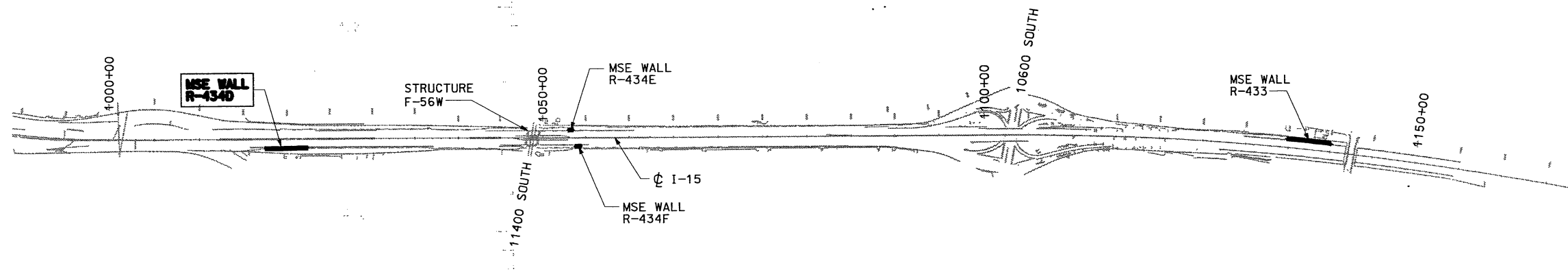


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LOCATION PLAN

GENERAL NOTES:

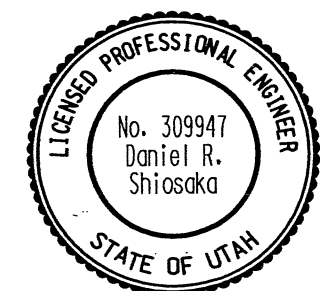
1. ALL REINFORCING STEEL SHALL BE COATED DEFORMED BILLET-STEEL BARS CONFORMING TO AASHTO M 284 OR M 111, AND M 31 GRADE 60 RESPECTIVELY.
2. CHAMFER ALL EXPOSED CONCRETE CORNERS 3/4". EXCEPT WHERE NOTED OTHERWISE.
3. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL EXCEPT WHERE NOTED OTHERWISE.
4. ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS AA(AE).
5. ALL DIMENSIONS SHOWN ARE IN FEET-INCHES UNLESS SPECIFIED OTHERWISE. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.
6. CONTRACTOR RESPONSIBLE TO FIELD VERIFY ALL ELEVATIONS PRIOR TO CONSTRUCTION.

QUANTITIES:

ITEM	ESTIM.	UNIT	AS CONST.
MSE RETAINING WALL (R-434D) (ESTIMATED EXPOSED SURFACE AREA 2130 SQ. FT.)	1	LUMP	

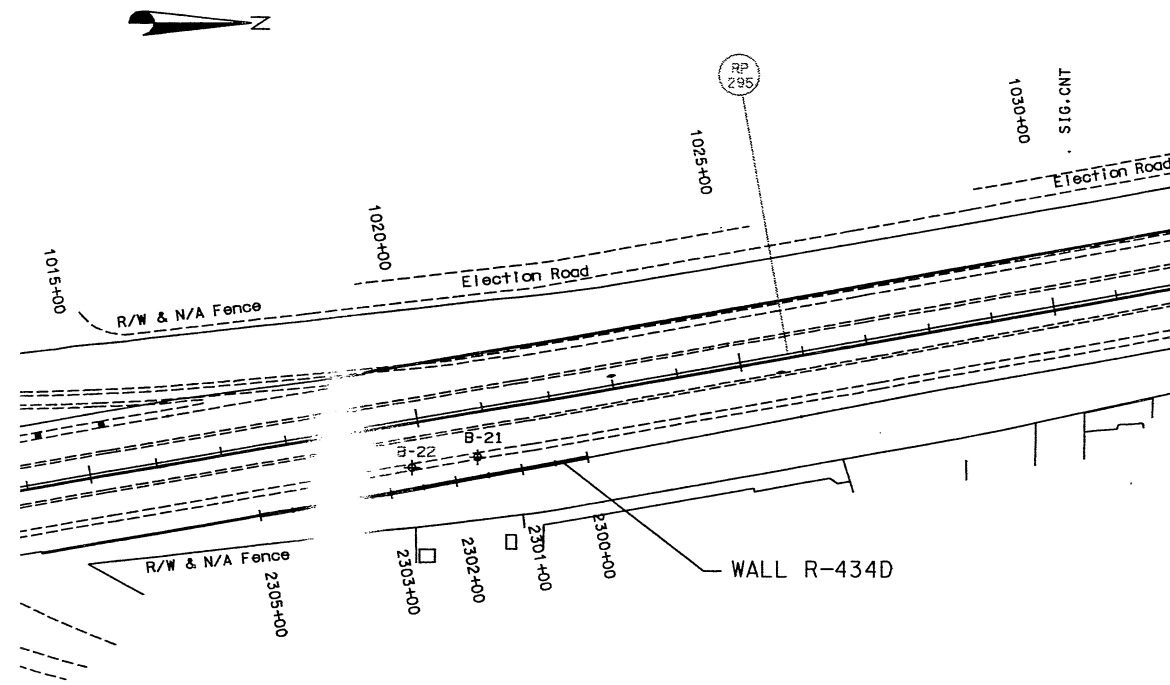
DESIGN DATA:

CAST-IN-PLACE CONCRETE: $f'_c = 3650$ psi; $f'_c = 1200$ psi;
(FOR COPING) f'_s (REINF.) = 24,000 psi; $n = 9$



I-15 UTAH CO. LINE TO 10600 SQ. WALL R-434D SITUATION AND LAYOUT PROJECT NUMBER SP-15-7(167)288	UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE CITY, UTAH STRUCTURES DIVISION	DESIGN: BPD_01/04 CHECK: DRS_01/04 DRAWN: NRD_01/04 CHECK: DRS_01/04 QUANT.: NRD_01/04 CHECK: DRS_01/04	APPROVAL DATE: 1/12/04 SENIOR DESIGN ENGR. APPROVED FOR USE BY: [Signature] DATE: [Blank]
SALT LAKE COUNTY	R-434D	DRG. NO.	SHT. 1 OF 5
		NO.	DATE
		BY	REMARKS
		NO.	REVISED

BORING LOCATION PLAN



KLEINFELDER PROJECT NO: 33948.980

NO.	BY	DATE	REMARKS
REVISIONS			

GENERAL NOTES

1. THE SUBSURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUGUST 27 AND 28, 2003 BY KLEINFELDER.
2. THESE BORING LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 8 INCH DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE BORING LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT BORING CONDITIONS ON THE DATE SHOWN, WITH AUGER IN PLACE. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST BORINGS OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.
5. **COBBLE** - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 3 AND 12 INCHES.
6. **BOULDER** - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION GREATER THAN 12 INCHES.
7. IN ORDER TO PROVIDE MORE CONSISTENCY AND UNIFORMITY WITH GEOTECHNICAL AND CONSTRUCTION INDUSTRY STANDARDS, UDOT HAS ADOPTED THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) ON BOTH THE SOIL EXPLORATION LOGS AND IN THE REPORT'S SOIL DESCRIPTIONS. HOWEVER, THE AASHTO GROUP CLASSIFICATIONS WILL ALSO CONTINUE TO BE USED AS SHOWN HEREIN.

I-15, UTAH CO LINE TO 10600 SUTAH DEPARTMENT OF TRANSPORTATION
 KLEINFELDER, INC.
 SALT LAKE CITY, UTAH

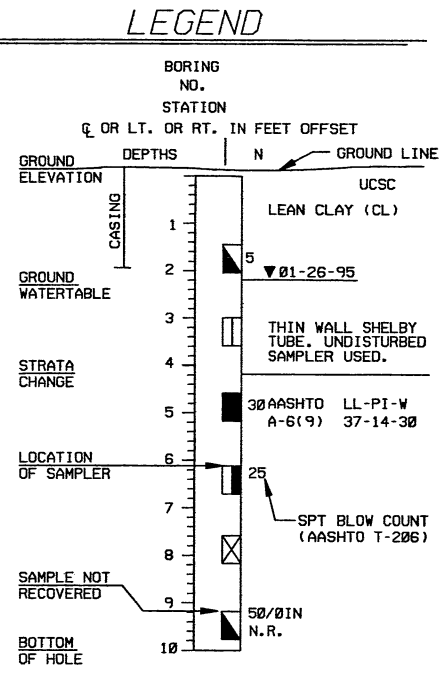
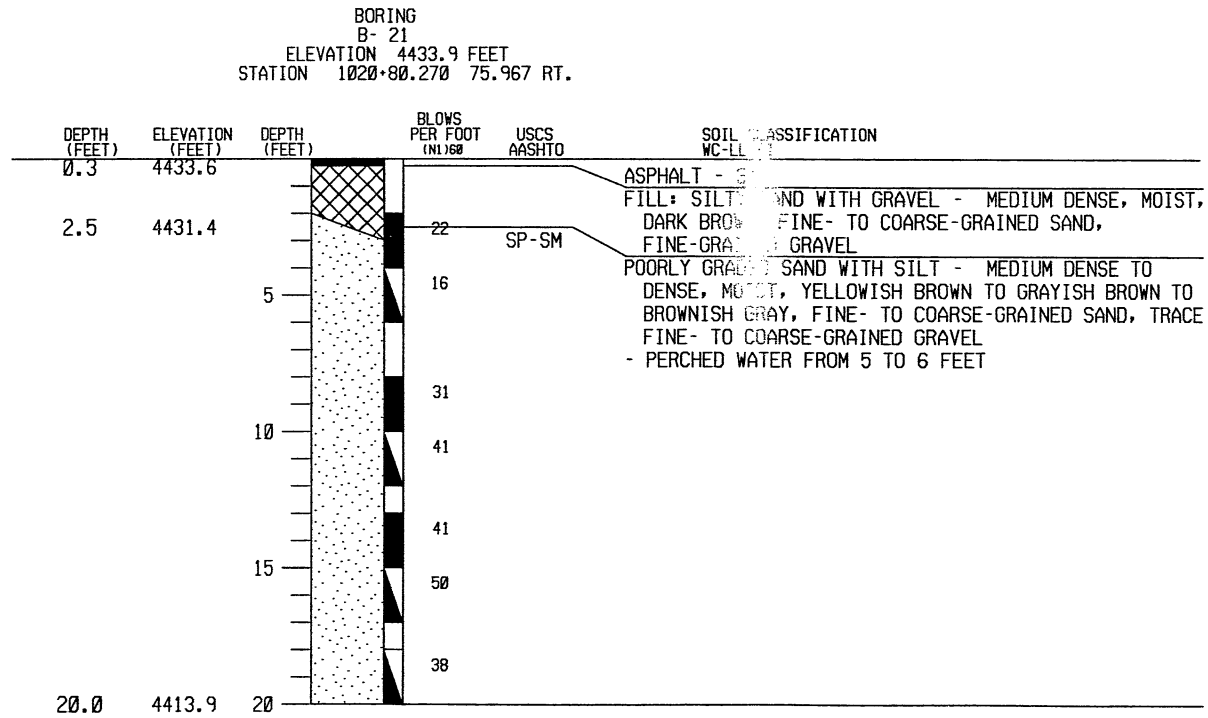
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DRAWN	SC	12/03	CHECK	CC
DATE	12/03	CHECK	CC	12/03
QUANT.		CHECK		

APPROVAL RECORD: DATE DESIGN ENGR. DATE CHIEF STRUCTURAL ENGR.

PROJECT NUMBER: SP-15-7(167)288

SOIL DATA SHEET I-15

SALT LAKE COUNTY
 R-434D
 DRG. NO.
 SHT. 2 OF 5



ABBREVIATIONS

L.L. - LIQUID LIMIT
 P.I. - PLASTIC INDEX
 W. - NATURAL MOISTURE CONTENT IN %
 PEN. - PENETRATION
 G.W.T. - GROUND WATER TABLE
 N - SPT BLOW COUNT-BLOWS PER 12IN
 N.P. - NON PLASTIC
 AASHTO - SOIL CLASSIFICATION SYSTEM
 USCS - UNIFIED CLASSIFICATION SYSTEM
 N.V. - NO VALUE
 N.R. - NO SAMPLE RECOVERED
 E.R. - SAMPLING HAMMER ENERGY RATIO

LOG KEY SYMBOLS

UNIFIED SOIL CLASSIFICATION SYSTEM

GRAVELS	GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
COARSE-GRAINED SOILS	WITH LITTLE OR NO FINES	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
< 50% COARSE FRACTION PASSES #4 SIEVE	GRAVELS WITH > 12% FINES	GM	SILTY GRAVELS, POORLY-GRADED GRAVEL-SAND-SILT MIXTURES
< 50% COARSE FRACTION PASSES #200 SIEVE	SANDS WITH LITTLE OR NO FINES	GC	CLAYEY GRAVELS, POORLY-GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS WITH > 12% FINES	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SM	SILTY SANDS, POORLY-GRADED SAND-GRAVEL-SILT MIXTURES
		SC	CLAYEY SANDS, POORLY-GRADED SAND-GRAVEL-CLAY MIXTURES
FINE-GRAINED SOILS	SILTS & CLAYS LIQUID LIMIT < 50	ML	INORGANIC SILT & VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
> 50% PASSES #200 SIEVE	SILTS & CLAYS LIQUID LIMIT > 50	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS & CLAYS OF LOW PLASTICITY
		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC SILTS & CLAYS OF MEDIUM-TO-HIGH PLASTICITY
		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENT

APPARENT/RELATIVE DENSITY - COARSE-GRAINED SOIL

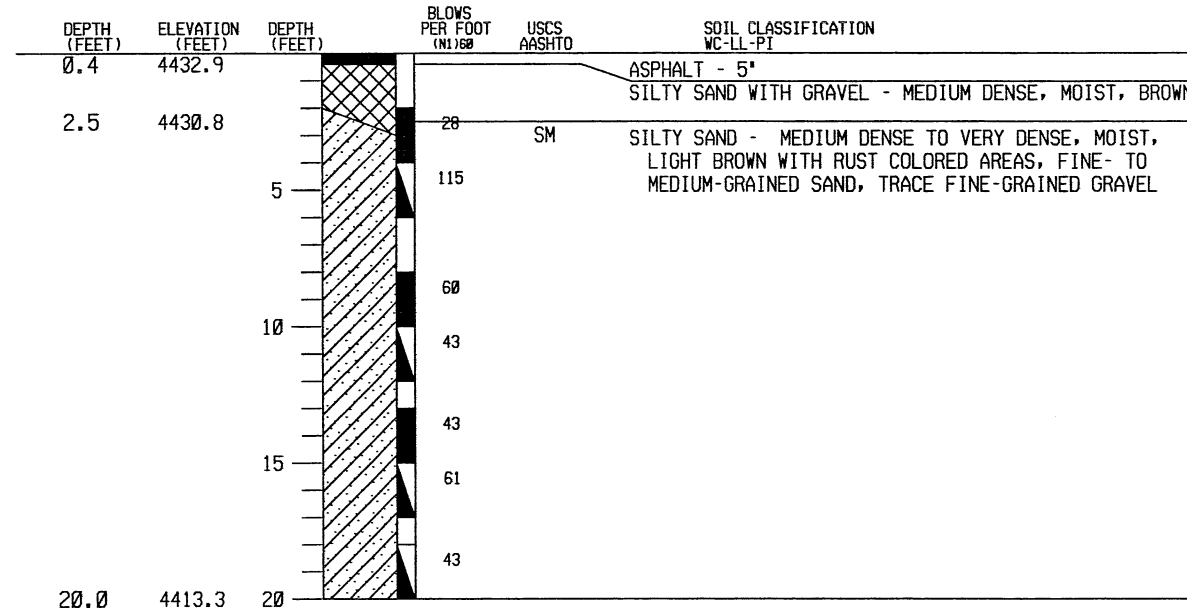
APPARENT DENSITY	SPT (* BLOWS/FT)	MODIFIED CA SAMPLER (* BLOWS/FT)	CALIFORNIA SAMPLER (* BLOWS/FT)	RELATIVE DENSITY (%)	FIELD TEST
VERY LOOSE	< 4	< 4	< 5	0 - 15	EASILY PENETRATED WITH 1/2 IN. REINFORCING ROD PUSHED BY HAND.
LOOSE	4 - 10	4 - 12	5 - 15	15 - 35	DIFFICULT TO PENETRATE WITH 1/2 IN. REINFORCING ROD PUSHED BY HAND.
MEDIUM DENSE	10 - 30	12 - 35	15 - 40	35 - 65	EASILY PENETRATED A FOOT WITH 1/2 IN. REINFORCING ROD DRIVEN WITH 5 LB. HAMMER.
DENSE	30 - 50	36 - 60	40 - 70	65 - 85	DIFFICULT TO PENETRATE A FOOT WITH 1/2 IN. REINFORCING ROD DRIVEN WITH 5 LB. HAMMER.
VERY DENSE	> 50	> 60	> 70	85 - 100	PENETRATED ONLY A FEW INCHES WITH 1/2 IN. REINFORCING ROD DRIVEN WITH 5 LB. HAMMER.

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT (* BLOWS/FT)	TORVANE UNDRAINED SHEAR STRENGTH (TSF)	POCKET PENETROMETER UNCONFINED COMPRESSIVE STRENGTH (TSF)	FIELD TEST
VERY SOFT	< 2	< 0.125	< 0.25	EASILY PENETRATED SEVERAL CENTIMETERS BY THUMB. EXUDES BETWEEN THUMB AND FINGERS WHEN SQUEEZED IN HAND.
SOFT	2 - 4	0.125 - 0.25	0.25 - 0.5	EASILY PENETRATED ONE INCH BY THUMB. MOLDED BY LIGHT FINGER PRESSURE.
MEDIUM STIFF	4 - 8	0.25 - 0.5	0.5 - 1.0	PENETRATED OVER 1/2 IN. BY THUMB WITH MODERATE EFFORT. MOLDED BY STRONG FINGER PRESSURE.
STIFF	8 - 15	0.5 - 1.0	1.0 - 2.0	INDENTED ABOUT 1/2 IN. BY THUMB BUT PENETRATED ONLY WITH GREAT EFFORT.
VERY STIFF	15 - 30	1.0 - 2.0	2.0 - 4.0	READILY INDENTED BY THUMBAIL.
HARD	> 30	> 2.0	> 4.0	INDENTED WITH DIFFICULTY BY THUMBAIL.

NO.	BY	DATE	REMARKS
REVISIONS			

BORING
B- 22
ELEVATION 4433.3 FEET
STATION 1019+79.666 74.725 RT.



LOG KEY SYMBOLS

	BULK, BAG, OR GRAB SAMPLE		CALIFORNIA SAMPLER (3' OUTSIDE DIAMETER)
	STANDARD PENETRATION SPLIT SPOON SAMPLER (2' OUTSIDE DIAMETER)		SHELBY TUBE (3' OUTSIDE DIAMETER)
	MODIFIED CALIFORNIA SAMPLER (2-1/2' OUTSIDE DIAMETER)		WATER LEVEL (MEASURED OR FIRST ENCOUNTERED)

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SUTAH DEPARTMENT OF TRANSPORTATION
KLEINFELDER, INC.
SALT LAKE CITY, UTAH

I-15, UTAH CO LINE TO 10600
I-15
SOIL DATA SHEET

SALT LAKE COUNTY
R-434D
DRG. NO.
SHT. 3 OF 5

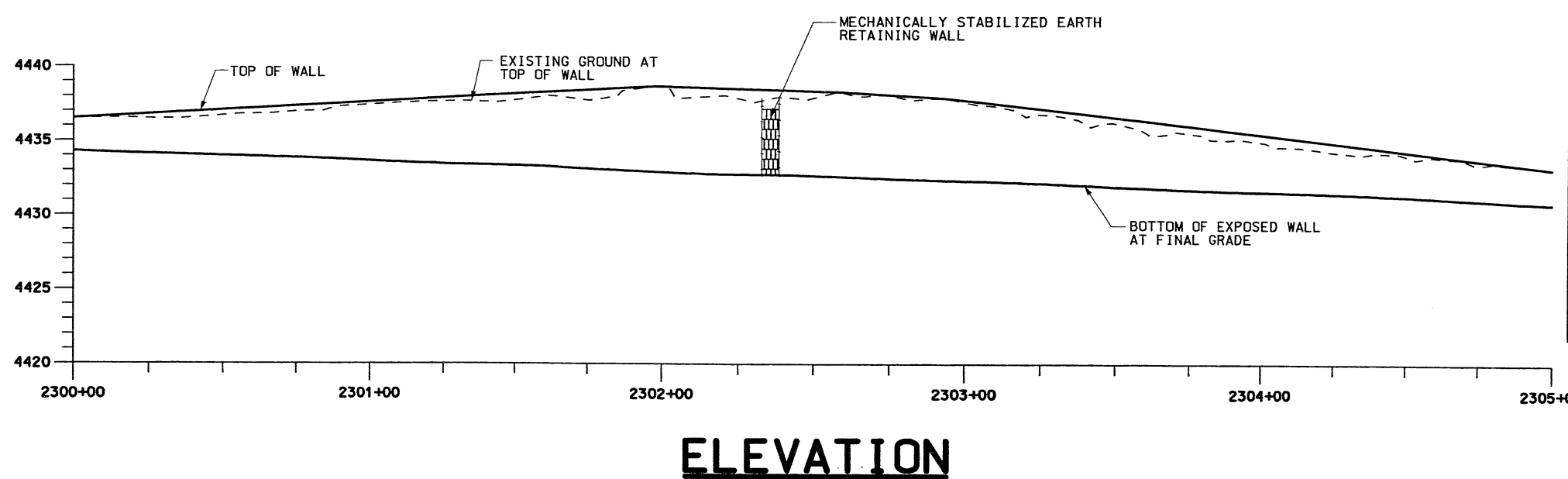
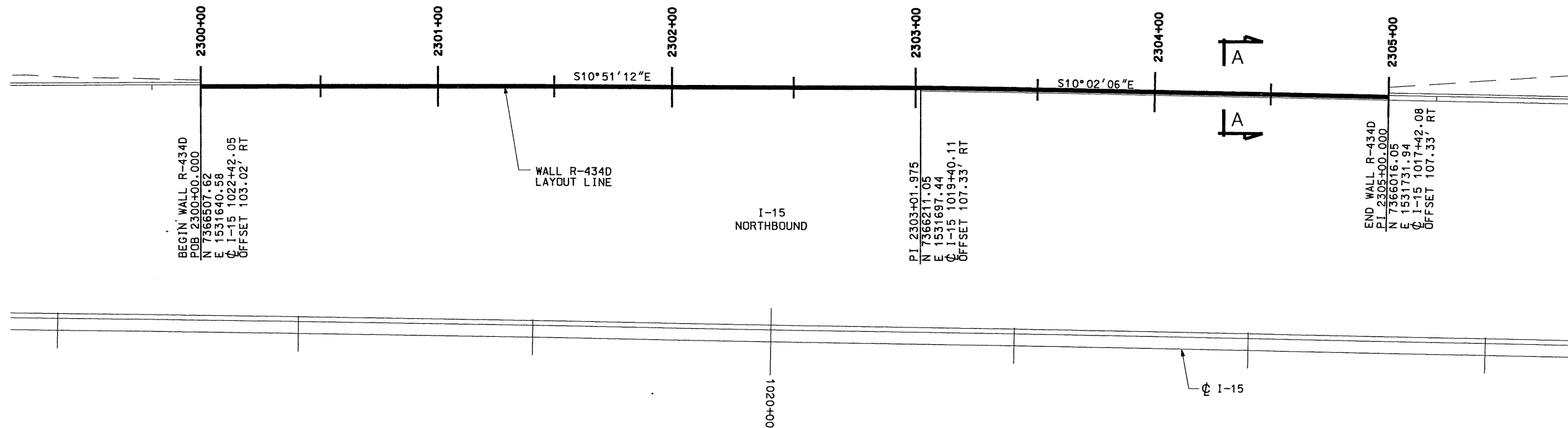
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QUANT.		CHECK			CHECK

APPROVAL	DATE	DESIGN ENGR.
APPROVED	DATE	CHIEF STRUCTURAL ENGR.

PROJECT NUMBER	SP-15-7(167)288
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NO.	BY	DATE	REMARKS
REVISIONS			

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WALL R-434D		
STA	TOP OF WALL ELEV	BOTTOM OF EXPOSED WALL ELEV
2300+00	4436.51	4434.29
2300+25	4436.78	4434.11
2300+50	4437.05	4433.97
2300+75	4437.32	4433.83
2301+00	4437.59	4433.62
2301+25	4437.86	4433.41
2301+50	4438.13	4433.31
2301+75	4438.40	4433.10
2302+00	4438.64	4432.87
2302+25	4438.49	4432.75
2302+50	4438.34	4432.66
2302+75	4438.09	4432.46
2303+00	4437.74	4432.32
2303+25	4437.16	4432.15
2303+50	4436.59	4431.93
2303+75	4436.02	4431.74
2304+00	4435.44	4431.59
2304+25	4434.87	4431.46
2304+50	4434.29	4431.29
2304+75	4433.72	4431.04
2305+00	4433.15	4430.81

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

I-15 UTAH CO. LINE TO 10600 SO.

WALL R-434D

SITUATION AND LAYOUT

PROJECT NUMBER **SP-15-7(167)288**

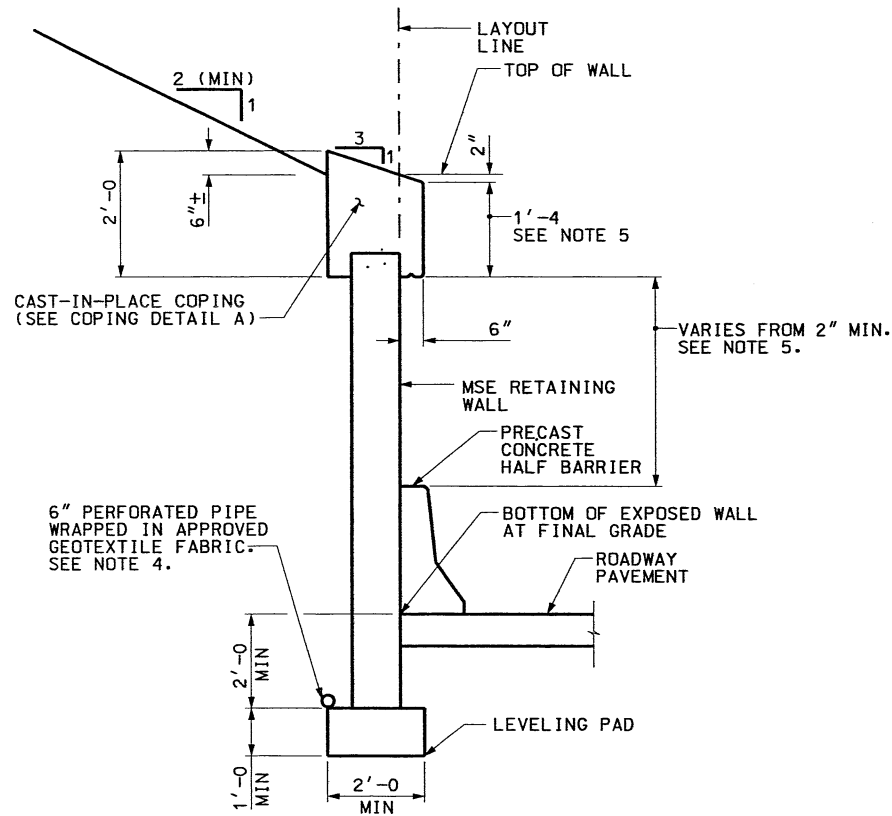
SALT LAKE COUNTY

R-434D
DRG. NO.

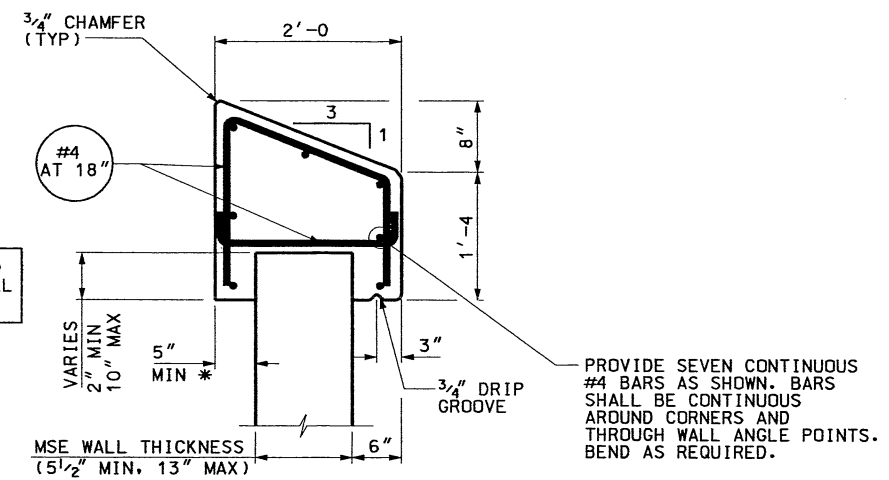
SHT. 4 OF 5

DESIGN	BPD	01/04	CHECK	DRS	01/04
DRAWN	NRD	01/04	CHECK	DRS	01/04
QUANT.	NRD	01/04	CHECK	DRS	01/04

NO.	DATE	BY	REVISIONS



SECTION A-A



COPING DETAIL "A"
(ENGINEER APPROVAL REQUIRED TO MODIFY COPING DIMENSIONS)

NOTES:

1. CAST-IN-PLACE COPING CONTROL JOINTS TO BE SPACED AT 10 FT WITH 1/2" EXPANSION JOINTS SPACED AT 30 FT.
2. CONTRACTOR SHALL SUBMIT RETAINING WALL DESIGN TO ENGINEER.
3. WALLS SHALL BE CONSTRUCTED VERTICAL.
4. PERFORATED PIPE SHALL EXTEND PAST SOUTH END OF WALL TO DAYLIGHT. MINIMUM DOWNWARD SLOPE = 1/4" PER FT. COST SHALL BE INCLUDED IN LUMP SUM BID PRICE FOR WALL R-434D.
5. ADJUST BOTTOM ELEVATION OF FRONT FACE OF COPING WHERE COPING CONFLICTS WITH TOP OF BARRIER.

UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE CITY, UTAH STRUCTURES DIVISION		DESIGN_BPD_01/04	CHECK_DRS_01/04
I-15 UTAH CO. LINE TO 10600 SO. WALL R-434D		DRAW_NRD_01/04	CHECK_DRS_01/04
DETAILS		QUANT_NRD_01/04	CHECK_DRS_01/04
APPROVAL FOR USE DATE: 1/12/04	SENIOR DESIGN ENGR.	BY	DATE
APPROVAL FOR USE DATE: _____	PROJECT NUMBER SP-15-7(167)288	NO.	REVISIONS
SALT LAKE COUNTY		R-434D	
DRG. NO.		SHT. 5 OF 5	

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