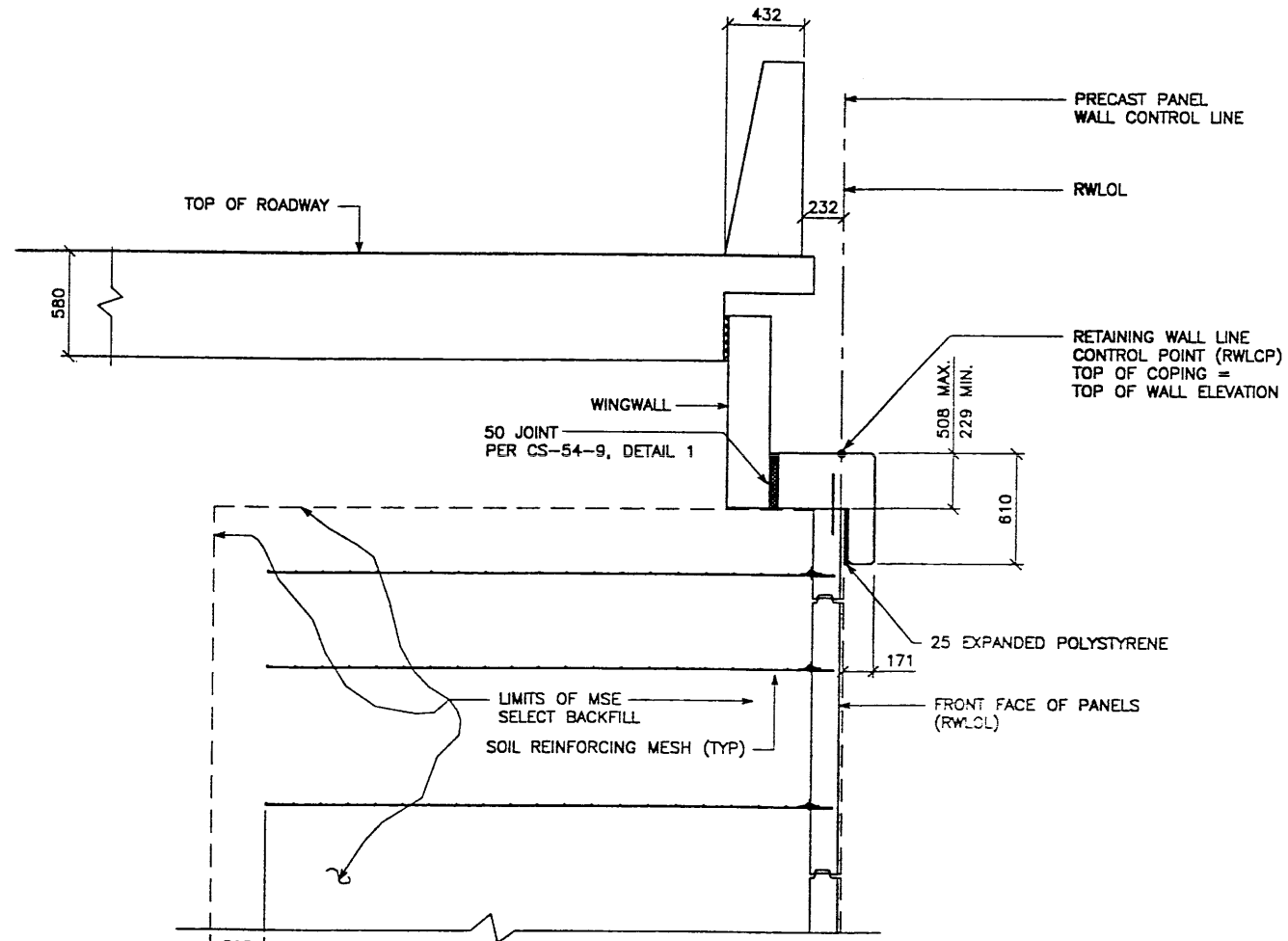
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-09"
 TYPICAL CROSS SECTION

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

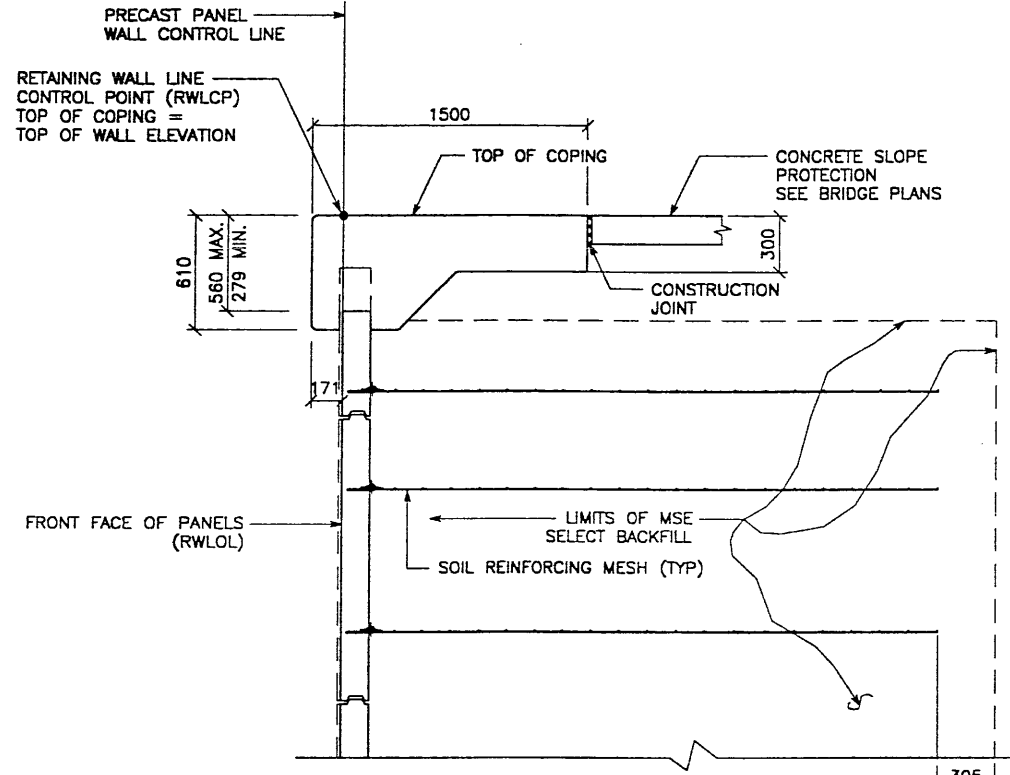
DWG. NO.	2.7R-349-09.4
JOB NO.	239-0007
SHT. NO.	RE-2

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CE (X-UTAH.DWG)
 3-0007\1998\9WSERIES\9W-09\RE-3
 H:\RE_EARTH\PROJ\...
 11-16-98
 FINAL



TYPICAL CROSS SECTION - STA 1+007.317 TO STA 1+012.393
 (LOOKING DOWN STATION)
 (SEE DWG. NO. 2.7R-349-09.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 1+000.000 TO 1+007.317
 (SEE DWG. NO. 2.7R-349-09.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
11-16-98		RELEASE FOR CONSTRUCTION

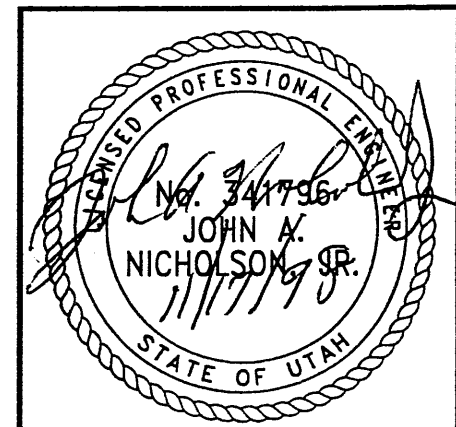
NO.	DATE	REVISION	CHK

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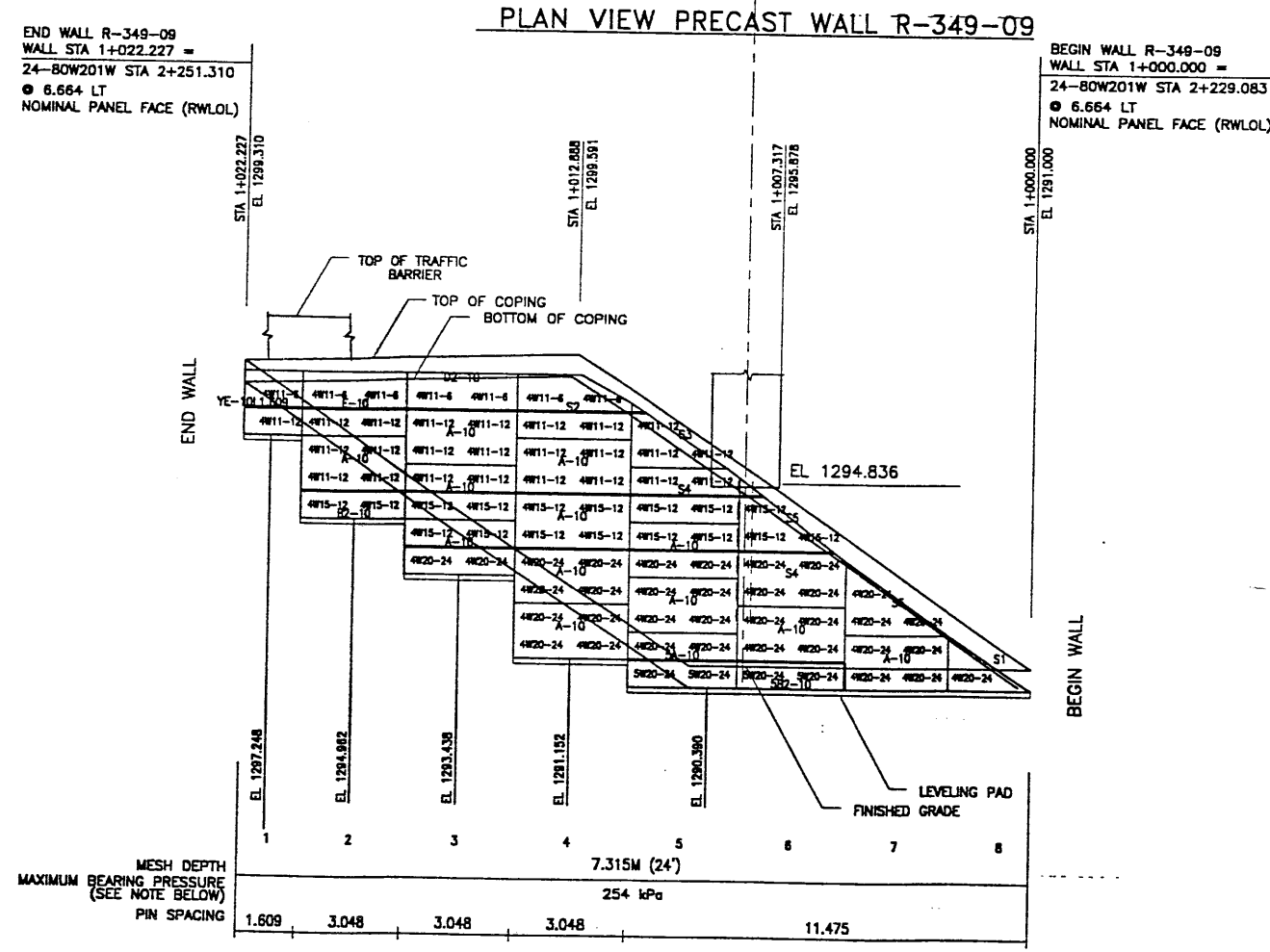
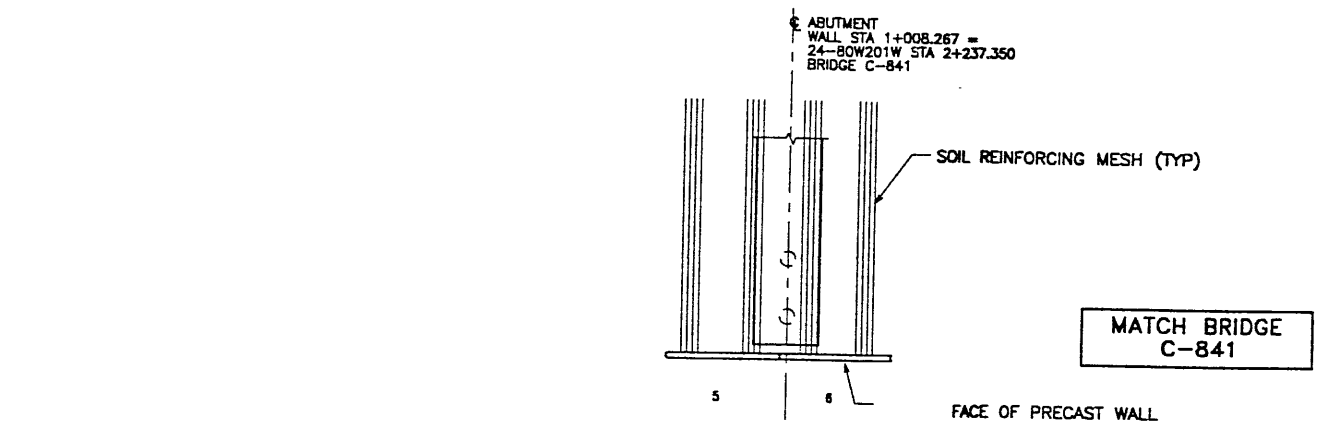
METRIC

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-349-09" TYPICAL CROSS SECTION	
UTAH 1-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.	
DWG. NO.	2.7R-349-09.5
JOB NO.	239-0007
SHT. NO.	RE-3

FINAL 11-16-98 H:\RE_EARTH\PROJECT 37\1998\9WSERIES\9W-11\9W-09 .DWG (X-UTR.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-16-98	RELEASE FOR CONSTRUCTION



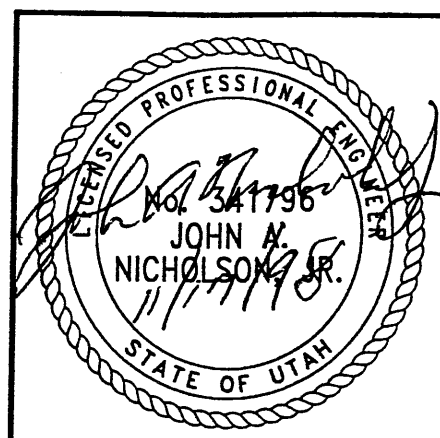
ELEVATION PRECAST WALL R-349-09
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 100.60 SM) SCALE 1:200 (HALF SIZE)

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

METRIC

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WASATCH CONSTRUCTORS
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RETAINED EARTH™ WALLS PRECAST WALL "R-349-09" UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.7R-349-09.6
JOB NO. 239-0007
SHT. NO. RE-4

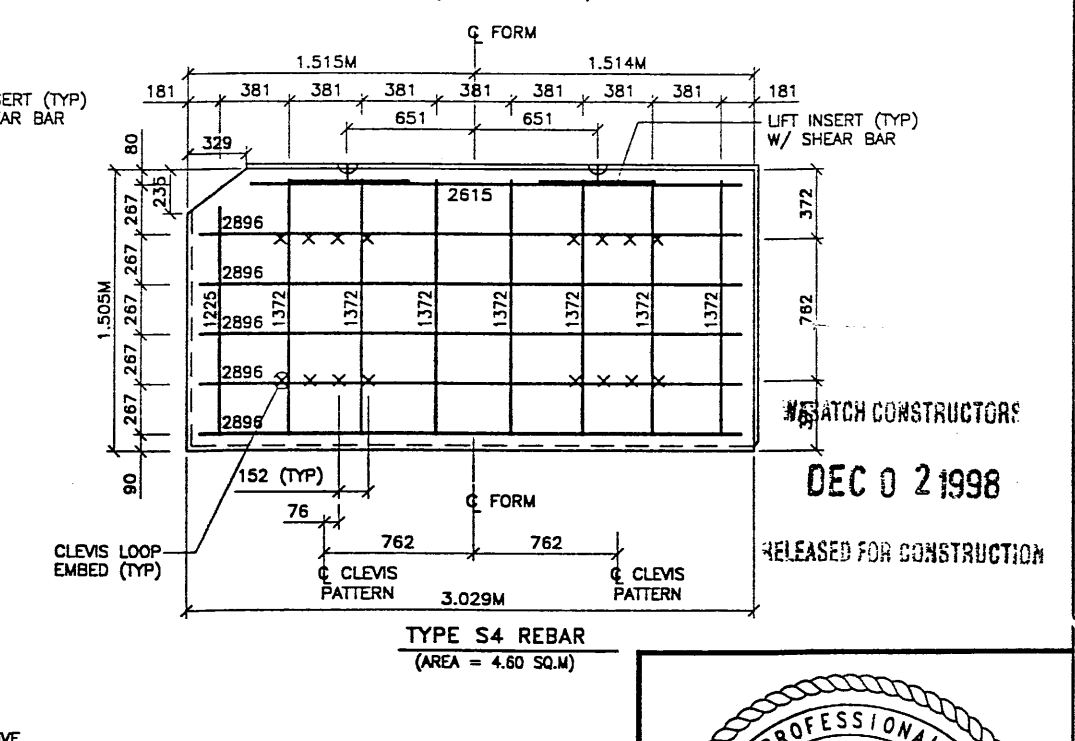
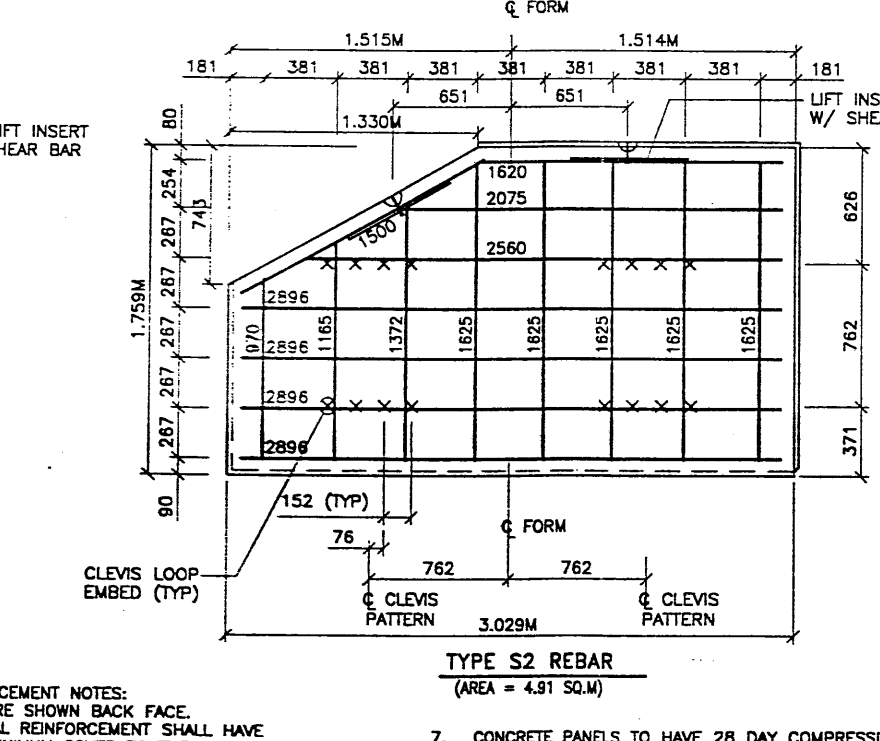
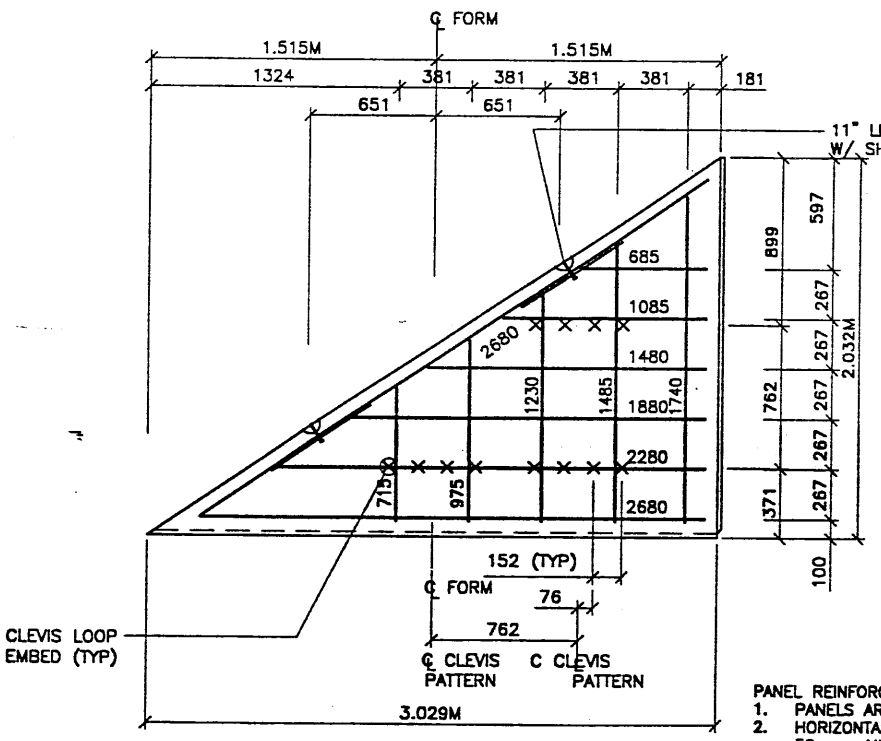
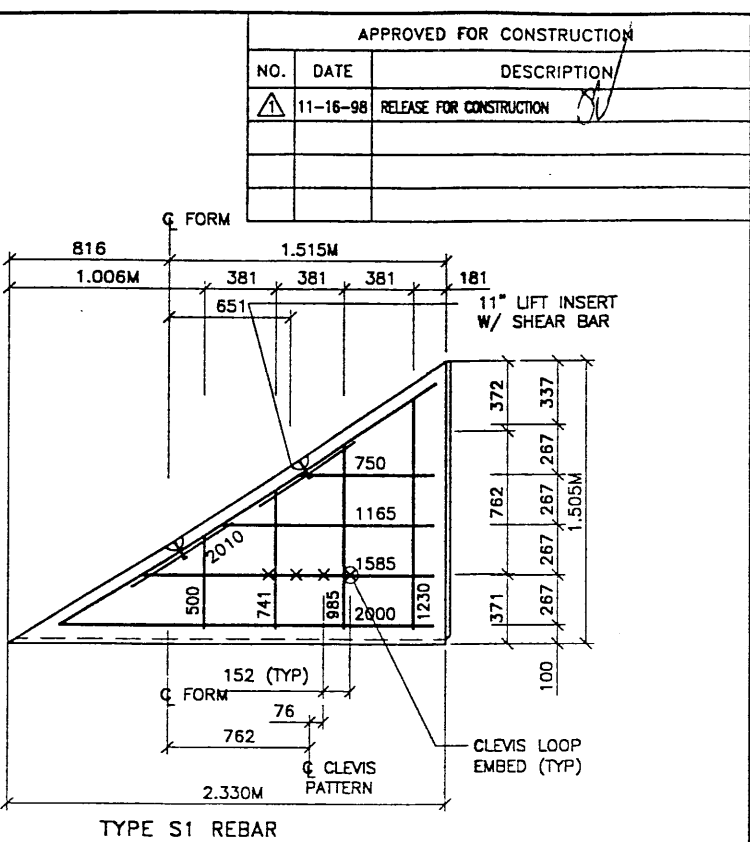
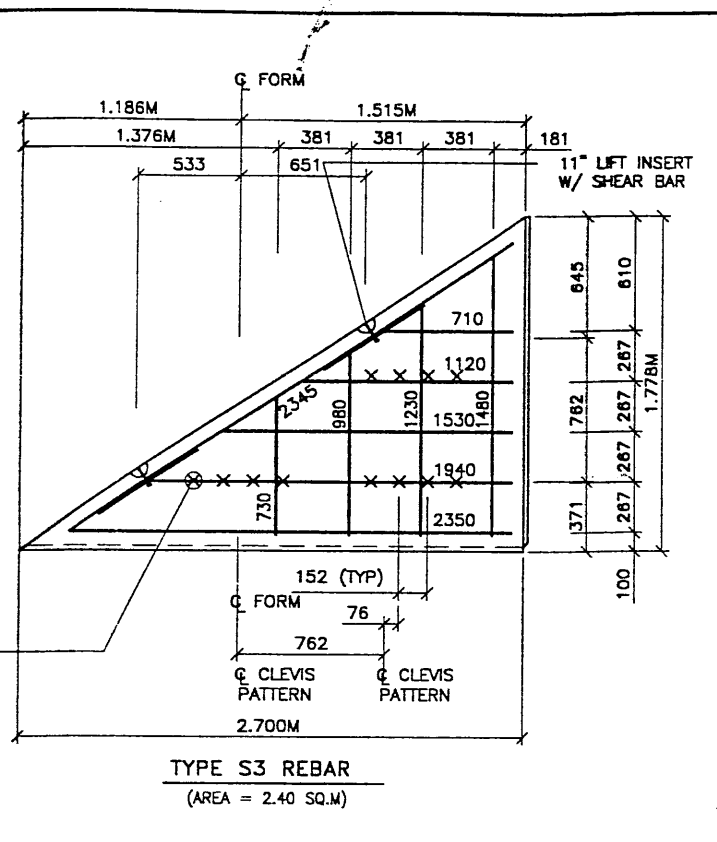
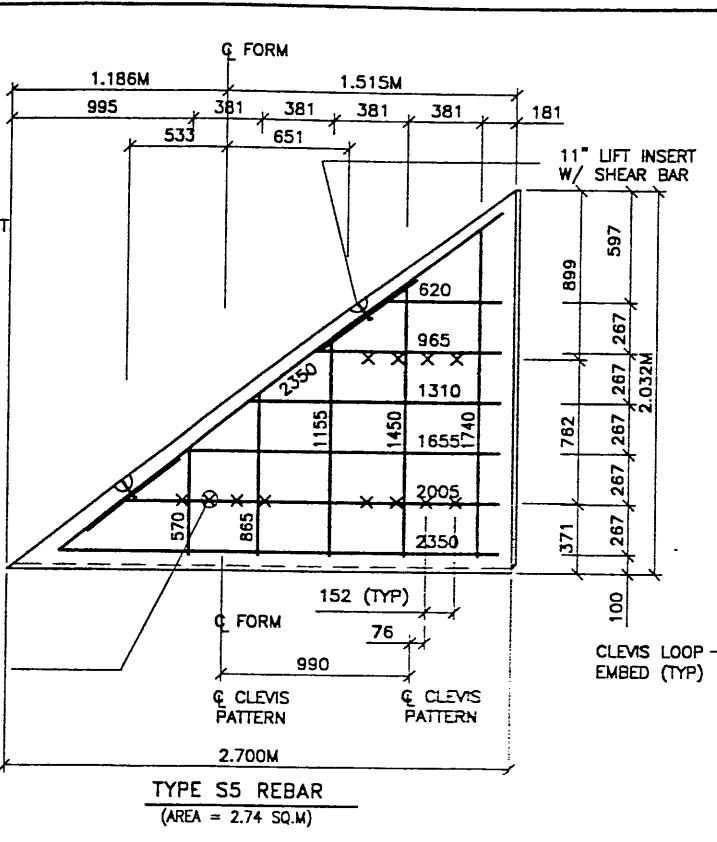
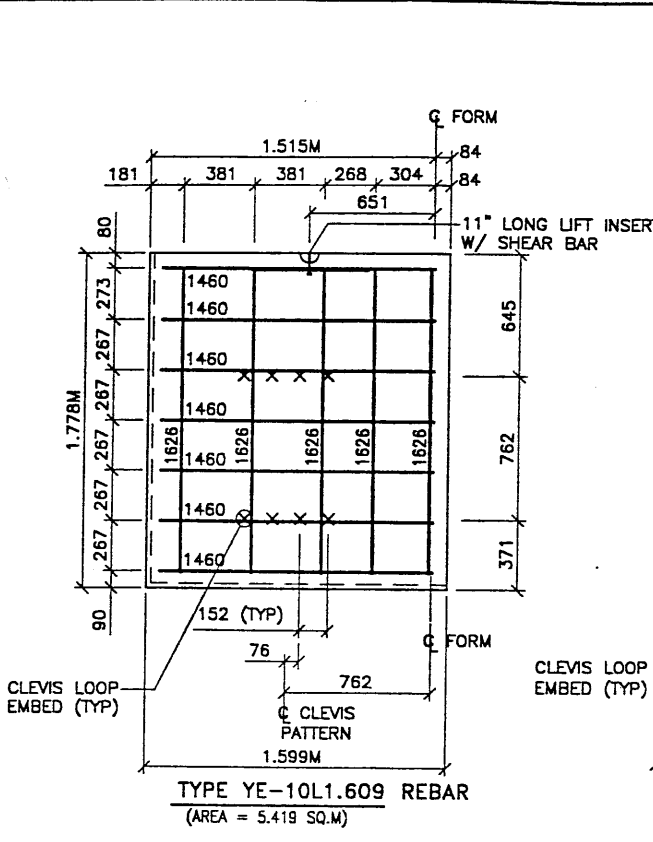
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617 781 8277
 Telephone: (919) 781 8277
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NO.	DATE	DESCRIPTION	BY	CHK

ICE (X-UTAH.DWG) 9-0007\1998\BWSERIES\9W-09\SPECIALS H:\RE_EARTH\APROJE 11-16-98 FINAL



- 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.

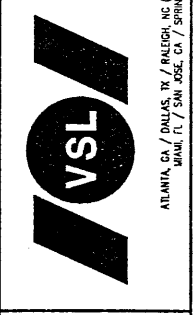
- CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
- EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
- ALL PANELS TO USE 9.5mm# CLEVIS LOOPS.
- VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
- LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.
- SEE FOSTER GEOTECHNICAL STANDARD DRAWINGS FOR MORE INFORMATION.

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-16-98	RELEASE FOR CONSTRUCTION

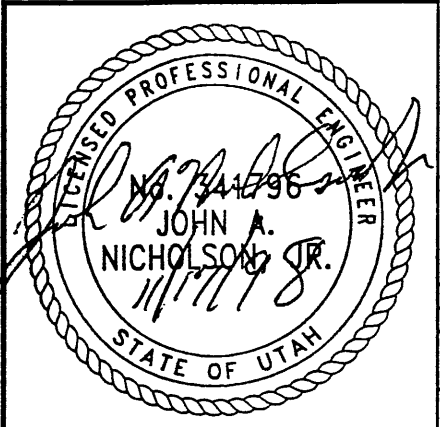
NO.	DATE	REVISION

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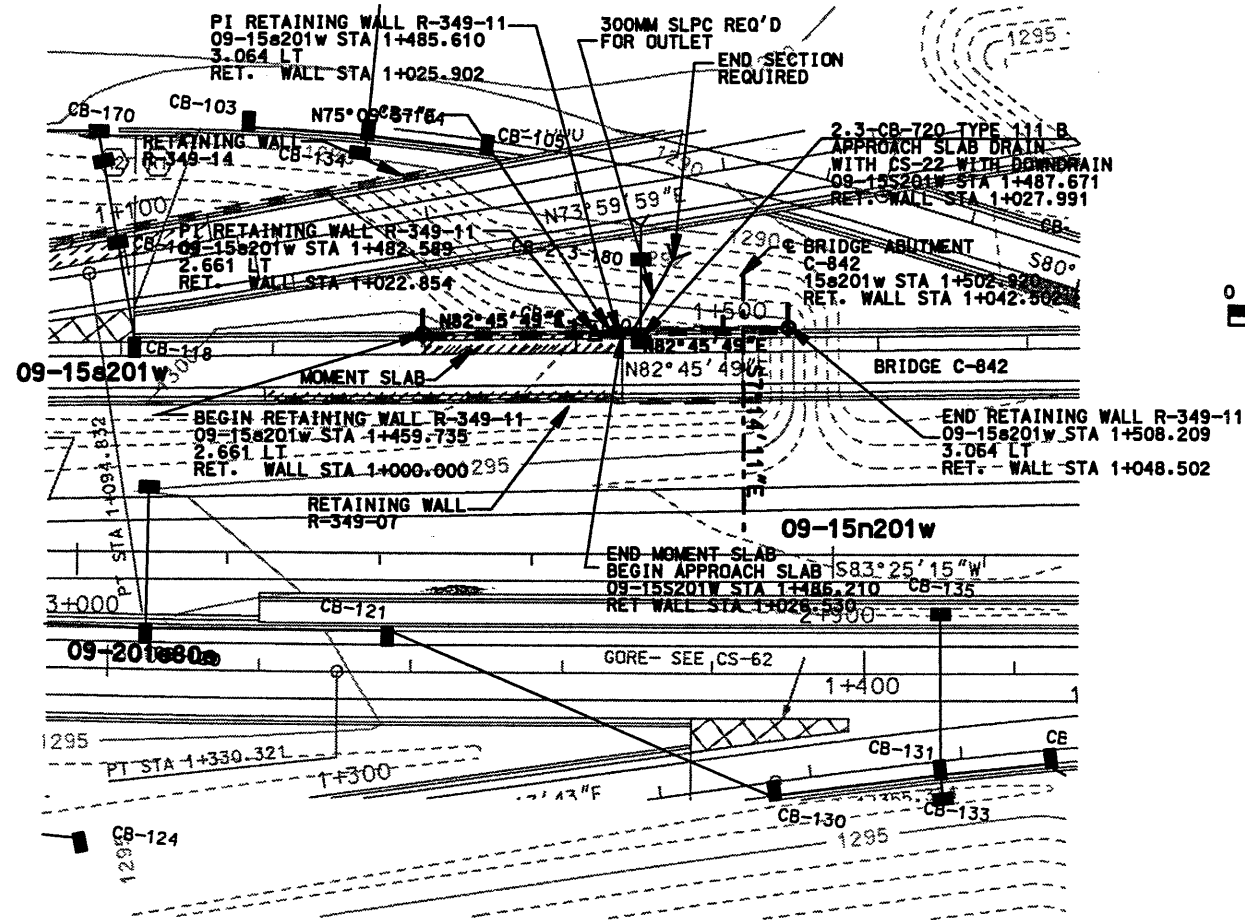
RETAINED EARTH™ WALLS
 PRECAST WALL "R-349-09"
 SPECIAL PANEL DETAILS
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.



DWG. NO.	2.7R-349-09.7
JOB NO.	239-0007
SHT. NO.	RE-5

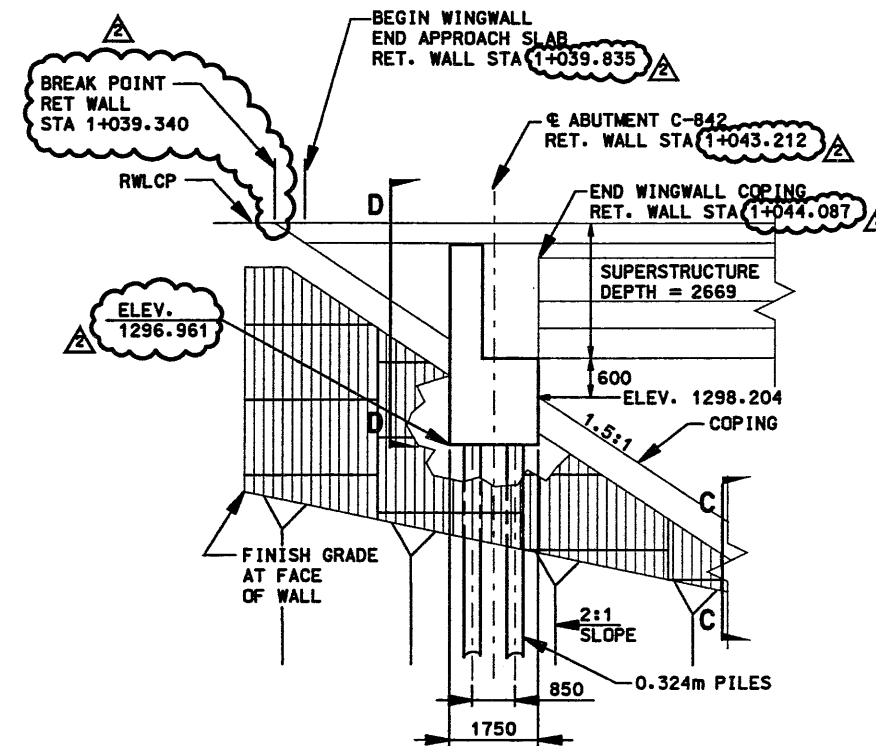
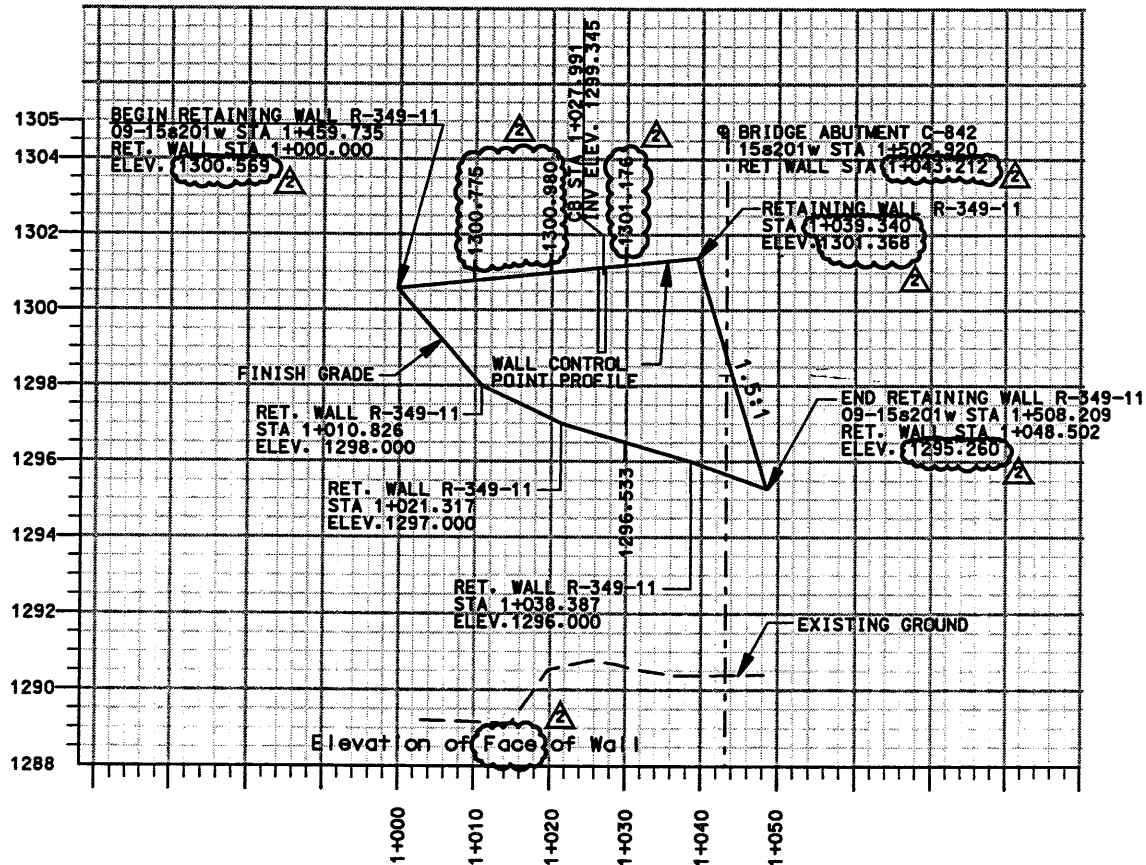
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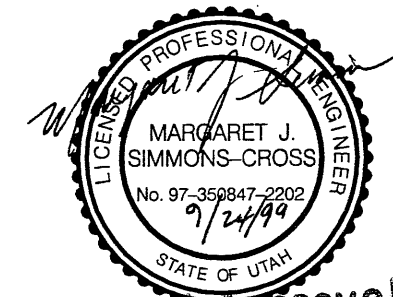


NOTES:

1. CONSTRUCT WALL TO DESIGN PAVEMENT ELEVATION.
2. REFER TO CS-28-1 FOR MOMENT SLAB DETAILS.
3. CONTRACTOR TO ADJUST LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.
4. LOCATE RETRIEVABLE WIRE SAMPLES AT 15e201w STA 1+480.000. RETAINING WALL STA 1+020.265
5. REFER TO CS-54 FOR DETAILS OF WALL COPING.
6. ALL DIMENSIONS ON DETAILS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
7. REFER TO BRIDGE DWG. C-842 SHEET 68.
8. 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.



WASATCH CONSTRUCTORS
OCT 04 1999
RELEASED FOR CONSTRUCTION



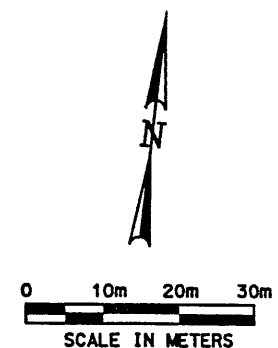
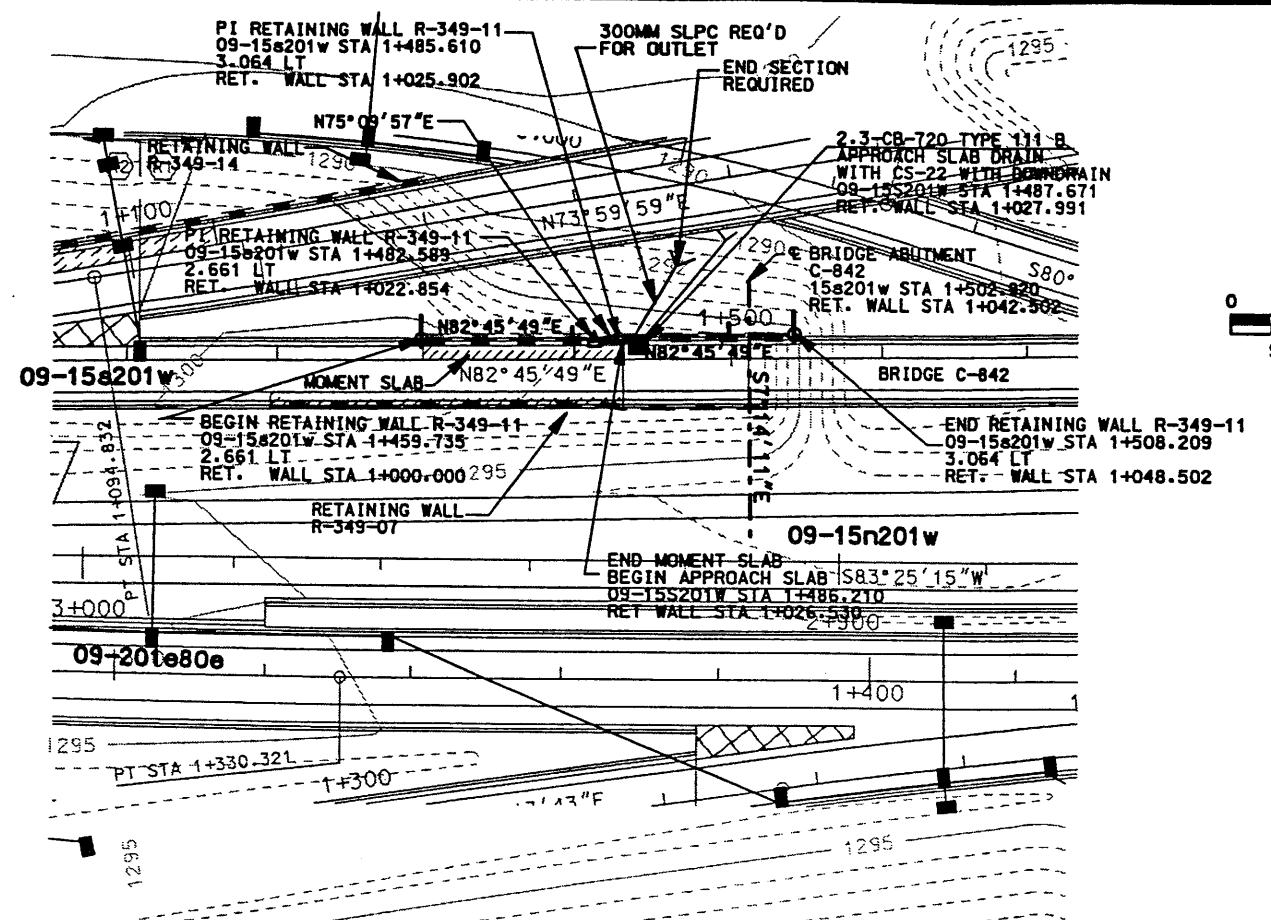
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2	9/24/99		

UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
DESIGN NO.	TRACKING NO.	CHECK ENG. 2/7/99	CHECK DRP. 2/7/99
	2713402		
DESIGN DRP. 12/27	DESIGN NO. 2/7/99	DESIGN DRP. 12/27	DESIGN NO. 2/7/99
PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER	PROJECT DESIGN ENGINEER
DATE	DATE	DATE	DATE
APPROVED	DATE	SECTION MANAGER	CHECK

I-15 CORRIDOR RECONSTRUCTION	SITUATION & LAYOUT R-349-11
SECTION 2.7	PROJECT NUMBER - *SP-15-7(135)296
SALT LAKE COUNTY	DWG. NO. 2.7-R-349-11.1
SHT. 1 OF 2	

RFC After Final Approval

File name: c:\dgn\115... Date: 28-SEP-1998 Time: 15:04 User name: pender.dra



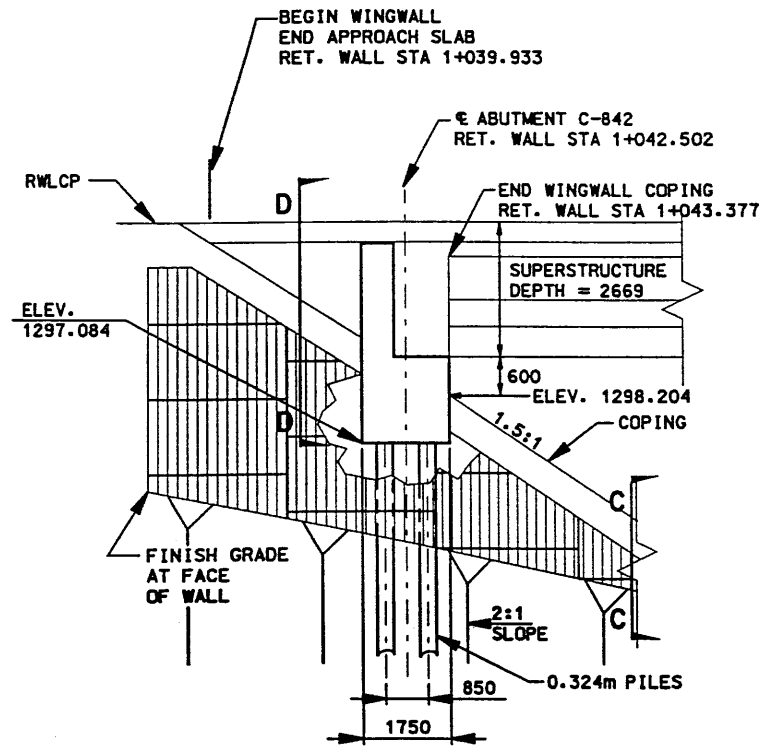
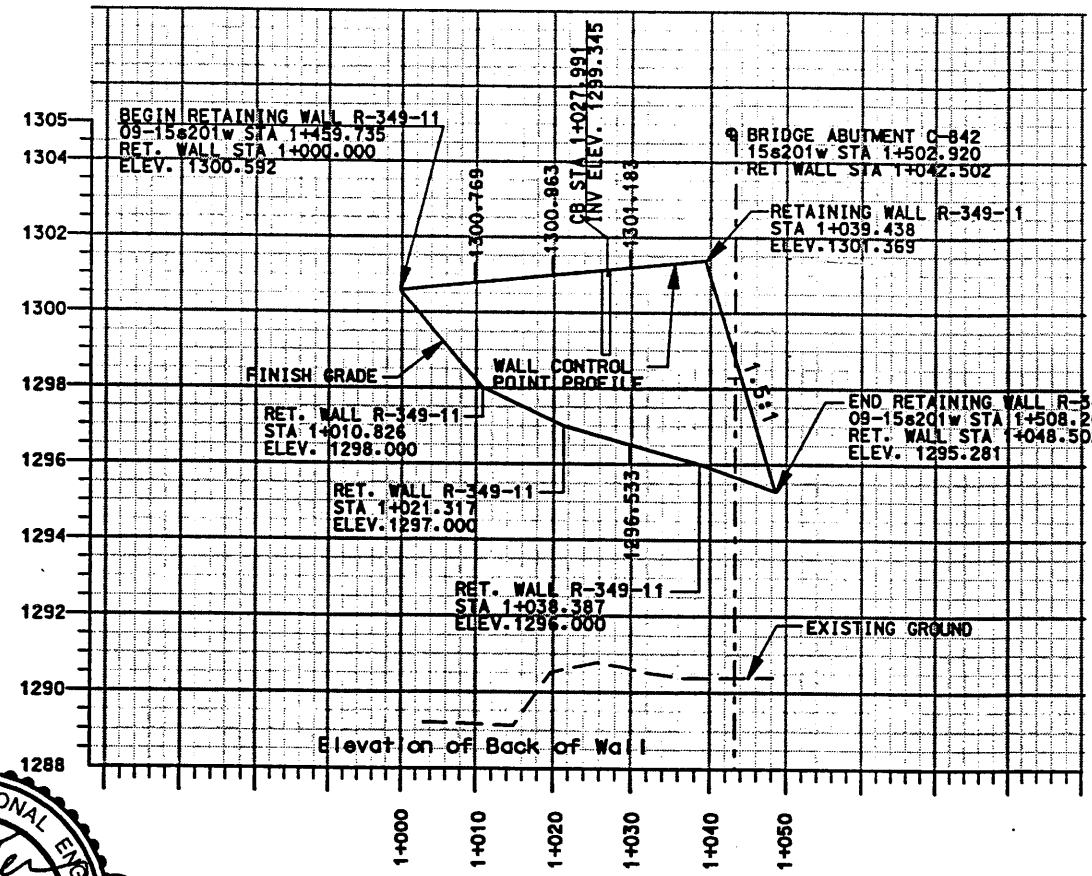
NOTES:

1. CONSTRUCT WALL TO DESIGN PAVEMENT ELEVATION.
2. REFER TO CS-28-1 FOR MOMENT SLAB DETAILS.
3. CONTRACTOR TO ADJUST LOCATION OF INLETS NEXT TO MSE WALLS TO MISS THE MSE STRAPS. SEE VSL SHOP DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALLS.
4. LOCATE RETRIEVABLE WIRE SAMPLES AT 15s201w STA 1+480.000, RETAINING WALL STA 1+020.265
5. REFER TO CS-54 FOR DETAILS OF WALL COPING.
6. ALL DIMENSIONS ON DETAILS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
7. REFER TO BRIDGE DWG. C-842 SHEET 68.
8. 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.

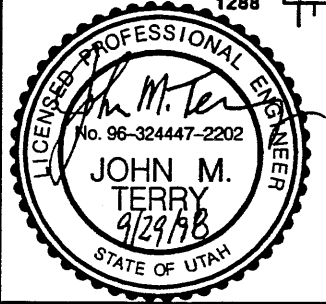
WASATCH CONSTRUCTORS

OCT 01 1998

RELEASED FOR CONSTRUCTION



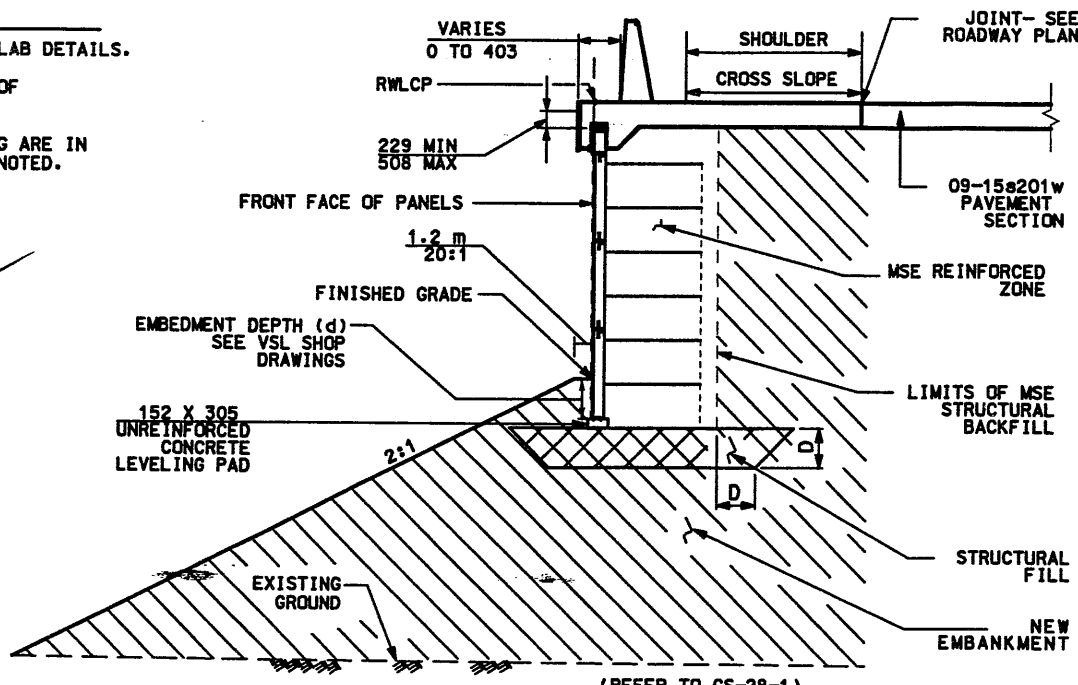
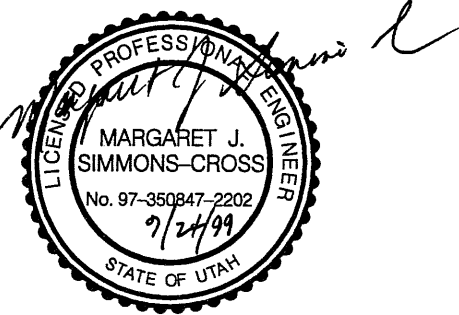
BRIDGE C-842 ABUTMENT & PILE DETAIL
NTS



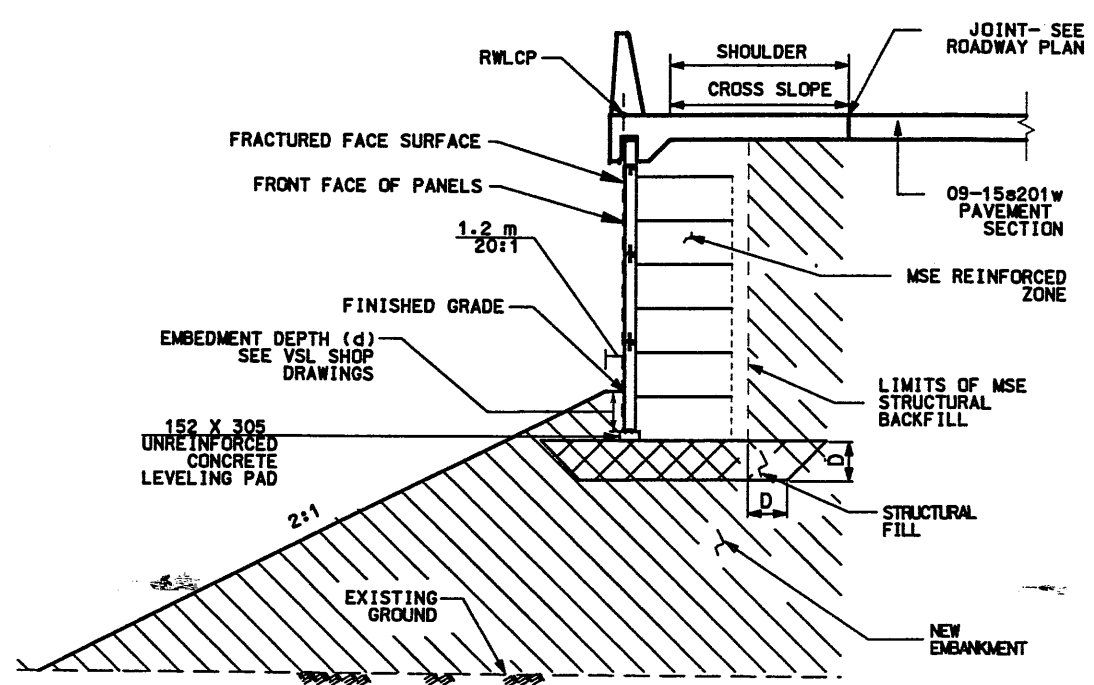
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NO.	DATE	INITIAL	RELEASE
Δ	9/23/98		
UTAH DEPARTMENT OF TRANSPORTATION			
SVERDRUP/DE LEUW		DESIGN NO.	2713/02
APPROVAL RECORD:	DATE	CHECK DATE	CHECK
MARGARET SIMMONS-CROSS	12/07	2/08	
PROJECT DESIGN ENGINEER	DATE	DATE	QUANT.
JOHN TERRY	12/07	2/78	
SECTION MANAGER	DATE	DATE	QUANT.
I-15 CORRIDOR RECONSTRUCTION			
SITUATION & LAYOUT R-349-11			
SECTION 2.7			
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO. 2.7-R-349-11.1			
SHT. 1 OF 8			

NOTES:

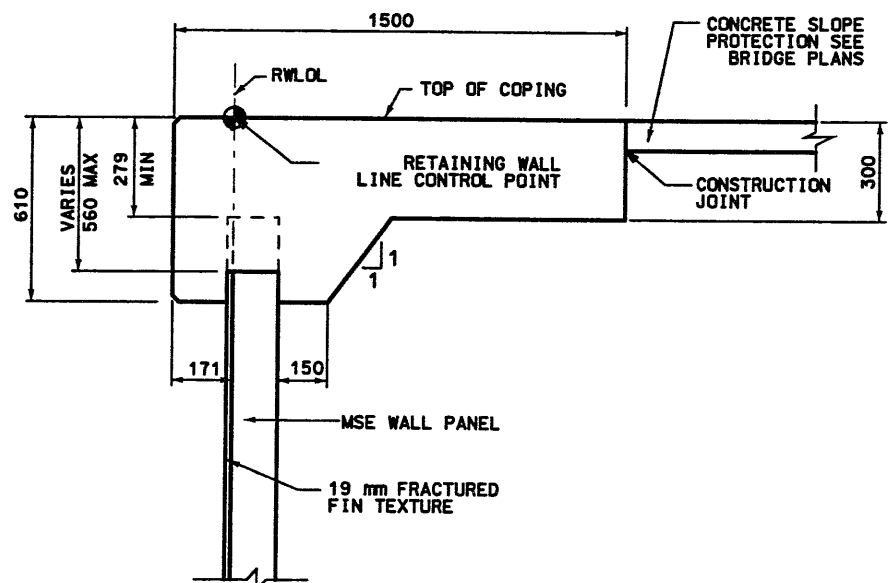
1. REFER TO CS-28-1 FOR MOMENT SLAB DETAILS.
2. REFER TO CS-54-5 FOR DETAILS OF REINFORCING FOR WALL COPING.
3. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



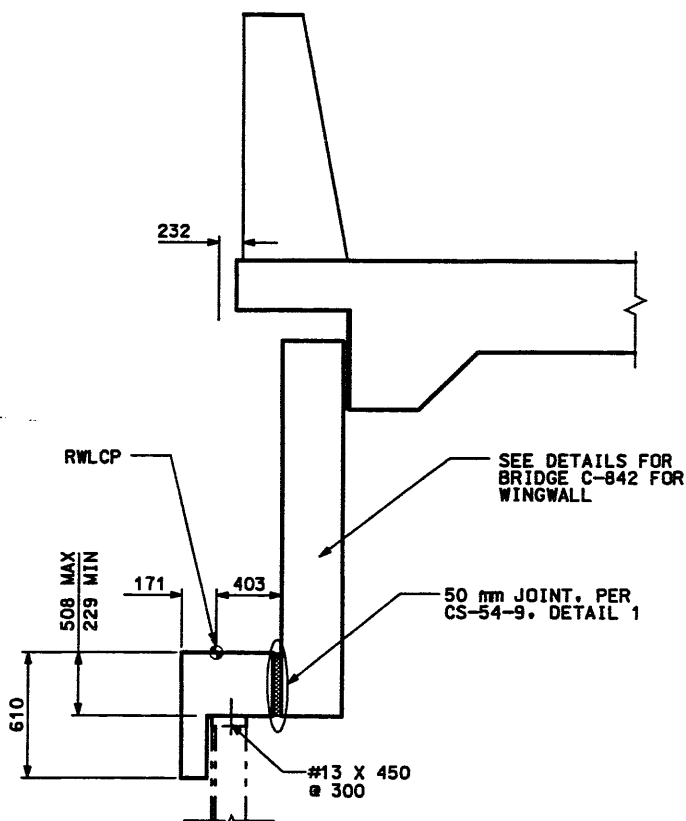
MSE SINGLE STAGE WITH MOMENT SLAB CAP
NTS RET WALL STA 1+022.854 TO 1+026.530



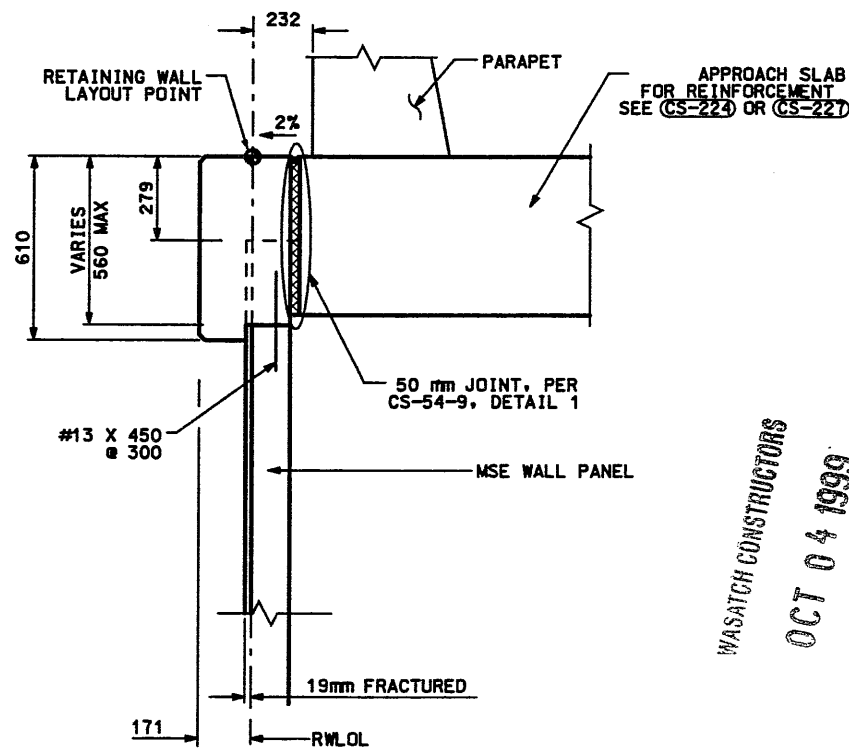
MSE SINGLE STAGE WITH MOMENT SLAB CAP
NTS RET WALL STA 1+000.000 TO 1+022.854



(REFER TO CS-54-5 SECTION J)
SLOPE PAVING/COPING DETAIL
NTS RET WALL STA 1+044.087 TO 1+048.502



(REFER TO CS-54-6 SECTION N)
COPING DETAILS AT WINGWALL
NTS RET WALL STA 1+039.835 TO 1+044.087



(REFER TO CS-54-6 SECTION O)
MSE SINGLE STAGE WALL SECTION
NTS RET WALL STA 1+026.530 TO 1+039.835

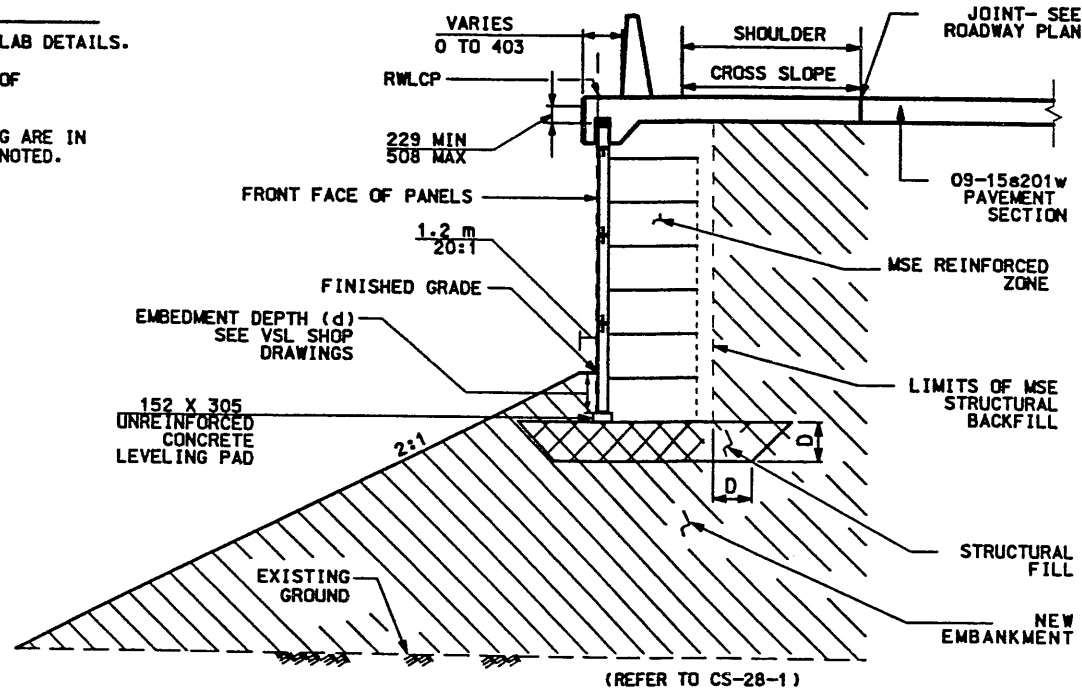
WASATCH CONSTRUCTORS
 OCT 04 1999
 RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL RELEASE	REVISED PROFILE
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2	09/24/99		
UTAH DEPARTMENT OF TRANSPORTATION		TRACKING NO.	2713405
SVERDRUP/DE LEUW		CHECK	DATE
DESIGN	MEH	8/28	4/98
DRAWN	MEH	8/28	4/98
QUANT.			
REVISION	DATE	DESIGNER	DATE
4/22/98		MARGARET SIMMONS-CROSS	
		PROJECT DESIGN ENGINEER	
APPROVED	DATE	DATE	
4/22/98		JOHN TERRY	
		SECTION MANAGER	
I-15 CORRIDOR RECONSTRUCTION	SITUATION & LAYOUT R-349-11	SECTION 2.7	PROJECT NUMBER -#SP-15-7(135)296
SALT LAKE COUNTY		DWG. NO.	2.7-R-349-11.1A
SHT.	2	OF	2

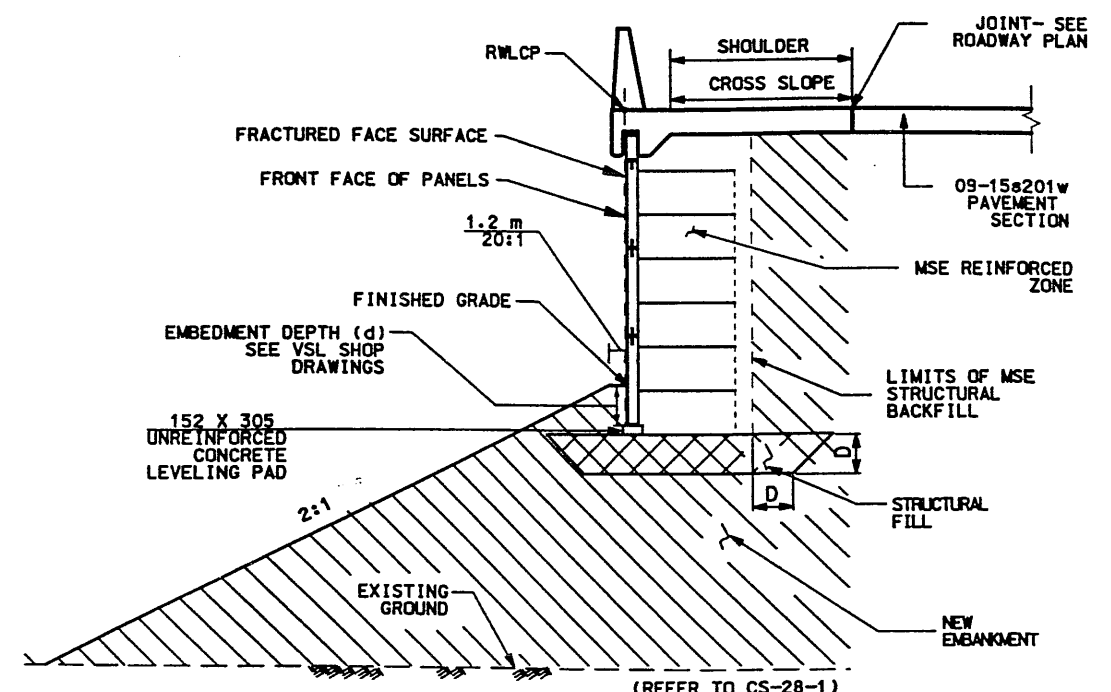
RFC After Final Approval

NOTES:

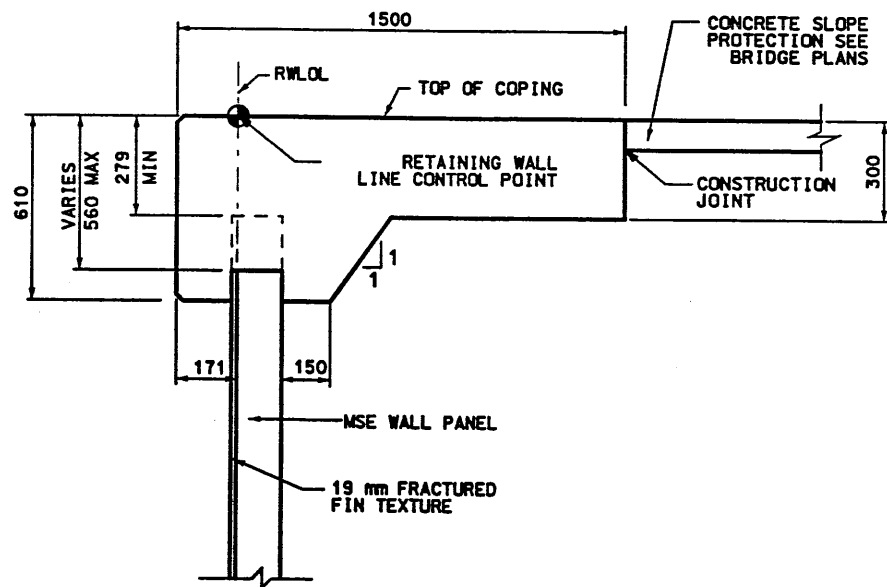
1. REFER TO CS-28-1 FOR MOMENT SLAB DETAILS.
2. REFER TO CS-54-5 FOR DETAILS OF REINFORCING FOR WALL COPING.
3. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



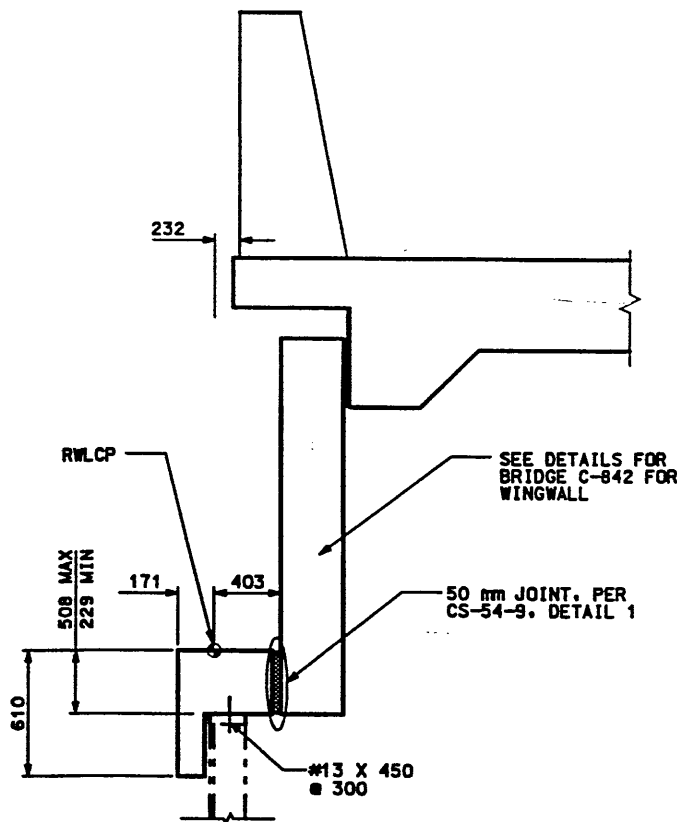
MSE SINGLE STAGE WITH MOMENT SLAB CAP
NTS RET WALL STA 1+022.854 TO 1+026.530



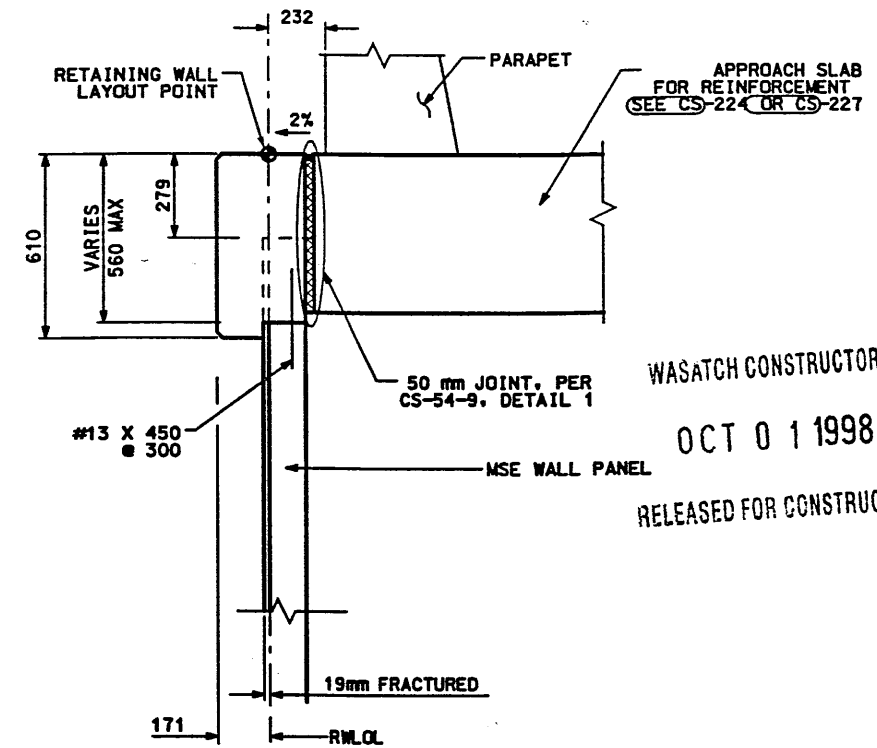
MSE SINGLE STAGE WITH MOMENT SLAB CAP
NTS RET WALL STA 1+000.000 TO 1+022.854



(REFER TO CS-54-5 SECTION J)
SLOPE PAVING/COPING DETAIL
NTS RET WALL STA 1+043.377 TO 1+048.502



(REFER TO CS-54-6 SECTION N)
COPING DETAILS AT WINGWALL
NTS RET WALL STA 1+039.933 TO 1+043.377



(REFER TO CS-54-6 SECTION O)
MSE SINGLE STAGE WALL SECTION
NTS RET WALL STA 1+026.530 TO 1+039.933

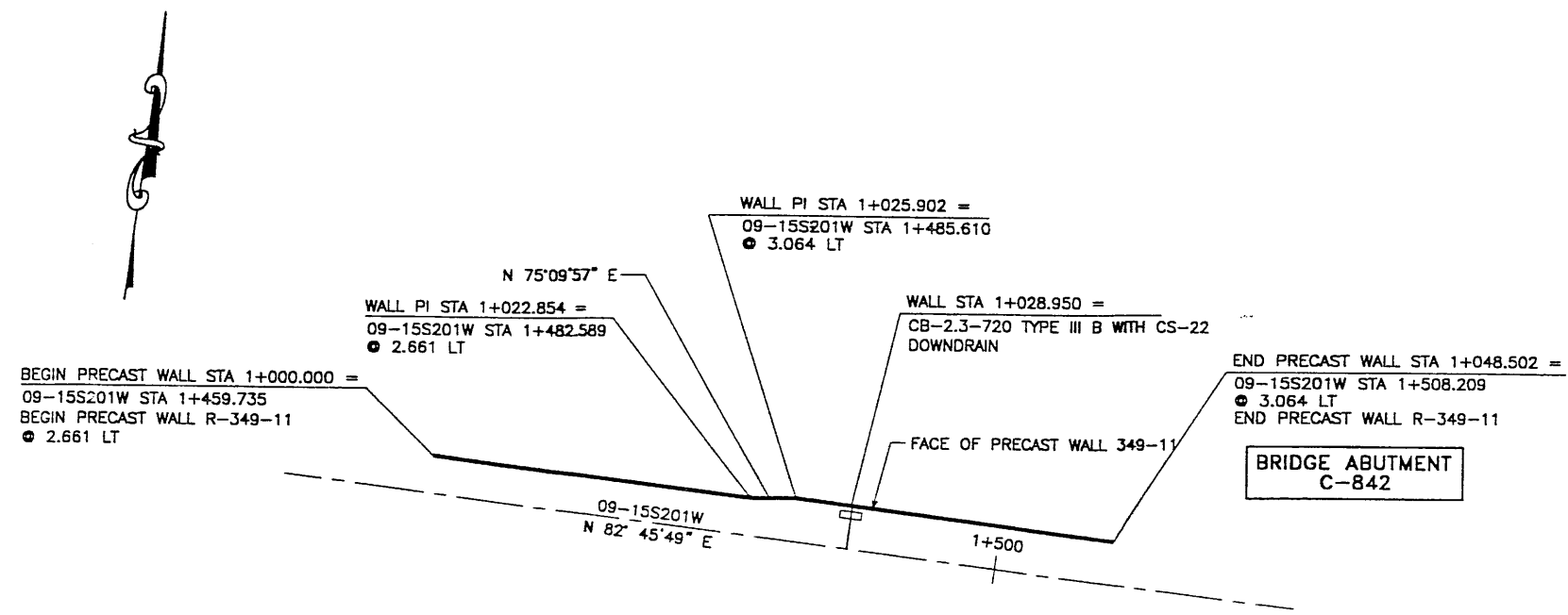
APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
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UTAH DEPARTMENT OF TRANSPORTATION		
SVERDRUP/DE LEUW		
DESIGN	DATE	CHECK
MANAGER	DATE	CHECK
PROJECT DESIGN ENGINEER	DATE	CHECK
APPROVED	DATE	CHECK
SECTION MANAGER	DATE	CHECK
TRACKING NO.	2713405	

I-15 CORRIDOR RECONSTRUCTION	SITUATION & LAYOUT R-349-11
SECTION 2.7	PROJECT NUMBER #SP-15-7(135)296
SALT LAKE COUNTY	DWG. NO. 2.7-R-349-11.1A
SHT. 2 OF 6	

WASATCH CONSTRUCTORS
OCT 01 1998
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H:\RE_EARTH\PROJF\39-0007\1998\9WSERIES\9W-11\SUBMTL-3\RE-1
 INCE (X-UTAH.DWG)
 FINAL
 09-08-98



PLAN VIEW WALL "R-349-11"

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

- 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: 5W11-6 MESH HAS FIVE (5) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" 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 VSL STANDARD SHEET STD-7 FOR DETAILS.

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 250 YEAR SEISMIC)
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-349-11, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTION
RE-3	TYPICAL CROSS SECTIONS
RE-4	ELEVATION PRECAST WALL "R-349-11"
RE-5	SPECIAL PANEL DETAILS
RE-6	SPECIAL PANEL DETAILS

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	09-22-98	RELEASE FOR CONSTRUCTION

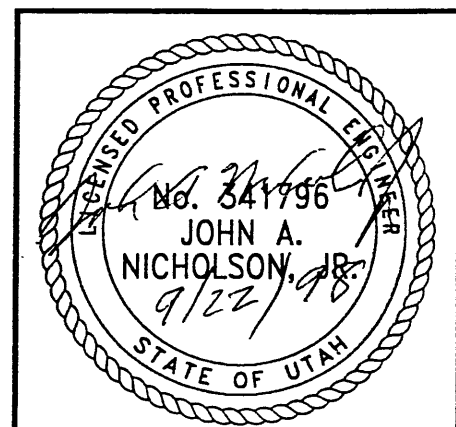
NO.	DATE	REVISION	BY	CHK

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-8272
 Fax: (919) 781-4869

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
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 OCT 01 1998
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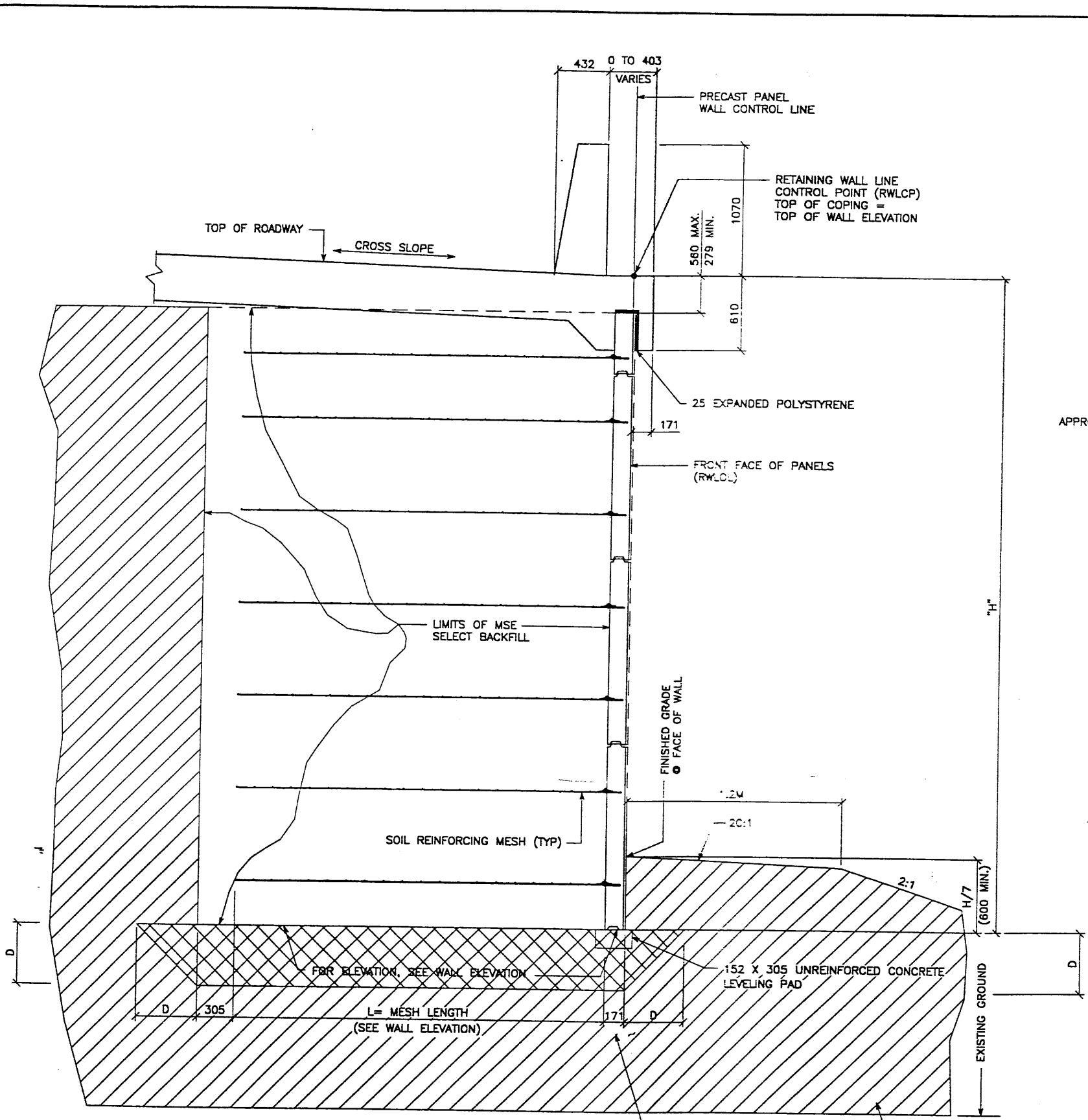


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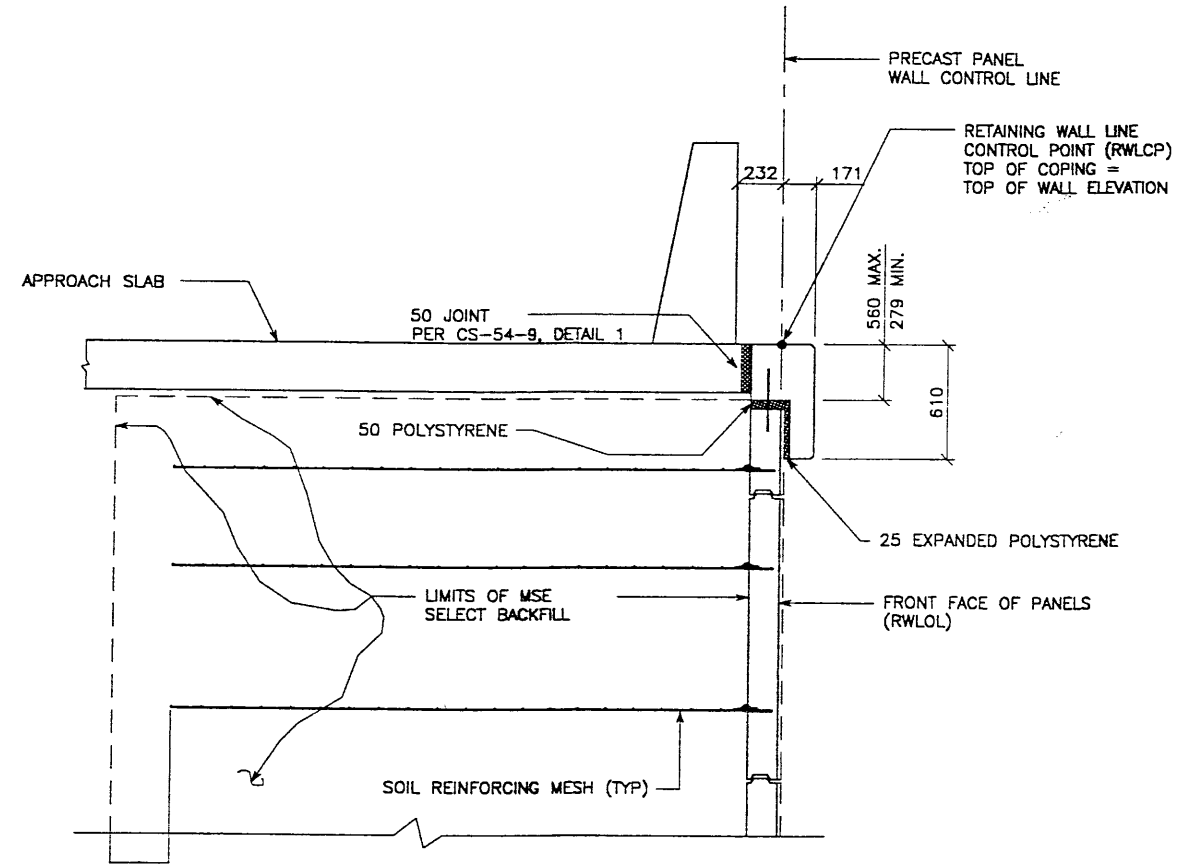
METRIC

RETAINED EARTH™ WALLS
 PLAN VIEW PRECAST WALL "R-349-11"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-11.2
JOB NO.	239-0007
SHT. NO.	RE-1



TYPICAL CROSS SECTION - STA 1+000.000 TO 1+025.902
 (LOOKING DOWN STATION)
 (SEE DWG. NO. 2.7R-349-11.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 1+025.902 TO STA 1+039.933
 (LOOKING DOWN STATION)
 (SEE DWG. NO. 2.7R-349-11.2 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	09-22-98	RELEASE FOR CONSTRUCTION

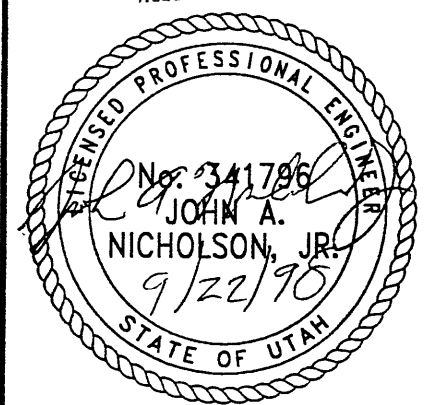
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JL	RSW	JL	09-08-98			
			09-08-98			
			09-08-98			

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781 6172
 Fax: (919) 781 4869

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

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WASATCH CONSTRUCTORS
 OCT 01 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS WIRE FACED WALL "R-349-11" TYPICAL CROSS SECTION
UTAH 1-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.7R-349-11.3
JOB NO. 239-0007
SHT. NO. RE-2

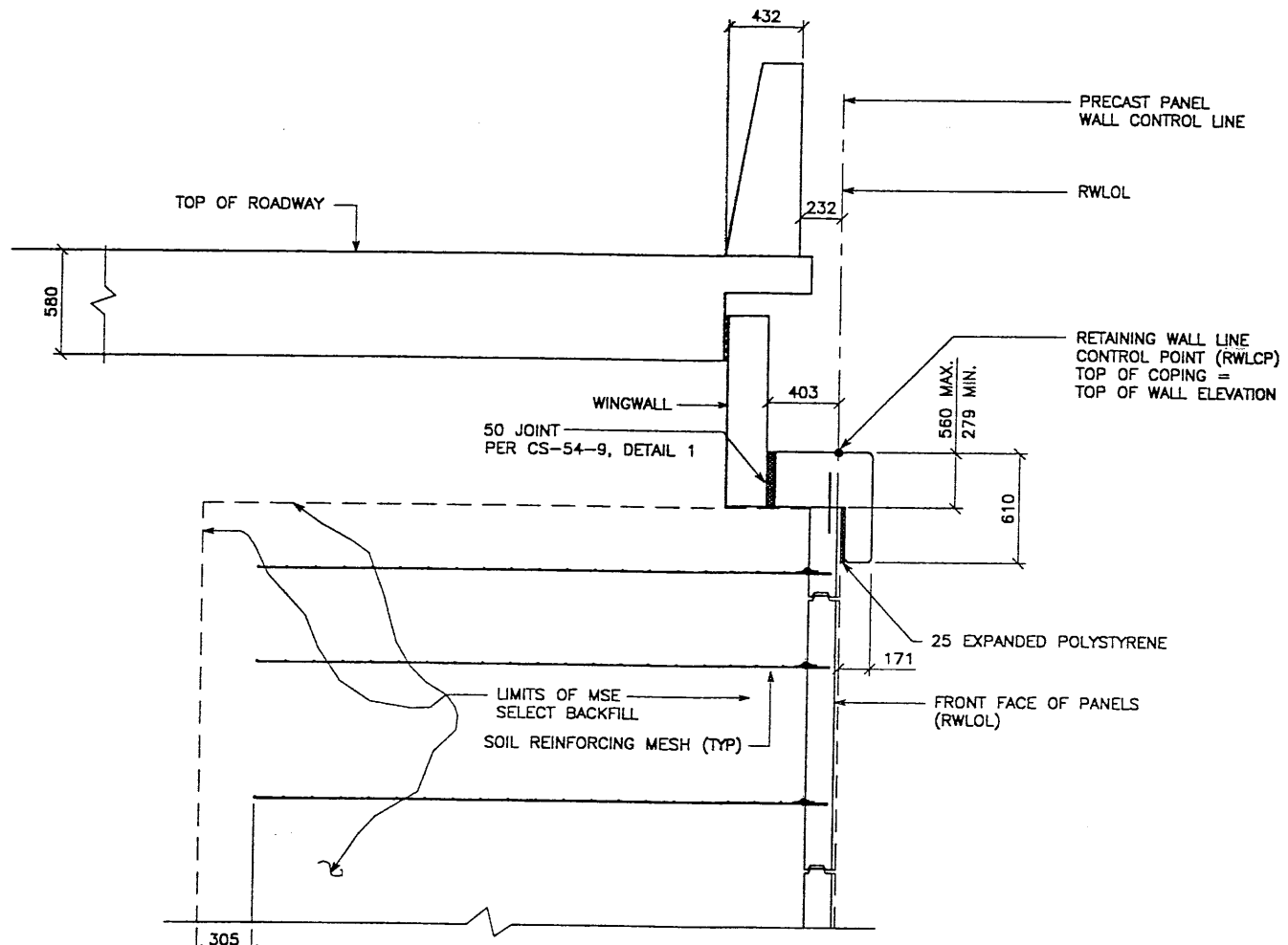
METRIC

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ANCE (X-UTAH.DWG)

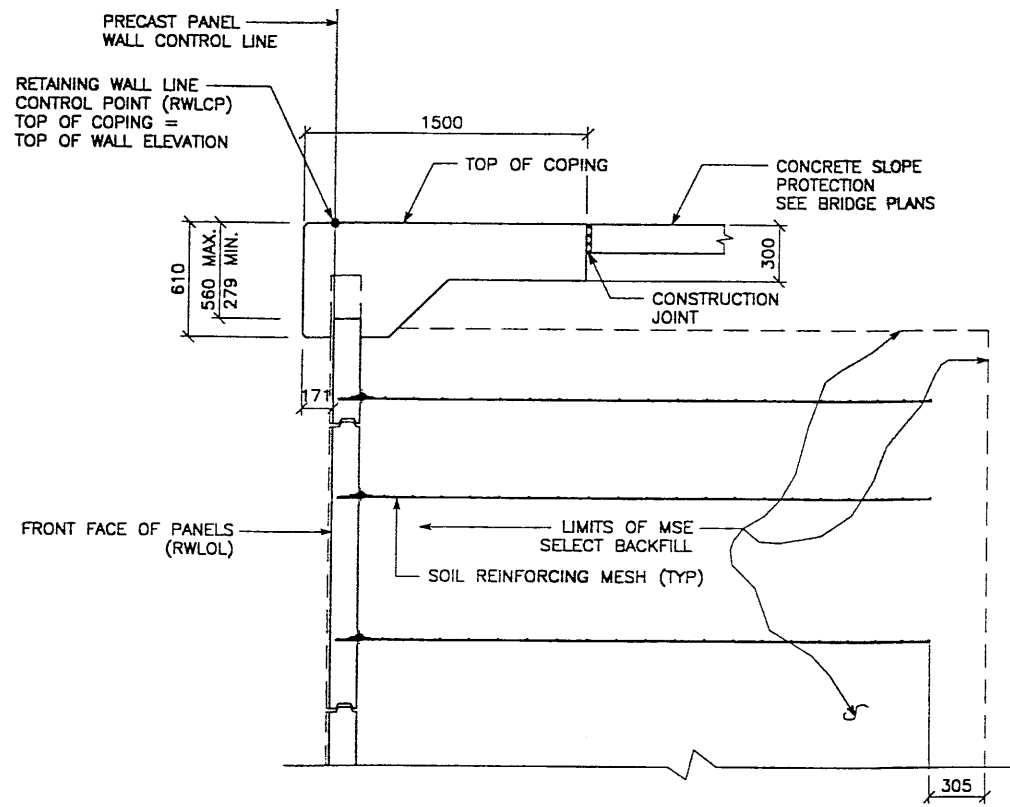
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FINAL CT 09-08-98



TYPICAL CROSS SECTION - STA 1+039.933 TO STA 1+043.377

(LOOKING DOWN STATION)
(SEE DWG. NO. 2.7R-349-11.2 FOR ADDITIONAL INFORMATION)
SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - STA 1+043.377 TO 1+048.502

(SEE DWG. NO. 2.7R-349-11.2 FOR ADDITIONAL INFORMATION)
SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	09-22-98	RELEASE FOR CONSTRUCTION <i>OK</i>

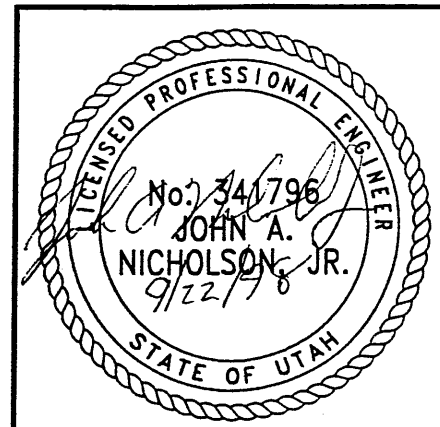
DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	REVISION	BY
JL	RSW	JL					CHK
09-08-98	09-08-98	09-08-98					

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

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MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, IL

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WASATCH CONSTRUCTORS
OCT 01 1998
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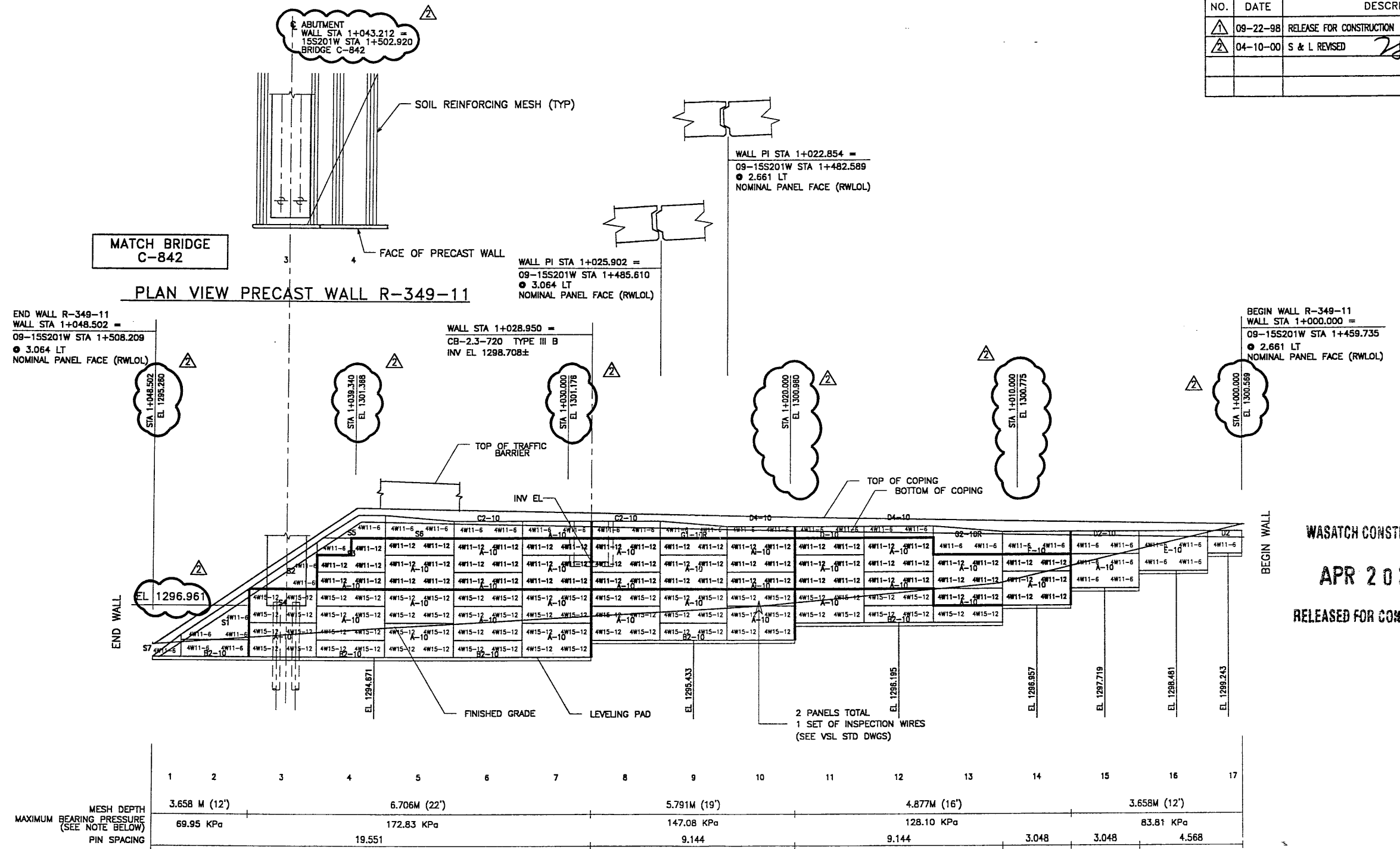
RETAINED EARTH™ WALLS
WIRE FACED WALL "R-349-11"
TYPICAL CROSS SECTION
UTAH 1-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-11.4
JOB NO.	239-0007
SHT. NO.	RE-3

METRIC

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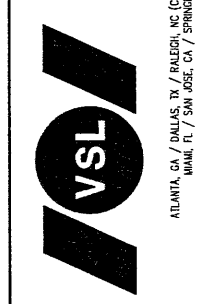
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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	09-22-98	RELEASE FOR CONSTRUCTION
△	04-10-00	S & L REVISED <i>ZF</i>

DES.	DWN.	CHK.	RETAINED EARTH™	NO.	DATE
JL	RSW	JL			

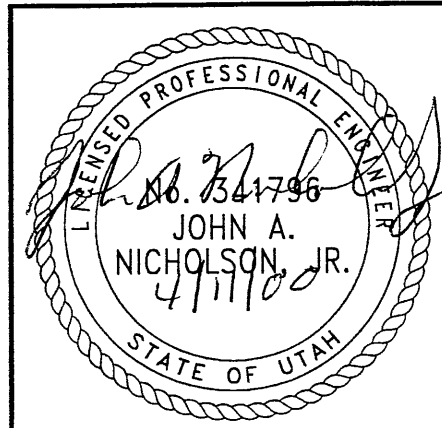
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6889



WASATCH CONSTRUCTORS
APR 20 2000
 RELEASED FOR CONSTRUCTION

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RETAINED EARTH™ WALLS
 PRECAST WALL "R-349-11"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.



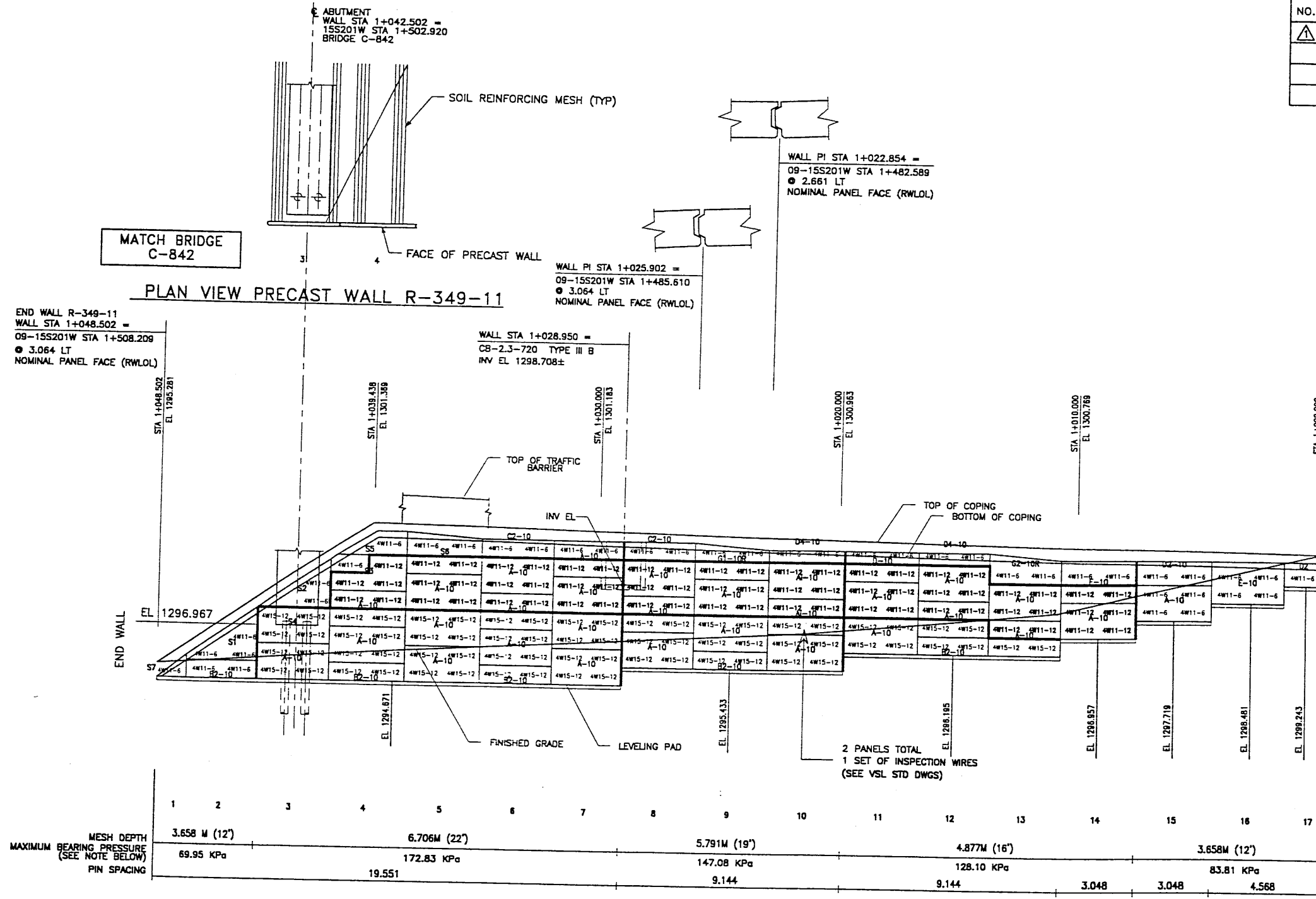
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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

METRIC

RFC After Final Approval

DWG. NO.	2.7R-349-11.5
JOB NO.	239-0007
SHT. NO.	RE-4

H:\RE_EARTH\PROJECT\007\1998\9WSERIES\9W-11\SUBMITL-3\9W-11
 INCE (X-UTAH.DWG)
 09-08-98
 FINAL



Panel No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
MESH DEPTH	3.658 M (12')		6.706M (22')					5.791M (19')			4.877M (16')		3.658M (12')				
MAXIMUM BEARING PRESSURE (SEE NOTE BELOW)	69.95 KPa		172.83 KPa					147.08 KPa			128.10 KPa		83.81 KPa				
PIN SPACING			19.551					9.144			9.144		3.048		4.568		

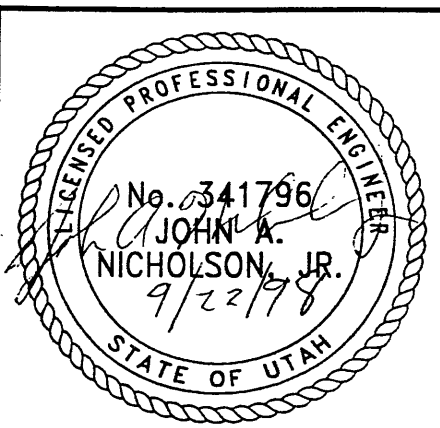
ELEVATION PRECAST WALL R-349-11
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 205.25 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	09-22-98	RELEASE FOR CONSTRUCTION



VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Phone: (919) 886-6272
 Fax: (919) 791-6993

WASATCH CONSTRUCTORS
 OCT 01 1998
 RELEASED FOR CONSTRUCTION



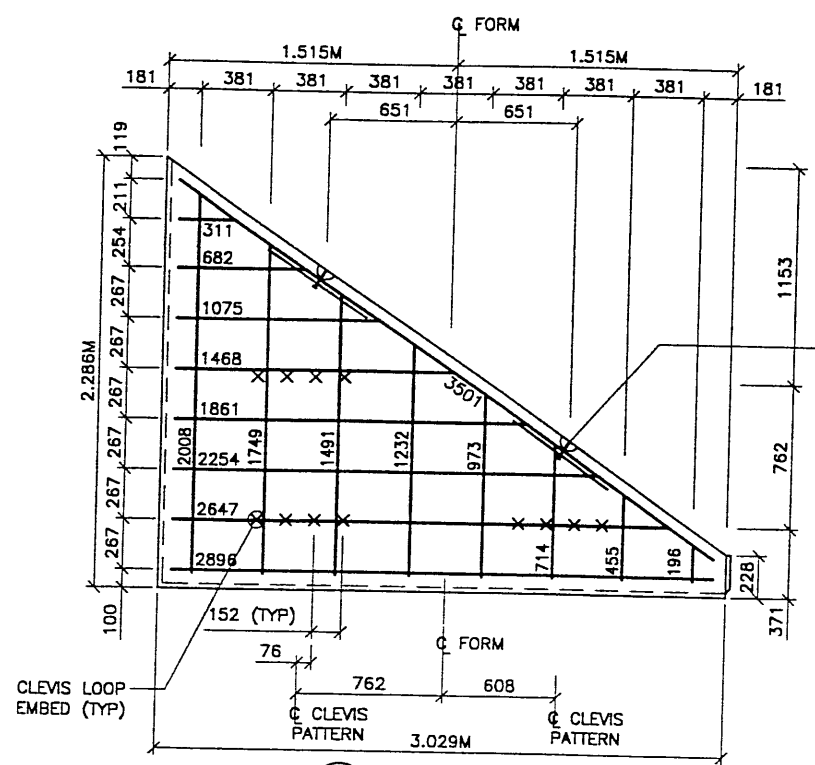
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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

METRIC

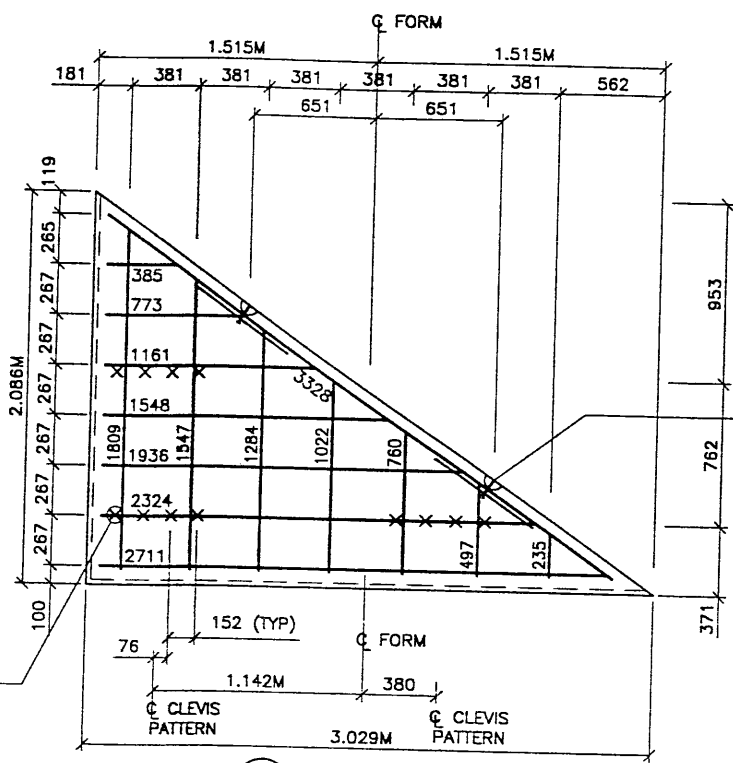
RETAINED EARTH™ WALLS
 PRECAST WALL "R-349-11"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-11.5
JOB NO.	239-0007
SHT. NO.	RE-4

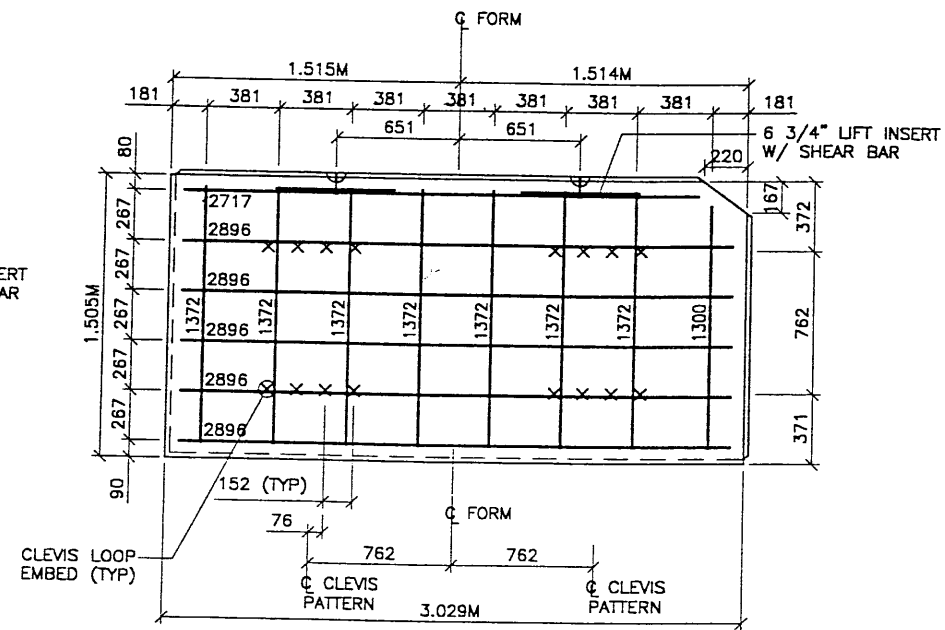
FINAL 09-08-98 H:\RE_EARTH\APRO. 39-0007\1998\9WSERIES\9W-11\SUBMTL-3\SPECIALS INCE (X-UTAH.DWG)



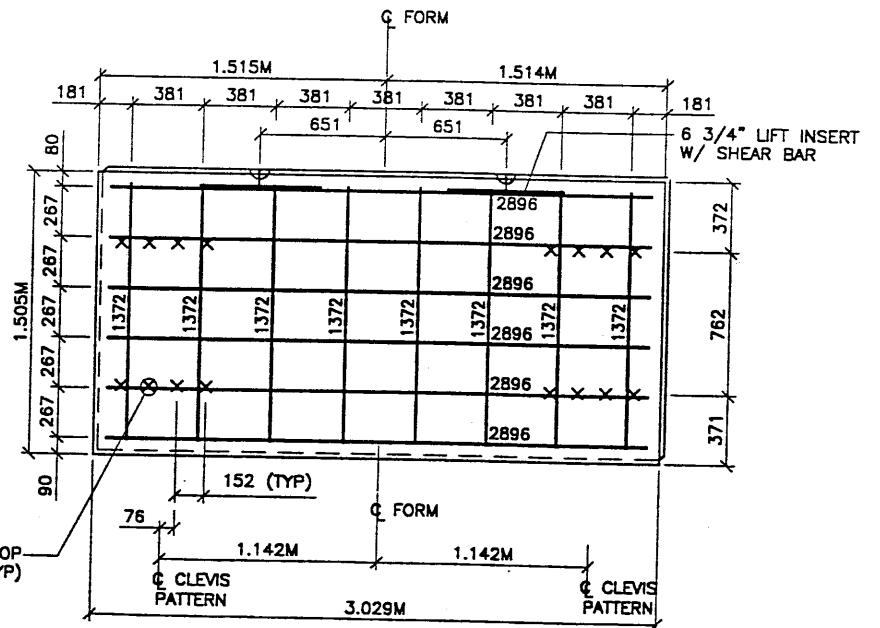
S1 TYPE S1 REBAR
(AREA = 3.83 SQ.M)



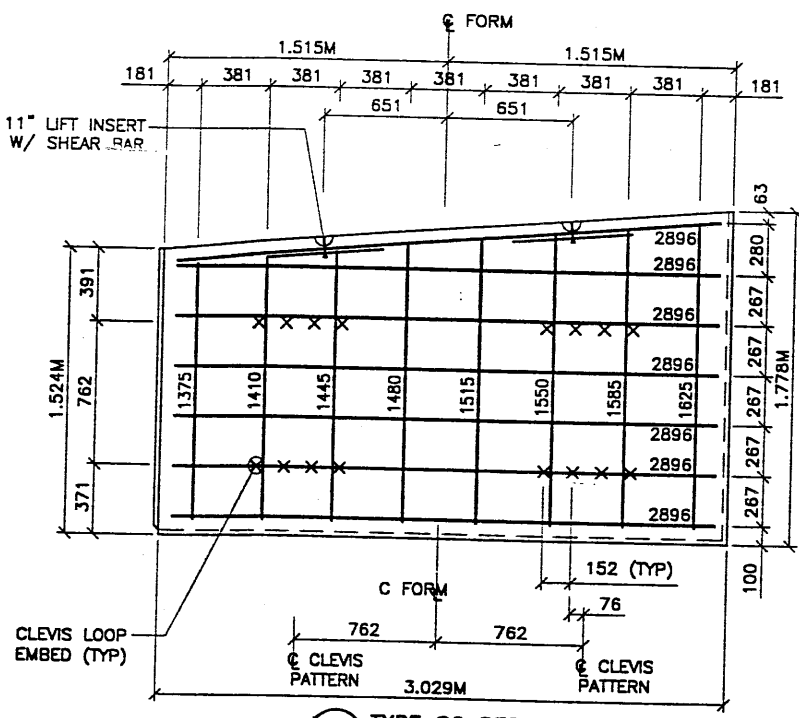
S2 TYPE S2 REBAR
(AREA = 3.18 SQ.M)



S3 TYPE S3 REBAR
(AREA = 4.60 SQ.M)



S4 TYPE S4 REBAR
(AREA = 4.65 SQ.M)



S6 TYPE S6 REBAR
(AREA = 5.03 SQ.M)

- 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.
 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.

METRIC

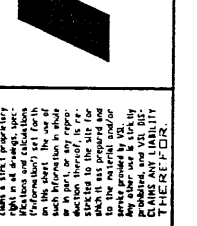
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	09-22-98	RELEASE FOR CONSTRUCTION

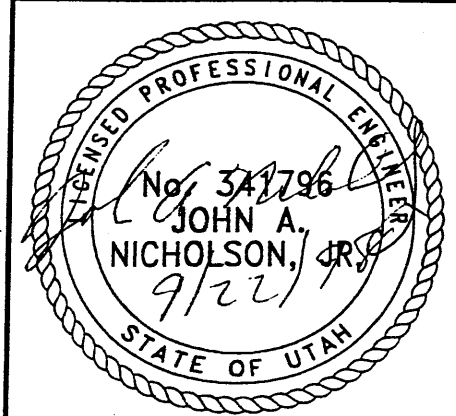
NO.	DATE	REVISION

VSL CORPORATION
2840 Plaza Point, Suite 200
Raleigh, NC 27617
Telephone: (919) 781-6772
Fax: (919) 781-1889

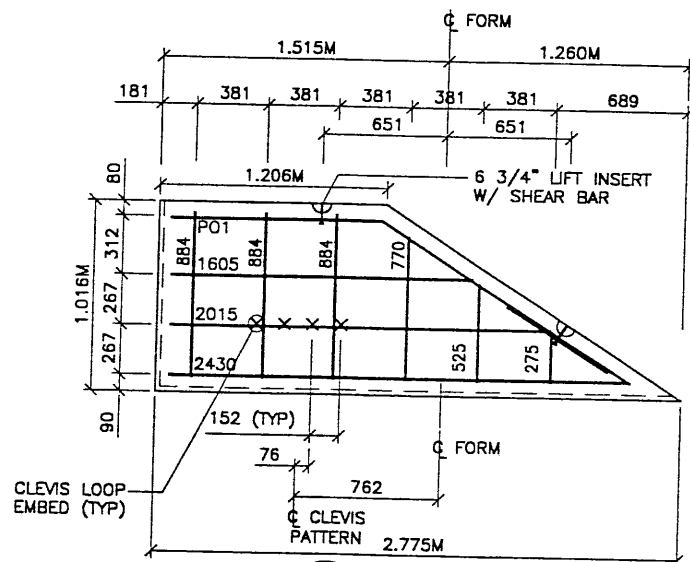
ATLANTA, GA / DALLAS, TX / BALDWIN, NC (CORPORATE OFFICE)
MADE IN U.S.A. / SAN JOSE, CA / SPRINGFIELD, VA



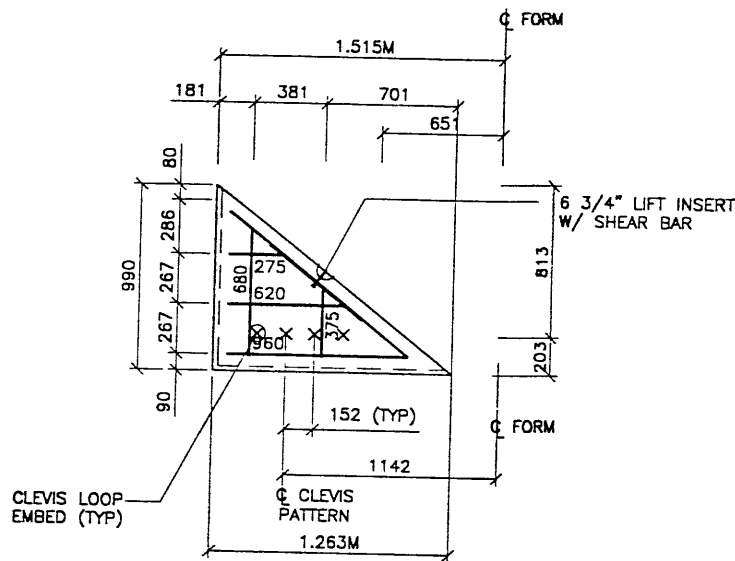
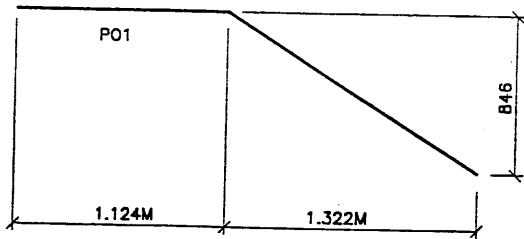
WASATCH CONSTRUCTORS
OCT 01 1998
RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS PRECAST WALL "R-349-11" SPECIAL PANEL DETAILS	UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 2.7R-349-11.6	JOB NO. 239-0007
SHT. NO. RE-5	



S5 TYPE S5 REBAR
(AREA = 2.03 SQ.M)

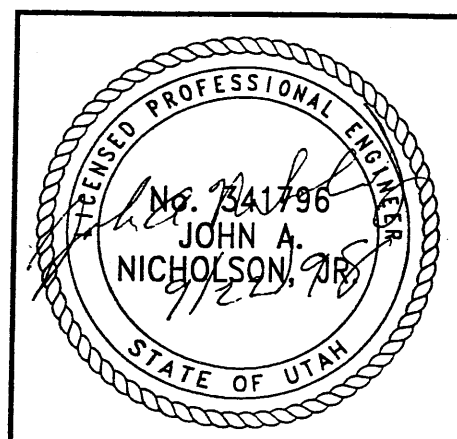


S7 TYPE S7 REBAR
(AREA = 0.63 SQ.M)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	09-22-98	RELEASE FOR CONSTRUCTION

WASATCH CONSTRUCTORS
OCT 0 1 1998
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.
 - 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.
 - EQUVALENT 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.



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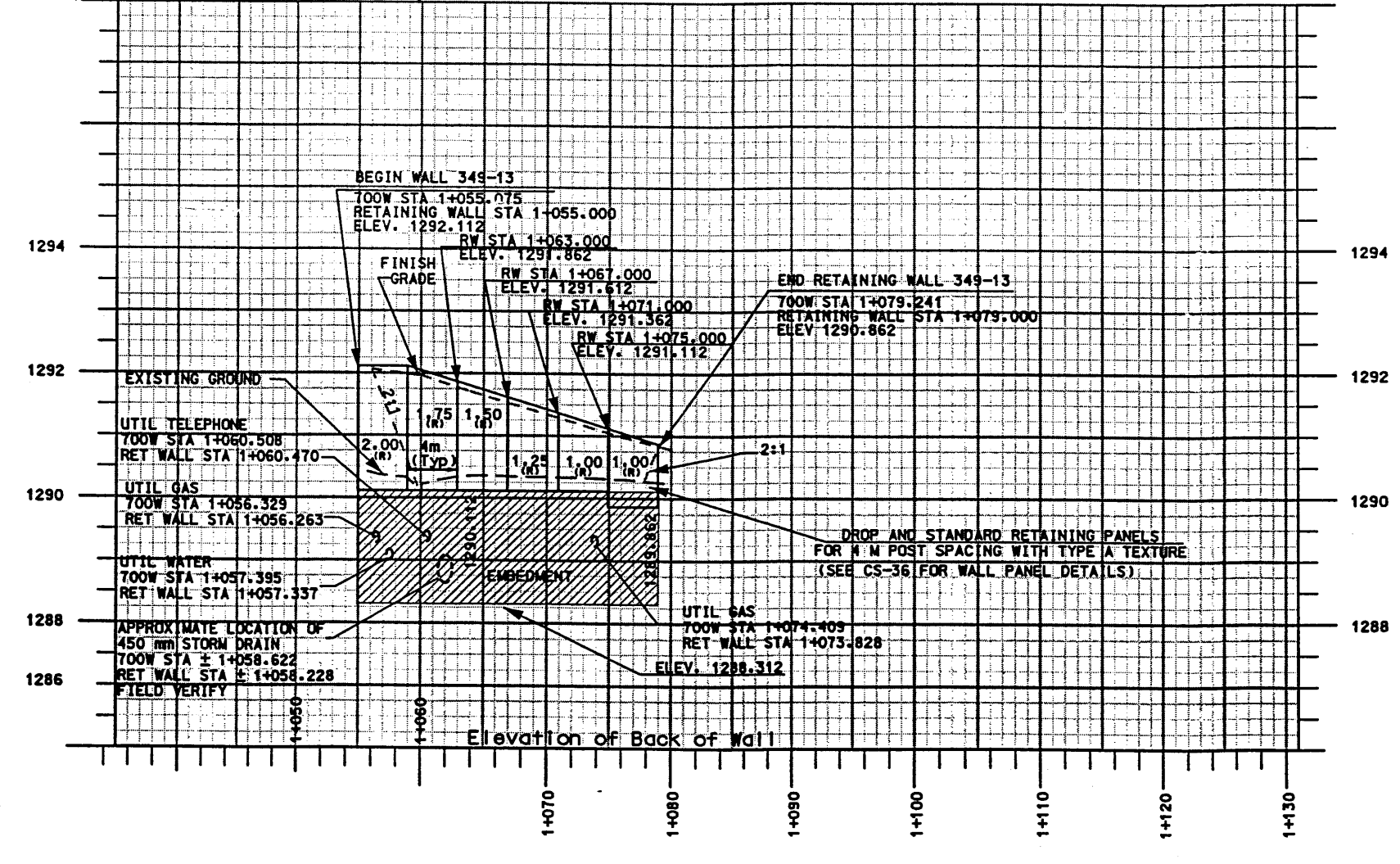
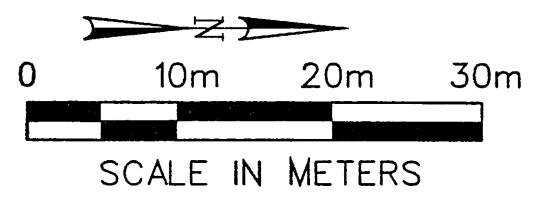
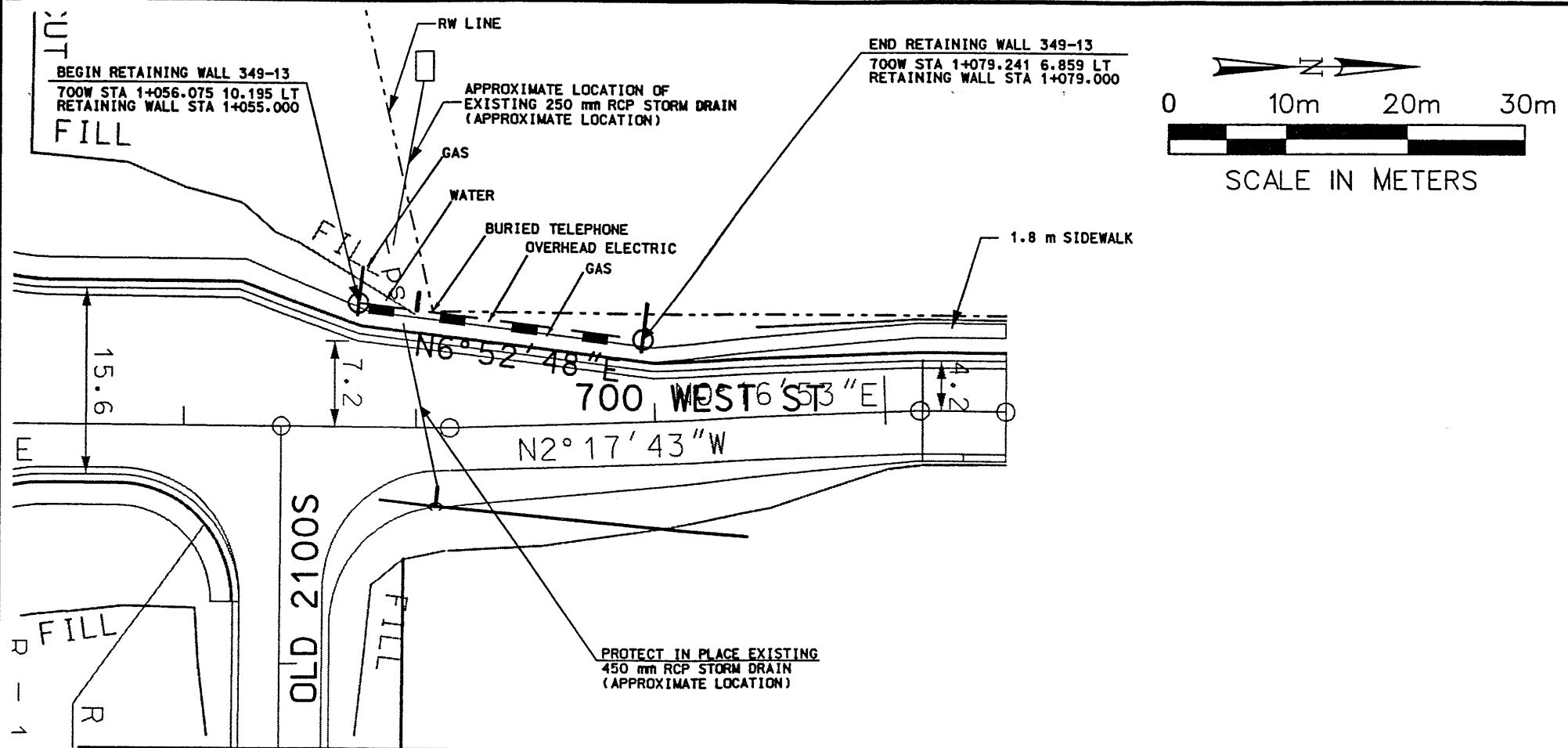
METRIC

DWG. NO. 2.7R-349-11.7	<p>VSL CORPORATION 2840 Plaza Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-8272 Fax: (919) 781-6869</p> <p>ATLANTA, GA / DALLAS, TX / BALCON, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, WA</p>
JOB NO. 239-0007	
SHT. NO. RE-6	
<p>RETAINED EARTH™ WALLS PRECAST WALL "R-349-11" Y. PANEL & SPECIAL PANEL DETAILS</p> <p>UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.</p>	
<p>NO. 09-08-98 JL</p> <p>DIR. 09-08-98 RSW</p> <p>CHK. 09-08-98 JL</p> <p>REVISION</p>	<p>DATE</p> <p>NO.</p> <p>BY</p> <p>CHK</p>

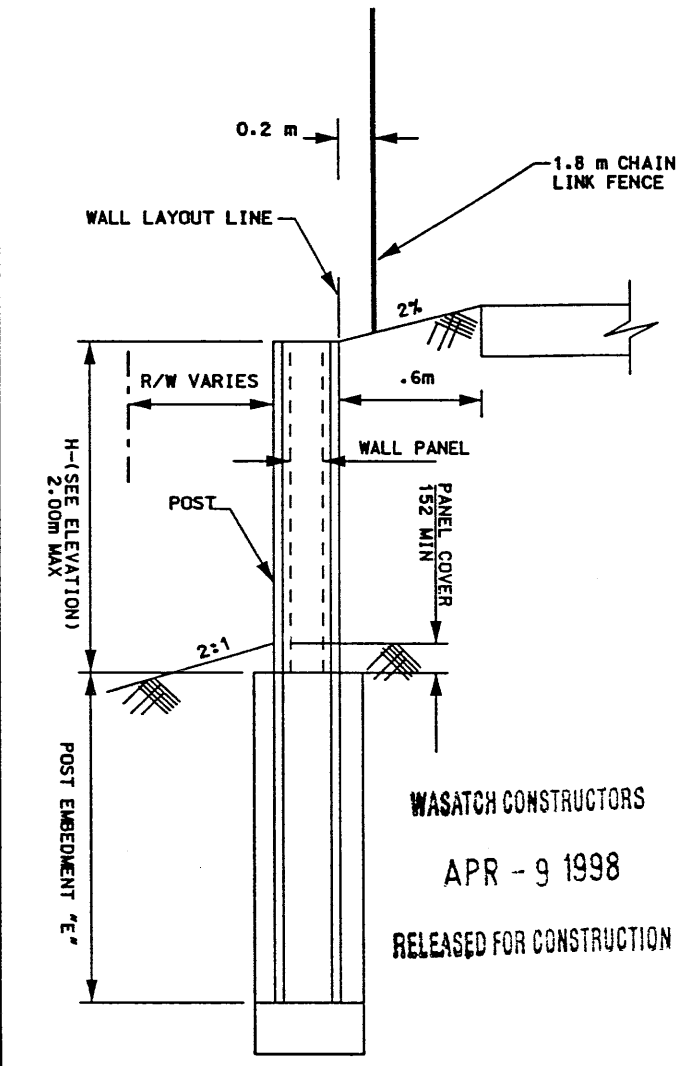
Utah Department of Transportation

Date: 06-APR-1998 Times: 02:24

Filename: c:\egm\15_cadd\03_97\sheet1.dwg

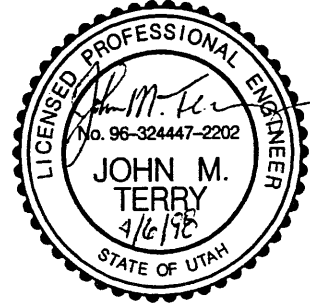


- NOTE:
- FOR PRECAST CONCRETE RETAINING/ NOISE WALL DETAILS SEE UDOT STD DRAWINGS NO. 546-01 & 546-02 & CORRIDOR STANDARD PLANS CS 36, CS-5, CS-6
 - LOCATIONS OF 250 mm AND 450 mm RCP ARE APPROXIMATE NO SURVEY DATA PROVIDED



WALL SECTION
NTS

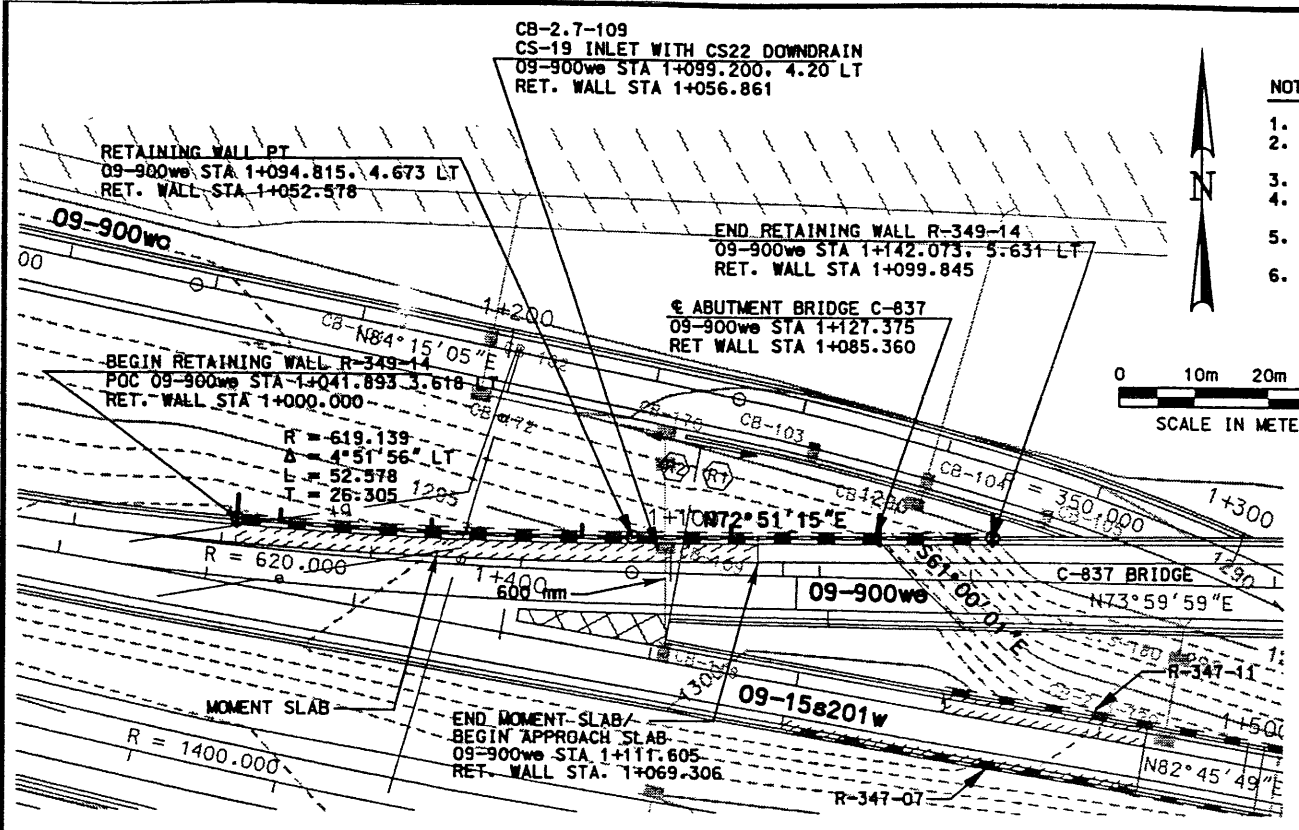
WASATCH CONSTRUCTORS
APR - 9 1998
RELEASED FOR CONSTRUCTION



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
	4/6/98	Initial Release	
UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
APPROVAL RECORD	DATE	DESIGNER	DATE
MARGARET SIMMONS-CROSS	10/22/97	DESIGN	10/22
PROJECT DESIGN ENGINEER		DRAWN	10/22
		JOHN TERRY	
APPROVED	DATE	SECTION MANAGER	QUANT.
			2712401
I-15 CORRIDOR RECONSTRUCTION		SECTION 2.7	
SITUATION & LAYOUT 349-13		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		DWG. NO. 2.7-R-349-13.1	
SHT. 1 OF 1			

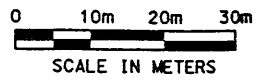
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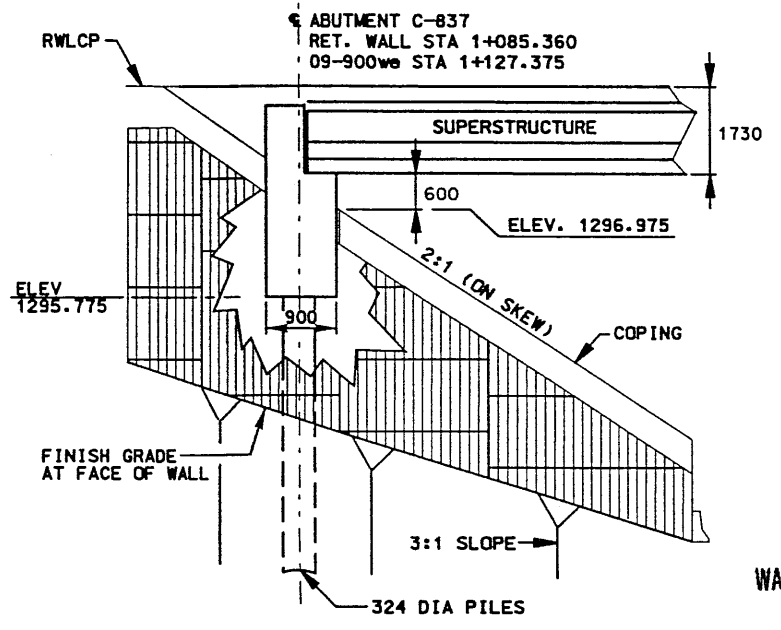
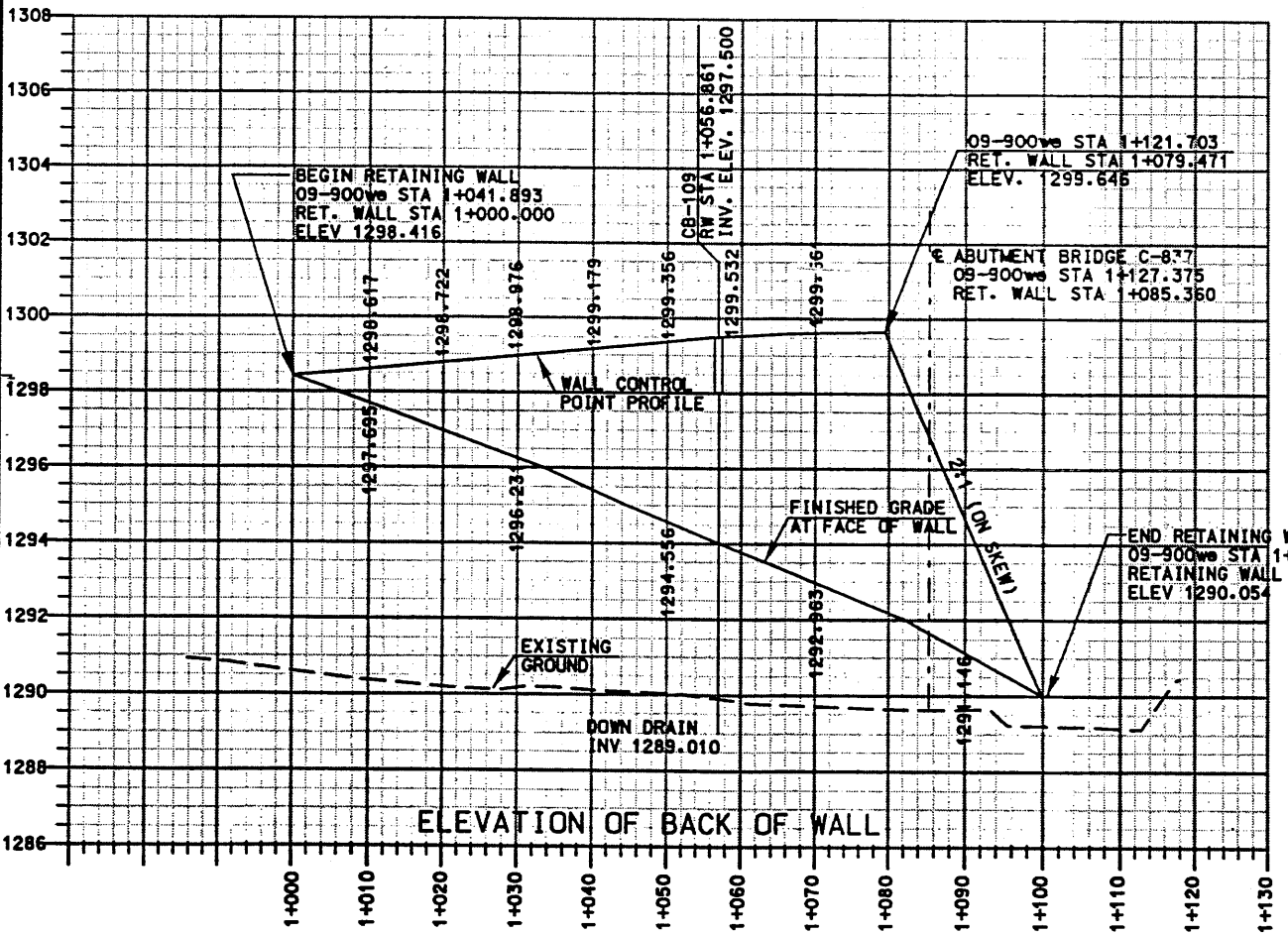
NOTES:

1. REFER TO CS-28-1 FOR MOMENT SLAB DETAILS.
2. REFER TO DRAINAGE PLANS TO CONFIRM FINAL LOCATION OF DRAINAGE STRUCTURES.
3. REFER TO CS-54 FOR DETAILS OF WALL COPING.
4. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
5. DIMENSION (D) FOR STRUCTURAL FILL TO BE DETERMINED BY FIELD GEOTECHNICAL ENGINEER.
6. CONTRACTOR TO ADJUST LOCATION OF INLETS NEXT TO MSE WALL TO MISS MSE STRAPS. SEE VSL DRAWINGS FOR INLET LOCATIONS NEXT TO MSE WALL.



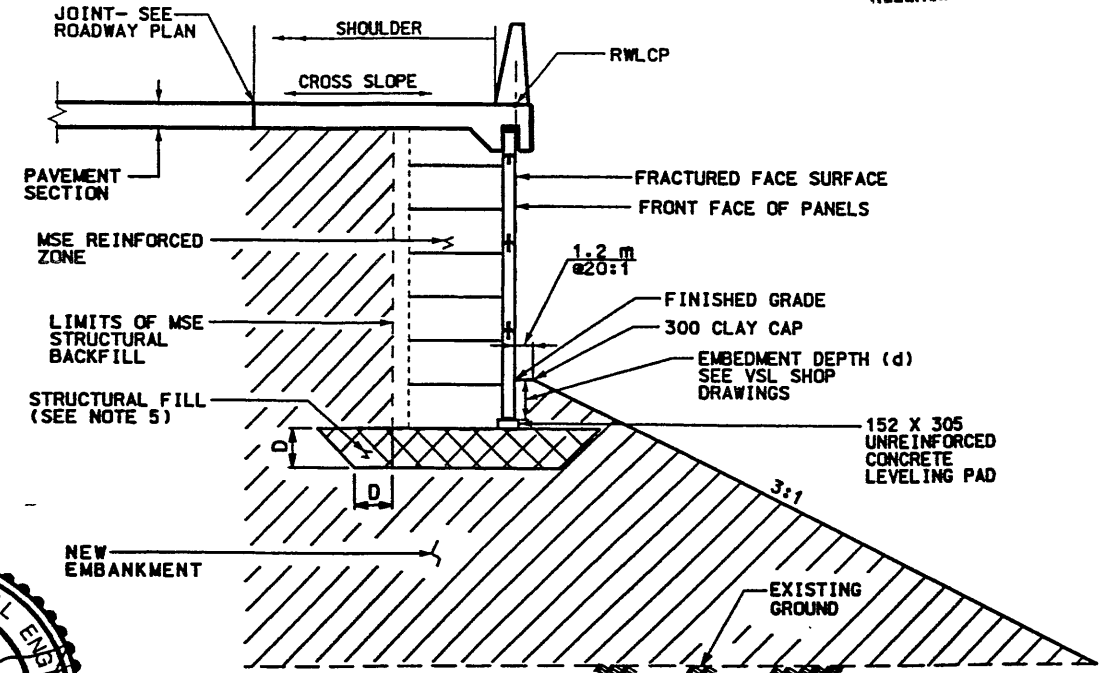
**TABULATION OF POINTS
(REFER TO CS-54-1 AND -2
FOR MSE-1 STAGE WALL NON-SPIU
WITHOUT TRANSITION ELEMENT)**

POINT	STATION 09-900we	STATION R-349-14
BEGIN WALL	1+041.893	1+000.000
A	1+111.605	1+069.306
B	1+121.703	1+079.471
C	1+122.198	1+079.966
D	1+128.011	1+085.996
END WALL	1+142.073	1+099.845



BRIDGE C-837 ABUTMENT DETAIL
NTS

WASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION



(REFER TO CS-28-1)
MSE SINGLE STAGE WITH MOMENT SLAB
RET WALL STA 1+000.000 - 1+069.306 NTS



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	INITIAL	RELEASE
UTAH DEPARTMENT OF TRANSPORTATION		SVERRUP/DE LEUW	TRACKING NO.
I-15 CORRIDOR RECONSTRUCTION		DESIGN JMS 12/97	2713413
SITUATION & LAYOUT R-349-14		CHECK MSC 12/97	CHECK MSC 11/98
SECTION 2.7		DRAW JH 12/97	CHECK
PROJECT #SP-15-7(135)296		APPROVED 12/97	SECTION MANAGER
SALT LAKE COUNTY			
DWG. NO. 2.7-R-349-14.1			
SHT. 1 OF 8			

H:\RE_EARTH\APPROJ\0007\1998\9WSERIES\9W-14\RE-1

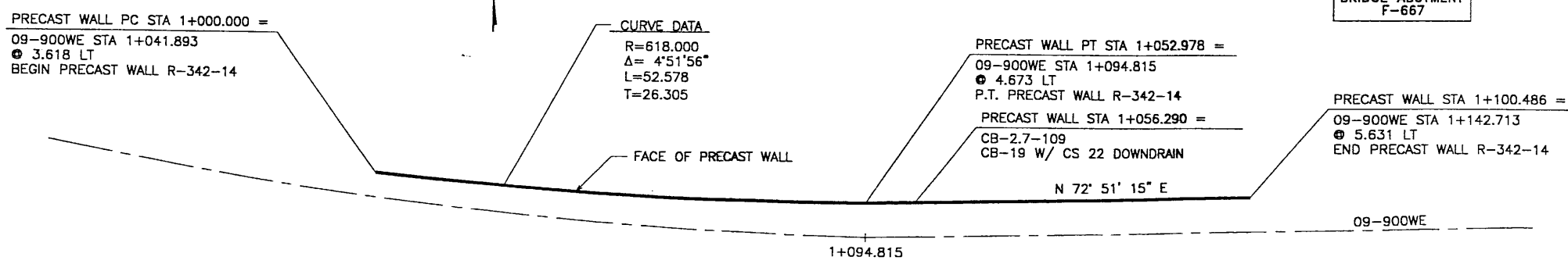
FINAL

11-20-98

H:\RE_EARTH\APPROJ\0007\1998\9WSERIES\9W-14\RE-1

0007\1998\9WSERIES\9W-14\RE-1

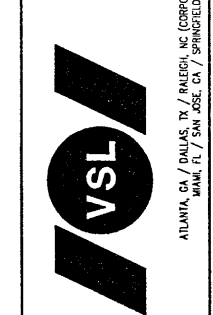
3E (X-UTAH.DWG)



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION

DES.	JN	RSW	JN	DATE	BY
10-26-98	JN	RSW	JN		CHK
10-26-98					
10-26-98					

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6772
 Fax: (919) 781-1899



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- 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: 5W11-6 MESH HAS FIVE (5) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" CENTERS.
 EXAMPLE: 4W15-12 MESH HAS FOUR (4) W15 LONGITUDINAL WIRES WITH W15 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 VSL STANDARD SHEET STD-7 FOR DETAIL.

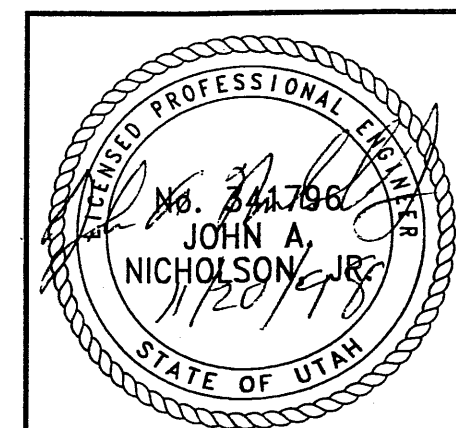
PLAN VIEW WALL "R-349-14"

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

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-349-14, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTIONS
RE-3	TYPICAL CROSS SECTIONS
RE-4	ELEVATION PRECAST WALL "R-349-14"
RE-5	ELEVATION PRECAST WALL "R-349-14"
RE-6	SPECIAL PANEL DETAILS

WASATCH CONSTRUCTORS
 DEC 02 1998
 RELEASED FOR CONSTRUCTION

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 = 21.20 KN/M ³
TRAFFIC SURCHARGE	= 250 PSF = 12 KPa
SEISMIC ACCELERATION COFF.	= 0.134g (10% IN 50 YEARS)
SEISMIC ACCELERATION COFF.	= 0.34g (AT BRIDGE ABUTMENTS 10% IN 250 YEARS)
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING)	= 2.0
SAFETY FACTOR (SLIDING)	= 1.5
SAFETY FACTOR (PULLOUT)	= 1.5
DESIGN LIFE	= 75 YEARS

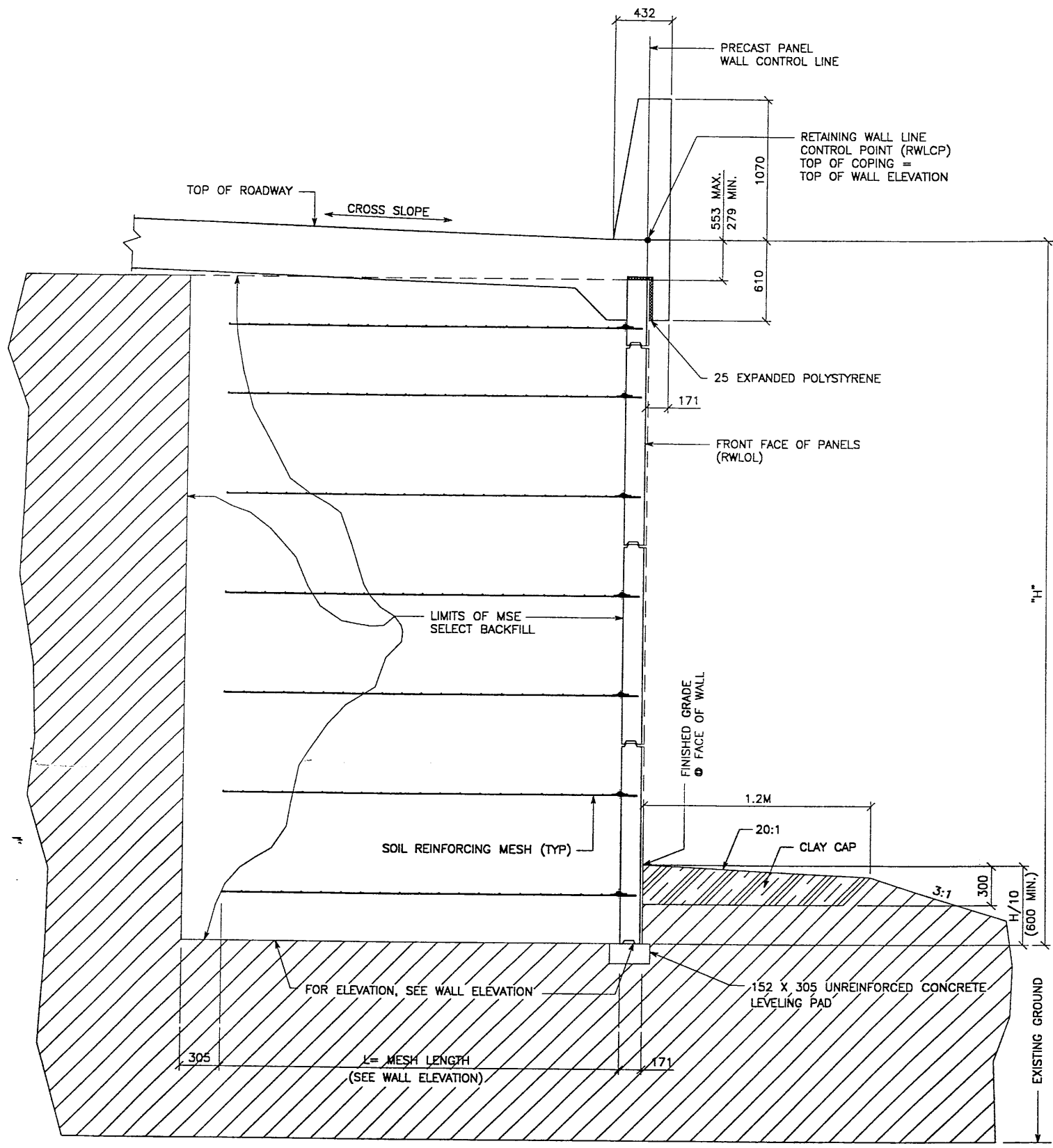


METRIC

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.

RETAINED EARTH™ WALLS	DWG. NO.
PLAN VIEW PRECAST WALL "R-349-14"	2.7-R-349-14.2
UTAH 1-15 RECONSTRUCTION	JOB NO.
SALT LAKE COUNTY, UTAH	239-0007
UTAH DEPARTMENT OF TRANSP.	SHT. NO.
	RE-1

11-20-98
 FINAL
 H:\RE_EARTH\PROJECT\239-0007\1998\9
 9W-14\RE-2
 XE (X-UTAH.DWG)



TYPICAL CROSS SECTION - STA 1+000.000 TO 1+069.306
 (SEE DWG. NO. 2.7R-349-14.1 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

DIMENSION (D) FOR STRUCTURAL FILL TO BE DETERMINED BY FIELD GEOTECHNICAL ENGINEER.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION

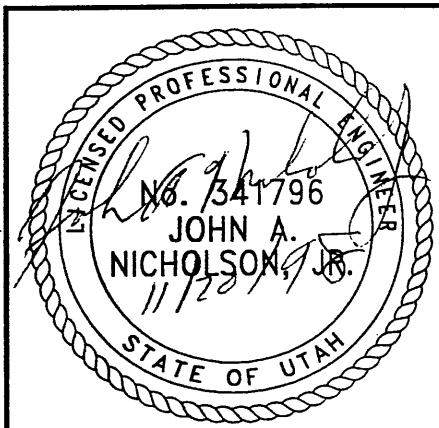
DES.	DRW.	CHK.	RETAINED EARTH™	NO.	DATE	BY	CHK.
JN	RSW	JN					

VSL CORPORATION
 7810 Blue Ridge, Suite 700
 Raleigh, NC 27612
 Telephone: (919) 781-5272
 Fax: (919) 781-4969

VSL

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

WASATCH CONSTRUCTORS
 DEC 02 1998
 RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-349-14"
 TYPICAL CROSS SECTION

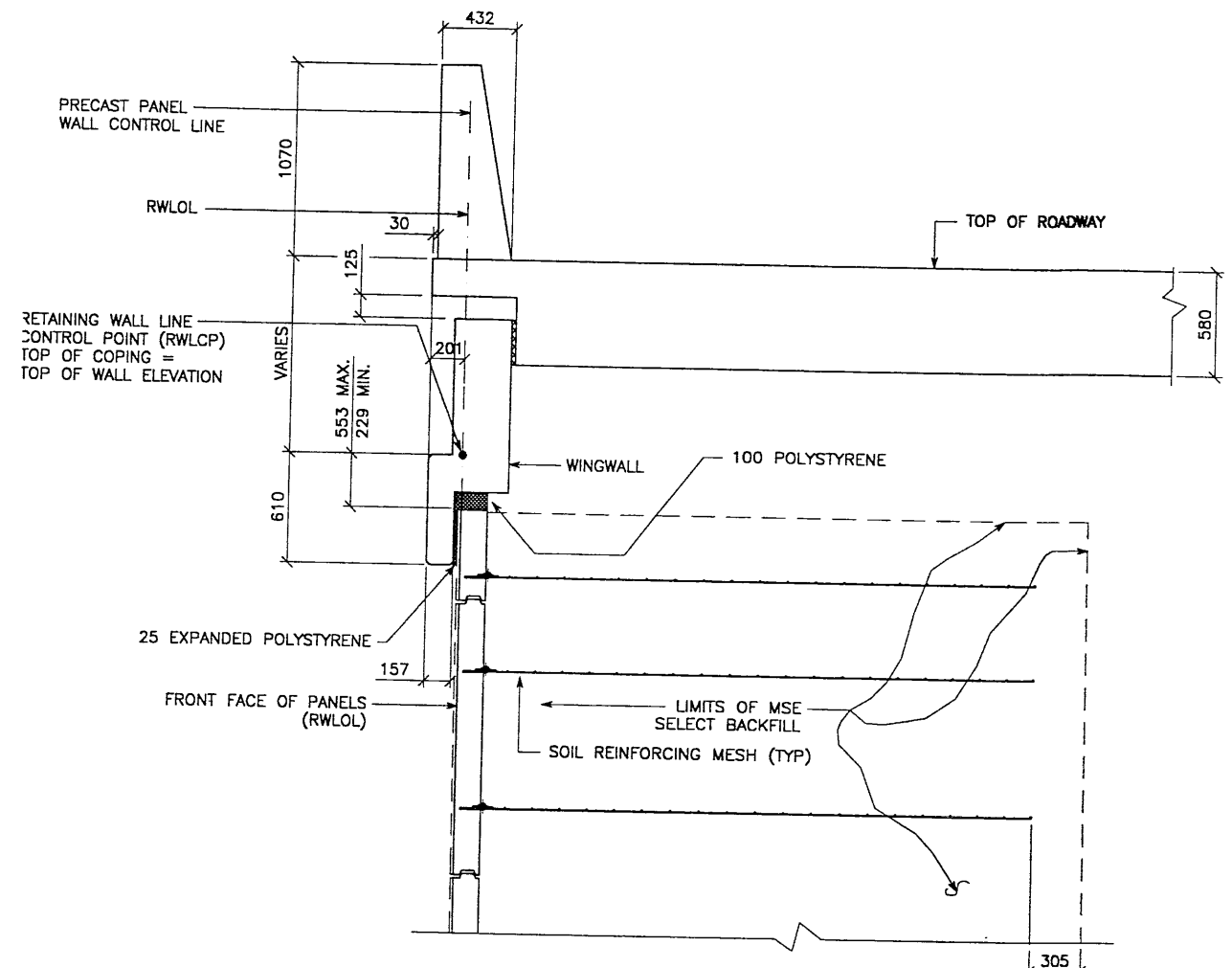
UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-14.3
JOB NO.	239-0007
SHT. NO.	RE-2

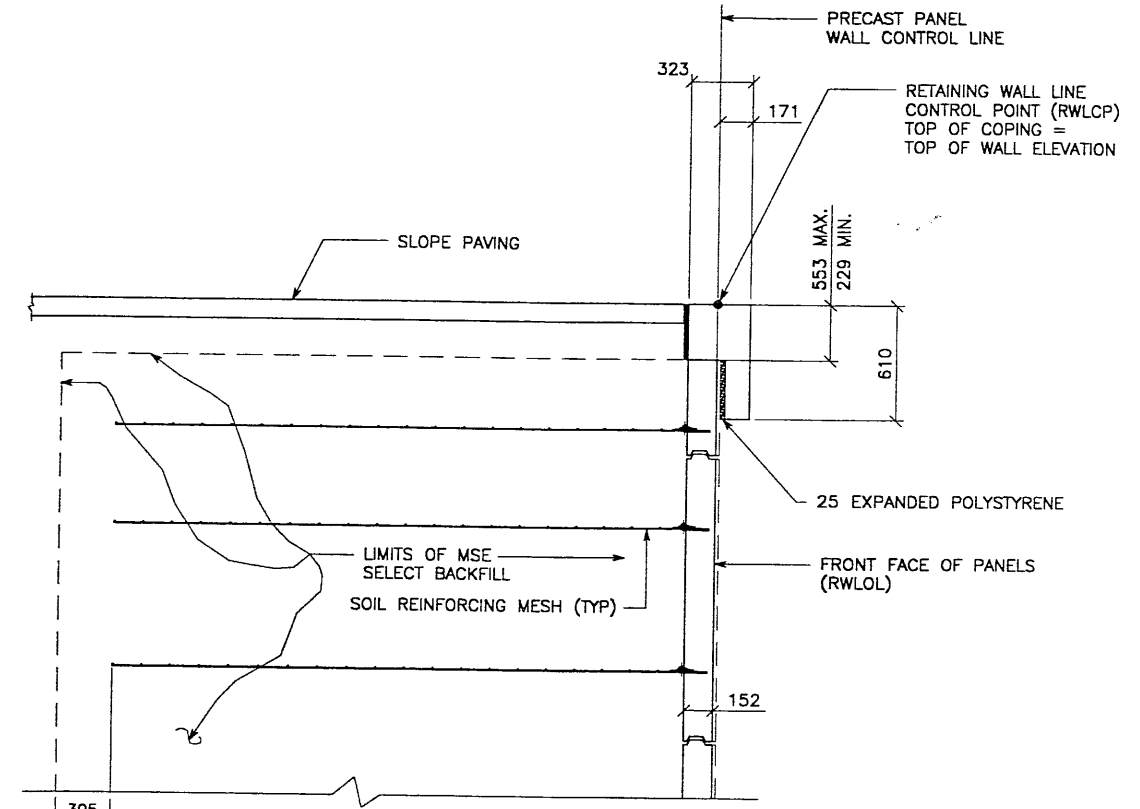
METRIC

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11-20-98
 FINAL
 H:\RE_EARTH\APPROJ
 -0007\1998\9WSERIES\9W-14\RE-3
 2E (X-UTAH.DWG)



TYPICAL CROSS SECTION W/WINGWALL - STA 1+081.172 TO ABUTMENT
 (SEE DWG. NO. 2.7R-349-14 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION - WITH ABUTMENT SLOPE PAVING / COPING
 (SEE DWG. NO. 2.7R-349-14 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE
JN	RSW	JN		
10-27-98	10-27-98	10-27-98		

VSL CORPORATION
 2810 Plaza Place, Suite 200
 Raleigh, NC 27603
 Tel: (919) 781-8272
 Fax: (919) 781-4869

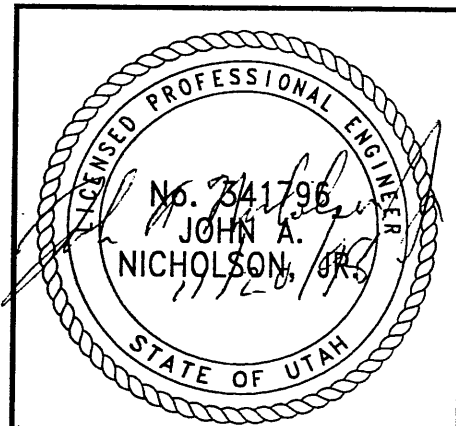
VSL

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

RETAINED EARTH™ WALLS
 PRECAST WALL "R-349-14"
 TYPICAL CROSS SECTION

UTAH 1-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-14.4
JOB NO.	239-0007
SHT. NO.	RE-3

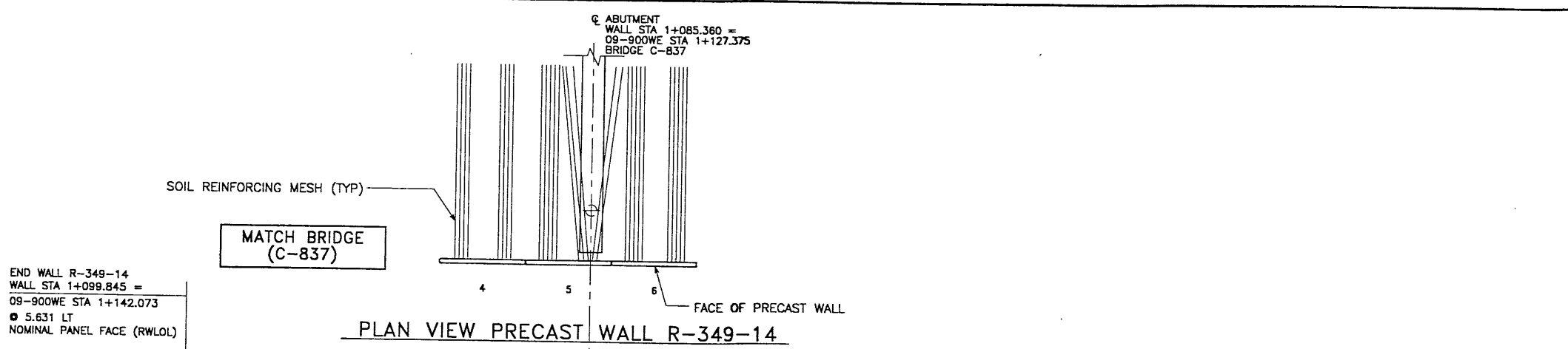


METRIC

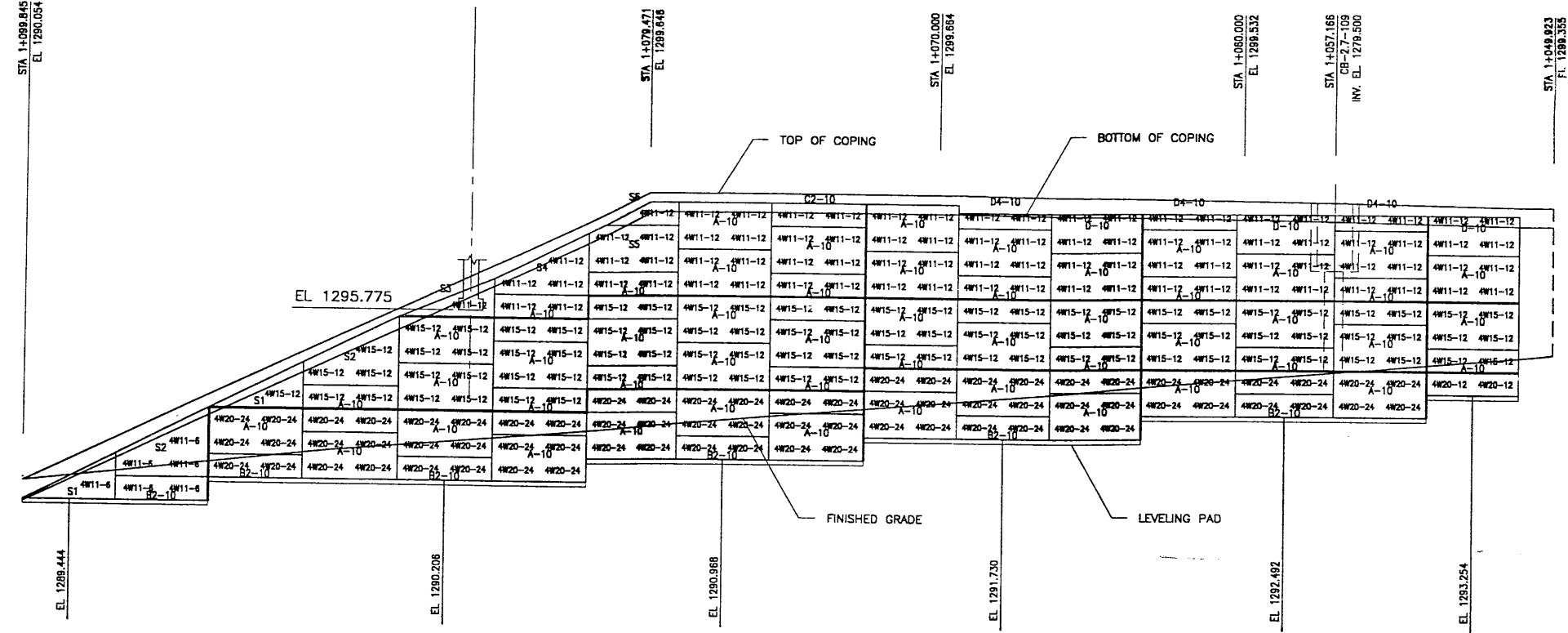
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY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

WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

11-20-98
 H:\RE_EARTH\PROJECT2\17\1998\9WSERIES\9W-14\9W-14
 CE (X-UTAH.DWG)



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION



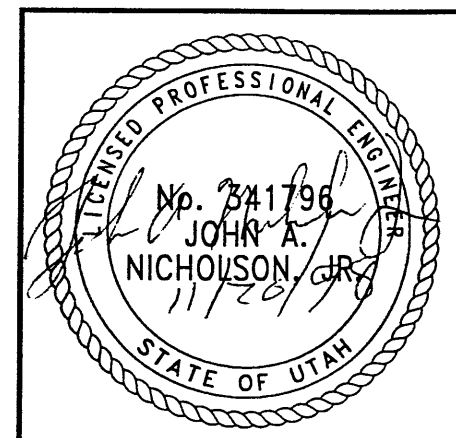
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MESH DEPTH	3.048M (10')															
MAXIMUM BEARING PRESSURE (SEE NOTE BELOW)	99 kPa		7.315M (24')			238 kPa			5.791M (19')			5.182M (17')		4.572M (15')		
PIN SPACING	6.096		12.192			9.144			9.144			9.144		3.048		

ELEVATION PRECAST WALL R-349-14
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 453.72 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURE 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.

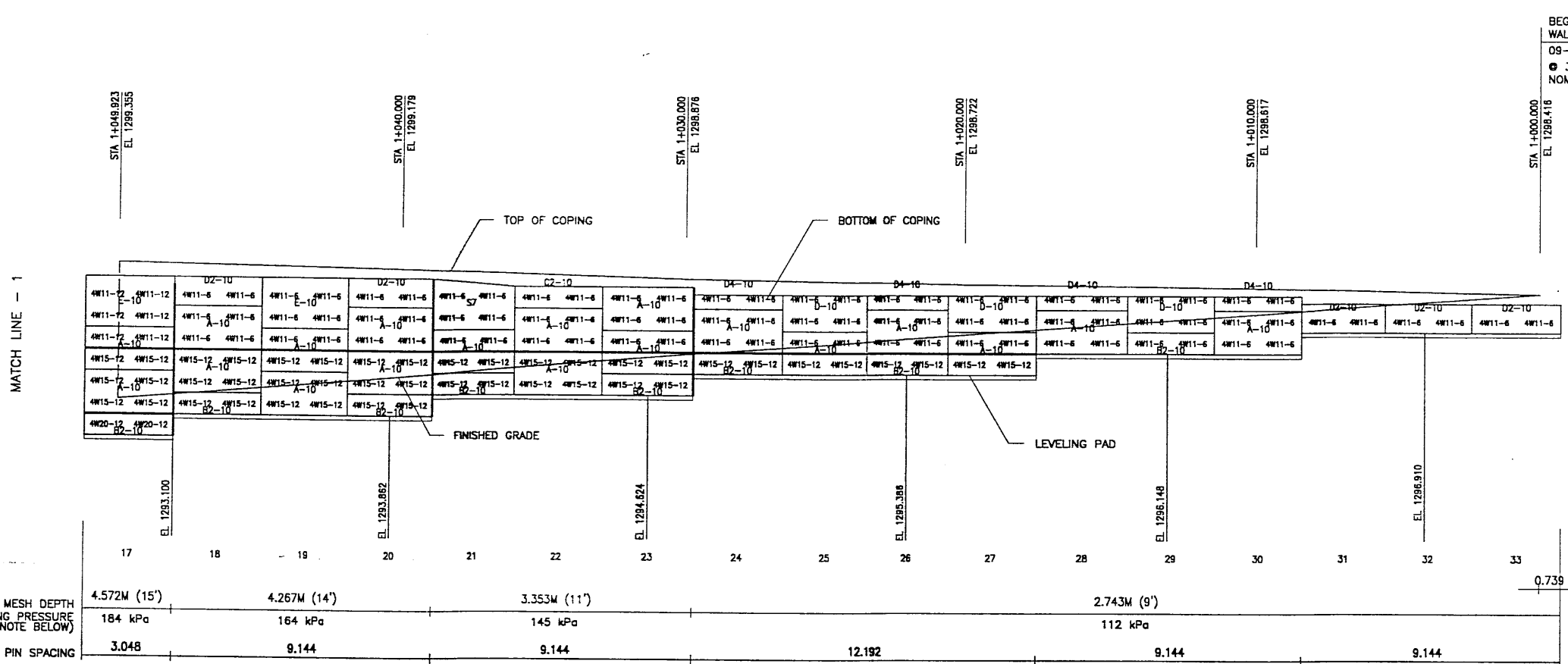


WASATCH CONSTRUCTORS
 DEC 02 1998
 RELEASED FOR CONSTRUCTION

 VSL CORPORATION 7840 Park Plaza, Suite 200 Raleigh, NC 27615 Telephone: (919) 781-6277 Fax: (919) 781-6669	DIST.	11-29-98	JUN	RETAINED EARTH™ 	REVISION NO. DATE
	DRN.	11-29-98	RSW		
	CHK.	11-29-98	JUN		
	BY CHK				
RETAINED EARTH™ WALLS PRECAST WALL "R-349-14" UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.					
DWG. NO. 2.7R-349-14.5					
JOB NO. 239-0007					
SH. NO. RE-4					

17\1998\9WSERIES\9W-14\9W-14
 H:\RE_EARTH\PROJECT\2
 11-20-98
 FINAL

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-20-98	RELEASE FOR CONSTRUCTION



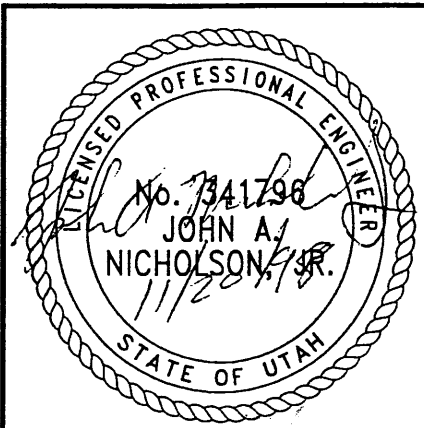
BEGIN WALL R-349-14
 WALL STA 1+000.000 =
 09-900WE STA 1+041.893
 3.618 LT
 NOMINAL PANEL FACE (RWLOL)

ELEVATION PRECAST WALL R-349-14
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 453.72 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

METRIC

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

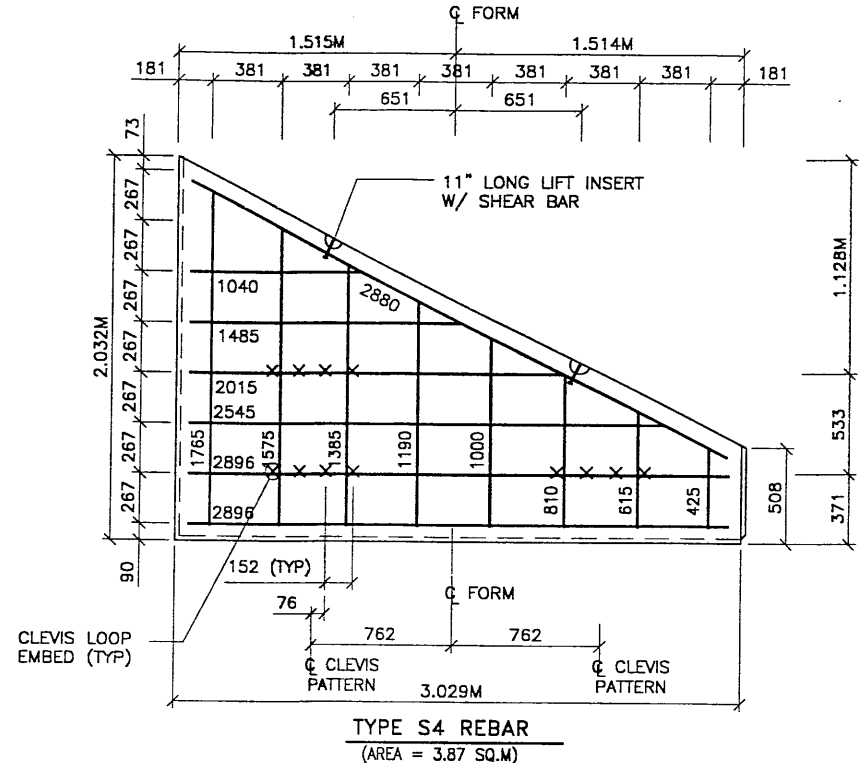
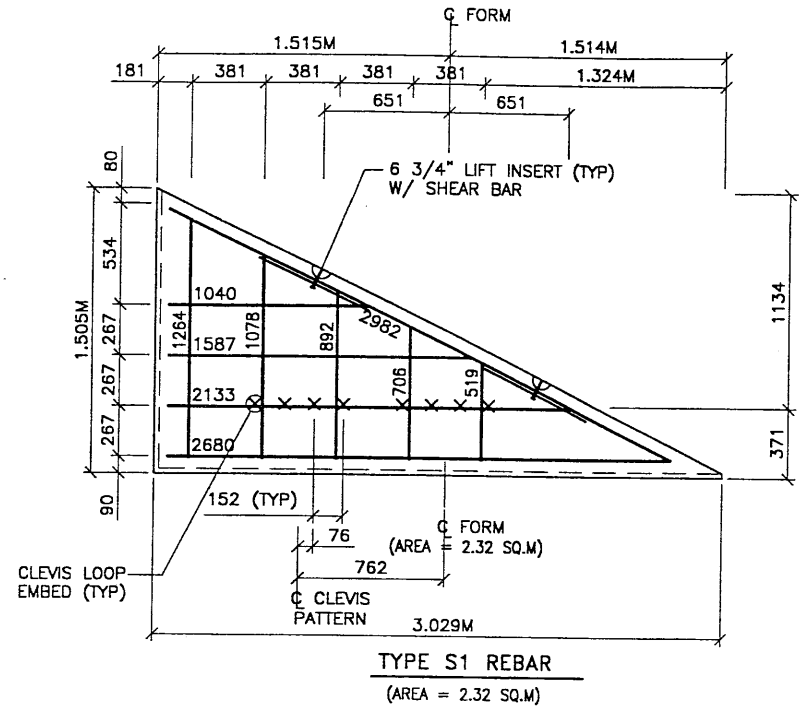
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
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 THE MANUFACTURER'S SPECIFICATION.



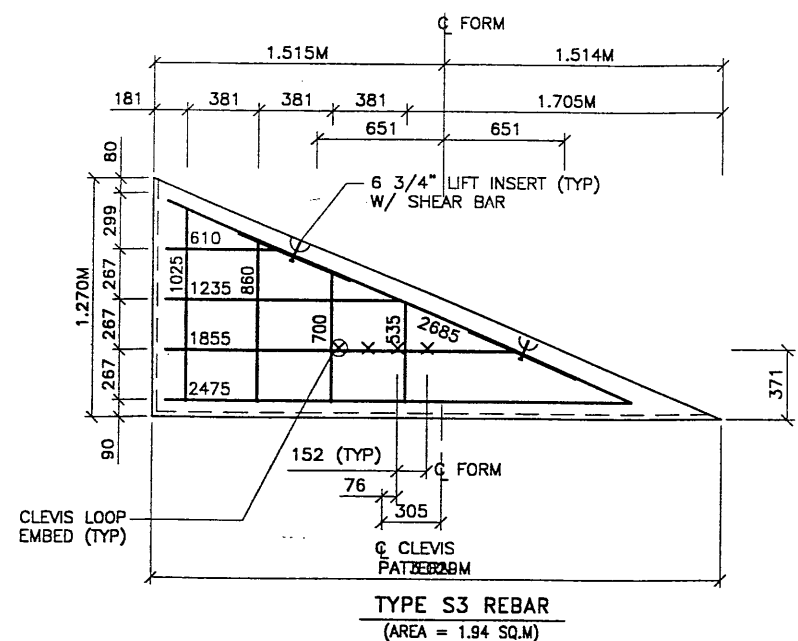
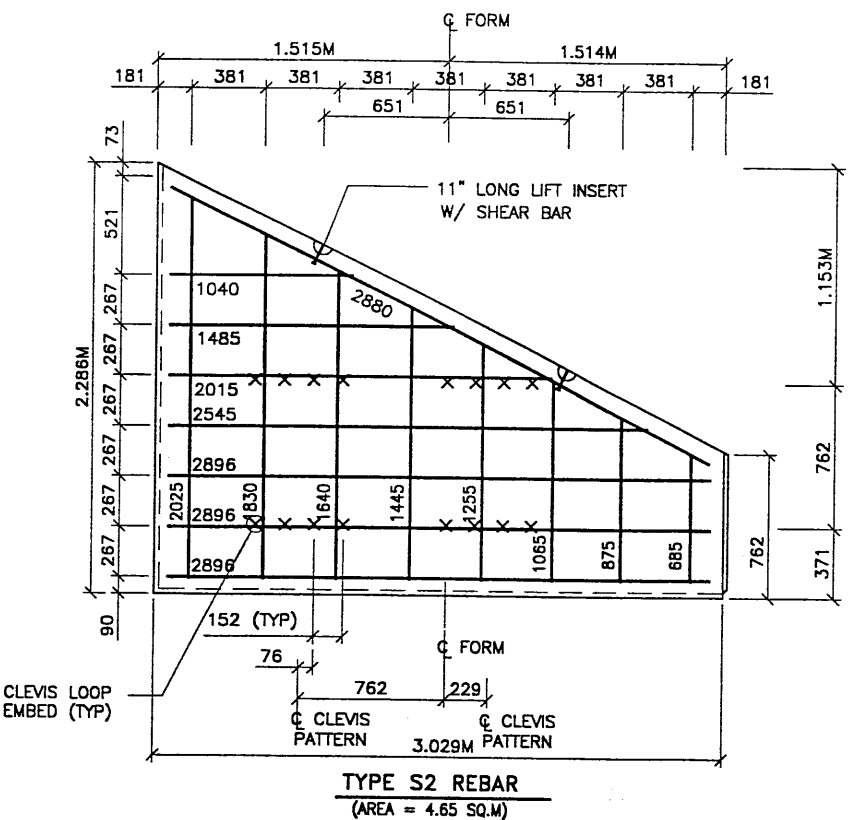
WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION

<p>VSL CORPORATION 7840 Piedmont Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-5272 Fax: (919) 781-4959</p>		DES: 11-29-98 JUN DRW: 11-29-98 RSW CHK: 11-29-98 JUN RETAINED EARTH™	NO. DATE REVISION	BY CHK
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RETAINED EARTH™ WALLS PRECAST WALL "R-349-14" UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.		DWG. NO. 2.7R-349-14.6	JOB NO. 239-0007	SHT. NO. RE-5
6 of 8		9.144	112 kPa	0.739

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION

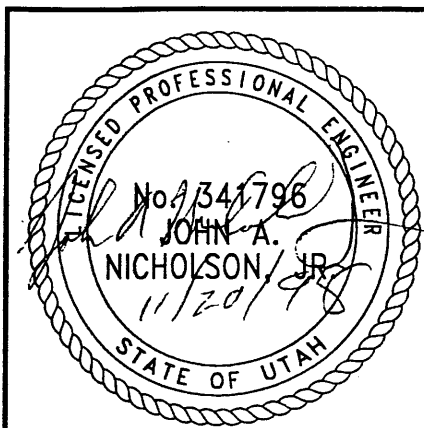


- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 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 25,200 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.
 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS.



METRIC

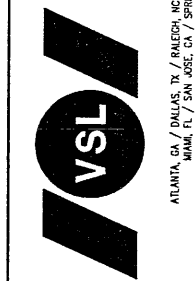
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VASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION

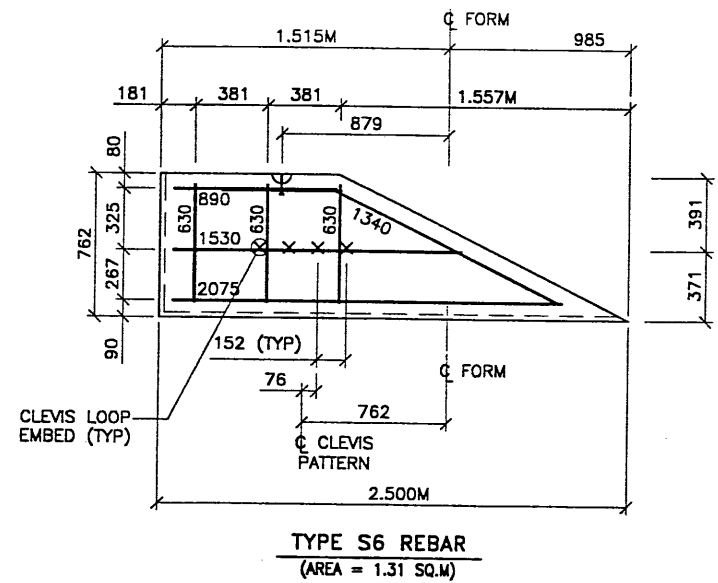
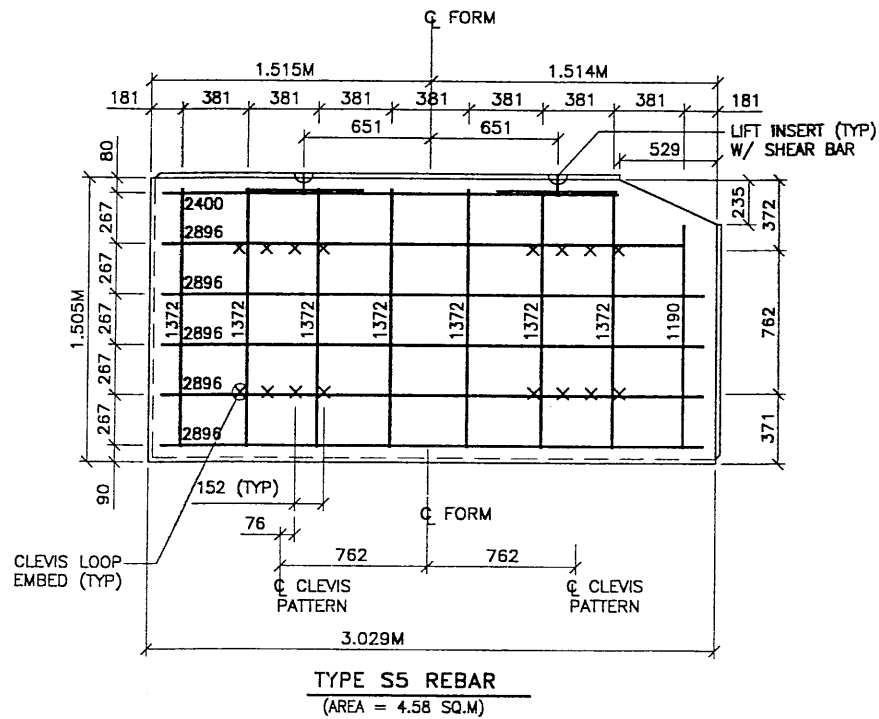
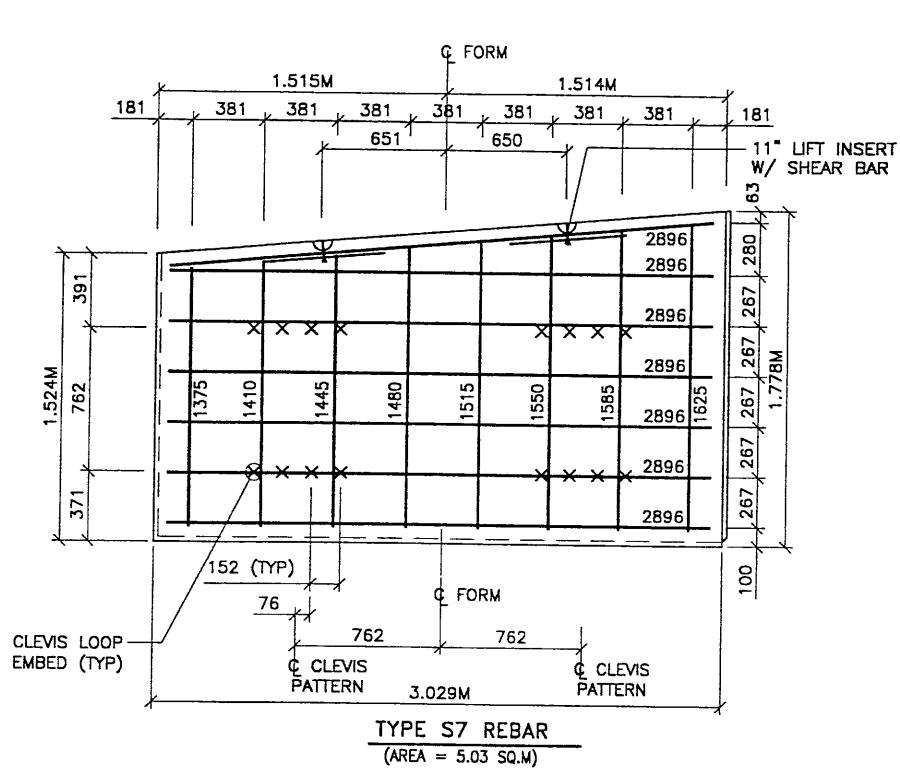
RETAINED EARTH™ WALLS
PRECAST WALL "R-349-14"
SPECIAL PANEL DETAILS
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-14.7
JOB NO.	239-0007
SHT. NO.	RE-6



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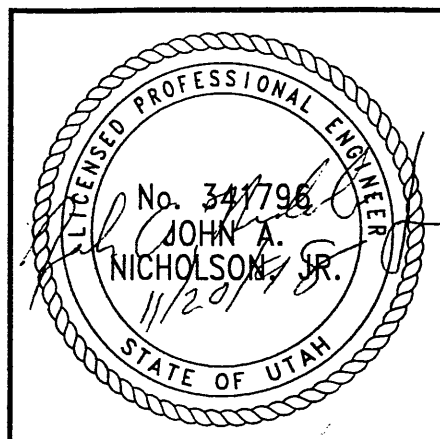
9-0007\1998\9WSERIES\9W-14\SPECIALS
 H:\RE_EARTH\APROJE
 11-20-98
 FINAL



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	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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 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS

WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION



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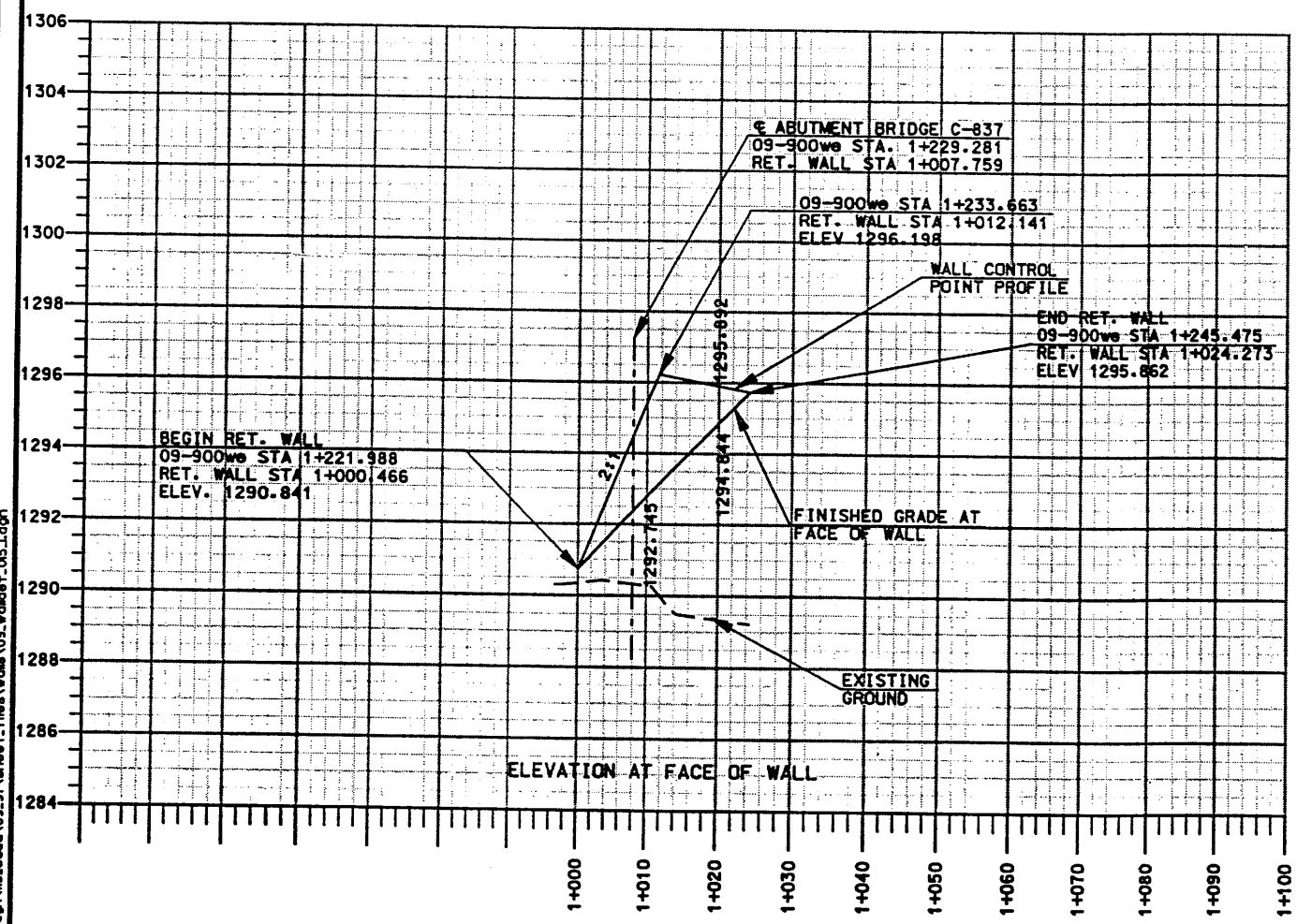
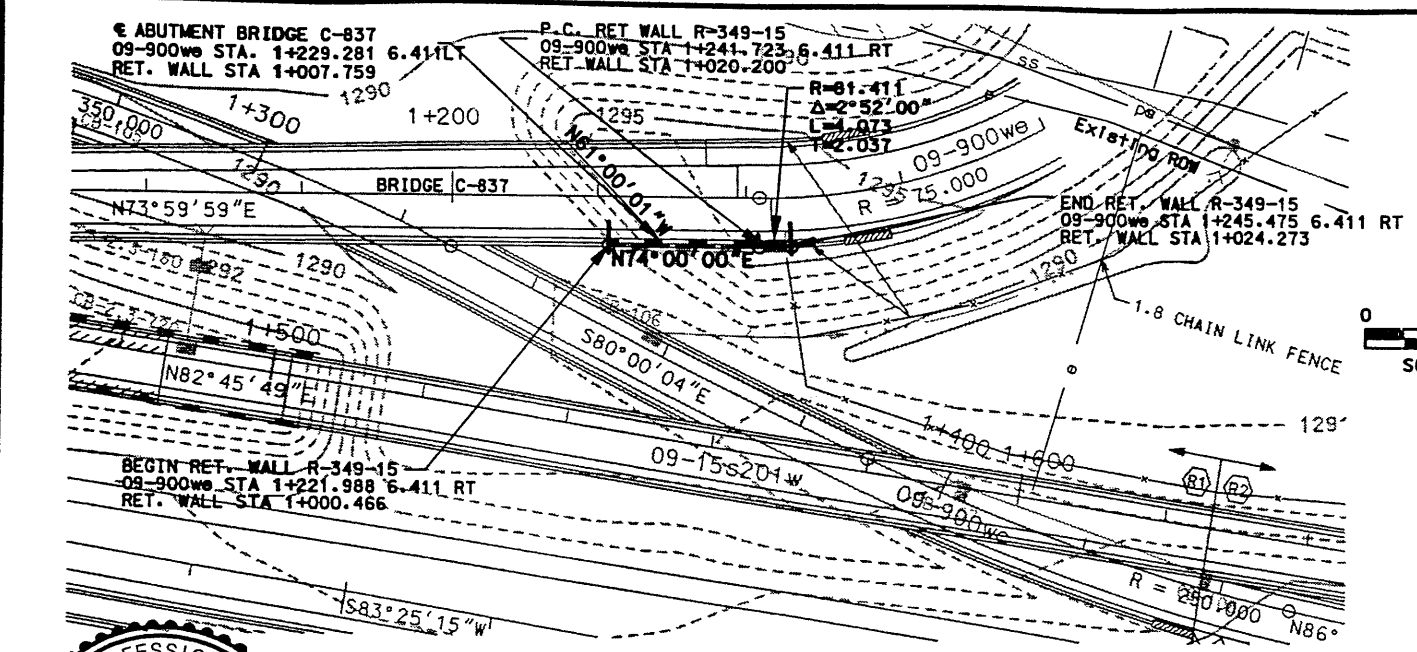
METRIC

VSL CORPORATION 2810 Pinedale Drive, Suite 200 Atlanta, GA 30328 Phone: (919) 781-6272 Fax: (919) 781-6669		NO.	DATE
VSL CORPORATION 2810 Pinedale Drive, Suite 200 Atlanta, GA 30328 Phone: (919) 781-6272 Fax: (919) 781-6669		REVISION	BY
VSL CORPORATION 2810 Pinedale Drive, Suite 200 Atlanta, GA 30328 Phone: (919) 781-6272 Fax: (919) 781-6669		NO.	DATE
VSL CORPORATION 2810 Pinedale Drive, Suite 200 Atlanta, GA 30328 Phone: (919) 781-6272 Fax: (919) 781-6669		NO.	DATE
VSL CORPORATION 2810 Pinedale Drive, Suite 200 Atlanta, GA 30328 Phone: (919) 781-6272 Fax: (919) 781-6669		NO.	DATE

RETAINED EARTH™ WALLS
 PRECAST WALL "R-349-14"
 SPECIAL PANEL DETAILS
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO. 2.7R-349-14.8
 JOB NO. 239-0007
 SHT. NO. RE-7

Date: 20-Nov-1998 Time: 09:54 User: mcmastram@utah.gov

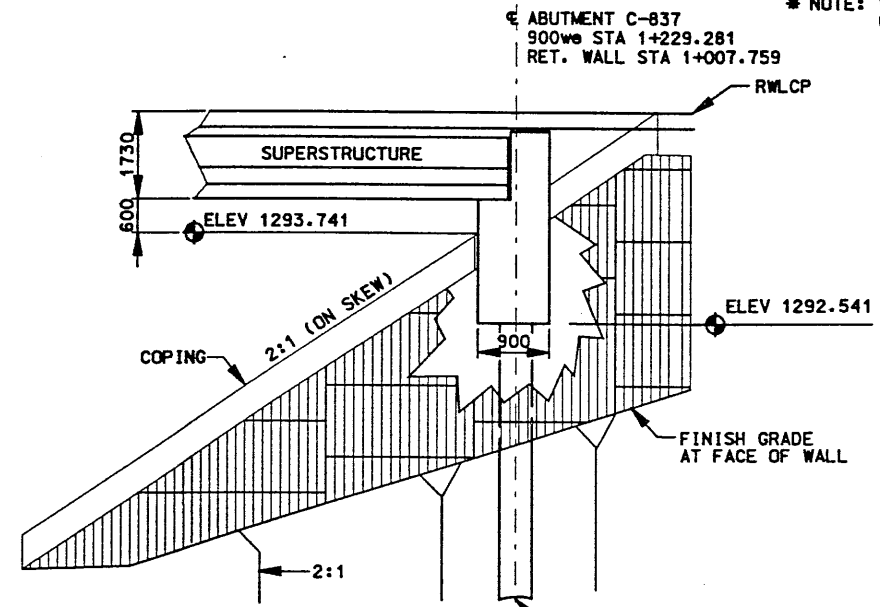


- NOTES:**
1. REFER TO CS-28-1 FOR MOMENT SLAB DETAILS.
 2. REFER TO DRAINAGE PLANS TO CONFIRM FINAL LOCATION OF DRAINAGE STRUCTURES.
 3. REFER TO CS-54 FOR DETAILS OF WALL COPING.
 4. ALL DIMENSIONS ON DETAILS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 5. STRUCTURAL FILL DIMENSION (D) TO BE DETERMINED BY THE FIELD GEOTECHNICAL ENGINEER.

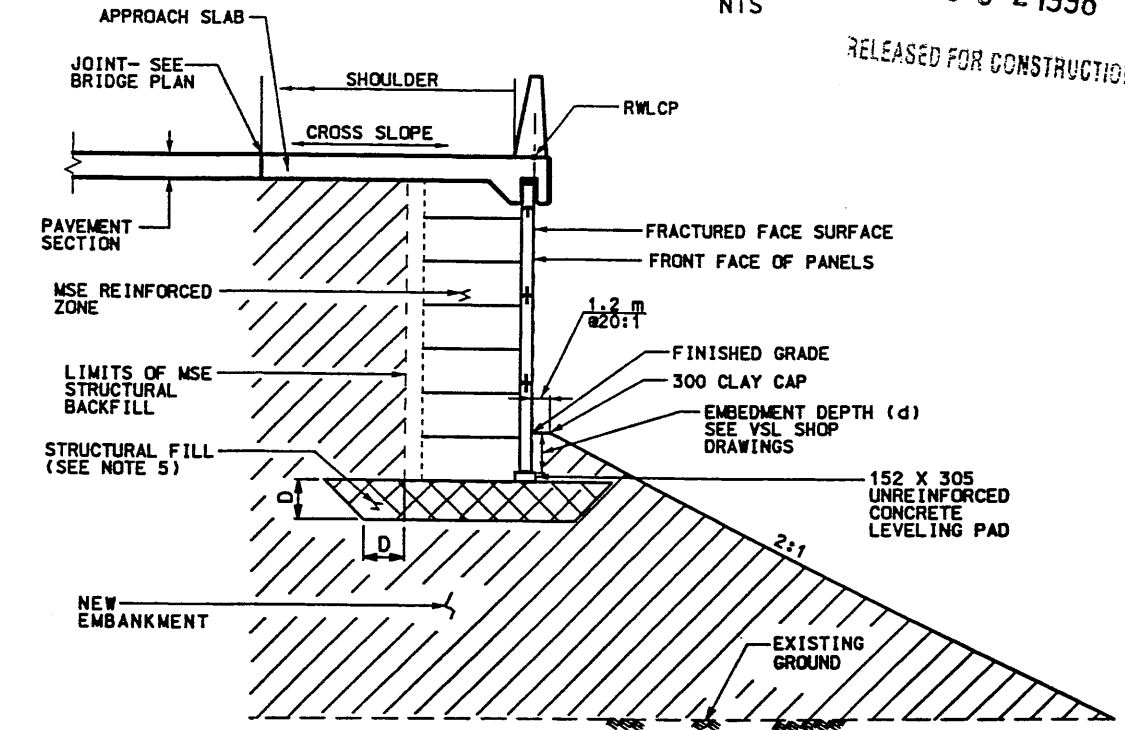
TABULATION OF POINTS
(REFER TO CS-54-1 AND -2 FOR MSE-1 STAGE WALL NON-SPUI WITHOUT TRANSITION ELEMENT)

POINT	STATION 09-900we	STATION R-349-15
END WALL	1+245.475	1+024.273
A #	-	-
B	1+233.663	1+012.141
C	1+233.168	1+011.646
D	1+228.645	1+007.123
BEGIN WALL	1+221.988	1+000.466

* NOTE: WALL ENDS WITHIN LIMITS OF APPROACH SLAB.



BRIDGE (F-667) ABUTMENT DETAIL
NTS



(REFER TO CS-28-1)

TYPICAL SECTION MSE SINGLE STAGE WITH APPROACH SLAB
NTS

APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	11/20/98	INITIAL RELEASE

UTAH DEPARTMENT OF TRANSPORTATION

SVERDRUP/DE LEUW

APPROVAL RECORDING	12/97	MARGARET SIMMONS-CROSS	DESIGN RMP	12/97	CHECK MSC	12/97	TRACKING NO.	2713414
DATE	12/97	PROJECT DESIGN ENGINEER	DRAWN	11/98	CHECK MSC	11/98	QUANT.	
APPROVED	12/97	JOHN TERRY	SECTION MANAGER	DATE				

1-15 CORRIDOR RECONSTRUCTION
SITUATION & LAYOUT R-349-15
SECTION 2.7
PROJECT NUMBER #SP-15-(135)296

SALT LAKE COUNTY
DWG. NO. 2.7-R-349-15.1

SHT. 1 OF 6

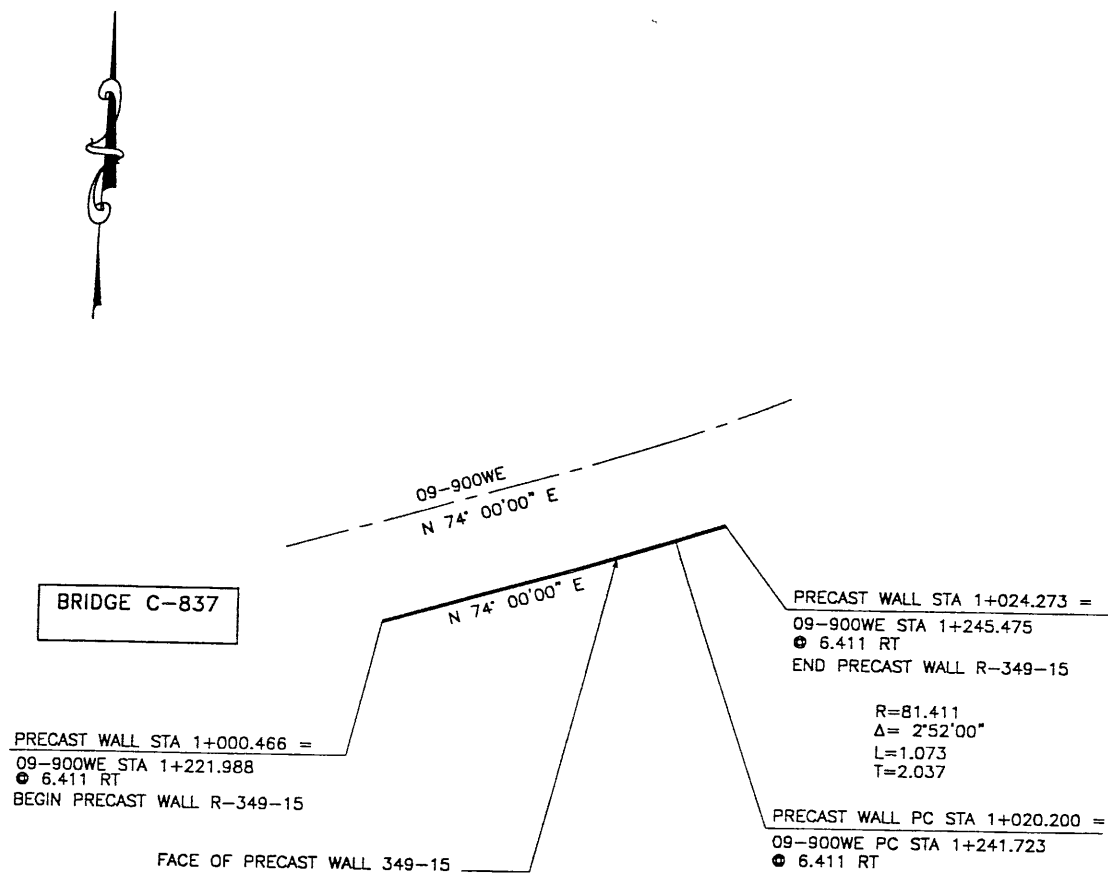
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NCE (X-UTAH.DWG)

S:\9W-15\RE-1

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FINAL DT 11-20-98



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
11	11-20-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION	BY

PRECAST WALL STA 1+000.466 =
09-900WE STA 1+221.988
● 6.411 RT
BEGIN PRECAST WALL R-349-15

PRECAST WALL STA 1+024.273 =
09-900WE STA 1+245.475
● 6.411 RT
END PRECAST WALL R-349-15

R=81.411
Δ= 2'52'00"
L=1.073
T=2.037

PRECAST WALL PC STA 1+020.200 =
09-900WE PC STA 1+241.723
● 6.411 RT

FACE OF PRECAST WALL 349-15

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

PLAN VIEW WALL "R-349-15"

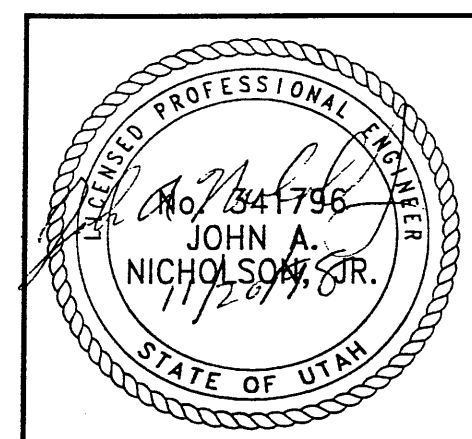
SCALE: 1=250 (FULL SIZE)
SCALE: 1=500 (HALF SIZE)

- 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: 4W20-24 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: 5W11-6 MESH HAS FIVE (5) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 12" CENTERS.
EXAMPLE: 6W11-12 MESH HAS SIX (6) 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 VSL STANDARD SHEET STD-7 FOR DETAILS.

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-349-15, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTION
RE-3	TYPICAL CROSS SECTIONS
RE-4	ELEVATION PRECAST WALL "R-349-15"
RE-5	SPECIAL PANEL DETAILS

METRIC

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WASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION

VSL CORPORATION
2910 Plaza Place, Suite 200
Raleigh, NC 27617
Phone: (919) 781-8372
Fax: (919) 781-8959

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

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

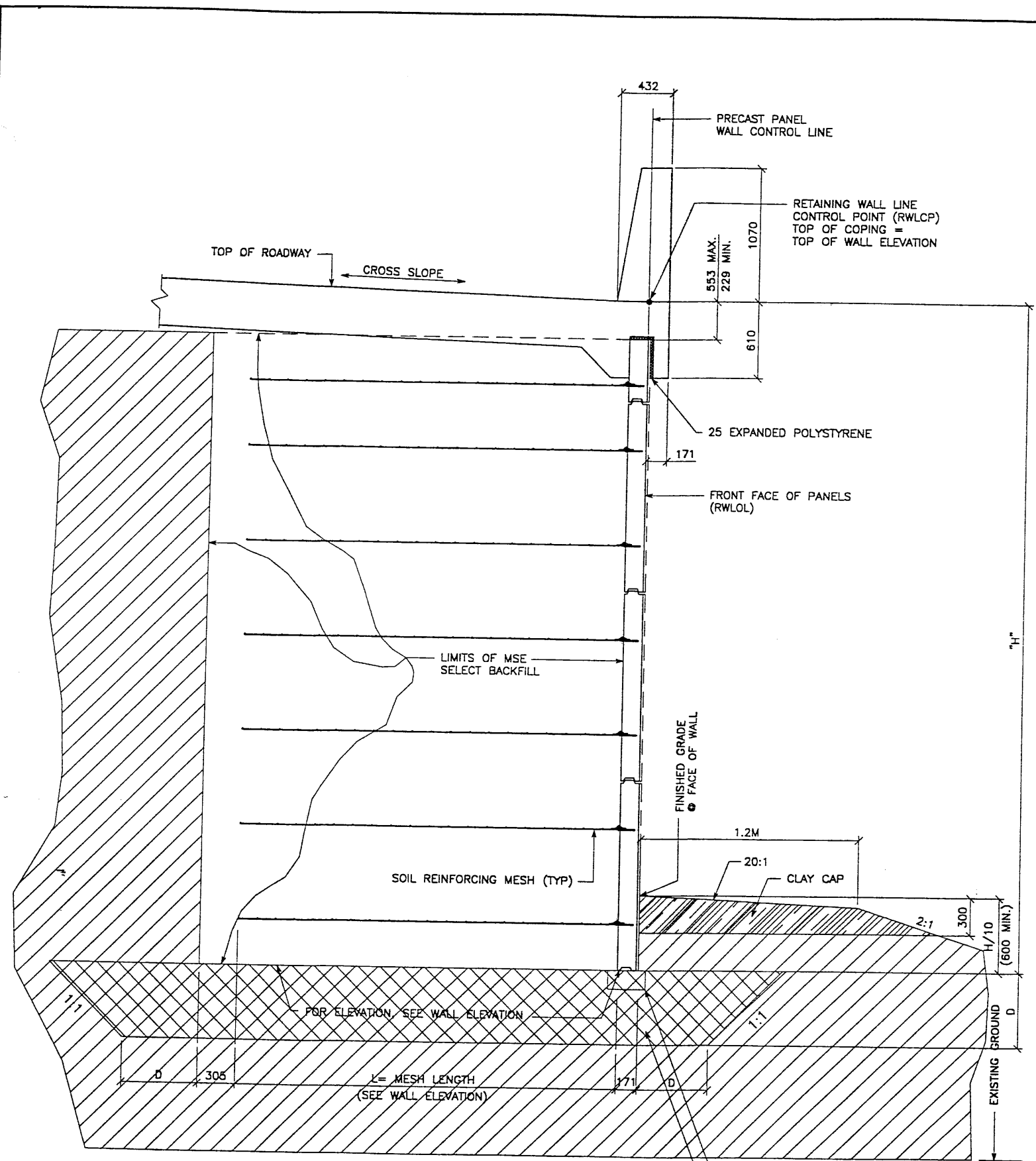
DWG. NO.	2.7R-349-15.2
JOB NO.	239-0007
SHT. NO.	RE-1

NCE (X-UTAH.DWG)

S:\9W-15\SUBMIT-1\RE-2

H:\RE_EARTH\PROJECT\239-0007\1998\9

11-20-98



TYPICAL CROSS SECTION - STA 1+013.368 TO 1+024.273
 (SEE DWG. NO. 2.7R-349-15.1 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

152 X 305 UNREINFORCED CONCRETE LEVELING PAD
 STRUCTURAL FILL

DIMENSION (D) FOR STRUCTURAL FILL TO BE DETERMINED BY FIELD GEOTECHNICAL ENGINEER.


METRIC

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION

DES.	DRN	CHK.	RETAINED EARTH™	NO.	DATE
JN	RSW	JN			

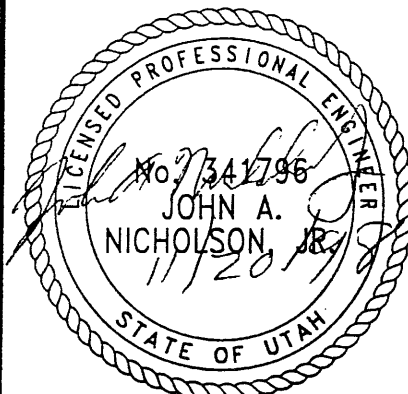
VSL CORPORATION
 2840 Plus Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-8272
 Fax: (919) 781-4869



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 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

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WASATCH CONSTRUCTORS
 DEC 0 2 1998
 RELEASED FOR CONSTRUCTION



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

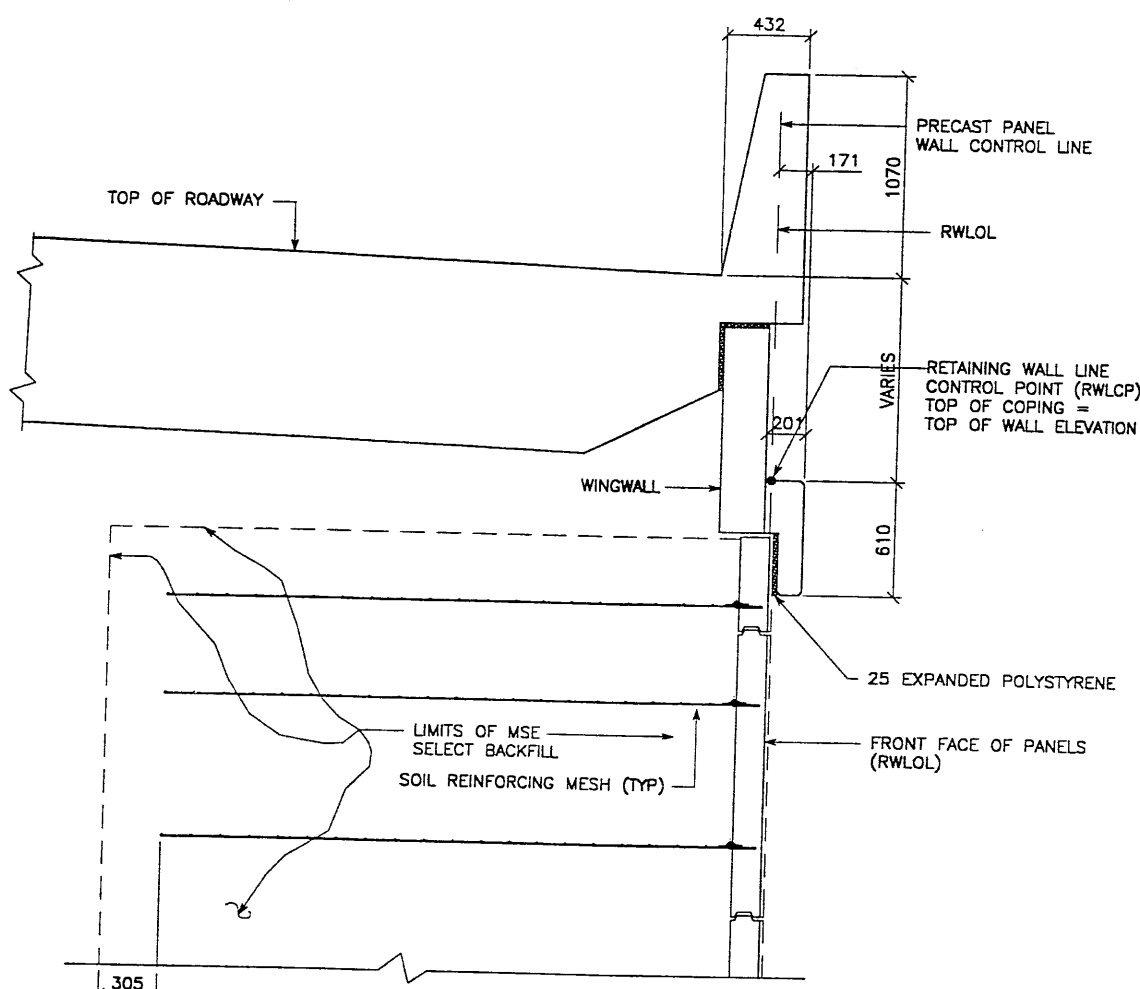
DWG. NO.	2.7R-349-15.3
JOB NO.	239-0007
SHT. NO.	RE-2

NCE (X-UTAH)DWG

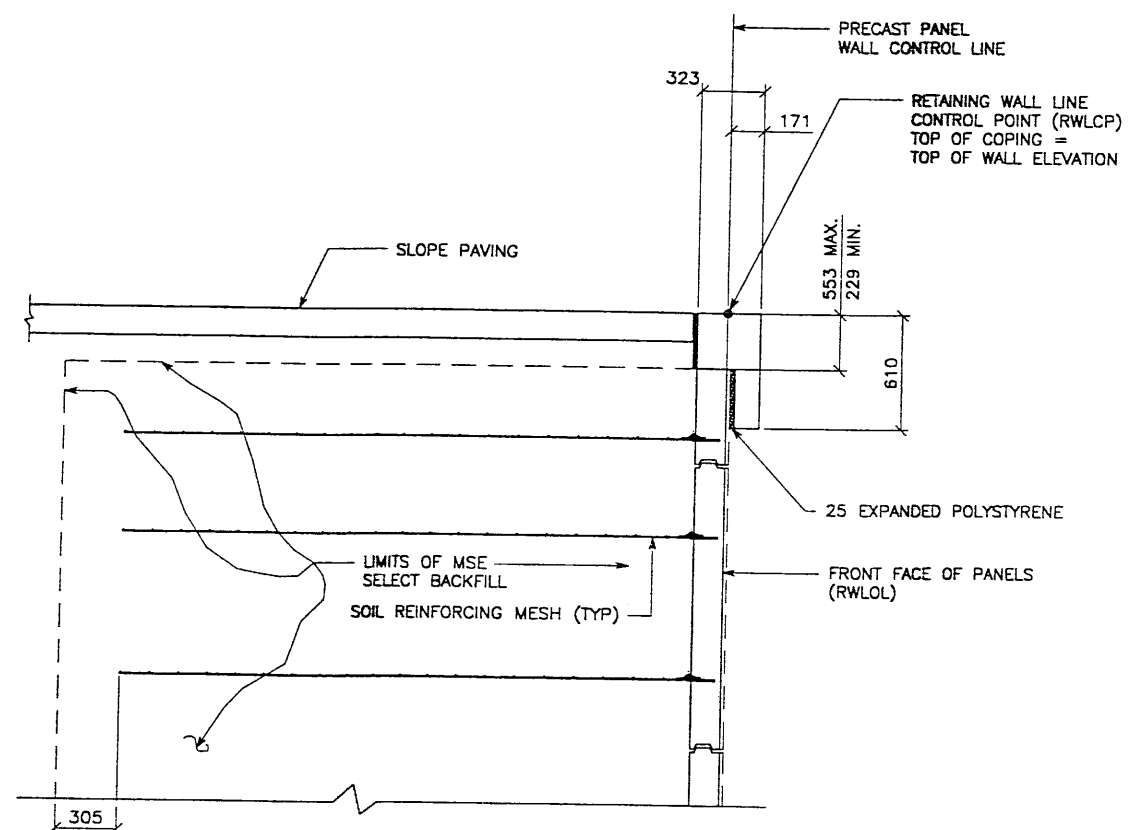
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FINAL



TYPICAL CROSS SECTION - STA 1+009.216 TO 1+013.368
 (SEE DWG. NO. 2.7R-349-15.1 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)



TYPICAL CROSS SECTION W/ SLOPE PAVING
 (SEE DWG. NO. 2.7R-349-15.1 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CHK

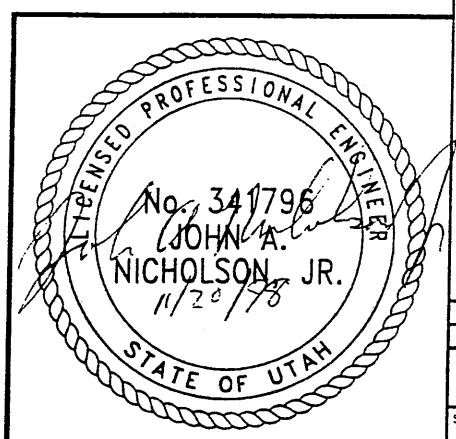
VSL CORPORATION
 2940 Peachtree Lakes, Suite 200
 Atlanta, GA 30328
 Telephone: (404) 781-6272
 Fax: (404) 781-6868

VSL

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WASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION

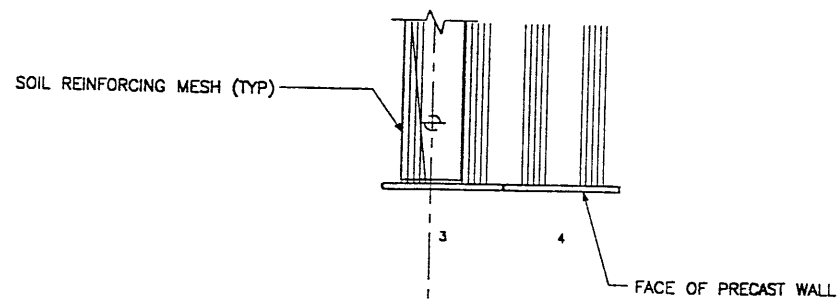


RETAINED EARTH™ WALLS	
WIRE FACED WALL "R-349-15" TYPICAL CROSS SECTION	
UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH	
UTAH DEPARTMENT OF TRANSP.	
DWG. NO.	2.7R-349-15.4
JOB NO.	239-0007
SHT. NO.	RE-3

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METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-20-98	RELEASE FOR CONSTRUCTION



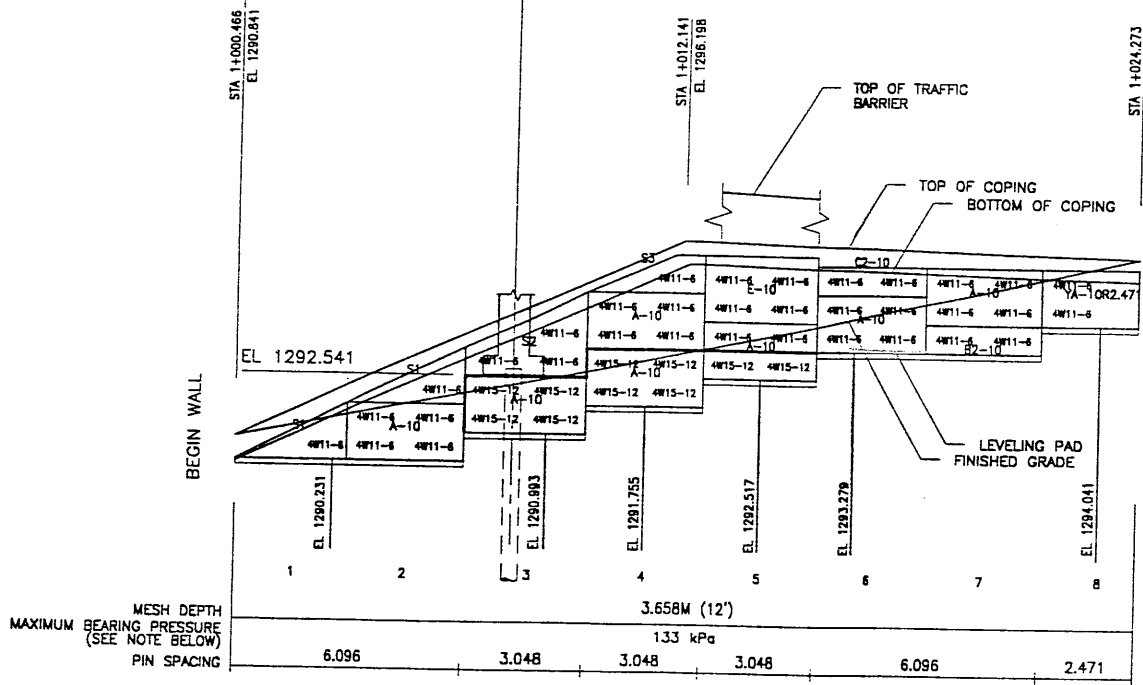
PLAN VIEW PRECAST WALL R-349-15

MATCH BRIDGE (C-837)

BEGIN WALL R-349-15
WALL STA 1+000.466 =
09-900WE STA 1+221.988
● 6.411 RT
NOMINAL PANEL FACE (RWLOL)

ABUTMENT
WALL STA 1+007.759 =
09-900WE STA 1+229.281
BRIDGE C-837

END WALL R-349-15
WALL STA 1+024.273 =
09-900WE STA 1+245.475
● 6.411 RT
NOMINAL PANEL FACE (RWLOL)



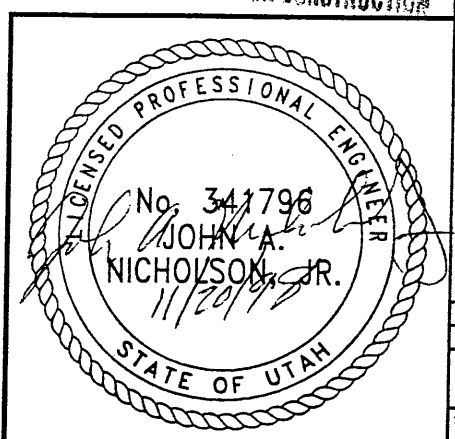
ELEVATION PRECAST WALL R-349-15

(FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
(TOTAL SURFACE AREA OF PANELS = 57.53 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.

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METRIC



WASATCH CONSTRUCTORS
DEC 0 2 1998
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION				NO.	DATE	BY	CHK
NO.	DATE	DESCRIPTION					
△	11-20-98	RELEASE FOR CONSTRUCTION					

DES.	11-19-98	JN				
DRN.	11-19-98	RSW				
CHK.	11-19-98	JN				

VSL CORPORATION		2610 Pinta Place, Suite 200 Folsom, CA 95758-1871 Tel: (916) 948-6272 Fax: (916) 948-4669	
ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA			

RETAINED EARTH™ WALLS	DWG. NO.	2.7R-349-15.5
PRECAST WALL "R-349-15"	JOB NO.	239-0007
UTAH I-15 RECONSTRUCTION	SHT. NO.	RE-4
SALT LAKE COUNTY, UTAH		
UTAH DEPARTMENT OF TRANSP.		

VICE (X-UTAH.DWG)

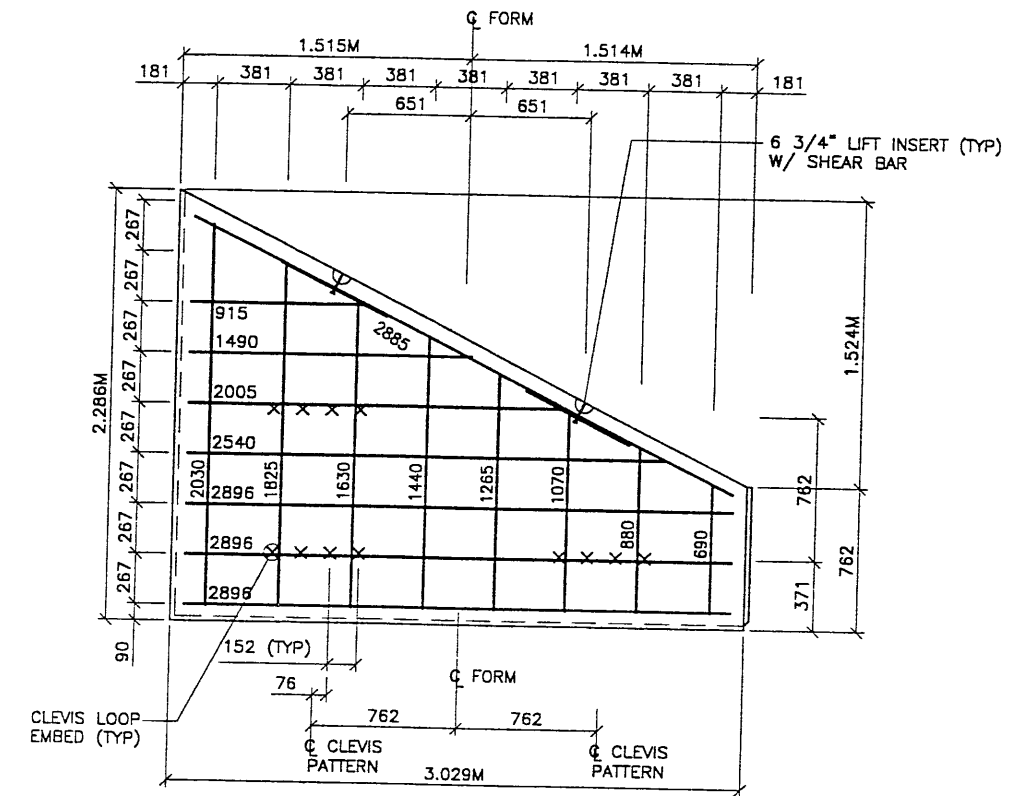
139W-15/SPECIALS

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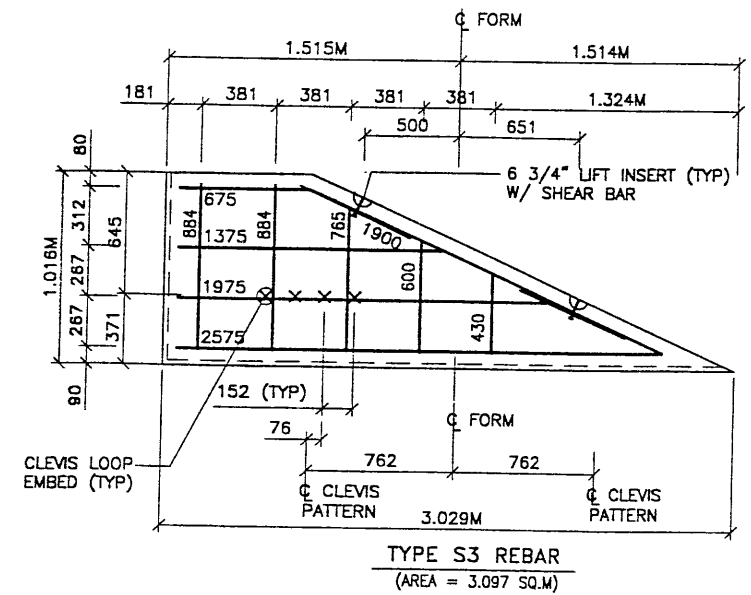
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FINAL

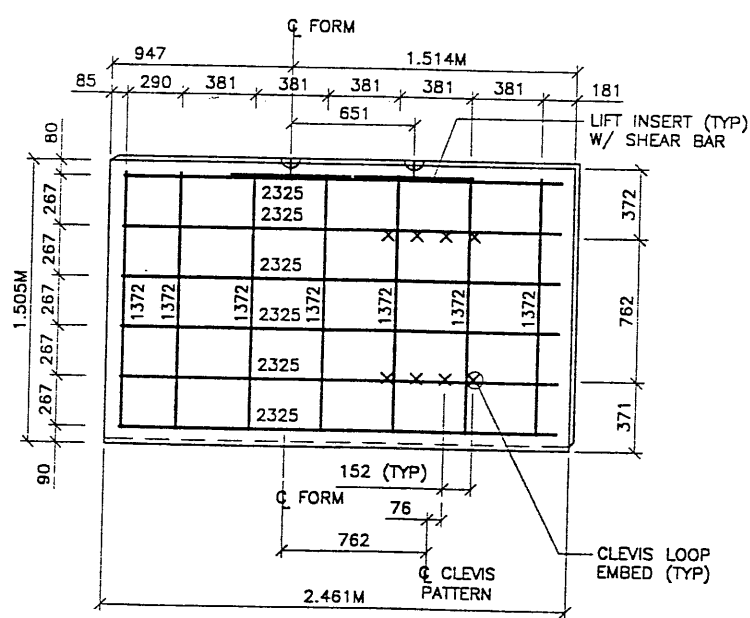
APPROVED FOR CONSTRUCTION			
NO.	DATE	DESCRIPTION	BY
1	11-20-98	RELEASE FOR CONSTRUCTION	CHK



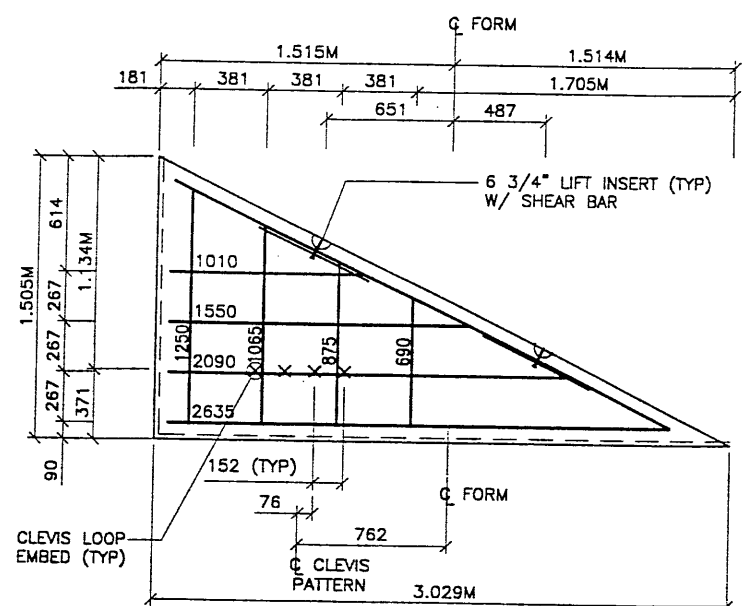
TYPE S2 REBAR
(AREA = 4.45 SQ.M)



TYPE S3 REBAR
(AREA = 3.097 SQ.M)



TYPE YA-10R2.471 REBAR
(AREA = 3.766 SQ.M)

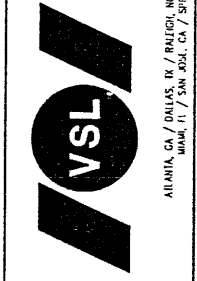


TYPE S1 REBAR
(AREA = 4.645 SQ.M)

- 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 1.
 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 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

DES.	DRN.	CHK.	NO.	DATE	REVISION
JUN	RSW	JUN			

VSL CORPORATION
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Raleigh, NC 27612
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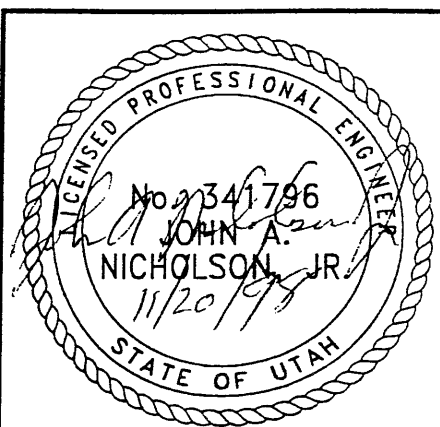


VSL Corporation (VSL) is a direct proprietary manufacturer of precast concrete panels and cast-in-place concrete panels. The design and construction of each panel is based on the information in this manual. The user is responsible for the selection of the panel for the site and for the material and construction of the panel. VSL is not responsible for the design and construction of the panel.

WASATCH CONSTRUCTORS

DEC 02 1998

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RETAINED EARTH™ WALLS
PRECAST WALL "R-349-15"
SPECIAL PANEL DETAILS
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	2.7R-349-15.6
JOB NO.	239-0007
SHT. NO.	RE-5

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METRIC