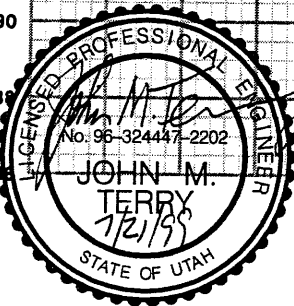
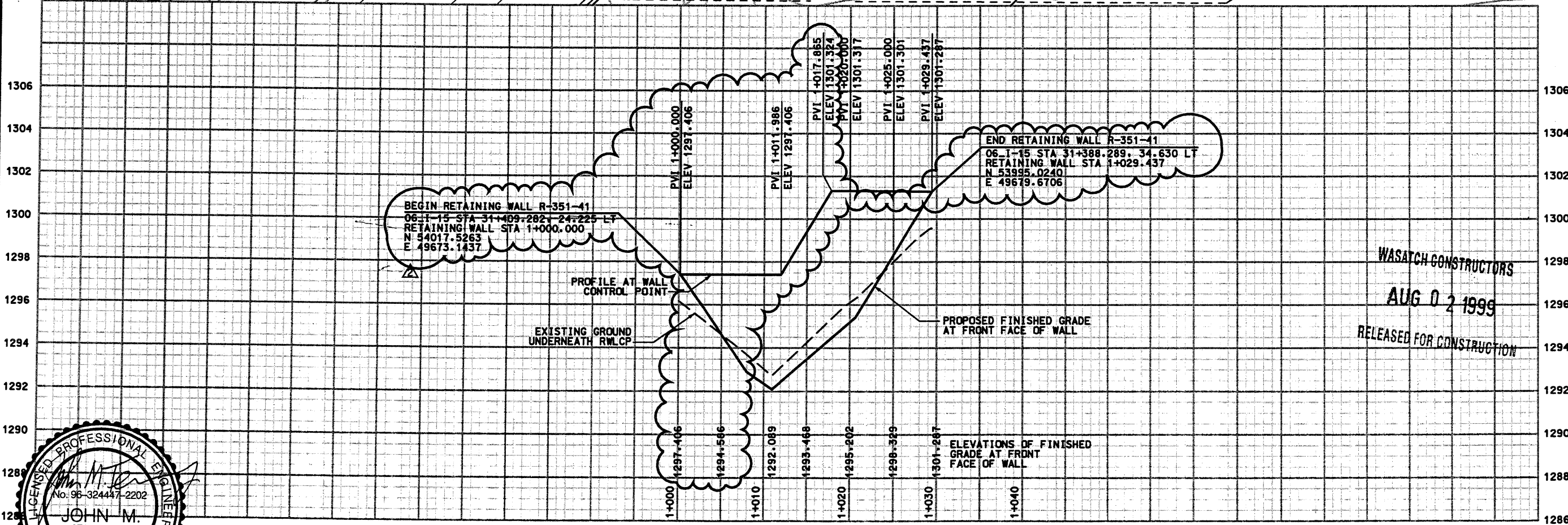
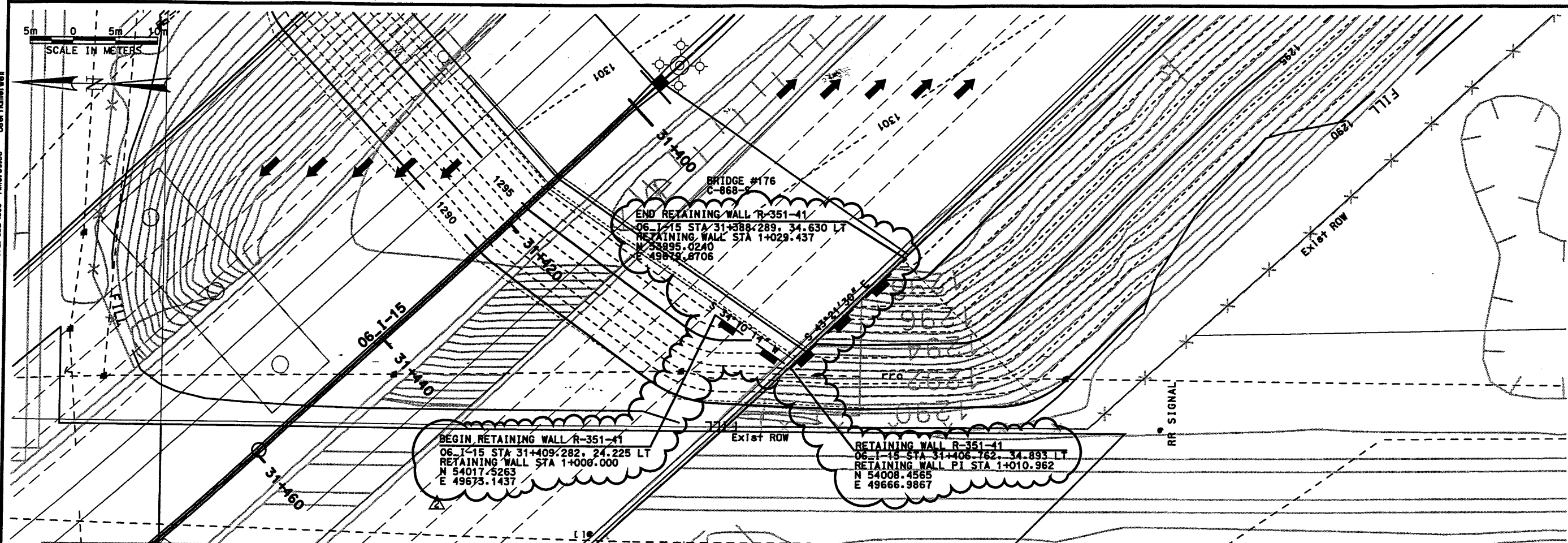


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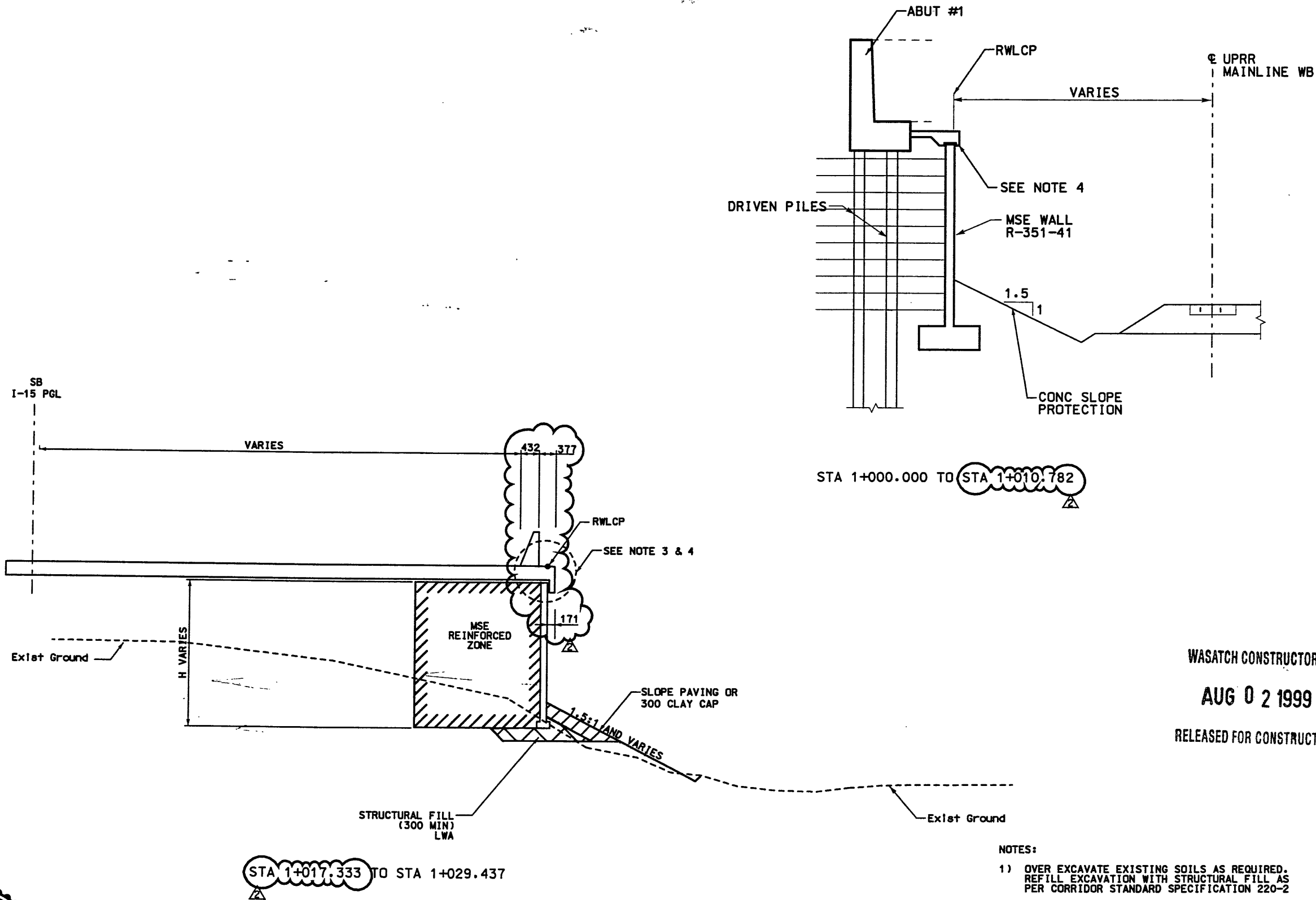


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WALL R-351-41
VIEW IS FRONT FACE OF WALL

WASATCH CONSTRUCTORS
AUG 02 1999
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION																									
NO.	DATE	NO.	DATE																								
A	11/6/98	A	7/21/99																								
INITIAL RELEASE		REVISED ALIGNMENT, NDC-0325																									
<table border="1"> <tr> <td colspan="2">SVERDRUP/DE LEUW</td> <td>DESIGN PLC</td> <td>CHECK MC</td> </tr> <tr> <td>APPROVAL</td> <td>11/6/98</td> <td>MARVIN COOK</td> <td>11/6/98</td> </tr> <tr> <td>RECORD</td> <td>DATE</td> <td>PROJECT DESIGN ENGINEER</td> <td>CHECK PLC</td> </tr> <tr> <td>APPROVED</td> <td>11/6/98</td> <td>KEITH SAROL</td> <td>11/6/98</td> </tr> <tr> <td>DATE</td> <td></td> <td>SECTION MANAGER</td> <td>CHECK</td> </tr> <tr> <td colspan="2"></td> <td>QUANT.</td> <td></td> </tr> </table>				SVERDRUP/DE LEUW		DESIGN PLC	CHECK MC	APPROVAL	11/6/98	MARVIN COOK	11/6/98	RECORD	DATE	PROJECT DESIGN ENGINEER	CHECK PLC	APPROVED	11/6/98	KEITH SAROL	11/6/98	DATE		SECTION MANAGER	CHECK			QUANT.	
SVERDRUP/DE LEUW		DESIGN PLC	CHECK MC																								
APPROVAL	11/6/98	MARVIN COOK	11/6/98																								
RECORD	DATE	PROJECT DESIGN ENGINEER	CHECK PLC																								
APPROVED	11/6/98	KEITH SAROL	11/6/98																								
DATE		SECTION MANAGER	CHECK																								
		QUANT.																									
UTAH DEPARTMENT OF TRANSPORTATION																											
I-15 CORRIDOR RECONSTRUCTION		SITUATION & LAYOUT																									
SECTION 3.2		PROJECT NUMBER																									
		#SP-15-7(135)296																									
SALT LAKE COUNTY																											
DWG. NO. 3.2-R351-41.1																											
SHT. 1 OF 6																											



RETAINING WALL DETAILS

NTS
WALL R351-41
1 STAGE MSE

NOTES:

- 1) OVER EXCAVATE EXISTING SOILS AS REQUIRED. REFILL EXCAVATION WITH STRUCTURAL FILL AS PER CORRIDOR STANDARD SPECIFICATION 220-2
- 2) CONSTRUCT 300mm CLAY CAP WITH LOW PLASTIC SILTY CLAY AS PER CORRIDOR STANDARD SPECIFICATION
- 3) FOR COPING DETAILS STA 1+000.000 TO STA 1+029.437 SEE CS-54-3 THROUGH CS-54-6 AND BRIDGE PLANS
- 4) FOR COPING DETAILS STA 1+010.782 TO STA 1+029.437 SEE CS-54-6 SECTION P AND BRIDGE PLANS



SEALED FOR THE NO. OF SUBMITTAL ONLY.

WASATCH CONSTRUCTORS
AUG 02 1999
RELEASED FOR CONSTRUCTION

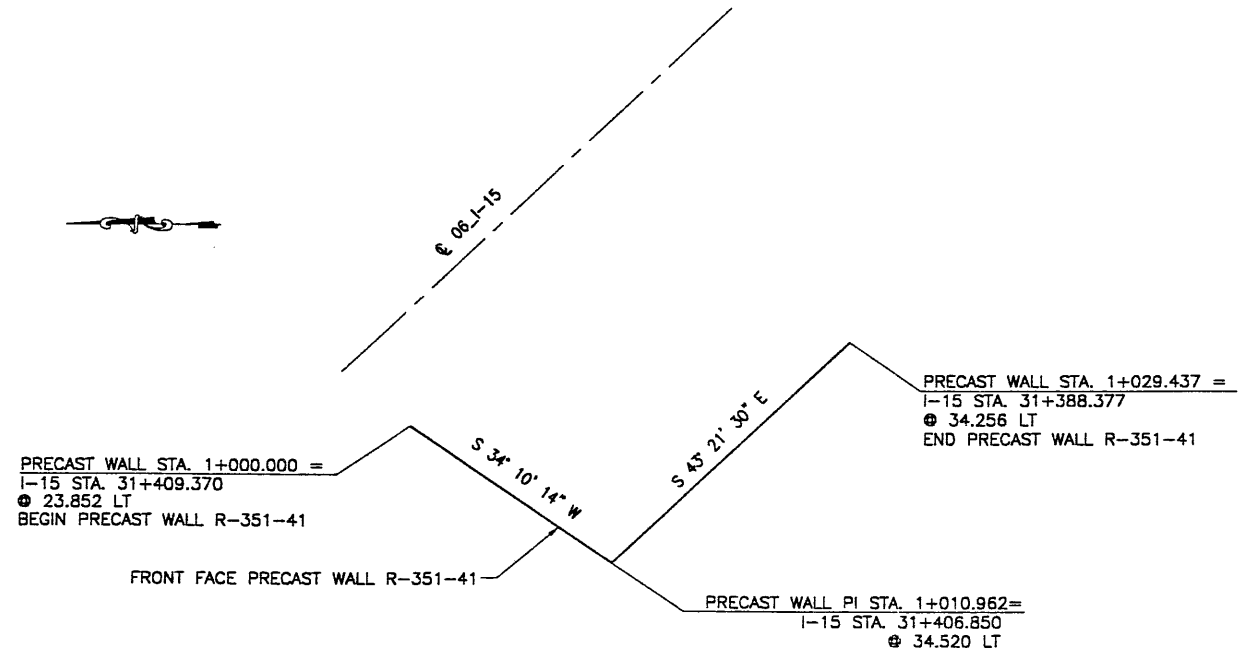
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NO.	DATE	INITIAL RELEASE	REVISED DETAILS, NDC-0325
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A	7/21/98		
UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
DESIGN PLC	CHECK MC	DESIGN PLC	CHECK MC
11/0/98	11/0/98	11/0/98	11/0/98
DRAWN SYD	CHECK PLC	DRAWN SYD	CHECK PLC
11/0/98	11/0/98	11/0/98	11/0/98
QUANT.	QUANT.	QUANT.	QUANT.
APPROVAL REGIONAL	DATE	MARVIN COOK	PROJECT DESIGN ENGINEER
11/0/98	11/0/98	11/0/98	11/0/98
APPROVED	DATE	KEITH SABOL	SECTION MANAGER
11/0/98	11/0/98	11/0/98	11/0/98
I-15 CORRIDOR RECONSTRUCTION		TYPICAL SECTION	
SECTION 3.2		SECTION 3.2	
PROJECT NUMBER #SP-15-7(135)296		PROJECT NUMBER #SP-15-7(135)296	
SALT LAKE COUNTY		SALT LAKE COUNTY	
DWG. NO. 3.2-R351-41.2		DWG. NO. 3.2-R351-41.2	
SHT. 2 OF 6		SHT. 2 OF 6	

FINA T 11-04-98 H:\RE_EARTH\PROJECT\239-0007\1998 \65-46\SUBMIT-2\RE-1 ICE (X-UTAH.DWG)

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-351-41, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTIONS
RE-3	ELEVATION PRECAST WALL "R-351-41"
RE-4	SPECIAL PANEL DETAILS

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	11-04-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION	CHK



PLAN VIEW WALL "R-351-41"
 SCALE: 1=400 (FULL SIZE)
 SCALE: 1=800 (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: 4W15-6 MESH HAS FOUR (4) W15 LONGITUDINAL WIRES WITH W15 CROSSBARS AT 6" CENTERS.
EXAMPLE: 5W15-6 MESH HAS FIVE (5) W15 LONGITUDINAL WIRES WITH W15 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.
 - GEOTECHNICAL ENGINEER TO FIELD VERIFY FOUNDATION CONDITIONS AND EXTENT OF STRUCTURAL FILL.

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 38° (SLAG)	
ANGLE OF INTERNAL FRICTION (BASE) = 38° (SLAG)	
ANGLE OF INTERNAL FRICTION (RANDOM) = 34° (SLAG)	
UNIT WEIGHT BACKFILL = 82 PCF (12.88 KN/M ³) (SLAG)	
TRAFFIC SURCHARGE = 250 PSF (12 KPa)	
SEISMIC ACCELERATION COFF. = 0.27g (TYP)	
SEISMIC ACCELERATION COFF. = 0.68g (AT BRIDGE ABUTMENTS)	
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

METRIC

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

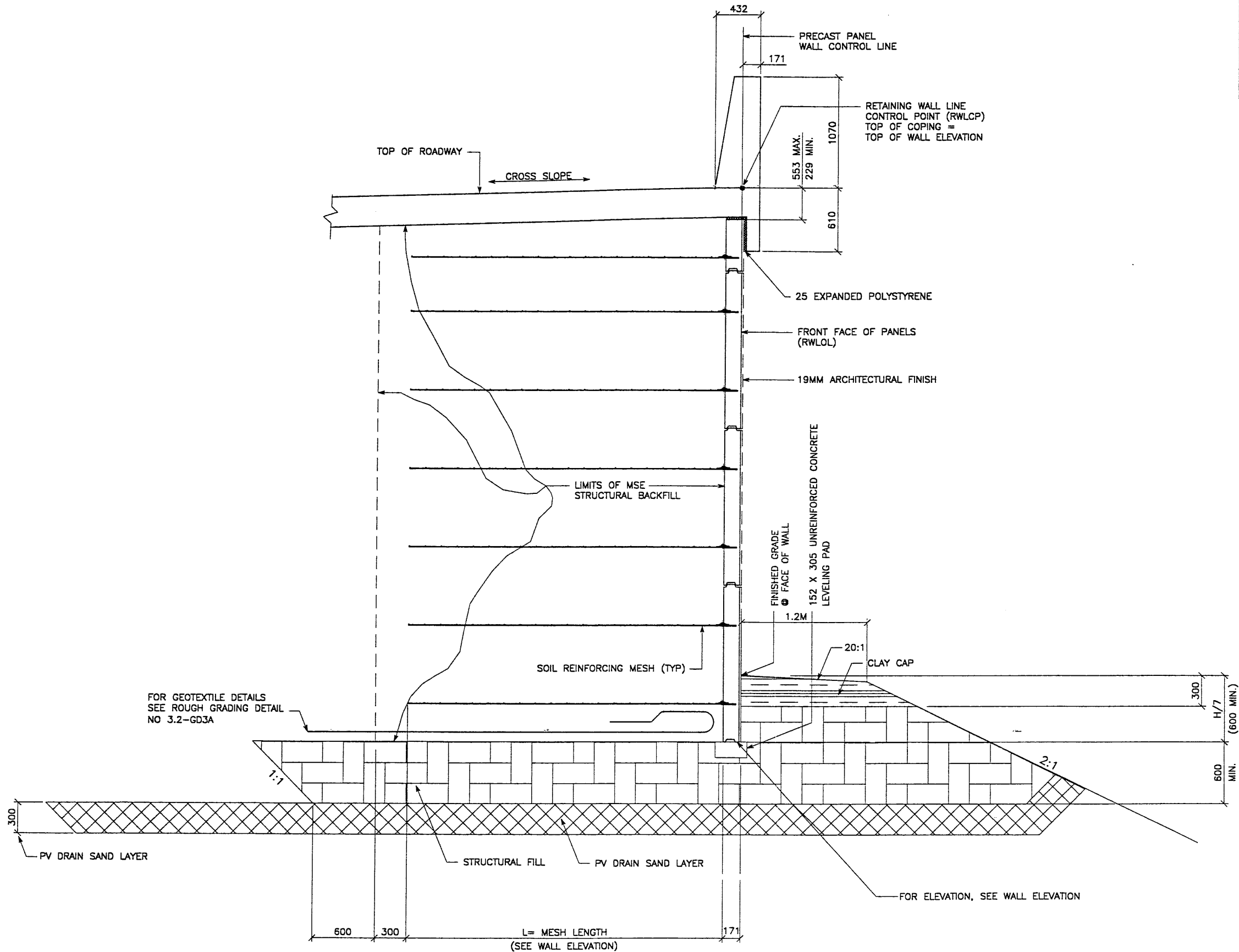
WASATCH CONSTRUCTORS
 NOV 11 1998
 RELEASED FOR CONSTRUCTION

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-6899

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

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RETAINED EARTH™ WALLS
PLAN VIEW PRECAST WALL "R-351-41"
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO. 3.2R-351-41.3
JOB NO. 239-0007
SHT. NO. RE-1



FOR GEOTEXTILE DETAILS
SEE ROUGH GRADING DETAIL
NO 3.2-GD3A

FOR ELEVATION, SEE WALL ELEVATION

TYPICAL CROSS SECTION - STA 1+010.962 TO 1+029.437
(SEE DWG. NO. 3.2R-351-41.X FOR ADDITIONAL INFORMATION)
SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)

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

METRIC

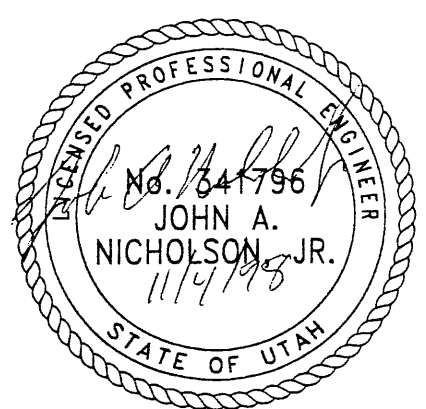
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	11-04-98	RELEASE FOR CONSTRUCTION

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

VSL CORPORATION
2800 Pineda Place, Suite 700
Houston, TX 77057
Phone: (919) 781-6272
Fax: (919) 781-6869

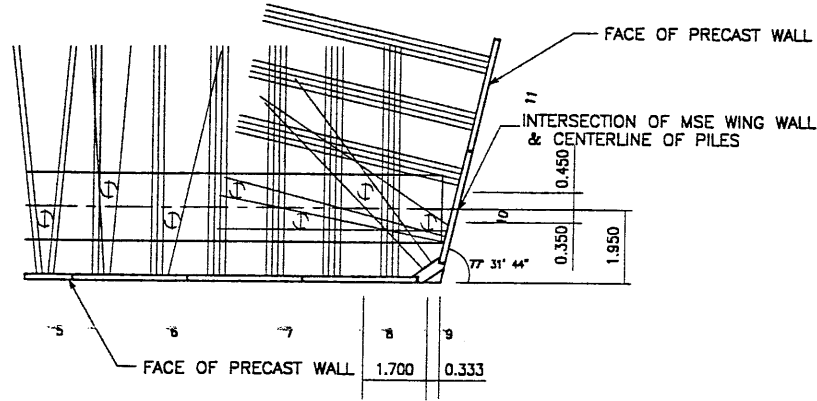
VSL
ATLANTA, GA / DALLAS, TX / HALEIGH, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
NOV 11 1998
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RETAINED EARTH™ WALLS
WIRE FACED WALL "R-351-41"
TYPICAL CROSS SECTION
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

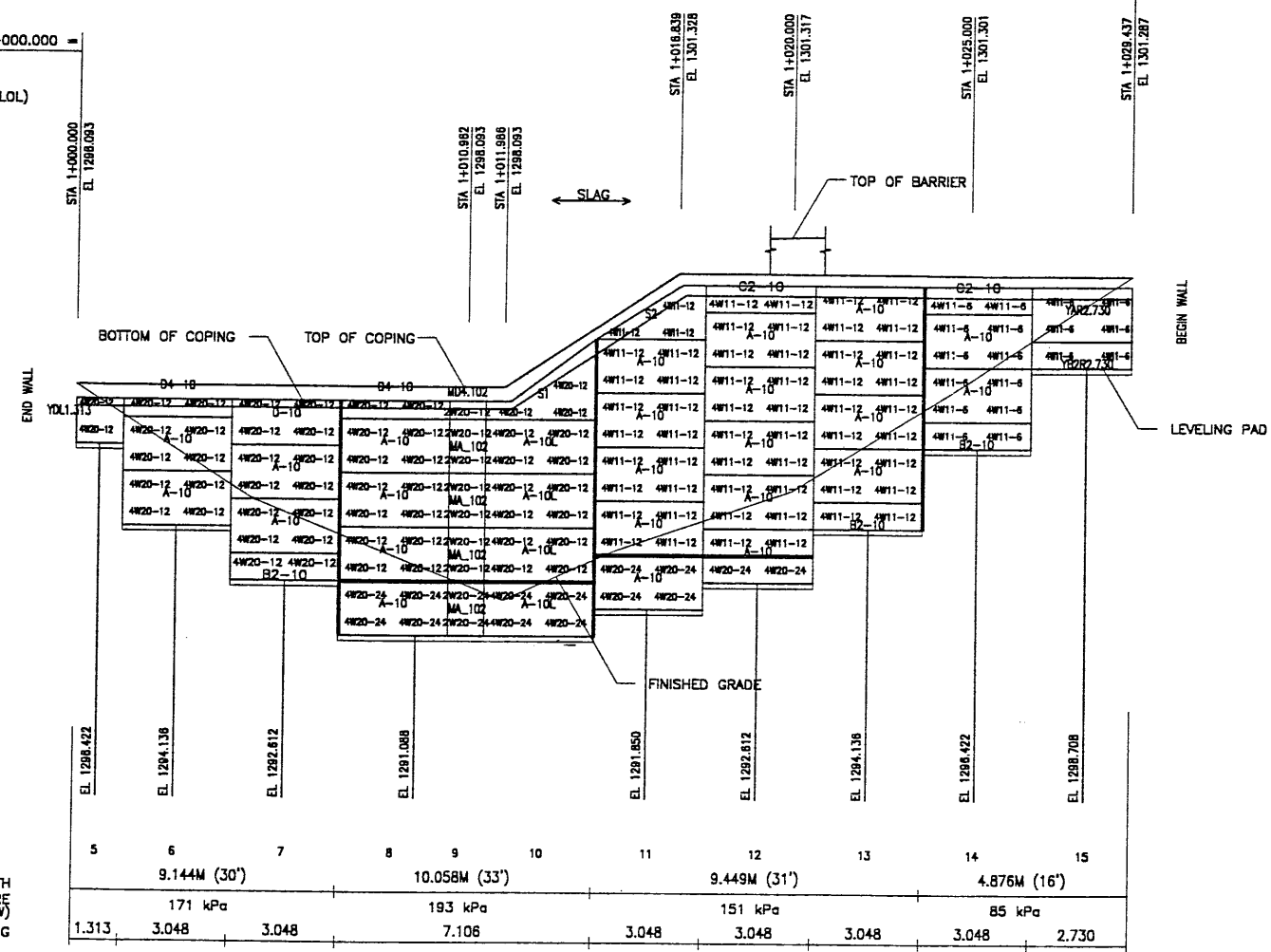
DWG. NO.	3.2-R-351-41.4
JOB NO.	239-0007
SHT. NO.	RE-2



PLAN VIEW PRECAST WALL R-351-41

PRECAST WALL PT STA 1+000.000 =
1-15 STA 31+409.370
● 23.852 LT
NOMINAL PANEL FACE (RWLOL)

PRECAST WALL PT STA 1+029.437 =
1-15 STA 31+388.377
● 34.256 LT
NOMINAL PANEL FACE (RWLOL)



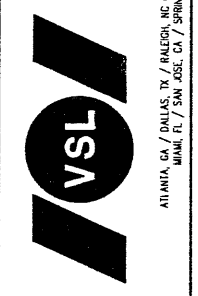
ELEVATION PRECAST WALL R-351-41

(FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
(TOTAL SURFACE AREA OF PANELS = 168.56 SM) SCALE 1:200 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	11-04-98	RELEASE FOR CONSTRUCTION

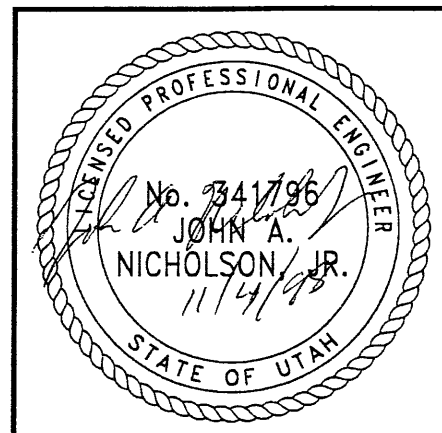
DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	BY	CHK
JUN	RSW	JUN					
JUN	RSW	JUN					

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-5272
Fax: (919) 781-6669



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WASATCH CONSTRUCTORS
NOV 11 1998
RELEASED FOR CONSTRUCTION



RETAINED EARTH™ WALLS
PRECAST WALL "R-351-41"
UTAH 1-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2R-351-41.5
JOB NO.	239-0007
SHT. NO.	RE-3

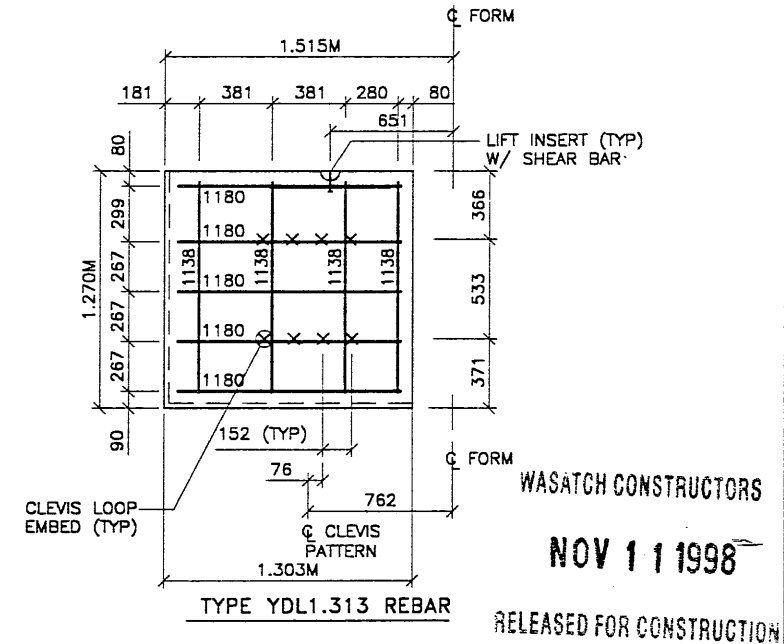
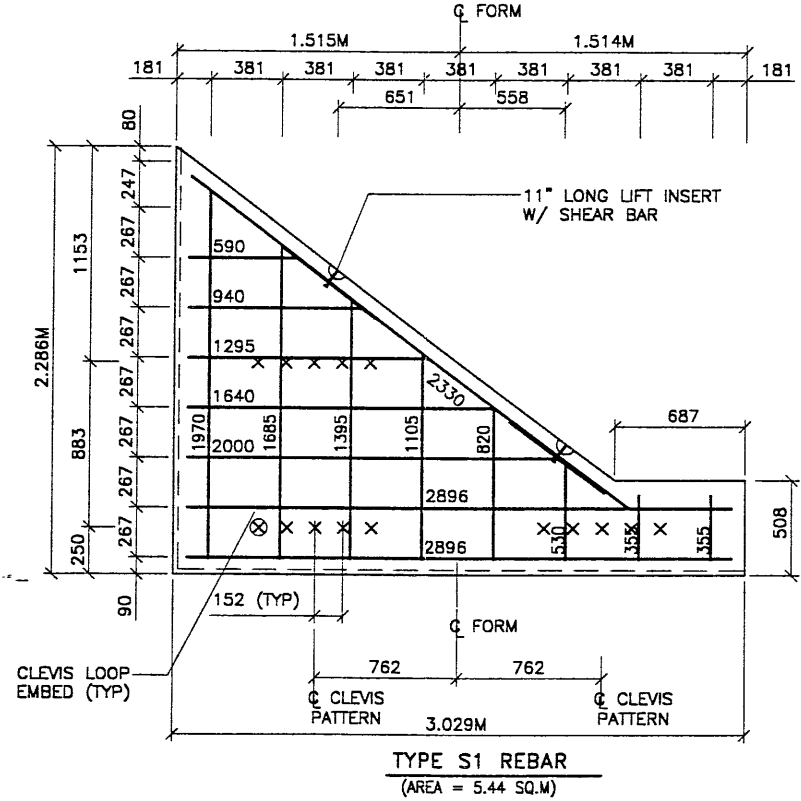
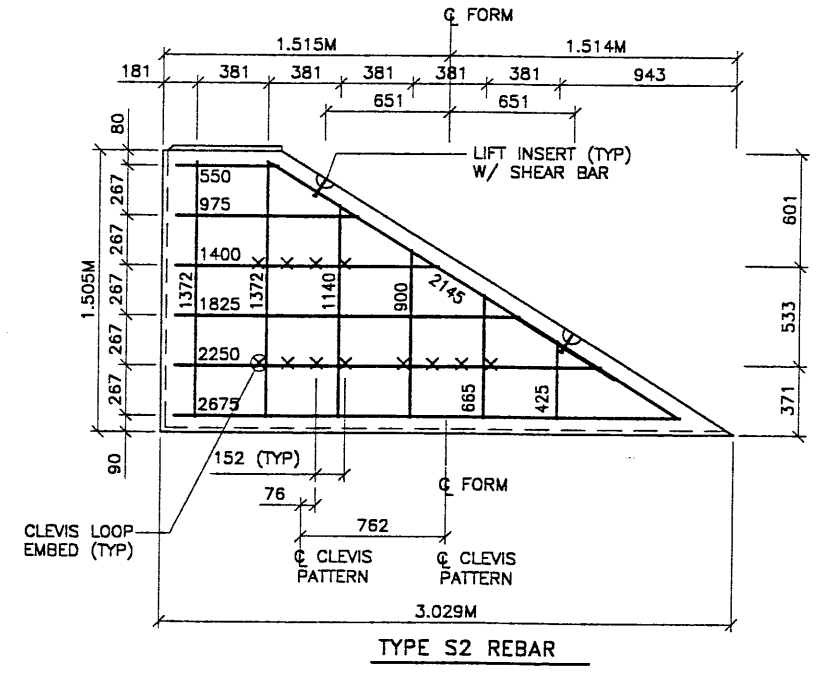
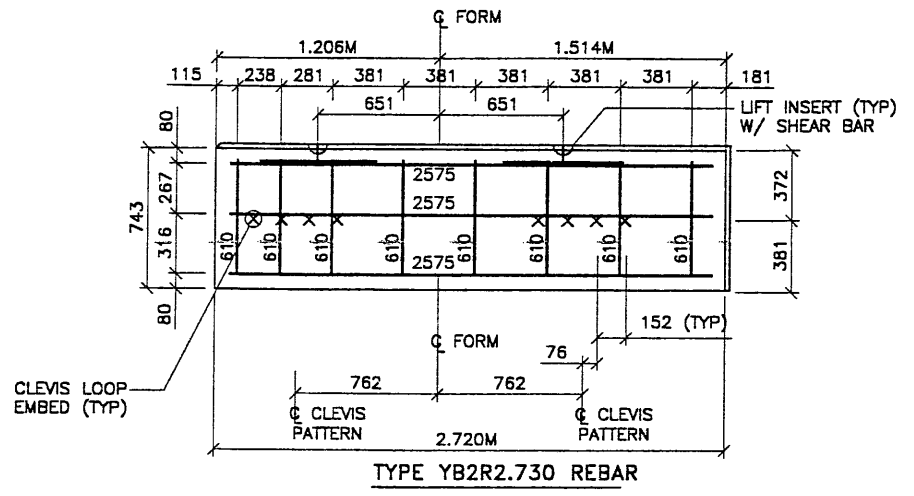
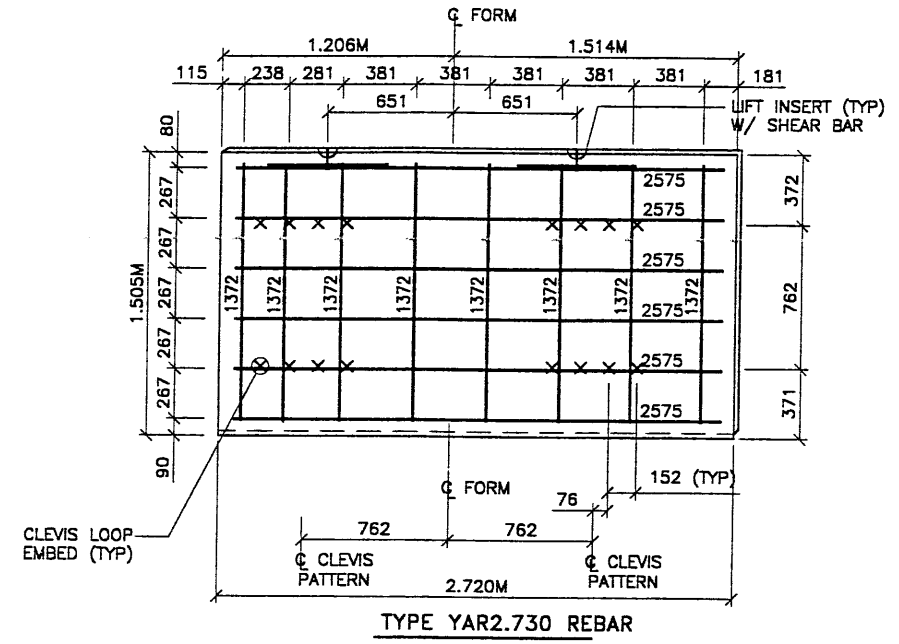
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METRIC

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

T 11-04-98
 H:\RE_EARTH\APRC
 '9-0007\1998\6S-WALLS\6S-47\SUBMIT-2\SPECIALS
 (X-UTAH.DWG)


APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	11-04-98	RELEASE FOR CONSTRUCTION



- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 20,700 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 - UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

DES.	DRN.	CHK.	DATE	NO.	DATE	BY
JL	RSW	JL	10-12-98			
			10-12-98			
			10-12-98			

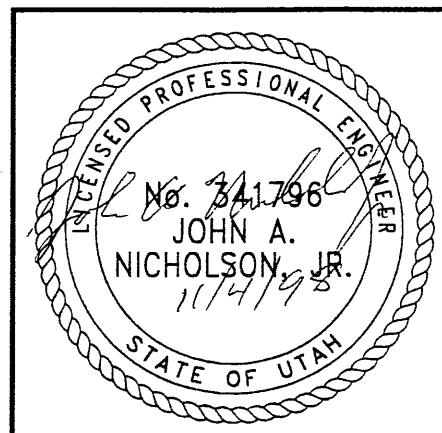
VSL CORPORATION
 2840 Plaza Blvd, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4969



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WASATCH CONSTRUCTORS
NOV 11 1998
 RELEASED FOR CONSTRUCTION

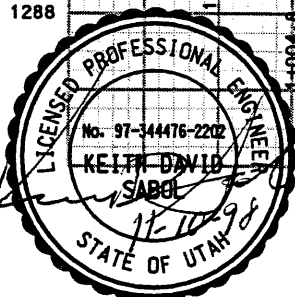
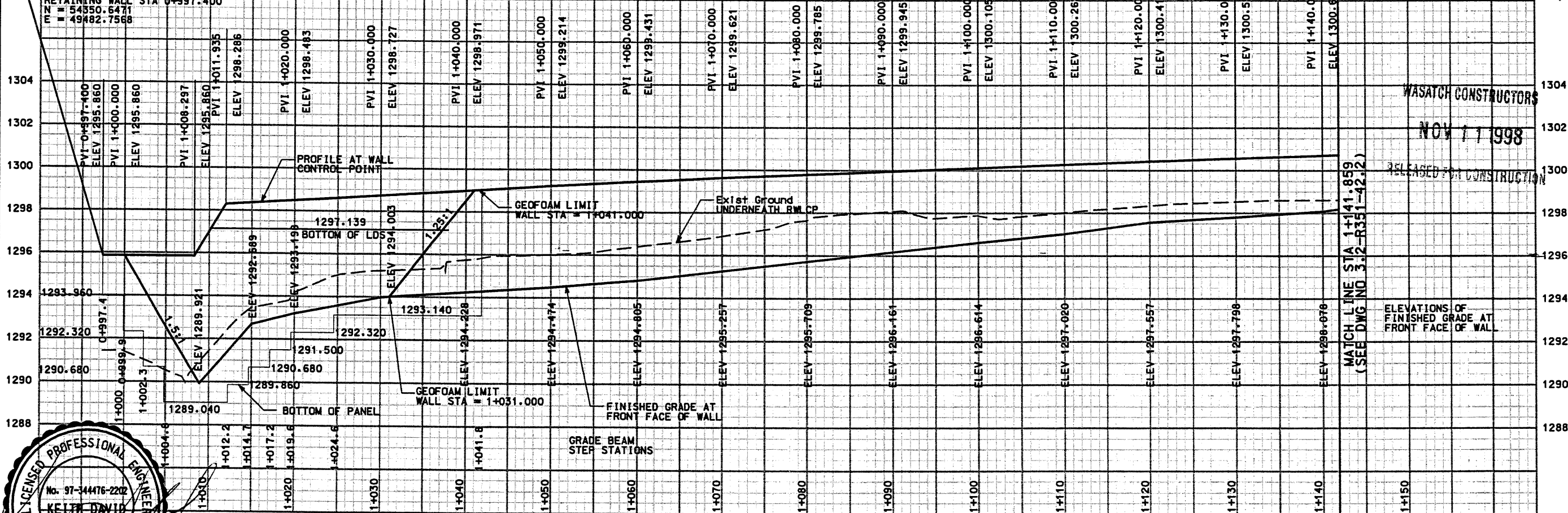
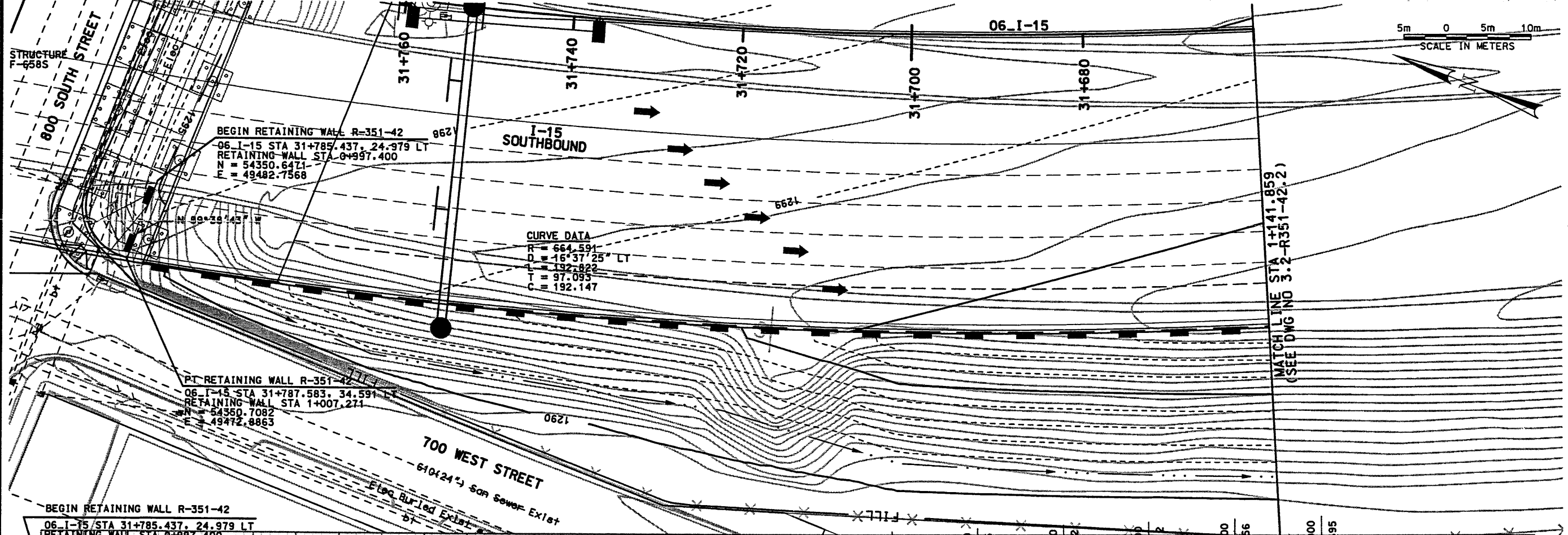


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METRIC

RETAINED EARTH™ WALLS PRECAST WALL "R-351-41" SPECIAL PANEL DETAILS	UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO.	3.2-R-351-41.6
JOB NO.	239-0007
SHT. NO.	RE-4

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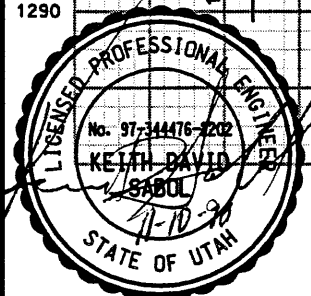
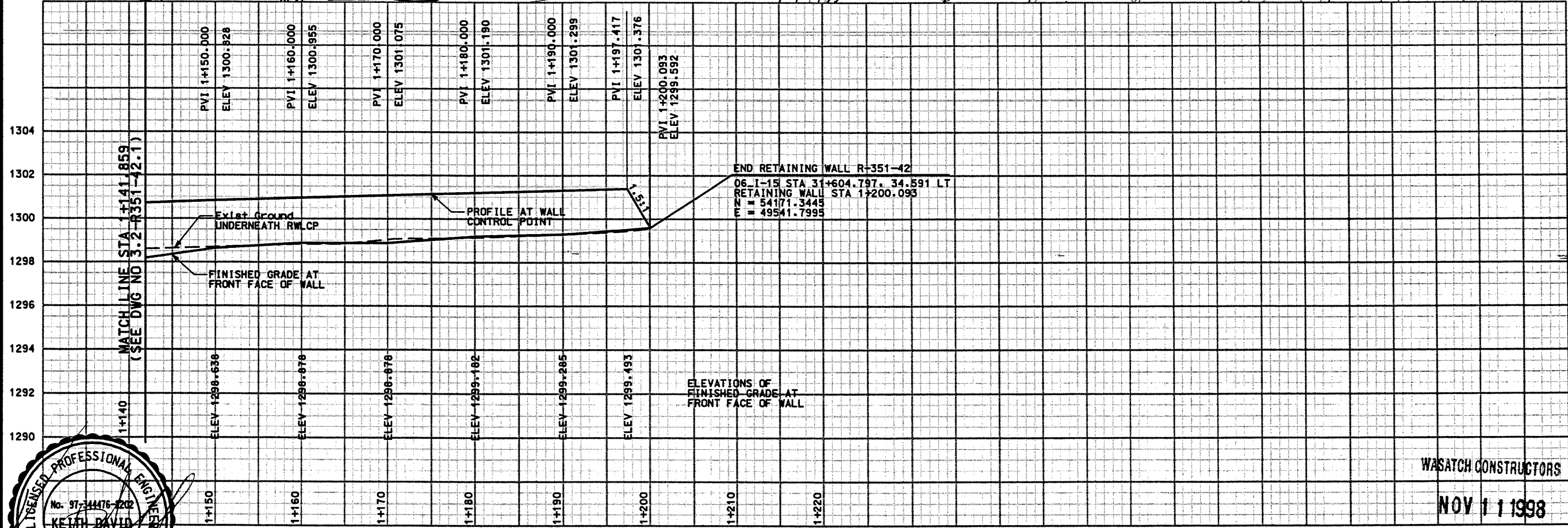
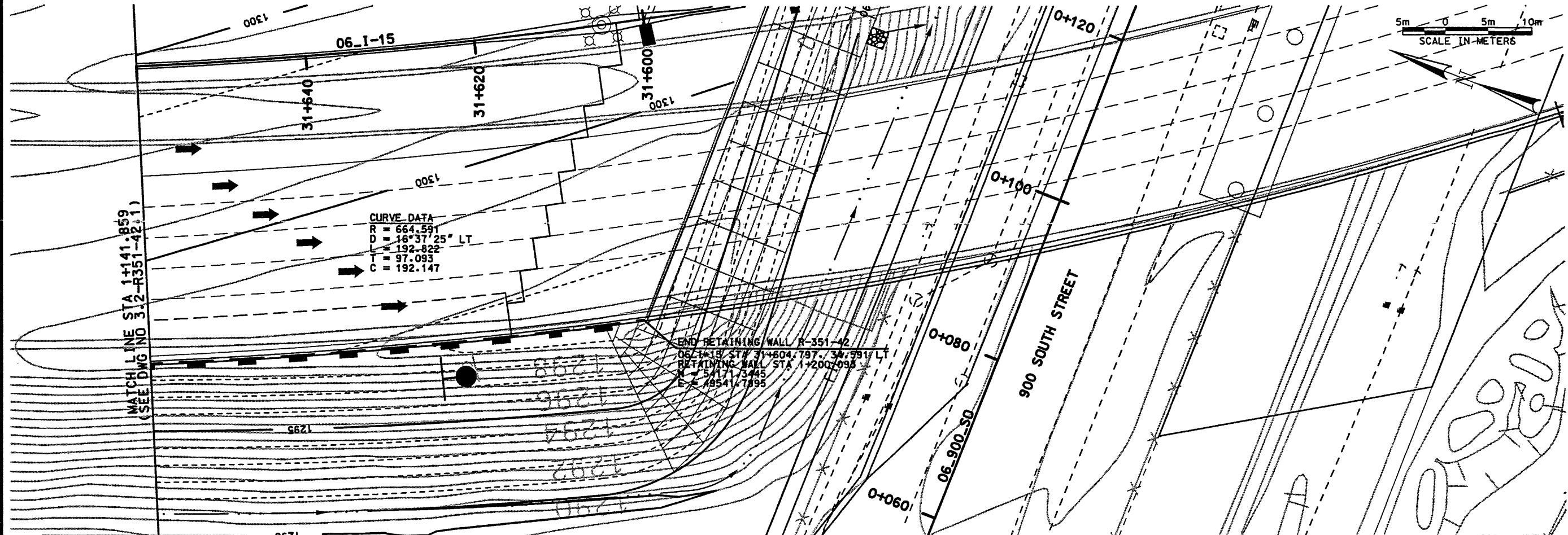


WALL R-351-42
 VIEW IS FRONT FACE OF WALL

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	NO.	DATE
1	11/10/98		
RELEASE FOR CONSTRUCTION			
UTAH DEPARTMENT OF TRANSPORTATION			
SVERDRUP/DE LEUW		DESIGN PLG 11/10/98	
MARVIN COOK		CHECK MC 11/10/98	
PROJECT DESIGN ENGINEER		DRAWN SVD 11/10/98	
APPROVAL DATE 11/10/98		CHECK PLC 11/10/98	
APPROVED 11/10/98		CHECK PLG 11/10/98	
KEITH SABOL		CHECK	
SECTION MANAGER		QUANT.	
I-15 CORRIDOR RECONSTRUCTION			
SITUATION & LAYOUT			
SECTION 3-2			
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWC. NO. 3.2-R351-42.1			
SHT. 1 OF 9			

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WALL R-351-42
 VIEW IS FRONT FACE OF WALL

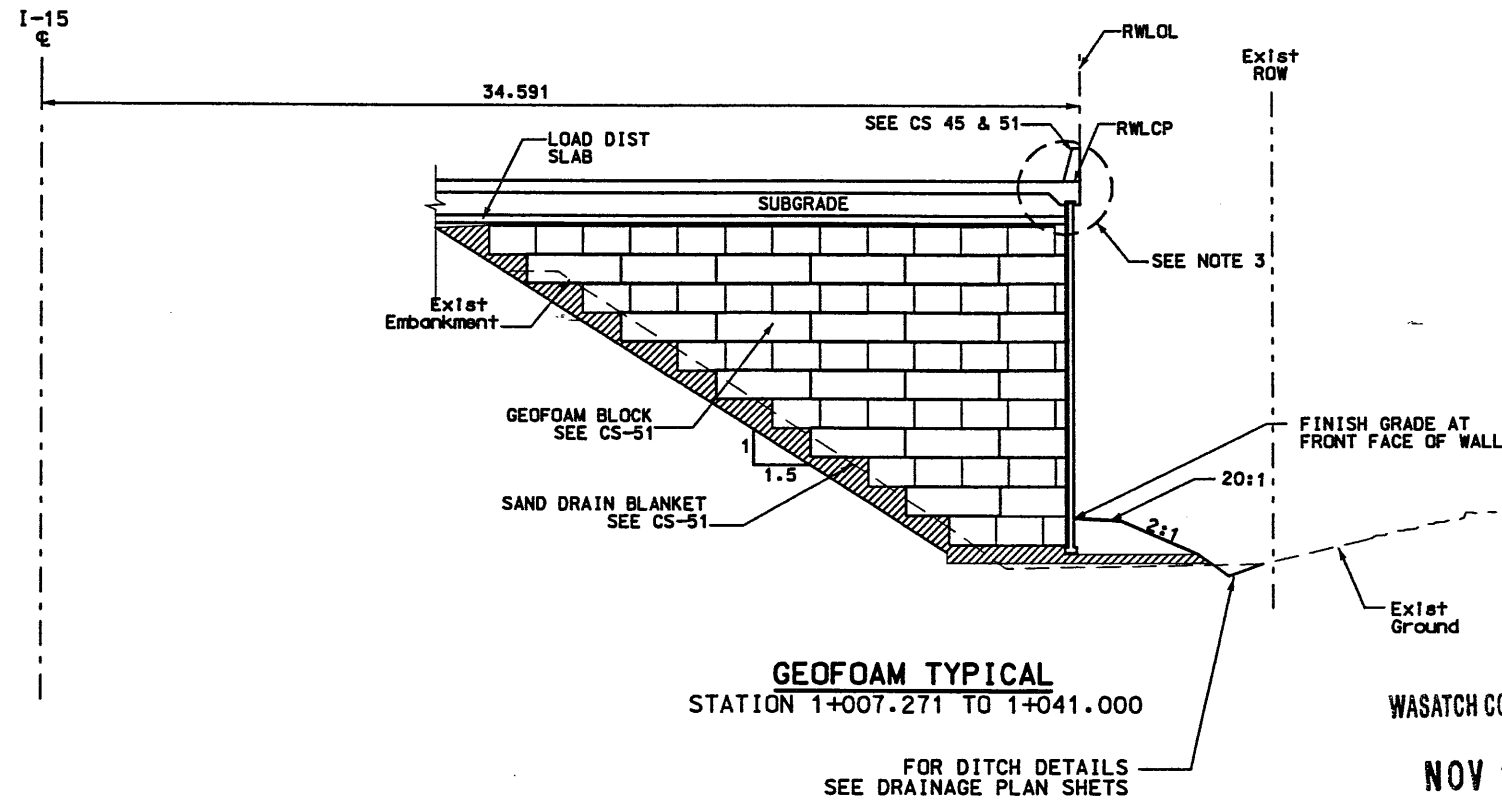
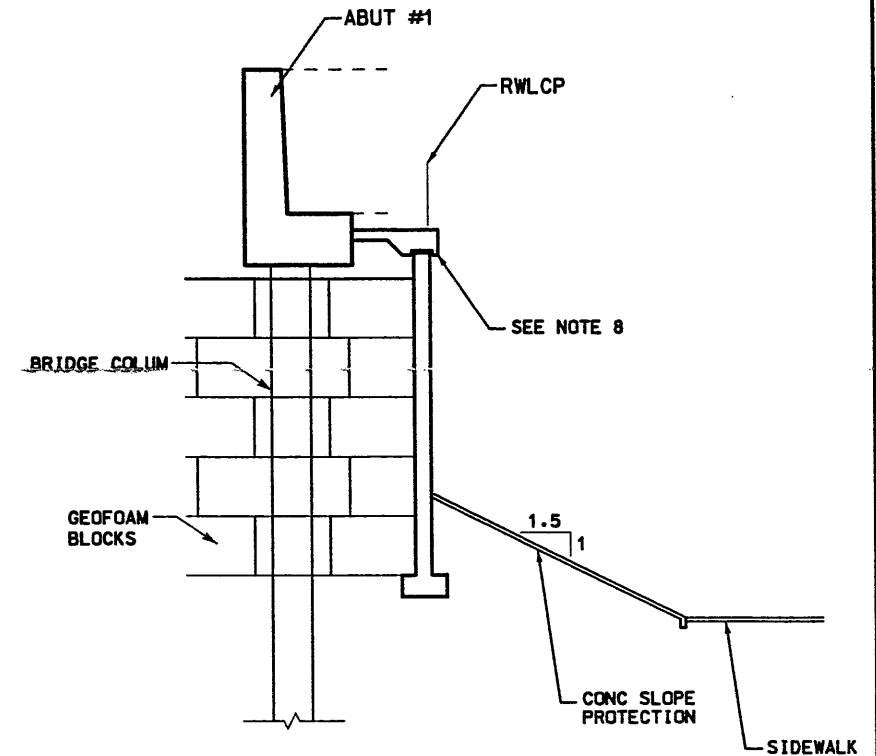
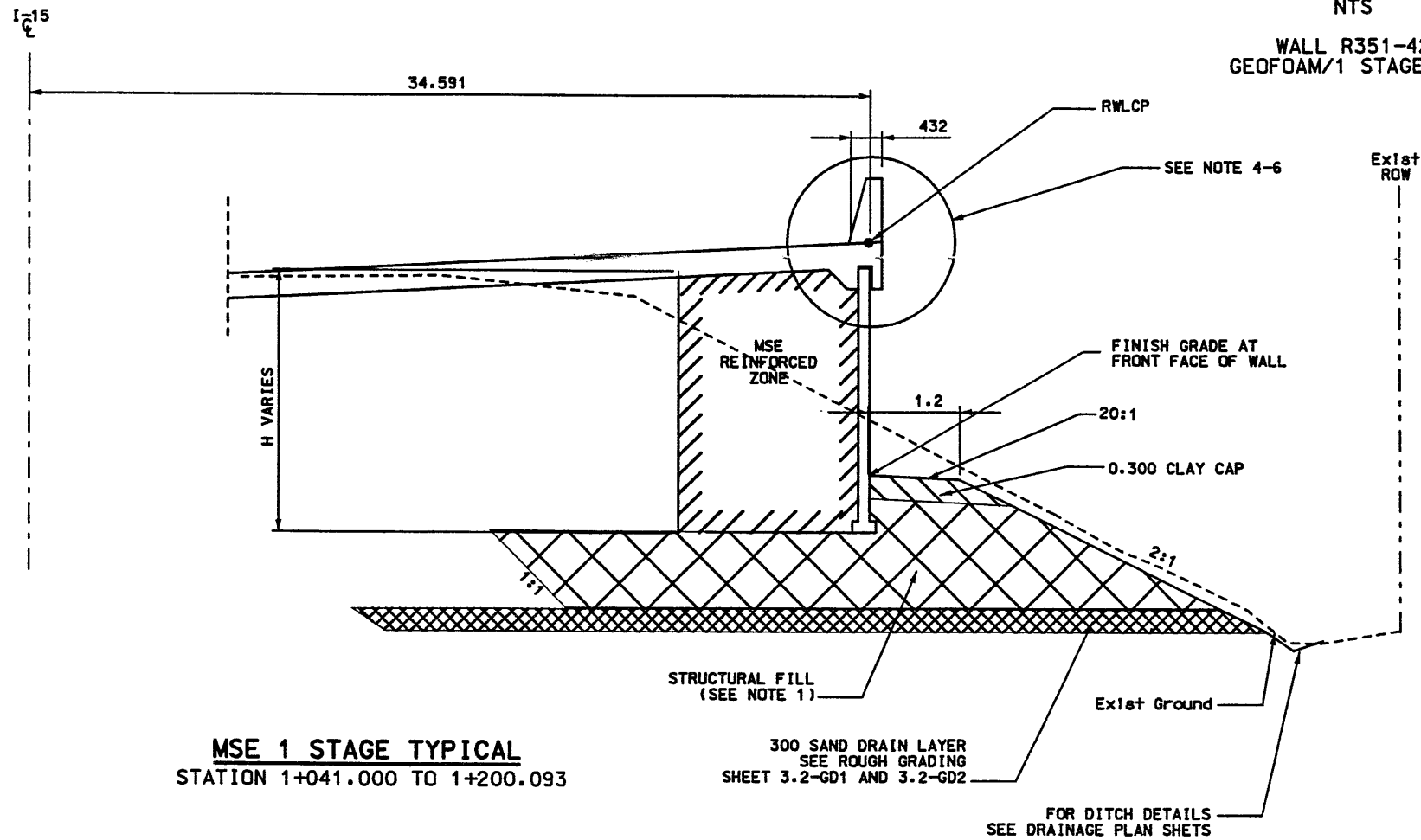
WASATCH CONSTRUCTORS
 NOV 11 1998

RELEASED FOR CONSTRUCTION

UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
I-15 CORRIDOR RECONSTRUCTION		SITUATION & LAYOUT	
SECTION 3.2		SECTION 3.2	
PROJECT NUMBER #SP-15-7(135)296		PROJECT NUMBER #SP-15-7(135)296	
APPROVAL RECOMM. DATE 11/10/98		APPROVAL DATE 11/10/98	
DESIGNER MARVIN COOK		CHECKER MC 11/10/98	
PROJECT DESIGN ENGINEER DATE 11/10/98		CHECKER SVD 11/10/98	
DRAWN KEITH SABOL		CHECKER PLC 11/10/98	
SECTION MANAGER DATE		CHECK QUANT.	
APPROVED FOR CONSTRUCTION		APPROVED FOR CONSTRUCTION	
NO.	DATE	DESCRIPTION	
1	11/10/98	RELEASE FOR CONSTRUCTION	
SALT LAKE COUNTY		DWC. NO. 3.2-R351-42.2	
SHT. 2		OF 9	

RETAINING WALL DETAILS

NTS
WALL R351-42
GEOFOAM/1 STAGE MSE



NOTES:

- 1) OVEREXCAVATE EXISTING SOILS AS REQUIRED. REFILL EXCAVATION WITH STRUCTURAL FILL AS PER CORRIDOR STANDARD SPECIFICATION 220.2.
- 2) CONSTRUCT 300mm CLAY CAP WITH LOW PLASTIC SILTY CLAY AS PER CORRIDOR STANDARD SPECIFICATION.
- 3) FOR COPING DETAILS STATION 1+007.271 TO STATION 1+041.000 SEE GEOFOAM CORRIDOR STANDARD DRAWING CS-45 AND CS-51.
- 4) FOR COPING DETAILS STATION 1+041.000 TO STATION 1+184.530 SEE CORRIDOR STANDARD DRAWING CS-54-4 SECTION A.
- 5) FOR COPING DETAILS STATION 1+184.530 TO STATION 1+191.828 SEE CORRIDOR STANDARD DRAWING CS-54-4 SECTION D.
- 6) FOR COPING DETAILS STATION 1+191.828 TO STATION 1+200.093 CORRIDOR STANDARD DRAWING CS-54-5 SECTION I.
- 7) FOR MSE/GEOFOAM TRANSITION DETAILS SEE VSL PLAN SHEETS.
- 8) FOR COPING DETAILS STATION 0+997.400 TO STATION 1+007.271 SEE CORRIDOR STANDARD DRAWING CS-54-6 SECTION P.

WASATCH CONSTRUCTORS

NOV 11 1998

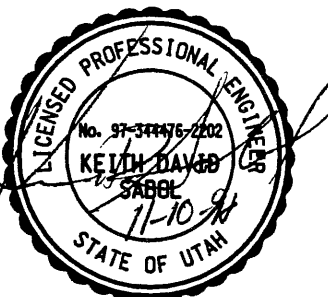
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APPROVED FOR CONSTRUCTION	
NO.	DATE
1	11/10/98
RELEASE FOR CONSTRUCTION	

UTAH DEPARTMENT OF TRANSPORTATION	
SVERDRUP/DE LEUW	
DESIGN	PLC
CHECK	MC
DATE	11/10/98
DRAWN	SVD
CHECK	MC
DATE	11/10/98
APPROVED	DATE
MARVIN COOK	11/10/98
PROJECT DESIGN ENGINEER	
KEITH SABOL	11/10/98
SECTION MANAGER	

I-15 CORRIDOR RECONSTRUCTION	TYPICAL SECTION
SECTION 3.2	
PROJECT NUMBER	#SP-15-7(135)296
COUNTY	SALT LAKE
DWG. NO.	3.2-R351-42.3
SHT.	3 OF 9

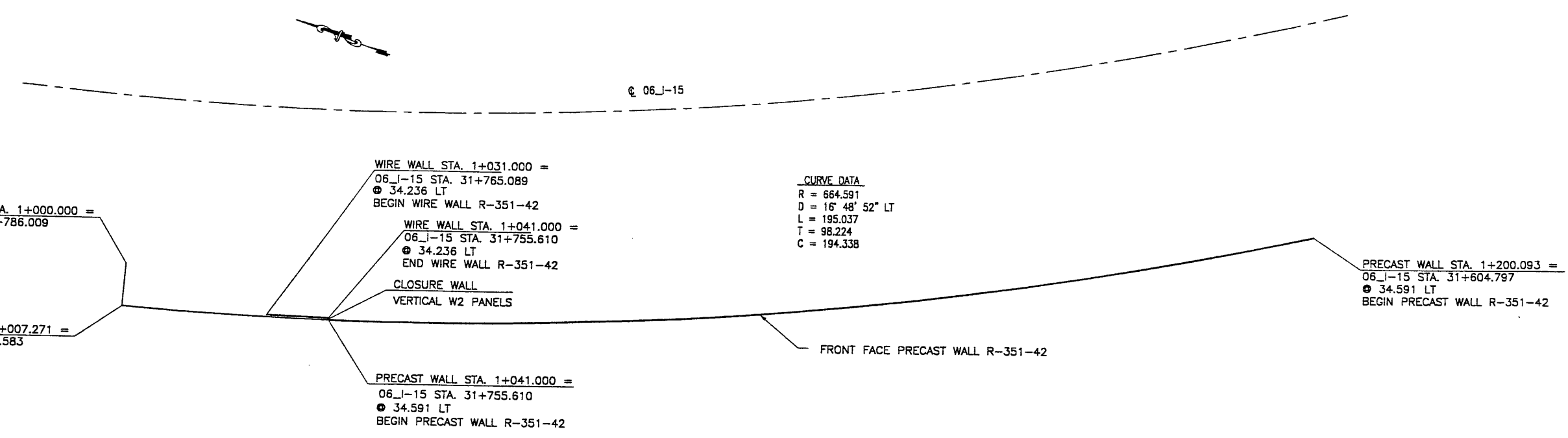
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NCE (X-UTAH.DWG)
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 11-05-98
 FINAL

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-351-42, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTIONS
RE-3	ELEVATION PRECAST WALL "R-351-42"
RE-4	ELEVATION PRECAST WALL "R-351-42"
RE-5	ELEVATION PRECAST WALL "R-351-42"
RE-6	SPECIAL PANEL DETAILS

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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: 4W15-6 MESH HAS FOUR (4) W15 LONGITUDINAL WIRES WITH W15 CROSSBARS AT 6" CENTERS.
EXAMPLE: 5W15-6 MESH HAS FIVE (5) W15 LONGITUDINAL WIRES WITH W15 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.
 - GEOTECHNICAL ENGINEER TO FIELD VERIFY FOUNDATION CONDITIONS AND EXTENT OF STRUCTURAL FILL.

PLAN VIEW WALL "R-351-42"

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

DESIGN PARAMETERS	
ANGLE OF INTERNAL FRICTION (SELECT) = 26° (SCORIA)	
ANGLE OF INTERNAL FRICTION (BASE) = 26° (SCORIA)	
ANGLE OF INTERNAL FRICTION (RANDOM) = 26° (SCORIA)	
UNIT WEIGHT BACKFILL = 52 TO 60 PCF (8.2 TO 9.4 KN/M ³)	
TRAFFIC SURCHARGE = 250 PSF (12 KPa)	
SEISMIC ACCELERATION COEFF. = 0.27g (TYP)	
DESIGN CRITERIA	
SAFETY FACTOR (OVERTURNING) = 2.0	
SAFETY FACTOR (SLIDING) = 1.5	
SAFETY FACTOR (PULLOUT) = 1.5	
DESIGN LIFE = 75 YEARS	

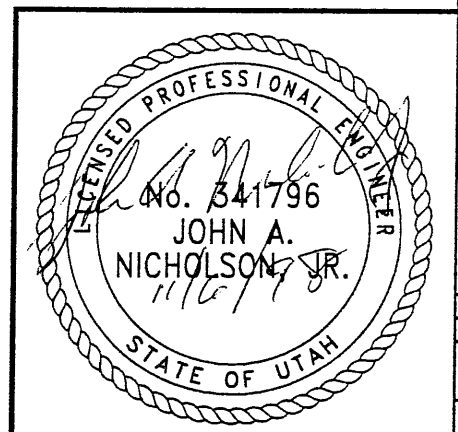
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NOV 11 1998

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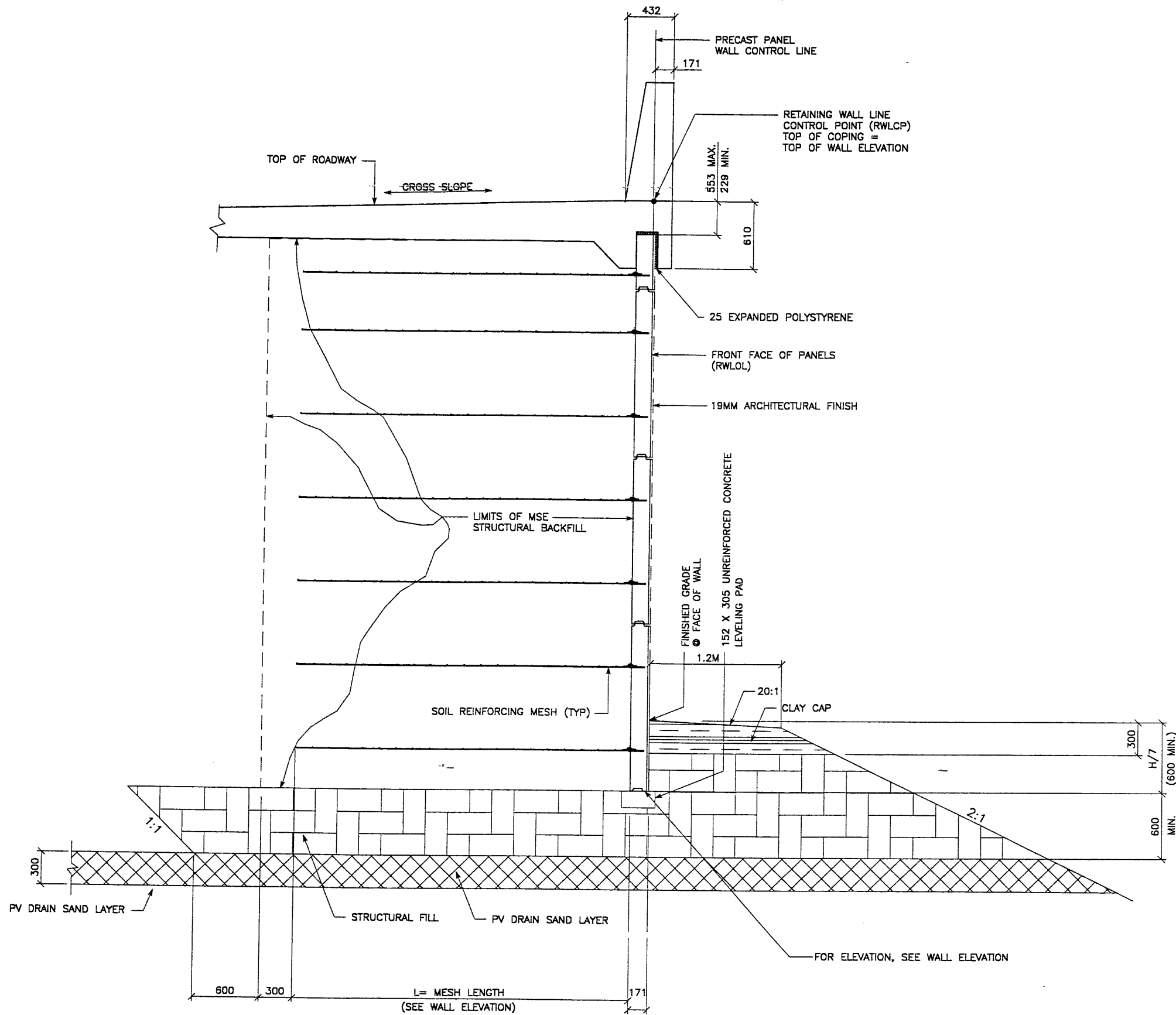
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RETAINED EARTH™ WALLS
PLAN VIEW PRECAST WALL "R-351-42"
UTAH 1-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO.
3.2R-351-42.4
JOB NO.
239-0007
SHT. NO.
RE-1

NO.	DATE	DESCRIPTION

FINA T 11-05-98 H:\RE_EARTH\PROJECT\239-0007\1998\ LS\6S-41\RE-2 JNCE (X-UTAH.DWG)



TYPICAL CROSS SECTION - STA 1+041.000 TO 1+184.530
 (SEE DWG. NO. 3.2R-351-42.3 FOR ADDITIONAL INFORMATION)
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

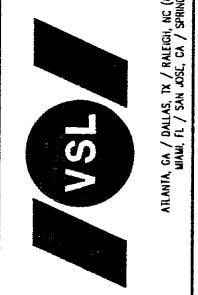
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METRIC

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NO.	DATE	DESCRIPTION
▲	11-05-98	RELEASE FOR CONSTRUCTION

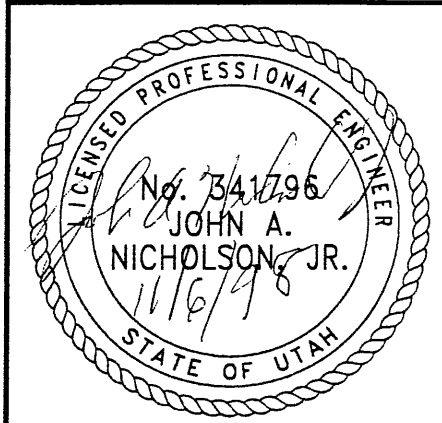
NO.	DATE	REVISION

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



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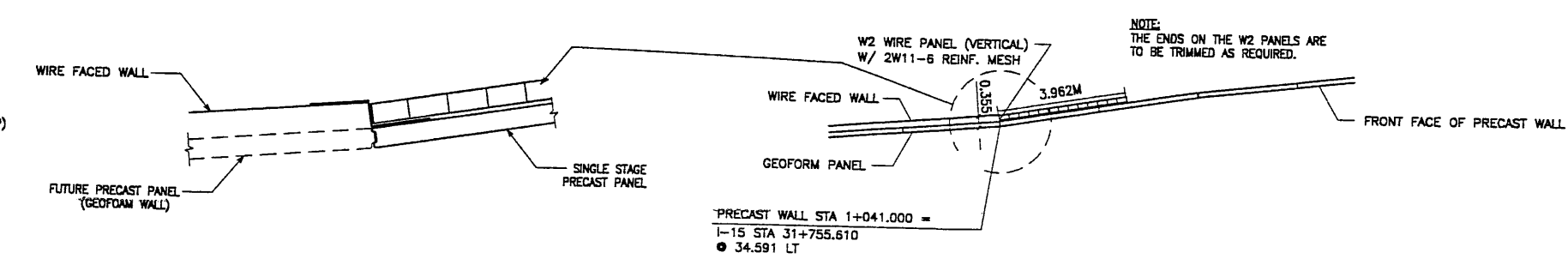
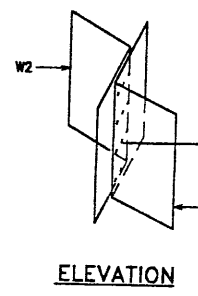
WASATCH CONSTRUCTORS
 NOV 11 1998
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RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-351-42"
 TYPICAL CROSS SECTION
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2-R-351-42.5
JOB NO.	239-0007
SHI. NO.	RE-2

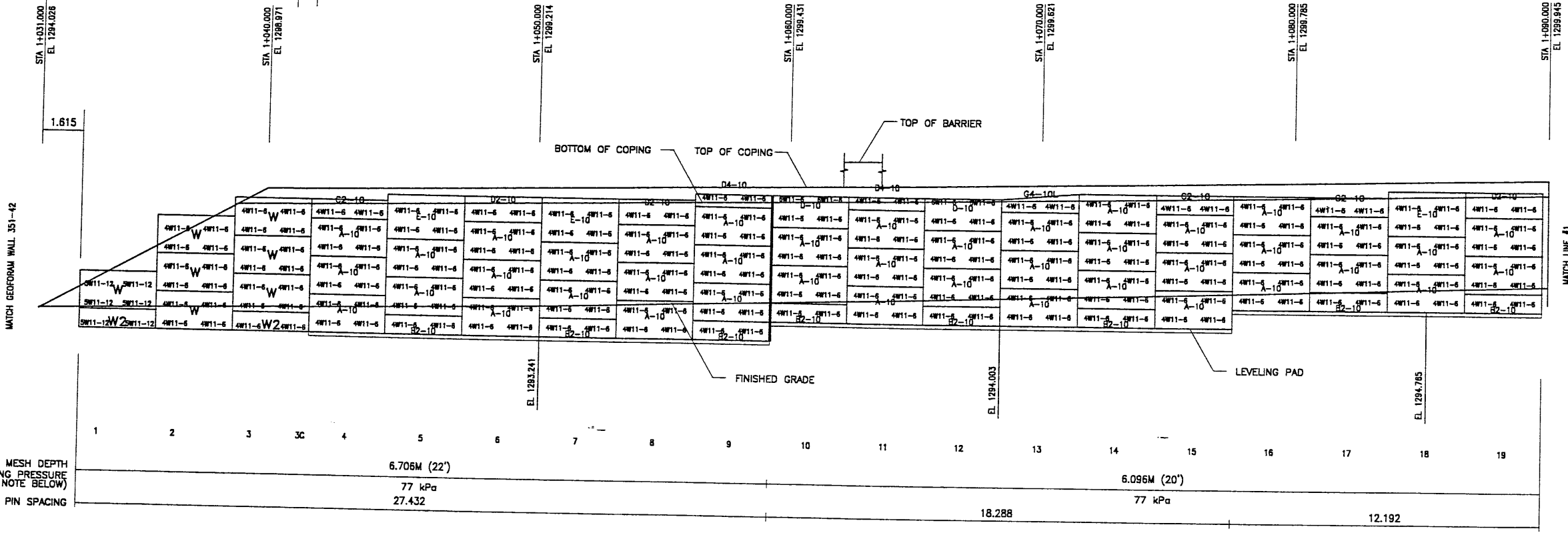
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 T 11-05-98
 FINAL



WIRE WALL STA 1+031.000 =
 I-15 STA 31+765.089
 ● 34.236 LT
 NOMINAL PANEL FACE (RWLOL)

WIRE WALL STA 1+041.000 =
 I-15 STA 31+755.610
 ● 34.236 LT
 NOMINAL PANEL FACE (RWLOL)

PRECAST WALL STA 1+041.000 =
 I-15 STA 31+755.610
 ● 34.591 LT
 NOMINAL PANEL FACE (RWLOL)

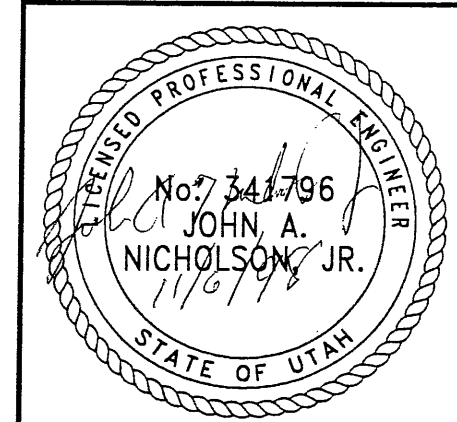


ELEVATION PRECAST WALL R-351-42
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 648.08 SM) SCALE 1:200 (HALF SIZE)

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
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON
 THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 NOV 1 1998
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NO.	DATE	DESCRIPTION
△	11-05-98	RELEASE FOR CONSTRUCTION

DATE

NO

REVISION

BY

CHK

DLS:	JUN	RSW	JUN	RETAINED EARTH™			
DRN	10-14-98	10-14-98	10-14-98	VSL	NO	DATE	NO

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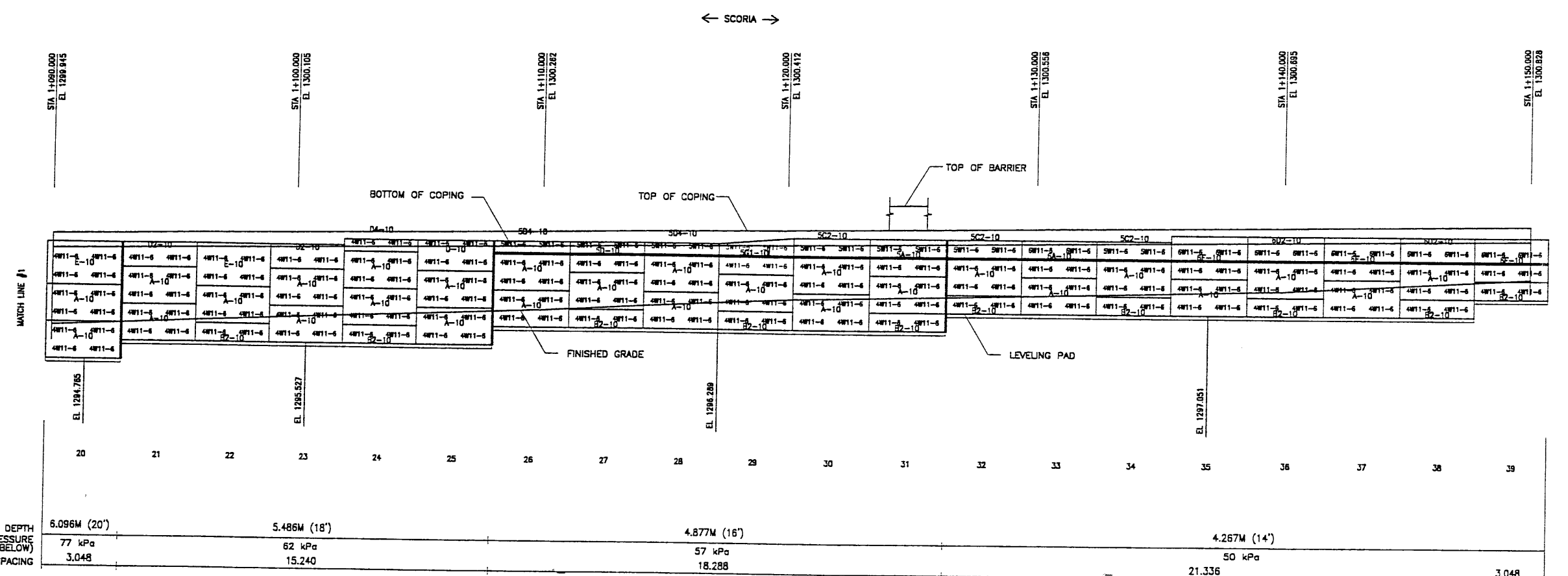
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RETAINED EARTH™ WALLS
 PRECAST WALL "R-351-42"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.
 3.2R-351-42.6
 JOB NO:
 239-0007
 SHEET NO.
 RE-3

FIN/ LOT 10-9598B H:\RE_EARTH\PROJECT\239-0007\1998 VLS\SUBMIT-2\65-46.DWG (X-UTAH)DWG

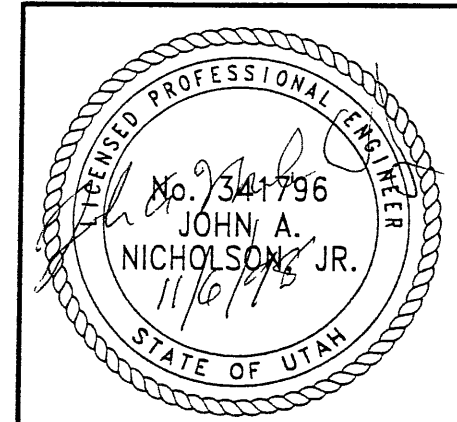
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NO.	DATE	DESCRIPTION
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ELEVATION PRECAST WALL R-351-42
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 648.08 SM) SCALE 1:200 (HALF SIZE)

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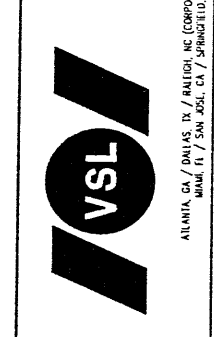
WASATCH CONSTRUCTORS
 NOV 11 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 PRECAST WALL "R-351-42"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2R-351-42.7
JOB NO.	239-0007
SHT. NO.	RE-4

DES.	JN	10-14-98
DRN.	RSW	10-14-98
CHK.	JN	10-14-98

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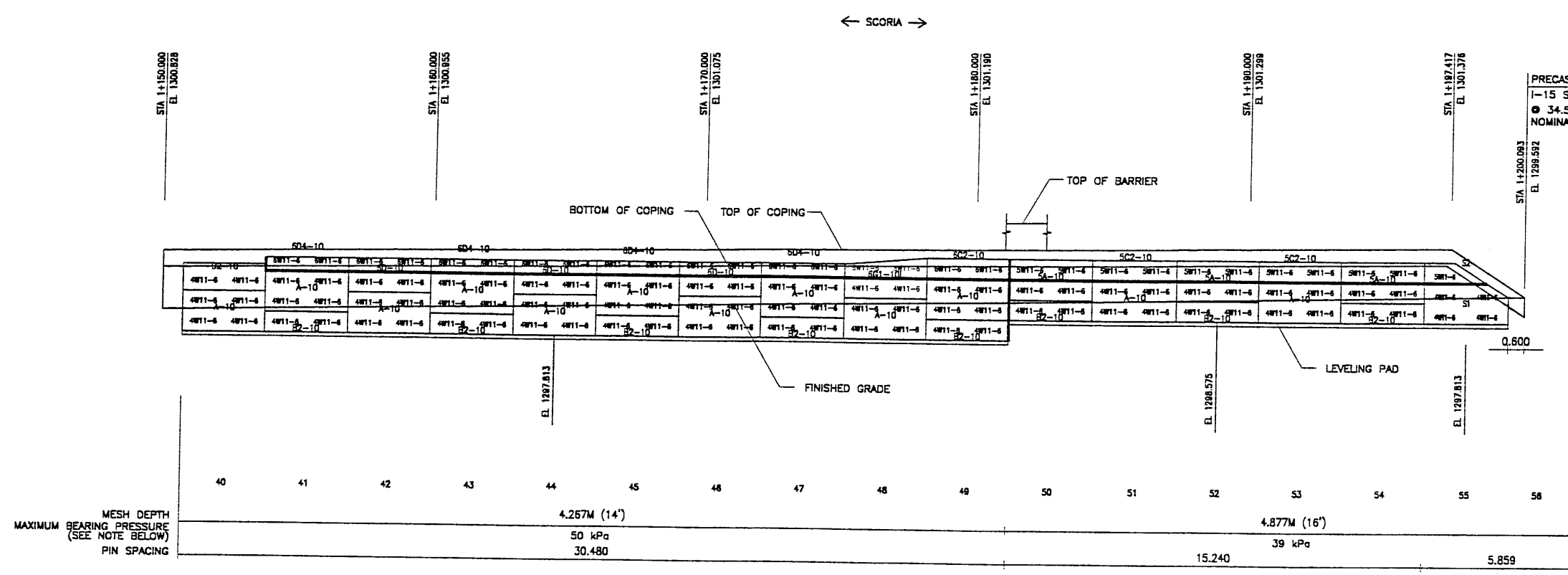
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REVISION	NO	DATE

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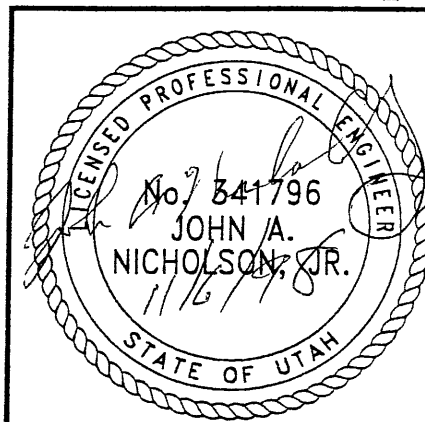
PRECAST WALL PT STA 1+200.093 =
 1-15 STA 31+604.797
 ● 34.591 LT
 NOMINAL PANEL FACE (RWL/L)

ELEVATION PRECAST WALL R-351-42
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF PANELS = 648.08 SM) SCALE 1:200 (HALF SIZE)

METRIC

NOTE:
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 WASATCH CONSTRUCTORS

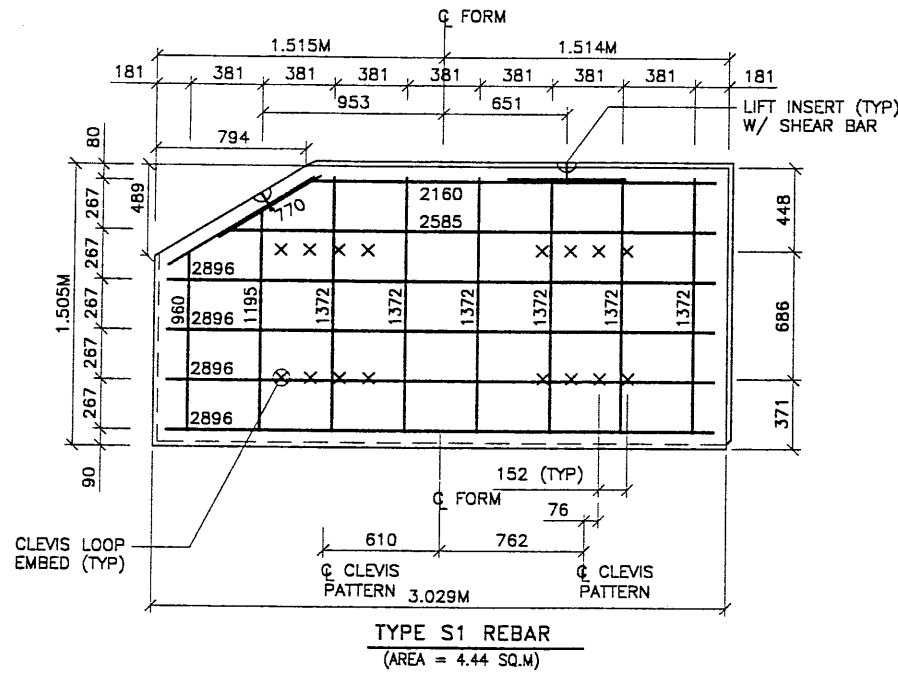
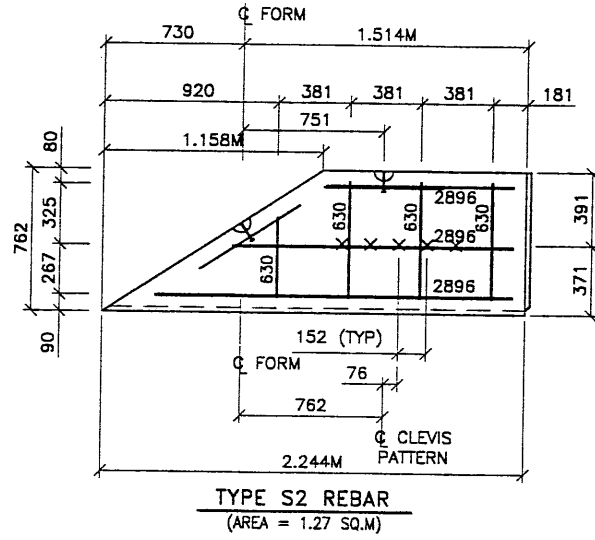
RETAINED EARTH™ WALLS
 PRECAST WALL "R-351-42"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2R-351-42.8
JOB NO.	239-0007
SHT. NO.	RE-5

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 stabilization systems for
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NO.	DATE	DESCRIPTION
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- 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 20,700 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mmØ CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

DES.	DRN.	CHK.	DATE	NO.	BY
RSW	RSW	JL	10-12-98		

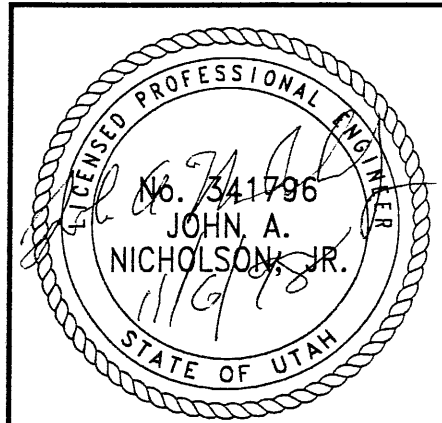
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RETAINED EARTH™ WALLS
PRECAST WALL "R-351-42"
SPECIAL PANEL DETAILS

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

DWG. NO.
3.2-R-351-42.9

JOB NO.
239-0007

SHT. NO.
RE-6

METRIC

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